PRE FEASIBILITY REPORT

(As per Rules 23 & 26 of MMME (D & R) RULE 2013 & Section 15 of MMDR Act 1957, MoEF & CC Notification 2006, S.O. 141(E) dated 15. 01. 2016; MoEF & CC, Sustainable Sand Mining Management Guidelines 2016,Guidelines for Mining Policy2020)

For

OBTAINING ENVIRONMENT CLEARANCE

of

SAND MINING (MINOR MINERAL)

For

Dongarkhed – A River Bed Sand Mine / Sand Ghat

Khasra No. Purna

Gsda approved- 4,5,6,7,

Area (0.50Ha)

Village- Dongarkhed – ATehsil Shegav, District- Buldhana ,

Submitted to

THE SR. DY. DIRECTOR, DIRECTORATE OF GEOLOGY & MINING, GOVERNMENT OF MAHARASHTRA,Nagpur, (M.S.)

District:-Buldhana ,
Applicant/Project Proponent
District Mining Officer
Collector office, Buldhana ,
District: Buldhana ,

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March – 2020

1. EXECUTIVE SUMMARY

This Pre Feasibility Report has been prepared for the proposed sand ghat over the area of 0.50Ha at Dhamana River Bed adjoiningKhasra No:-Gsda approved- 4,5,6,7,Purnaof village Buldhana, Tehsil Shegav, District- Buldhana, Maharashtra,in accordance with theNotification of MoEF S.O. 1533 dated 14th September 2006. The Ministry ofEnvironment, Forest and Climate Change amended Principal Notification vide 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, sand mining framework 2018. and Govt. of Maharashtra Sand Policy 03.01.2018, Mining Guidelines 2020, included Minor Minerals from 0 Ha to 50 Ha in the PrincipalNotification S.O. 1533 (E) dated 14.09.2006. Central Government made furtheramendments to the notification vide S.O. 2269 (E) dated 01.07.2016. In obedience allrelevant notifications to the principal Notification dated 14th September 2006, applicationfor the excavation of sand ghat from proposed sand ghat is being submitted to SEAC, SEIAA,and Maharashtra.

Though any development activity like industry or minor mineral excavation may cause temporary damage to land, forest and induce changes in the quality of air, water, flora and fauna of the area, it has favorable effect of industrialization on social development and progress of the nation. For overall gain, it is necessary to strike a balance between the two aspects of economy and ecology and ensure that impacts on the environment are minimized with improvement in socio-economic conditions. This is better achieved through a well-planned approach of EMP relevant to the area under consideration.

Sand is used for a wide variety of purposes. It is most commonly used as an aggregate in construction projects. Sand is required for road base, concrete aggregate, asphalt pavement aggregate, and many other purposes. The selected area has exposures of sand which is useful for the various purposes mentioned above.

The mining for this sand ghat excavation is proposed to be carried out manually with opencast method of mining engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading will be carried out manually and transportation of mineral from the sand ghat to the depot by tractor with tipper arrangement. As the mineral is soft & loose in nature, no drilling and blasting are required. The proposed sand ghat area is located at Survey of India Toposheet No: 55D/9 and falls between the Latitude 20°55'29.94"N and Longitude 76°40'57.86"E. The lease area is not an agricultural land and the area is classified as River. Maximum production capacity is 1065 Brass.

In order to obtain environmental clearance as per the EIA Notification 2006 the Prefeasibility Report (PFR) is submitted along with the application Form I M for the project under

consideration. The project is categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016

2.0 INTRODUCTION

1.1 PROJECT PROPONENT

The possession of the land under consideration lies with State Government (As per the 20 (1) Chapter III of The Maharashtra Land Revenue Code 1966) hence application is made through the legal representative as a Project Proponent. Accordingly, DMOBuldhanaCollectorate, Buldhanahave applied for Environmental Clearance of proposed sand ghat. After obtaining the environmental clearance this sand ghat will be auctioned as per the Notification Goukhani 10/0615/Pra.Kra. 289/Kha dated 03.01.2018. Communication details of the project proponent are as under;

DMOBuldhana
BuldhanaCollectorate,
Collector Office, Buldhana

1.2 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

The selected area has exposures of sand which is useful for the various purposes mentioned above. It is proposed to excavate sand from this area by manual opencast method without using any excavation machinery. Transport of the excavated sand will be carried out using tractor with trolley arrangement from sand ghat to depot and by truck/tipper/dumper onwards to the desired destination. The excavated sand will be sold in the market. The present Pre Feasibility Report has been prepared for Proposed sand ghat over the area of 0.50Ha atPurnaRiver Bed adjoiningKhasra No. Khasra No:-Gsda approved- 4,5,6,7,of village Dongarkhed – A - Tehsil Shegav District- Buldhana**.** The project is for excavation of sand (minor mineral) categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016.

1.3 NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY AND OR REGION.

Road/building materialsand is an essential requirement as one of the minor mineral deposits occurring in the majority portion of Maharashtra. It has played a great role in development of civilization and industrialization. The occurrence of sand in the proposed area is proved by the way of exposures and its production has important role in the local infrastructural development. The sediment in the form of river bed material (RBM) deposited every year during monsoon season at many locations of theGodavariRiver. Removal of the sand from the proposed location is unlikely to damage the riparian system if the excavation and transport is carried out in systematic manner proposed in the approved Mining Plan. This project operation

will provide employment directly and indirectly to the people residing in vicinity, thus improving the Socio-economic status of the area.

1.4 DEMAND SUPPLY GAP.

Sand is an essential constituent infrastructural development projects like road, dams, bridges and building. The demand for sand/gravel is ever growing with the growth of the infrastructure sector in our country. The requirement for the mineral is always high in the nearby cities and towns. Therefore there is always a good demand of the mineral in the domestic market. Its demand in industrial area of Buldhanaand nearby areas is increasing very fast. Sand mining not only narrows the gap between the demand and supply if building material but also enhances employment opportunities and economic growth of the region. Besides, the production will also benefit the State in the form of revenue generation. Apart from this, the project will generate direct and indirect employment opportunities from the nearby villages.

1.5 IMPORTS VS. INDIGENOUS PRODUCTION.

Mining of sand is required for various projects within the state of Maharashtra and other states.

1.6 EXPORT POSSIBILITY.

Not explored

1.7 DOMESTIC / EXPORT MARKETS.

There is always an ever increasing demand of these minerals in the domestic market.

1.8 EMPLOYMENT GENERATION (DIRECT AND INDIRECT) DUE TO THE PROJECT.

It is proposed to employ the local population wherever possible in the proposed project activities. Direct employment for this proposed sand ghat excavation will be approximately19 Personsand the there will be indirect employment generation also in service sector. The allocated lease will be directed to deploy local persons on for this project.

Grade of staff	Designation	Nos.
Supervisory and Technical staff	Mine mate / Mine Supervisor	01
Clerical staff	Clerk/ Time keeper	01
Safety/Security Officer	Security Guard	01
Skilled workers	Tractor Trolley Driver	02
Skilled workers	Tractor trolley Helper	01
Semiskilled workers	Labors Supervisor (Mukadam)	05
Unskilled workers	Labors	08

Total Manpower	**19**

3.0 PROJECT DESCRIPTION

i) Type of project including interlinked and Interdependent project, if any.

As per Gazette Notification of Ministry of Environment, Forest and Climate Change (MoEF&CC) dated 15th January 2016, New Delhi all projects (minor mineral) less than 25 hectare falls in category “B-2”. As the lease area of the proposed project is 0.50Ha, it falls in “B-2” category and will be appraised by State level authority.The entire mined out mineral will be completely transported to the market /and there is no interlinked project.

ii) Location (map showing general location, specific location, and projectboundary & project site layout) with coordinate

The land is government Waste land. The area is a plain terrain. The location of proposed siteis shown in the **Figure-1.** The proposed area is covered in parts of Survey of India Toposheetno.56D/9 within latitude 20°55'29.94"N and longitude 76°40'57.86"E (Refer **Figure 2).**

FIGURE-1: LOCATION OF PROPOSED SAND GHAT

PLATE -01
Location map

ADDRESS - DONGARKHED - A RIVER SAND
MINE AT PURNA RIVER
GAT NO.- (2,3,4,5,6,7,95,96,97) GSDA
APPROVED- 4,5,6,7,
DISTRICT - SHEGAV
STATE- MAHARASHTRA
TOTAL LEASE AREA- HECT. 0.50

FIGURE-2: SPECIFIC LOCATION OF PROPOSED SAND GHAT

The proposed sand mining ghat was demarcated on the ground by revenue department with reference to adjacent survey numbers of concerned village map. The exploration/assessment of sand Ghats has been carried out by GSDA using probing rods for delineating the total depth of sand and depth of mineable sand with quantity.

Accordingly, reports submitted with mineable reserves of sand in particular location. On the basis of this report State Govt. will auction the sand Ghats for excavation of sand for specific mineable quantity.

The proposed sand ghat has sufficient reserves of sand to excavate1065brass for the period of current financial year. This is a temporary type of lease for the limited mentioned period i.e. up to September 2020.

LOCATIONAL DETAILS IN SUMMARIZED FORM

Sr. No.	Details of the area	Particulars
1	Name of Sand Ghat and River	Dongarkhed – A River Bed Sand Mine in Purna Bed Sand Mine
2	Village	Dongarkhed – A
3	Taluka	Buldhana
4	District	Buldhana
5	Adjoining Khasra No./Survey No.	Purna
6	Lease Area (Ha.)	0.50 Ha
7	Ownership/Occupancy of the Lease area	**Government Land**
8	Existence of public road/railway line if any nearby and approximate distance	The mine is located about 1.1 km in SW direction of Dongarkhed village.
9	Nearest Village and its distance from lease area	Manasgaon (1.17 KM), Pahurpurna (1.2 KM), & Dongarpur (1.50 KM).
10	Toposheet No. and RL of the Lease area	55D/9 and 0.50Ha
11	Latitude & Longitude of Lease area boundary points (Coordinates of the boundary points taken as per the area shown by revenue authority Patwari/Talathi)	20°55'29.94"N 76°40'57.86"E

iii) Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental consideration gone into should be highlighted.

Rivers and streams by far have been the most lucrative and attractive source for extracting large volume of building materials such as boulders, stone, pebbles, sand and gravel for a variety of construction activities. In plain reaches, where the bed slope is gentle, the river bed is overlaid with matrix mainly comprising of sand of different gradation along with silt and clay. Due to river dynamics, the sediments which get generated from bed load and wash load move with river and do not settle uniformly over the entire bed. It rather settles at certain places only (aggradations) and must be removed from time to time to avoid flash floods due to reduction in channel width. The Government has identified such locations for sand removal and the present location is one of them. The project is a site specific and has to be undertaken at the place of the occurrence of the mineral and hence no alternative sites explored.

The environmental advantages of using river sediments are that the Sediments can easily be collected / extracted by digging less deep pits in active channel or dry river beds of upper terraces. The sand extracted from the identified stretch is free from weak materials and interstitial loose / fine material. No requirement of processing for the sand excavated from the river and it can be directly used without any beneficiation. The natural replenishment takes place annually due to transportation of sediments from upper course/reaches during high stage of river, which is achieved a number of times during monsoon. Environment Management Plan to mitigate the activities due to the proposed sand ghat excavation is enclosed at **Annexure 1**.

iv) Size or magnitude of operation.

The proposed sand ghat mining having an area of 0.50Ha will be developed as opencast for the excavation of sand/gravel with production capacity of 1065brass. The excavation will be carried out from the demarcated area which is dry. Excavation will be carried out in non monsoon season on or before 30th September 2020.

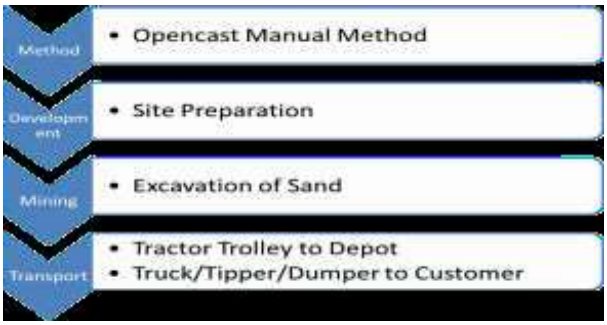
v) Project description with process details (a schematic diagram/ flow chart showing the project layout, components of the project etc. should be given).

The mining will be carried out manually with opencast method of mining by engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading is proposed to be carried out manually and transportation of mineral from the mine to the depot is proposed through tractor with trolley arrangement. As the mineral is dry, loose in nature, no drilling and blasting are required and hence not proposed. Sand excavated manually will be loaded directly into vehicles. Once a pre-determined area has been exhausted of the sand, it shall be replenished by sand during monsoon period leveled it & maintained to its maximum original topography. There will be no OB or waste generation as the sand is directly exposed in the river bed without any soil or silt cover or any other material which can be categorized as overburden material.

Workings will be restricted within the applied area as per the approved Mining Plan. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow. No processing of sand required.

Restriction on mining:

- Mining shall not be carried out within 600 m of any bridge (railway or road).
- Mining shall not be carried out within 100 m from any pumping station, water intake.
- The quarrying of sand will be proposed after leaving a safety distance of 600 meter from bridge falling under NH/SH from both side of the bank, & leaving a safety distance of 100 meter from any bridge.
- Mining shall not be carried out within 3 m from the river bank It will be done leaving a safety zone of total of 1/5th of the width of the river from the banks for bank protection.
- During the entire lease period, the deposit will be worked from the top surface to 3 m bgl or above ground water level, whichever comes first. This will also help in avoiding ponding effect.
- The workability is suggested by keeping in the mind possible effect on the meandering of River. The mining on the concave bank is most suitable than convex bank. Hence, mining is proposed during non monsoon period in a way that is will get replenishment during monsoon.
- Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season.
- No ore dressing/ handling/ processing plant shall be attached with the mine. The whole area demarcated for the purpose of mining as per the approved mining plan shall be mined out so as to maximize the sand production or extraction.
- Systematic plantation will be made in the area outside the river bank to protect the banks from erosion in monsoon.
- In the applied area the velocity & river water flow being less the sediment load get deposited in to the pit During Monsoon season the area get replenished with sediments to be lifted in subsequent years. Excavated area will be replenished naturally due to sediment inflow from the catchment area Therefore, Environment and Ecology of the area remains undisturbed.
- Sequence of mining operation is given below.



vi) Raw material along with estimated quantity, likely source marketing area of final products, mode of transport of raw material and Finished product.

There is no requirement of any Raw Material in this project. Mode of transport of extracted sand is surface transport by existing roads.

vii) Resource optimization / recycling and reuse envisaged in the project, if any, should be briefly outlined.

There is no waste material generation. No recycling and reuse of material is envisaged as entire excavated material will be transported. Minerals are generally depleting asset once mined; but minerals like sand will be replenished naturally. Thus a scientific approach will be taken up for excavation of mineral with systematic method.

viii) Availability of water its source, Energy / power requirement and source should be given

a) **Water Requirement:**Thus total water requirement will be 5.88 KLD. This water will be supplied from the bore well from nearby villages through tankers as well as from surface water sources for dust suppression. Dust suppression and green belt water will beutilized from water tanks. Electricity is not required as the working is only during day timewhich does not demand for artificial lighting.

Sr. No.	Purpose	Water Requirement (KLPD)
1	Dust Suppression and green belt	5.00
2	Domestic (Considering 45 Litres per person per day for19 persons)	0.88
	Total	**5.88**

ix) Quantity of waste to be generated (liquid and solid) and scheme for their Management / disposal.

Solid Waste: There is no solid waste generation during sand excavation.

Liquid Effluent: The sand excavation from the proposed site does not intercept the water table and the area is dry having no impoundment of water. Thus, there is no generation of effluentenvisaged. Small amount of domestic waste will be generated by the workers at the site, which will be disposed-off through proper municipal way. No other waste generation is expected.

x) Schematic representation of the feasibility drawing which give information of EIA purpose.

The proposed sand ghatproject is for excavation of sand which is categorized as minor mineral vide Notification No. S. O. 423 (E) dated 10.02.2015 issued by Ministry of Mines. The minor mineral project such as sand excavation requires environmental clearance as per the procedure defined by Ministry of Environment, Forest & Climate Change (MoEF & CC) Notification No.141 (E) dated 15th January 2016. EIA for the minor mineral projects >5 Ha is not required as per this Notification. As per the Appendix XI of this Notification, approved Mining Plan, Form I and Prefeasibility Report are required for appraisal of the environmental clearance by SEAC/SEIAA. Accordingly, necessary compliance of the directed procedure is made by the applicant. The Notification issued by the Revenue Department of Government of Maharashtra No. Goukhani-10/0615/Pra.Kra. 289/Kha dated 03.01.2018 and Sustainable Sand Mining Management Guidelines2016& Sustainable Sand Mining Management Guidelines 2019, Mining Guidelines 2020 have also been referred and the directives provided in theseNotification/Guidelines have been used for preparation of these documents.

4.0 SITE ANALYSIS

The suitability for extraction was done taking into consideration general profile river stream, annual deposition factor, and replenishment. The project site is located at a plain topography and within the mature stage of a river. The river bed sand replenished every year with the sand carried out with flow of water in monsoon and there is no such control of mineralization as it depends on the nature of flow of river water.

i) Connectivity

Sr.No.	Particulars	Details
1	Road Connectivity	The mine is located about 1.1 km in SW direction of Dongarkhedvillage.

2	Nearest Highway	National Highway Mumbai –Kolkata Highway is 1.10 km & State Highway 173 is 1.Km
3	Nearest Airport	Jalgaon, 109 km away towards W from ML.
4	Nearest Railway Station	Shegaon Railway Station iis15kms

ii) Land form, land use and Land ownership.

There is no village or human settlement in the lease area. There is no reserves forest or protected forest land within the mining area. The area has Flat topography. The lease area forms a part of Survey of India toposheet no 55D/9. The landuse details for the proposed sand ghat area are as under:-

Adjoining Khasra No. of Village / Taluka /District/ State	**Area**	**Type of land**
Adjoining Khasra. Gsda approved- 4,5,6,7,	0.50	Government Notified Land

iii) Topography (along with map).

Latitude and Longitude readings have been taken by using G.P.S. instrument. All the levels have taken with respect to Mean Sea Level. It is flat in nature. Total area if the lease area is 4.65Ha.

iv) Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ), shortest distances from the periphery of the project to periphery of the forest, national park, wild life sanctuary, eco sensitive areas, water bodies (distance from the HFL of the river), CRZ. In case of notified industrial area, a copy of the Gazette notification should be given.

Significant features with their aerial distance of the project are tabulated below;

Sr. No.	**FEATURES**	**DETAILS**	**DISTANCE**
1	Village (Nearest)	Dongarkhed – A	1 km
2	Land use	Agriculture	0 km
3	Water bodies	RiverPurna	1 km
4	Reserved Forest	No	0 km
5	National Park	No	0 km
6	Wildlife Sanctuary	No	0 km

7	Eco Sensitive Area	No	0 km
8	Coastal Regulation Zone	No	0 km
9	Archeological Monument	No	0 km
10	Industries	No	0 km
11	Mines	Sand ghat	1 km

v) Existing Infrastructure.

There is well established road connection from the quarry to the State Highway /village road. Other facilities like market, school, hospital (PHC), drinking water facility, electric, telecommunication etc. are available in nearby villages.

vi) Soil classification.

There is no top soil. The river bed only consists of sand/ gravel.

vii) Climatic data from secondary sources.

Sub–tropical climatic condition prevails in the area. Maximum temperature recorded during summer is45.6°C and the minimum temperature recorded during winter is 12.6° C.
The region receives an average rainfall of around 697 mm to 862 mmwith an annual variation of 100 mm although wider variation has also been noticed in the past. About (50 to 55%) in of rainfall precipitates from June to September.

viii) Social Infrastructure available.

Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities) are found within a distance of 10km of the proposed sand ghat area.

ix) Geology

The lease area as per survey is a River Bed of Godavari River. Applied area for sand extraction is covered with Sand, Pebblesand Gravels of various sizes. The sand of Granitic, Quartzitic.

A) Mineable Reserves of Sand in the proposed Mine Lease Area as per the GSDA:

The proposed Sand Ghat/ River Bed Sand Mine of 0.50Ha area is covered with sand. Theentirearea is occupied by single litho unit sand deposit with flat configuration. Estimationof sand is done by the GSDA, Buldhana and mineable reserves are proposed for sand mining foryear 2019-2020 as follows:.

Av. Length (m)	Av. Width (m)	Area (m^2)	Proposed Depth (m)	Volume of Deposit for Mining (m^3)	Quantity of sand for Excavation (Brass)
L	W	A=L*W	D	V = A * D	Qt = V / 2.83
335	15	5025	0.60	3015	1065

4.0 PLANNING BRIEF

i) Planning Concept (type of Industries, facilities, transportation etc) Town and country planning/ Development authority Classification.

The mine will be worked by opencast manual method. Mining will be done up to a depth of 1m bgl or above the water level whichever is comes first. The sand will be collected in its existing form. No drilling /blasting are required as the material is loose in nature. There will be no OB or waste generation as the sand is exposed in the river bed. It will be done leaving a safety zone from bank for bank protection. Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season. Roads in the Applied Area for the movement of loaded trippers/ trucks will not have slopes more than 1 in 20.

However, movement of trucks after mineral loading will be towards both sides through approachroads connecting to tar roads. No processing of excavated sand will be done. Workings will be restricted within the lease area/ khasra as per the description report given by Mining Department. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow as the proposed area for the sand ghat is dry. Mining operation will not be carried out during monsoon season. On view monitoring of mining activity technical staff, skilled and non-skilled labours are employed and thus State/Central Govt. and Village Panchayat will get royalty. Workers will get direct employment and equal number or more will get indirect employment.

ii) Population Projection.

The project will employ most of the workers from nearby villages. Thus there will be no increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. The manpower required for the project shall be engaged from the nearby village(s) and hence influx of population to the area is not anticipated.

iii) Landuse Planning (breakup along with green belt etc.)

The sand from the entire allocated area will be excavated as per the approved mining plan. Local species of selected trees will be planted along the river bank and also on the approach road to depot. If permitted by the local authorities, plantation will be carried out in school, gram panchayat, PHC or anaganwadi premises. It is proposed to have plantation along the road sides on both sides to provide cover against dust dissemination and also to act as noise absorber. Approximately 380 trees of will be planted with various types of species. Native plants like Teak,Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tutand other local species will selected insuitable combination, so that can grow fast and also have good leaf cover.

v) Assessment of Infrastructure Demand (physical & social)

The project requires roads for the transport of the produced material which isadequate, besides it requires manpower to operate the quarry and is availablelocally.

vi) Amenities/Facilities.

Temporary rest shelters, portable toilets, drinking water and first-aid will be madeavailable to the workers.

6.0 . PROPOSED INFRASTRUCTURE

No infrastructure erection is proposed in the mine lease area

i) Industrial area (processing area) - No processing or beneficiation is required hence not proposed.

ii) Residential Area (Non processing Area)- None.

iii) Green Belt.

The entire mining area falls within river course and gets flooded duringmonsoons; therefore, no plantation is possible within this area. Plantation willmainly be done along the kuchha road and along the length of the river bank orapproach road to depot or places as recommended by Gram Panchayat. **Approximately 380 trees**of will be planted with various types of species. Native plants like Teak, Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tut, &other local species will selected in suitable combination, so that can grow fast and also have good leaf cover.

iv) Social Infrastructure.

This Project will provide employment to local people directly and indirectly. Indirect employment will be in the form of shopkeepers, mechanic, drivers, transporters etc. The lessee

will be responsible for providing better social infrastructure benefits such as drinking water, health care measures, educational facilities, promotion of culture and religious activities in surroundings as part of their CSR activities.

v) Connectivity (Traffic and Transportation Road/Rail/Metro/Water ways

The area is approachable from NearestNational Highway Mumbai –Kolkata Highway is 1.10 km & State Highway 173 is 1.00 km away.There are metalled roads and unmetalled road up to the mine site.

vi) Drinking Water management (Source & Supply of water)

Water will be supplied from nearby villages for drinking purposes through tankers with NOC from Gram Panchayat.

vii) Sewerage System.

Not required. Temporary toilet facilities will be provided by the proponent at the river banks.

viii) Industrial Waste Management.

Not required

ix) Solid Waste Management.

There is no Solid waste generation during sand mining. The entire excavated sand is useable.

x) Power Requirement & Supply / Source.

Diesel will be used as motive source of primary energy for tractors/ truck arranged by the buyers. Diesel will be outsourced from nearby diesel pumps directly by buyers. Mining method is manual and working hour will be for 12 hours during the day time, so there is no such power requirement.

7.0 REHABILITATION AND RESETTLEMENT (R & R) PLAN

i) Policy to be adopted (central/state) in respect of the project affected person including home oustees, land oustees and landless laborers (a brief outline to be given.)

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

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.)

The operations shall be carried out after obtaining all statutory permissions as per the statutory guidelines. Adequate reserves are available from the proposed sand ghat area. Reclamation and Rehabilitation plan will be prepared for sustainable development and minimized environmental damage. This is a temporary type of lease for the limited mentioned period i.e. Period of Mine Lease will be One Year 2019-2020 or up to 30.09.2020.

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

The sand ghat proposed by the Project Proponent will be auctioned online as perthe procedure in vogue. Hence, project cost cannot be estimated at this stage.

9.0 ANALYSIS OF PROPOSAL FINAL RECOMMENDATIONS)

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 involves collection of river bed material. This is very essential in order to prevent widening of the riverbeds and to prevent flooding off and damage to the adjoining areas. This can only be achieved by maintaining the existing course of the river.
The river banks, on both sides are covered by vegetation and human habitats.Widening of river banks results in excessive erosion; resulting in damage to flora, agricultural land and settlements which are situated at very close proximity. It isproposed to employ the local population wherever possible in the proposedproject activities directly or indirectly. It provides employment to the peopleresiding in vicinity directly or indirectly by the project. The sand extracted fromthis area is in high demand in the local market.

There will be no environmental impact from the project since the scale ofoperation is very less and the method of mining by manual. This operationdoesn’t need relocation manage of any habitants. The plantation of sufficientnumber of trees along the village roads is proposed which

will control thedispersion of dust during transportation as well as will be helpful in controllingNoise for propagation.

Annexure 1

ENVIRONMENT MANAGEMENT PLAN

1.0 INTRODUCTION

Preparation of Environmental Management Plan is required for formulation, implementation and monitoring of environmental protection measures during and after commissioning of projects. The plan should indicate the details as to how various measures have been proposed to be taken including cost components as may be required.

1.1 Land Environment

The type of mining and the characteristics of the particular mineral deposit both affect the degree to which mining disturbs the landscape. Sand Mining and allied activities will be done in the fluvial plain formed by river meandering. Mining of sand may cause a few environmental degradations.

A. ANTICIPATED IMPACTS:

Damage of river bank due to access ramps to river bed, may cause soil erosion.

Destruction of river bank hinterland and ecological due to extraction of sand by probability of damage to the flood control bunds (built along the river side) due to heavy movements of vehicles over the bund to approach the mine are and further during transportation for sand from the mine area.

Disposal of packing material, carried by the workers, would not be allowed. This packing material would include used sachet/gutka/pan masala pouches.

Movement of heavy vehicles sometimes cause problems to agricultural land, human habitations, borehole users due to dust, noise and it also causes traffic hazards.

Surface degradation due to road network.

M. MITIGATION MEASURES:

Safety distance of 3 meter or 1/10th of the width of the river whichever is more will be left from both the bank of the river (as per “Sustainable sand mining guidelines”).

No foreign material like polythene bag, jute bag and useless articles should be allowed to remain/spill in river bed and catchment area, or no pits/pockets will be allowed to be filled with such material.

Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained.
Care will be taken to ensure that ponding is not formed in the river bed.
Mining will not exceeds beyond the allowed extraction capacity.
Green belt will be developed along the haul road and the bank of rivers of mine premises and near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.

1.2 Water Environment

A. ANTICIPATED IMPACTS:

As the project activity is carried out in the dry part of river bed, none of the project activities will affect the water environment or riverbank habitats. Project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality. Monitoring of water quality will be checked yearly.

M. MITIGATION MEASURES:

i) Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
ii) Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
iii) River stream will not be diverted to form in active channels.
iv) Utmost care will be taken to minimize or control leakage vehicles to be used for sand transportation.
v) The washing of tractor trolleys in the river will be avoided.
vi) The contractor will follow all guidelines and rules for proper and scientific method of mining during the period of extracting the sand.

1.3 Air Environment:

A. ANTICIPATED IMPACTS:

a) Due to Haul Road/ Access Road:

Plying of tractor trolleys from public road to river sand collection points needs access roads. Majority of such access roads are the same existing roads/tracks being used by pedestrians/cart owners. Movement of heavy vehicles sometimes causes problems to cattle, agriculture land,

and human habitations due to dust, noise and movement of public. These environmental problems are felt more as the area is rural in nature.

b) Due to Mining process:

Air pollution is likely to be caused at various stages of sand mining operations such as excavation, loading & transportation of material. Most of the dust will be generated from loading& transportation. This dust becomes air borne and gets carried away to surrounding areas. The impact on air is mainly localized in nature as the dust particles are not carried to longer distances and the effect is felt within the core zone of the project involving active Sand mining operations.

M. MITIGATION MEASURES:

a) Mitigation of Impacts on Access Roads:

Movement of the vehicles on the road will be increased; however, unmetalled road in the mining area will be sprinkled with water at regular intervals. In addition to prevent spillage by tractor trolleys over loading should be controlled along with speed limit (1Brass /tractor trolley). Maintenance of haul road will be done on regular basis.

b) For Fugitive Dust Emission:

i) To avoid fugitive dust emissions at the time of excavation, regular sprinkling of water will be done on regular basis.

ii) Sand is transported to the sites by road through tractor trolleys. The sand carrying vehicles shall be covered by tarpaulin sheets.

iii) The Green Belt development will be prepared along the haul roads, which will act as a pollution sink.

iv) To minimize the vehicular pollution from the sand transporting vehicles, the following conditions will insist to permit the vehicles of the transporters.

- The vehicles should be (Bharat-IV stage) compliant and should have pollution control certificate (PUC) issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.

1.4 Noise:

A. ANTICIPATED IMPACTS:

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since, slight increase in noise levels can be expected.

M. MITIGATION MEASURES:

- ✓ Minimum use of Horns at the village area.
- ✓ Timely maintenance of vehicles and their silencers to minimize vibration and Sound.
- ✓ Phasing out of old and worn out tractor trolleys.
- ✓ Provision of green belts along the road networks.
- ✓ Care will be taken to produce minimum sound during sand loading.
- ✓ Use of Backhoe and ear plugs may be provided to protect the labors working at the site.

1.5 Socio-Economic Environment

This project operation will provide livelihood to the poorest section of the society.
Approximately 19 people shall work at mine site.

A. ANTICIPATED IMPACTS AND EVALUATION:

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. There is no R & R involvement in this project. There is no land acquisition in this project.

The results of the field survey conducted to understand the knowledge and perception of the people living around the project area gives a clear idea about the need for the project.

A major portion of the houses in the study area are semi- pucca type structures. The water source to these areas is from the municipal connection and private bore wells and wells. The awareness level regarding the proposed mining activity is very high.

The proposed mining activity is expected to provide stimulus to socio-economic activities in the region and thereby accelerate further development processes.

i) Social and Demographic Profile:

The workers are from local villages. These people have been provided all welfare from a lessee like medical benefits, insurance, fees for children's education etc. They have some land and cattle for their daily earnings. Additional income earned from the Sand Mining work will improve their living standard. The group of quarries in and around will help to have infrastructure facilities like roads, schools, shops etc. This will improve their social life.

ii) Occupational Health And Safety:

This is River Bed Sand Mine. So the mining activities are comparatively less because the production is not on large scale. Workers do not come across any extreme condition like excessive heat; moisture, etc. Workers working around it may come across this dusty environment. But the impact on health will be within limit.

iii) Human Settlement:

There are no houses in and around lease area. Blasting is only activity, which may affect the settlement, but settlement is at distance of more than 1.0 Km from the Sand Mining. All the due precautions will be taken during mining. Transport of finished products is through the villages. There will be psychological impact of the traffic on the local people. However, the intensity of traffic is less.

iv) Health and Hygiene:

In general, the health of villagers is moderately good. In the rainy season, the atmospheric condition is unhygienic due to lack of proper drainage and sanitation in the village habitation. Villagers are working in agricultural fields and work as laborers.

v) Education:

Mostly education is up to middle standard. Economic condition is in general moderate. So after this project the standard of education will be increase.

vi) Socio Economic Benefits Arising Out Of Mining:

- Generation of employment in the rural area.
- Improvement in the living standards of the rural people.
- Creating of infrastructural facilities like roads, electricity, shops, school etc.
- Helping to improve literacy in the area
- Exploiting natural mineral so generation of revenue
- Helping to sustain construction activity
- Improving the greenery of the area, this is otherwise very poor.

vii) LIQUID EFFLUENT:

- Not applicable because small mine and impacts are negligible.

viii) SOLID WASTE:

- Not applicable because small mine and impacts are negligible.

1.6 Biological Environment

A. ANTICIPATED IMPACTS:

a) Aquatic environment

Proposed mining of the dry bed of the river, so no any possibility of disturbance of aquatic life.

b) Flora and Fauna

The mining activity will have insignificant affect on the existing flora and fauna. The project area is surrounded with agricultural land. It was found that the sand mining activity will not have any significant impact on the biological environment of the region.

M. MITIGATION MEASURES:

- ✓ Improvement in river bank stability.
- ✓ Large woody debris in the riparian zone will be left undisturbed or replacedwhen moved and not be burnt.
- ✓ Vegetative debris will not be stored within the mine lease area.
- ✓ Operation and storage of heavy vehicles within riparian habitat will be restricted.
- ✓ Covering of loaded vehicles to reduce dust emission, which may harm surrounding agricultural crops and other plant species conservation of biological diversity of plants, birds and animals.
- ✓ Greenbelt Development and Bio-Diversity Preservation

Plantation activities will be carried out at the bank of the river and along the haul roads. This activity will help for maintaining ecology and environment of the area.

1.7 IMPLEMENTATION OF EMP:

Environmental Management Plan serves no purpose if it is not implemented with true spirit. Some loopholes in the EMP can also be detected afterwards when it is implanted and monitored. Thus, an implementation and monitoring programmed has to be prepared.

Implementation of proposed control measures and monitoring programmed has an implication on the surrounding area as well as for the region. Therefore, sand mining management should be strengthen the existing control measures as elaborated earlier in this report and monitor the efficacy of the control measures implemented within the sand mining area relating to the following specific areas:

- ✓ Coordinate with environment monitoring laboratory for collecting and analyzing air, water, soil&noise quality of the area.
- ✓ Implementing the control and protective measures.
- ✓ Co-coordinating the environment related activities within the project as well as with outside agencies.
- ✓ Separate Budget has been allocated for the EMP.
- ✓ Collecting statistics of health of workers and population of surrounding villages.
- ✓ Monitoring the progress of implementation of environmental management program.

1.7.1. GREENBELT DEVELOPMENT:

- ✓ The implementation for development of green belt will be of paramount importance as it will not only add up as an aesthetic feature, but also act as a pollution sink.
- ✓ The species to be grown in the area should be dust tolerant and fast growing species so that permanent green belt is created.
- ✓ To stabilize the river bank erosion the plantation of native species of that area along the river bank.
- ✓ Apart from the green belt and aesthetic plantation for elimination fugitive of emission and noise control, all other plantation efforts shall be decided and executed with the assistance and co-operation of the local community.

Proposed Program for Plantation For Green Belt Development:

A forestation will be carried out to increase the green cover and create harmony with nature. The area will be afforested with variety of local sapling. This will help to have polyculture. The details of a forestation program are given below. This will be done on the statutory barrier to be left and on the general surface of the lease.Along the access road at sand mining site. (List of trees is given):

S.N.	Scientific Name	Hindi Name	Number
1	Azadirachtaindica	Nim	38
2	Tectonagrandis	Teak	38
3	Terminaliaarjuna	Arjun	38
4	Tuti	Tut	38
5	Syzygiumcumini	Jamun	38
6	Ficusreligiosaa	Pipal	38
7	Bambusa vulgaris	Bamboo	38
8	Neolamarckiacadamba	Kadamb	38
9	Dalbergiasissoo	Shisham	38
10	Madhucalongifolia	Mahua	38
Total			**380**

Cost of Environment Management Cost:

S.N.	Description	Cost Rs. (inLakhs)
1	Dust suppression	0.08
2	Haul road maintenance	0.07
3	Green belt & Maintenance	0.06
4	Monitoring cost	0.06

1.7.2 TRANSPORT SYSTEM:

i) Proper parking places should be provided for the tractor trolleys and other vehicles by the Mine Owner to avoid any congestion or blocking of roads.
ii) Spillage of sand on roads may lead to accidents.Proper road safety signs both inside and outside the mine should be displayed for avoiding road accidents.

1.7.3 MONITORING SCHEDULE AND PARAMETERS

1.7.4 MONITORING OF AMBIENT AIR, WATER, and NOISE:

To evaluate the effectiveness of environmental management program regular monitoring of the important environmental parameters to be monitored are shown in following Table:

Monitoring Parameters	Frequency of Monitoring
Ambient Air: (Ambient Air Quality at appropriate location for PM, SO2, NO2): In the vicinity of the mine area&Near Access road.	Half-yearly
Water: Two Surface (up-stream & Down Stream) & One Ground Water Samples nearby the project site	Yearly
Noise: Day & Night level Noise Monitoring at mining site	Half-yearly

For air, water and noise pollution control measures, it has been suggested that samples would be collected and tested all-round the year with appropriate frequency at strategic places by suitable agencies. In case, it is found that any of the control parameters exceed the tolerance limit as fixed by the State/Central Pollution Control Board, preventive measures will be taken and if required expert opinion will be sought for proper remedial measures.

1.7.5 DISASTER PLANNING:

Proper disaster planning should be done to meet any emergency situation arising due to fire,explosion,sudden leakage of gas etc. Firefighting equipment and other safety appliances should be kept ready for use during disaster/emergency situation including natural calamities like earthquake/flood.

1.7.6 ENVIRONMENT MANAGEMENT CELL:

Each mine or group of mine should identify within its setup a Department/Section/Cell with trained personnel to take up the model responsibility of environmental management as required for planning and implementation of the projects.

10.0 CONCEPTUAL MINING PLAN:

This stage not applicable because the Conceptual plan of the proposed lease area at the end of lease period is prepared.

10.1 Ultimate depth, size & shape of the pit:

The Lease will be for 1 year. Therefore, it is very premature to decide the conceptual plan for the Sand Mine. However, based on the available geological information requirement or purpose of mining the shape and size of Sand has been defined and shown as the Ultimate Pit Limits by colored lines in the Geological plan, the Production &Development plan, and the Conceptual plan. Ultimate pit size will be 989 m x 47 m x 0.5 m.The Conceptual plan and Environmental Management Plan are shown in Plate No.-VII.

1.2 Ultimate Capacity of Dump:

No surface dump is proposed at the conceptual stage.

1.3 Land use pattern:

The anticipated land use pattern as envisaged after five years and at the end of conceptual period would be as tabulated below,

S. N.	Particulars	As on Today in Ha	After 1 Years in Ha
1)	Area of top soil spread for afforestation	**-**	**-**
2)	Storage for top soil	**-**	**-**
3)	Green Belt	-	-
4)	Over burden Dump	**-**	**-**
5)	Mineral Storage	**-**	**-**
6)	Infrastructure (Workshop, Admin. Building etc.)	-	-
7)	Mine road in Mine lease area	-	-
8)	Utilized area for Sand Mining	0.000	**0.50**
9)	Virgin lease area for Sand Mine & Other Uses	0.50	0.000
10)	Road	-	-
11)	Railway	-	-
12)	Tailing Pond	-	-
13)	Effluent Treatment Plant	-	-
14)	Mineral separation plant	-	-
15)	Township Area	-	-
16)	Others to specify	-	-
17)	Ownership	Government River	Government River
Total		**0.50**	**0.50**

11.0 COMPLIANCE OF SAFETY RULES AND REGULATIONS:

Whether there are any serious violation of safety rules and regulation which may jeopardize human health and safety. If so, give details of violations and state the steps proposed to be taken with the time scheduled to rectify the violations:

No, there are not any serious violation of safety rules and regulation, which may jeopardize human health and safety.The applicant has given a commitment in this effect and undertaking also given to follow and implement, as specified in the mining plan.The applicant is undertake to abide and implement any special conditions imposed by various authorities and also to complete formalities under provision of the Mines & Mineral (Development & Regulation) Act, 1957 and the Bombay Minor Mineral rules, the Mineral Conservation and Development Rules, 1988 as amended, the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule 2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016,Sustainable Sand Mining Management Guidelines 2019,Sand Mining Policy 2020

12.0 ANY OTHER INFORMATION:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment. These things will be religiously followed and its report will be periodically submitted to the concerned authority. All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there

under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtained relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

PRE FEASIBILITY REPORT

(As per Rules 23 & 26 of MMME (D & R) RULE 2013 & Section 15 of MMDR Act 1957, MoEF & CC Notification 2006, S.O. 141(E) dated 15. 01. 2016; MoEF & CC, Sustainable Sand Mining Management Guidelines 2016,Guidelines for Mining Policy2020)

For

OBTAINING ENVIRONMENT CLEARANCE

of

SAND MINING (MINOR MINERAL)

For

Dongarkhed-B River Bed Sand Mine / Sand Ghat

Khasra No. Purna

Gsda approved- 76 to 81,

Area (0.34Ha)

Village- Dongarkhed-B Tehsil Shegav, District- Buldhana ,

Submitted to

THE SR. DY. DIRECTOR, DIRECTORATE OF GEOLOGY & MINING, GOVERNMENT OF MAHARASHTRA,Nagpur, (M.S.)

District:-Buldhana ,
Applicant/Project Proponent
District Mining Officer
Collector office, Buldhana ,
District: Buldhana ,

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Accredited by NABET: No.: - NABET/EIA/1619/RA0060/ April 19, 2020)

March – 2020

1. EXECUTIVE SUMMARY

This Pre Feasibility Report has been prepared for the proposed sand ghat over the area of 0.34Ha at Purna River Bed adjoiningKhasra No:- 76 to 81, of village Buldhana, Tehsil Shegav, District- Buldhana, Maharashtra,in accordance with theNotification of MoEF S.O. 1533 dated 14th September 2006. The Ministry ofEnvironment, Forest and Climate Change amended Principal Notification vide 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, sand mining framework 2018. and Govt. of Maharashtra Sand Policy 03.01.2018, Mining Guidelines 2020, included Minor Minerals from 0 Ha to 50 Ha in the PrincipalNotification S.O. 1533 (E) dated 14.09.2006. Central Government made furtheramendments to the notification vide S.O. 2269 (E) dated 01.07.2016. In obedience allrelevant notifications to the principal Notification dated 14th September 2006, applicationfor the excavation of sand ghat from proposed sand ghat is being submitted to SEAC, SEIAA,and Maharashtra.

Though any development activity like industry or minor mineral excavation may cause temporary damage to land, forest and induce changes in the quality of air, water, flora and fauna of the area, it has favorable effect of industrialization on social development and progress of the nation. For overall gain, it is necessary to strike a balance between the two aspects of economy and ecology and ensure that impacts on the environment are minimized with improvement in socio-economic conditions. This is better achieved through a well-planned approach of EMP relevant to the area under consideration.

Sand is used for a wide variety of purposes. It is most commonly used as an aggregate in construction projects. Sand is required for road base, concrete aggregate, asphalt pavement aggregate, and many other purposes. The selected area has exposures of sand which is useful for the various purposes mentioned above.

The mining for this sand ghat excavation is proposed to be carried out manually with opencast method of mining engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading will be carried out manually and transportation of mineral from the sand ghat to the depot by tractor with tipper arrangement. As the mineral is soft & loose in nature, no drilling and blasting are required. The proposed sand ghat area is located at Survey of India ToposheetNo: 55D/9 and falls between the Latitude 20°56'0.09"N and Longitude 76°40'23.74"E. The lease area is not an agricultural land and the area is classified as River. Maximum production capacity is 716 Brass.

In order to obtain environmental clearance as per the EIA Notification 2006 the Prefeasibility Report (PFR) is submitted along with the application Form I M for the project under

consideration. The project is categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016

2.0 INTRODUCTION

1.1 PROJECT PROPONENT

The possession of the land under consideration lies with State Government (As per the 20 (1) Chapter III of The Maharashtra Land Revenue Code 1966) hence application is made through the legal representative as a Project Proponent. Accordingly, DMOBuldhanaCollectorate, Buldhanahave applied for Environmental Clearance of proposed sand ghat. After obtaining the environmental clearance this sand ghat will be auctioned as per the Notification Goukhani 10/0615/Pra.Kra. 289/Kha dated 03.01.2018. Communication details of the project proponent are as under;

DMOBuldhana
BuldhanaCollectorate,
Collector Office, Buldhana

1.2 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

The selected area has exposures of sand which is useful for the various purposes mentioned above. It is proposed to excavate sand from this area by manual opencast method without using any excavation machinery. Transport of the excavated sand will be carried out using tractor with trolley arrangement from sand ghat to depot and by truck/tipper/dumper onwards to the desired destination. The excavated sand will be sold in the market. The present Pre Feasibility Report has been prepared for Proposed sand ghat over the area of 0.34Ha at Purna River Bed adjoining Khasra No.76 to 81,of village Dongarkhed-B- Tehsil Shegav District-Buldhana**.** The project is for excavation of sand (minor mineral) categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016.

1.3 NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY AND OR REGION.

Road/building materialsand is an essential requirement as one of the minor mineral deposits occurring in the majority portion of Maharashtra. It has played a great role in development of civilization and industrialization. The occurrence of sand in the proposed area is proved by the way of exposures and its production has important role in the local infrastructural development. The sediment in the form of river bed material (RBM) deposited every year during monsoon season at many locations of theGodavariRiver. Removal of the sand from the proposed location is unlikely to damage the riparian system if the excavation and transport is carried out in systematic manner proposed in the approved Mining Plan. This project operation

will provide employment directly and indirectly to the people residing in vicinity, thus improving the Socio-economic status of the area.

1.4 DEMAND SUPPLY GAP.

Sand is an essential constituent infrastructural development projects like road, dams, bridges and building. The demand for sand/gravel is ever growing with the growth of the infrastructure sector in our country. The requirement for the mineral is always high in the nearby cities and towns. Therefore there is always a good demand of the mineral in the domestic market. Its demand in industrial area of Buldhanaand nearby areas is increasing very fast. Sand mining not only narrows the gap between the demand and supply if building material but also enhances employment opportunities and economic growth of the region. Besides, the production will also benefit the State in the form of revenue generation. Apart from this, the project will generate direct and indirect employment opportunities from the nearby villages.

1.5 IMPORTS VS. INDIGENOUS PRODUCTION.

Mining of sand is required for various projects within the state of Maharashtra and other states.

1.6 EXPORT POSSIBILITY.

Not explored

1.7 DOMESTIC / EXPORT MARKETS.

There is always an ever increasing demand of these minerals in the domestic market.

1.8 EMPLOYMENT GENERATION (DIRECT AND INDIRECT) DUE TO THE PROJECT.

It is proposed to employ the local population wherever possible in the proposed project activities. Direct employment for this proposed sand ghat excavation will be approximately19 Persons and there will be indirect employment generation also in service sector. The allocated lease will be directed to deploy local persons on for this project.

Grade of staff	**Designation**	**Nos.**
Supervisory and Technical staff	Mine mate / Mine Supervisor	01
Clerical staff	Clerk/ Time keeper	01
Safety/Security Officer	Security Guard	01
Skilled workers	Tractor Trolley Driver	02
Skilled workers	Tractor trolley Helper	01
Semiskilled workers	Labors Supervisor (Mukadam)	05
Unskilled workers	Labors	08
Total Manpower		**13**

3.0 PROJECT DESCRIPTION

i) Type of project including interlinked and Interdependent project, if any.

As per Gazette Notification of Ministry of Environment, Forest and Climate Change (MoEF&CC) dated 15th January 2016, New Delhi all projects (minor mineral) less than 25 hectare falls in category “B-2”. As the lease area of the proposed project is 0.34Ha, it falls in “B-2” category and will be appraised by State level authority.The entire mined out mineral will be completely transported to the market /and there is no interlinked project.

ii) Location (map showing general location, specific location, and projectboundary & project site layout) with coordinate

The land is government Waste land. The area is a plain terrain. The location of proposed siteis shown in the **Figure-1.** The proposed area is covered in parts of Survey of India Toposheetno.56D/9 within latitude 20°56'0.09"N and longitude 76°40'23.74"E (Refer **Figure 2).**

FIGURE-1: LOCATION OF PROPOSED SAND GHAT

PLATE -01
Location map

ADDRESS - DONGARKHED - B RIVER SAND
MINE AT PURNA RIVER
GAT NO.- 76 TO 81,
DISTRICT - SHEGAV
STATE- MAHARASHTRA
TOTAL LEASE AREA- HECT. 0.34

FIGURE-2: SPECIFIC LOCATION OF PROPOSED SAND GHAT

The proposed sand mining ghat was demarcated on the ground by revenue department with reference to adjacent survey numbers of concerned village map. The exploration/assessment of sand Ghats has been carried out by GSDA using probing rods for delineating the total depth of sand and depth of mineable sand with quantity.

Accordingly, reports submitted with mineable reserves of sand in particular location. On the basis of this report State Govt. will auction the sand Ghats for excavation of sand for specific mineable quantity.

The proposed sand ghat has sufficient reserves of sand to excavate 716 brass for the period of current financial year. This is a temporary type of lease for the limited mentioned period i.e. up to September 2020.

LOCATIONAL DETAILS IN SUMMARIZED FORM

Sr. No.	Details of the area	Particulars
1	Name of Sand Ghat and River	Dongarkhed-BRiver Bed Sand Mine in Purna Bed Sand Mine
2	Village	Dongarkhed -B
3	Taluka	Buldhana
4	District	Buldhana
5	Adjoining Khasra No./Survey No.	Purna
6	Lease Area (Ha.)	0.34 Ha
7	Ownership/Occupancy of the Lease area	**Government Land**
8	Existence of public road/railway line if any nearby and approximate distance	The mine is located about 1.21 km in SE direction of Dongarkhed-Bvillage.
9	Nearest Village and its distance from lease area	Manasgaon **(**1.17 **KM),** Pahurpurna **(1.2 KM),** & Dongarpur **(**1.50 **KM).**
10	Toposheet No. and RL of the Lease area	55D/9 and 0.34Ha
11	Latitude & Longitude of Lease area boundary points (Coordinates of the boundary points taken as per the area shown by revenue authority Patwari/Talathi)	20°56'0.09"N 76°40'23.74"E

iii) Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental consideration gone into should be highlighted.

Rivers and streams by far have been the most lucrative and attractive source for extracting large volume of building materials such as boulders, stone, pebbles, sand and gravel for a variety of construction activities. In plain reaches, where the bed slope is gentle, the river bed is overlaid with matrix mainly comprising of sand of different gradation along with silt and clay. Due to river dynamics, the sediments which get generated from bed load and wash load move with river and do not settle uniformly over the entire bed. It rather settles at certain places only (aggradations) and must be removed from time to time to avoid flash floods due to reduction in channel width. The Government has identified such locations for sand removal and the present location is one of them. The project is a site specific and has to be undertaken at the place of the occurrence of the mineral and hence no alternative sites explored.

The environmental advantages of using river sediments are that the Sediments can easily be collected / extracted by digging less deep pits in active channel or dry river beds of upper terraces. The sand extracted from the identified stretch is free from weak materials and interstitial loose / fine material. No requirement of processing for the sand excavated from the river and it can be directly used without any beneficiation. The natural replenishment takes place annually due to transportation of sediments from upper course/reaches during high stage of river, which is achieved a number of times during monsoon. Environment Management Plan to mitigate the activities due to the proposed sand ghat excavation is enclosed at **Annexure 1**.

iv) Size or magnitude of operation.

The proposed sand ghat mining having an area of 0.34Ha will be developed as opencast for the excavation of sand/gravel with production capacity of 716brass. The excavation will be carried out from the demarcated area which is dry. Excavation will be carried out in non monsoon season on or before 30th September 2020.

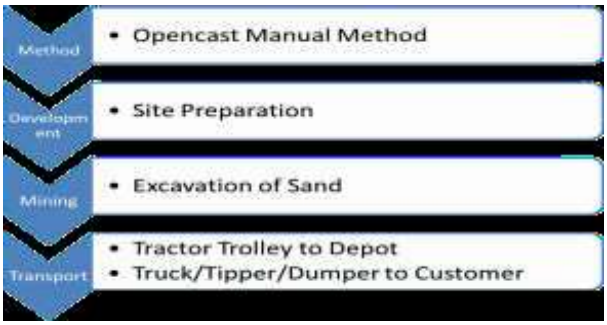
v) Project description with process details (a schematic diagram/ flow chart showing the project layout, components of the project etc. should be given).

The mining will be carried out manually with opencast method of mining by engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading is proposed to be carried out manually and transportation of mineral from the mine to the depot is proposed through tractor with trolley arrangement. As the mineral is dry, loose in nature, no drilling and blasting are required and hence not proposed. Sand excavated manually will be loaded directly into vehicles. Once a pre-determined area has been exhausted of the sand, it shall be replenished by sand during monsoon period leveled it & maintained to its maximum original topography. There will be no OB or waste generation as the sand is directly exposed in the river bed without any soil or silt cover or any other material which can be categorized as overburden material.

Workings will be restricted within the applied area as per the approved Mining Plan. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow. No processing of sand required.

Restriction on mining:

- Mining shall not be carried out within 600 m of any bridge (railway or road).
- Mining shall not be carried out within 100 m from any pumping station, water intake.
- The quarrying of sand will be proposed after leaving a safety distance of 600 meter from bridge falling under NH/SH from both side of the bank, & leaving a safety distance of 100 meter from any bridge.
- Mining shall not be carried out within 3 m from the river bank It will be done leaving a safety zone of total of 1/5th of the width of the river from the banks for bank protection.
- During the entire lease period, the deposit will be worked from the top surface to 3 m bgl or above ground water level, whichever comes first. This will also help in avoiding ponding effect.
- The workability is suggested by keeping in the mind possible effect on the meandering of River. The mining on the concave bank is most suitable than convex bank. Hence, mining is proposed during non monsoon period in a way that is will get replenishment during monsoon.
- Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season.
- No ore dressing/ handling/ processing plant shall be attached with the mine. The whole area demarcated for the purpose of mining as per the approved mining plan shall be mined out so as to maximize the sand production or extraction.
- Systematic plantation will be made in the area outside the river bank to protect the banks from erosion in monsoon.
- In the applied area the velocity & river water flow being less the sediment load get deposited in to the pit During Monsoon season the area get replenished with sediments to be lifted in subsequent years. Excavated area will be replenished naturally due to sediment inflow from the catchment area Therefore, Environment and Ecology of the area remains undisturbed.
- Sequence of mining operation is given below.



vi) Raw material along with estimated quantity, likely source marketing area of final products, mode of transport of raw material and Finished product.

There is no requirement of any Raw Material in this project. Mode of transport of extracted sand is surface transport by existing roads.

vii) Resource optimization / recycling and reuse envisaged in the project, if any, should be briefly outlined.

There is no waste material generation. No recycling and reuse of material is envisaged as entire excavated material will be transported. Minerals are generally depleting asset once mined; but minerals like sand will be replenished naturally. Thus a scientific approach will be taken up for excavation of mineral with systematic method.

viii) Availability of water its source, Energy / power requirement and source should be given

a) **Water Requirement:**Thus total water requirement will be 5.88 KLD. This water will be supplied from the bore well from nearby villages through tankers as well as from surface water sources for dust suppression. Dust suppression and green belt water will beutilized from water tanks. Electricity is not required as the working is only during day timewhich does not demand for artificial lighting.

Sr. No.	Purpose	Water Requirement (KLPD)
1	Dust Suppression and green belt	5.00
2	Domestic (Considering 45 Litres per person per day for19 persons)	0.88
	Total	**5.58**

ix) Quantity of waste to be generated (liquid and solid) and scheme for their Management / disposal.

Solid Waste: There is no solid waste generation during sand excavation.

Liquid Effluent: The sand excavation from the proposed site does not intercept the water table and the area is dry having no impoundment of water. Thus, there is no generation of effluentenvisaged. Small amount of domestic waste will be generated by the workers at the site, which will be disposed-off through proper municipal way. No other waste generation is expected.

x) Schematic representation of the feasibility drawing which give information of EIA purpose.

The proposed sand ghatproject is for excavation of sand which is categorized as minor mineral vide Notification No. S. O. 423 (E) dated 10.02.2015 issued by Ministry of Mines. The minor mineral project such as sand excavation requires environmental clearance as per the procedure defined by Ministry of Environment, Forest & Climate Change (MoEF & CC) Notification No.141 (E) dated 15th January 2016. EIA for the minor mineral projects >5 Ha is not required as per this Notification. As per the Appendix XI of this Notification, approved Mining Plan, Form I and Prefeasibility Report are required for appraisal of the environmental clearance by SEAC/SEIAA. Accordingly, necessary compliance of the directed procedure is made by the applicant. The Notification issued by the Revenue Department of Government of Maharashtra No. Goukhani-10/0615/Pra.Kra. 289/Kha dated 03.01.2018 and Sustainable Sand Mining Management Guidelines2016& Sustainable Sand Mining Management Guidelines 2019, Mining Guidelines 2020 have also been referred and the directives provided in theseNotification/Guidelines have been used for preparation of these documents.

4.0 SITE ANALYSIS

The suitability for extraction was done taking into consideration general profile river stream, annual deposition factor, and replenishment. The project site is located at a plain topography and within the mature stage of a river. The river bed sand replenished every year with the sand carried out with flow of water in monsoon and there is no such control of mineralization as it depends on the nature of flow of river water.

i) Connectivity

Sr.No.	Particulars	Details
1	Road Connectivity	The mine is located about 1.21 km in SE direction of Dongarkhed-B village.

2	Nearest Highway	National Highway Mumbai –Kolkata Highway is 1.10 km & State Highway 173 is 0.62 Km
3	Nearest Airport	Jalgaon, 108 km away towards W from ML.
4	Nearest Railway Station	Shegaon Railway Station is15kms

ii) Land form, land use and Land ownership.

There is no village or human settlement in the lease area. There is no reserves forest or protected forest land within the mining area. The area has Flat topography. The lease area forms a part of Survey of India toposheet no 55D/9. The landuse details for the proposed sand ghat area are as under:-

Adjoining Khasra No. of Village / Taluka /District/ State	**Area**	**Type of land**
Adjoining Khasra:- 76 to 81,	0.34	Government Notified Land

iii) Topography (along with map).

Latitude and Longitude readings have been taken by using G.P.S. instrument. All the levels have taken with respect to Mean Sea Level. It is flat in nature. Total area if the lease area is 4.65Ha.

iv) Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ), shortest distances from the periphery of the project to periphery of the forest, national park, wild life sanctuary, eco sensitive areas, water bodies (distance from the HFL of the river), CRZ. In case of notified industrial area, a copy of the Gazette notification should be given.

Significant features with their aerial distance of the project are tabulated below;

Sr. No.	**FEATURES**	**DETAILS**	**DISTANCE**
1	Village (Nearest)	Dongarkhed-B	1 km
2	Land use	Agriculture	0 km
3	Water bodies	River Purna	1 km
4	Reserved Forest	No	0 km
5	National Park	No	0 km
6	Wildlife Sanctuary	No	0 km

7	Eco Sensitive Area	No	0 km
8	Coastal Regulation Zone	No	0 km
9	Archeological Monument	No	0 km
10	Industries	No	0 km
11	Mines	Sand ghat	1 km

v) Existing Infrastructure.

There is well established road connection from the quarry to the State Highway /village road. Other facilities like market, school, hospital (PHC), drinking water facility, electric, telecommunication etc. are available in nearby villages.

vi) Soil classification.

There is no top soil. The river bed only consists of sand/ gravel.

vii) Climatic data from secondary sources.

Sub–tropical climatic condition prevails in the area. Maximum temperature recorded during summer is45.6°C and the minimum temperature recorded during winter is 12.6° C.
The region receives an average rainfall of around 697 mm to 862 mmwith an annual variation of 100 mm although wider variation has also been noticed in the past. About (50 to 55%) in of rainfall precipitates from June to September.

viii) Social Infrastructure available.

Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities) are found within a distance of 10km of the proposed sand ghat area.

ix) Geology

The lease area as per survey is a River Bed of Godavari River. Applied area for sand extraction is covered with Sand, Pebblesand Gravels of various sizes. The sand of Granitic, Quartzitic.

A) Mineable Reserves of Sand in the proposed Mine Lease Area as per the GSDA:

The proposed Sand Ghat/ River Bed Sand Mine of 0.34Ha area is covered with sand. Theentirearea is occupied by single litho unit sand deposit with flat configuration. Estimationof sand is done by the GSDA, Buldhana and mineable reserves are proposed for sand mining foryear 2019-2020 as follows:.

Av. Length (m)	Av. Width (m)	Area (m^2)	Proposed Depth (m)	Volume of Deposit for Mining (m^3)	Quantity of sand for Excavation (Brass)
L	W	A=L*W	D	V = A * D	Qt = V / 2.83
225	15	3375	0.60	2025	716

4.0 PLANNING BRIEF

i) Planning Concept (type of Industries, facilities, transportation etc) Town and country planning/ Development authority Classification.

The mine will be worked by opencast manual method. Mining will be done up to a depth of 1m bgl or above the water level whichever is comes first. The sand will be collected in its existing form. No drilling /blasting are required as the material is loose in nature. There will be no OB or waste generation as the sand is exposed in the river bed. It will be done leaving a safety zone from bank for bank protection. Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season. Roads in the Applied Area for the movement of loaded trippers/ trucks will not have slopes more than 1 in 20.

However, movement of trucks after mineral loading will be towards both sides through approachroads connecting to tar roads. No processing of excavated sand will be done. Workings will be restricted within the lease area/ khasra as per the description report given by Mining Department. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow as the proposed area for the sand ghat is dry. Mining operation will not be carried out during monsoon season. On view monitoring of mining activity technical staff, skilled and non-skilled labours are employed and thus State/Central Govt. and Village Panchayat will get royalty. Workers will get direct employment and equal number or more will get indirect employment.

ii) Population Projection.

The project will employ most of the workers from nearby villages. Thus there will be no increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. The manpower required for the project shall be engaged from the nearby village(s) and hence influx of population to the area is not anticipated.

iii) Landuse Planning (breakup along with green belt etc.)

The sand from the entire allocated area will be excavated as per the approved mining plan. Local species of selected trees will be planted along the river bank and also on the approach road to depot. If permitted by the local authorities, plantation will be carried out in school, gram panchayat, PHC or anaganwadi premises. It is proposed to have plantation along the road sides on both sides to provide cover against dust dissemination and also to act as noise absorber. Approximately 330 trees of will be planted with various types of species. Native plants like Teak,Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tutand other local species will selected insuitable combination, so that can grow fast and also have good leaf cover.

v) Assessment of Infrastructure Demand (physical & social)

The project requires roads for the transport of the produced material which isadequate, besides it requires manpower to operate the quarry and is availablelocally.

vi) Amenities/Facilities.

Temporary rest shelters, portable toilets, drinking water and first-aid will be madeavailable to the workers.

6.0 . PROPOSED INFRASTRUCTURE

No infrastructure erection is proposed in the mine lease area

i) Industrial area (processing area) - No processing or beneficiation is required hence not proposed.

ii) Residential Area (Non processing Area)- None.

iii) Green Belt.

The entire mining area falls within river course and gets flooded duringmonsoons; therefore, no plantation is possible within this area. Plantation willmainly be done along the kuchha road and along the length of the river bank orapproach road to depot or places as recommended by Gram Panchayat.**Approximately 330 trees** of will be planted with various types of species. Native plants like Teak, Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tut, &other local species will selected in suitable combination, so that can grow fast and also have good leaf cover.

iv) Social Infrastructure.

This Project will provide employment to local people directly and indirectly. Indirect employment will be in the form of shopkeepers, mechanic, drivers, transporters etc. The lessee

will be responsible for providing better social infrastructure benefits such as drinking water, health care measures, educational facilities, promotion of culture and religious activities in surroundings as part of their CSR activities.

v) Connectivity (Traffic and Transportation Road/Rail/Metro/Water ways

The area is approachable from NearestNational Highway Mumbai –Kolkata Highway is 1.10 km & State Highway 173 is 1.00 km away.There are metalled roads and unmetalled road up to the mine site.

vi) Drinking Water management (Source & Supply of water)

Water will be supplied from nearby villages for drinking purposes through tankers with NOC from Gram Panchayat.

vii) Sewerage System.

Not required. Temporary toilet facilities will be provided by the proponent at the river banks.

viii) Industrial Waste Management.

Not required

ix) Solid Waste Management.

There is no Solid waste generation during sand mining. The entire excavated sand is useable.

x) Power Requirement & Supply / Source.

Diesel will be used as motive source of primary energy for tractors/ truck arranged by the buyers. Diesel will be outsourced from nearby diesel pumps directly by buyers. Mining method is manual and working hour will be for 12 hours during the day time, so there is no such power requirement.

7.0 REHABILITATION AND RESETTLEMENT (R & R) PLAN

i) Policy to be adopted (central/state) in respect of the project affected person including home oustees, land oustees and landless laborers (a brief outline to be given.)

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

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.)

The operations shall be carried out after obtaining all statutory permissions as per the statutory guidelines. Adequate reserves are available from the proposed sand ghat area. Reclamation and Rehabilitation plan will be prepared for sustainable development and minimized environmental damage. This is a temporary type of lease for the limited mentioned period i.e. Period of Mine Lease will be One Year 2019-2020 or up to 30.09.2020.

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

The sand ghat proposed by the Project Proponent will be auctioned online as perthe procedure in vogue. Hence, project cost cannot be estimated at this stage.

9.0 ANALYSIS OF PROPOSAL FINAL RECOMMENDATIONS)

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 involves collection of river bed material. This is very essential in order to prevent widening of the riverbeds and to prevent flooding off and damage to the adjoining areas. This can only be achieved by maintaining the existing course of the river.
The river banks, on both sides are covered by vegetation and human habitats.Widening of river banks results in excessive erosion; resulting in damage to flora, agricultural land and settlements which are situated at very close proximity. It isproposed to employ the local population wherever possible in the proposedproject activities directly or indirectly. It provides employment to the peopleresiding in vicinity directly or indirectly by the project. The sand extracted fromthis area is in high demand in the local market.

There will be no environmental impact from the project since the scale ofoperation is very less and the method of mining by manual. This operationdoesn’t need relocation manage of any habitants. The plantation of sufficientnumber of trees along the village roads is proposed which

will control thedispersion of dust during transportation as well as will be helpful in controllingNoise for propagation.

Annexure 1

ENVIRONMENT MANAGEMENT PLAN

1.0 INTRODUCTION

Preparation of Environmental Management Plan is required for formulation, implementation and monitoring of environmental protection measures during and after commissioning of projects. The plan should indicate the details as to how various measures have been proposed to be taken including cost components as may be required.

1.1 Land Environment

The type of mining and the characteristics of the particular mineral deposit both affect the degree to which mining disturbs the landscape. Sand Mining and allied activities will be done in the fluvial plain formed by river meandering. Mining of sand may cause a few environmental degradations.

A. ANTICIPATED IMPACTS:

Damage of river bank due to access ramps to river bed, may cause soil erosion.

Destruction of river bank hinterland and ecological due to extraction of sand by probability of damage to the flood control bunds (built along the river side) due to heavy movements of vehicles over the bund to approach the mine are and further during transportation for sand from the mine area.

Disposal of packing material, carried by the workers, would not be allowed. This packing material would include used sachet/gutka/pan masala pouches.

Movement of heavy vehicles sometimes cause problems to agricultural land, human habitations, borehole users due to dust, noise and it also causes traffic hazards.

Surface degradation due to road network.

M. MITIGATION MEASURES:

Safety distance of 3 meter or 1/10th of the width of the river whichever is more will be left from both the bank of the river (as per “Sustainable sand mining guidelines”).

No foreign material like polythene bag, jute bag and useless articles should be allowed to remain/spill in river bed and catchment area, or no pits/pockets will be allowed to be filled with such material.

Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained.
Care will be taken to ensure that ponding is not formed in the river bed.
Mining will not exceeds beyond the allowed extraction capacity.
Green belt will be developed along the haul road and the bank of rivers of mine premises and near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.

1.2 Water Environment

A. ANTICIPATED IMPACTS:
As the project activity is carried out in the dry part of river bed, none of the project activities will affect the water environment or riverbank habitats. Project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality. Monitoring of water quality will be checked yearly.

M. MITIGATION MEASURES:

i) Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
ii) Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
iii) River stream will not be diverted to form in active channels.
iv) Utmost care will be taken to minimize or control leakage vehicles to be used for sand transportation.
v) The washing of tractor trolleys in the river will be avoided.
vi) The contractor will follow all guidelines and rules for proper and scientific method of mining during the period of extracting the sand.

1.3 Air Environment:

A. ANTICIPATED IMPACTS:

a) Due to Haul Road/ Access Road:
Plying of tractor trolleys from public road to river sand collection points needs access roads. Majority of such access roads are the same existing roads/tracks being used by pedestrians/cart owners. Movement of heavy vehicles sometimes causes problems to cattle, agriculture land,

and human habitations due to dust, noise and movement of public. These environmental problems are felt more as the area is rural in nature.

b) Due to Mining process:

Air pollution is likely to be caused at various stages of sand mining operations such as excavation, loading & transportation of material. Most of the dust will be generated from loading& transportation. This dust becomes air borne and gets carried away to surrounding areas. The impact on air is mainly localized in nature as the dust particles are not carried to longer distances and the effect is felt within the core zone of the project involving active Sand mining operations.

M. MITIGATION MEASURES:

a) Mitigation of Impacts on Access Roads:

Movement of the vehicles on the road will be increased; however, unmetalled road in the mining area will be sprinkled with water at regular intervals. In addition to prevent spillage by tractor trolleys over loading should be controlled along with speed limit (1Brass /tractor trolley). Maintenance of haul road will be done on regular basis.

b) For Fugitive Dust Emission:

i) To avoid fugitive dust emissions at the time of excavation, regular sprinkling of water will be done on regular basis.

ii) Sand is transported to the sites by road through tractor trolleys. The sand carrying vehicles shall be covered by tarpaulin sheets.

iii) The Green Belt development will be prepared along the haul roads, which will act as a pollution sink.

iv) To minimize the vehicular pollution from the sand transporting vehicles, the following conditions will insist to permit the vehicles of the transporters.

- The vehicles should be (Bharat-IV stage) compliant and should have pollution control certificate (PUC) issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.

1.4 Noise:

A. ANTICIPATED IMPACTS:

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since, slight increase in noise levels can be expected.

M. MITIGATION MEASURES:

- ✓ Minimum use of Horns at the village area.
- ✓ Timely maintenance of vehicles and their silencers to minimize vibration and Sound.
- ✓ Phasing out of old and worn out tractor trolleys.
- ✓ Provision of green belts along the road networks.
- ✓ Care will be taken to produce minimum sound during sand loading.
- ✓ Use of Backhoe and ear plugs may be provided to protect the labors working at the site.

1.5 Socio-Economic Environment

This project operation will provide livelihood to the poorest section of the society.
Approximately 19 people shall work at mine site.

A. ANTICIPATED IMPACTS AND EVALUATION:

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. There is no R & R involvement in this project. There is no land acquisition in this project.

The results of the field survey conducted to understand the knowledge and perception of the people living around the project area gives a clear idea about the need for the project.

A major portion of the houses in the study area are semi- pucca type structures. The water source to these areas is from the municipal connection and private bore wells and wells. The awareness level regarding the proposed mining activity is very high.

The proposed mining activity is expected to provide stimulus to socio-economic activities in the region and thereby accelerate further development processes.

i) Social and Demographic Profile:

The workers are from local villages. These people have been provided all welfare from a lessee like medical benefits, insurance, fees for children's education etc. They have some land and cattle for their daily earnings. Additional income earned from the Sand Mining work will improve their living standard. The group of quarries in and around will help to have infrastructure facilities like roads, schools, shops etc. This will improve their social life.

ii) Occupational Health And Safety:

This is River Bed Sand Mine. So the mining activities are comparatively less because the production is not on large scale. Workers do not come across any extreme condition like excessive heat; moisture, etc. Workers working around it may come across this dusty environment. But the impact on health will be within limit.

iii) Human Settlement:

There are no houses in and around lease area. Blasting is only activity, which may affect the settlement, but settlement is at distance of more than 1.0 Km from the Sand Mining. All the due precautions will be taken during mining. Transport of finished products is through the villages. There will be psychological impact of the traffic on the local people. However, the intensity of traffic is less.

iv) Health and Hygiene:

In general, the health of villagers is moderately good. In the rainy season, the atmospheric condition is unhygienic due to lack of proper drainage and sanitation in the village habitation. Villagers are working in agricultural fields and work as laborers.

v) Education:

Mostly education is up to middle standard. Economic condition is in general moderate. So after this project the standard of education will be increase.

vi) Socio Economic Benefits Arising Out Of Mining:

- Generation of employment in the rural area.
- Improvement in the living standards of the rural people.
- Creating of infrastructural facilities like roads, electricity, shops, school etc.
- Helping to improve literacy in the area
- Exploiting natural mineral so generation of revenue
- Helping to sustain construction activity
- Improving the greenery of the area, this is otherwise very poor.

vii) LIQUID EFFLUENT:

- Not applicable because small mine and impacts are negligible.

viii) SOLID WASTE:

- Not applicable because small mine and impacts are negligible.

1.6 Biological Environment

A. ANTICIPATED IMPACTS:

a) Aquatic environment

Proposed mining of the dry bed of the river, so no any possibility of disturbance of aquatic life.

b) Flora and Fauna

The mining activity will have insignificant affect on the existing flora and fauna. The project area is surrounded with agricultural land. It was found that the sand mining activity will not have any significant impact on the biological environment of the region.

M. MITIGATION MEASURES:

- ✓ Improvement in river bank stability.
- ✓ Large woody debris in the riparian zone will be left undisturbed or replacedwhen moved and not be burnt.
- ✓ Vegetative debris will not be stored within the mine lease area.
- ✓ Operation and storage of heavy vehicles within riparian habitat will be restricted.
- ✓ Covering of loaded vehicles to reduce dust emission, which may harm surrounding agricultural crops and other plant species conservation of biological diversity of plants, birds and animals.
- ✓ Greenbelt Development and Bio-Diversity Preservation

Plantation activities will be carried out at the bank of the river and along the haul roads. This activity will help for maintaining ecology and environment of the area.

1.7 IMPLEMENTATION OF EMP:

Environmental Management Plan serves no purpose if it is not implemented with true spirit. Some loopholes in the EMP can also be detected afterwards when it is implanted and monitored. Thus, an implementation and monitoring programmed has to be prepared.

Implementation of proposed control measures and monitoring programmed has an implication on the surrounding area as well as for the region. Therefore, sand mining management should be strengthen the existing control measures as elaborated earlier in this report and monitor the efficacy of the control measures implemented within the sand mining area relating to the following specific areas:

- ✓ Coordinate with environment monitoring laboratory for collecting and analyzing air, water, soil&noise quality of the area.
- ✓ Implementing the control and protective measures.
- ✓ Co-coordinating the environment related activities within the project as well as with outside agencies.
- ✓ Separate Budget has been allocated for the EMP.
- ✓ Collecting statistics of health of workers and population of surrounding villages.
- ✓ Monitoring the progress of implementation of environmental management program.

1.7.1. GREENBELT DEVELOPMENT:

- ✓ The implementation for development of green belt will be of paramount importance as it will not only add up as an aesthetic feature, but also act as a pollution sink.
- ✓ The species to be grown in the area should be dust tolerant and fast growing species so that permanent green belt is created.
- ✓ To stabilize the river bank erosion the plantation of native species of that area along the river bank.
- ✓ Apart from the green belt and aesthetic plantation for elimination fugitive of emission and noise control, all other plantation efforts shall be decided and executed with the assistance and co-operation of the local community.

Proposed Program for Plantation For Green Belt Development:

A forestation will be carried out to increase the green cover and create harmony with nature. The area will be afforested with variety of local sapling. This will help to have polyculture. The details of a forestation program are given below. This will be done on the statutory barrier to be left and on the general surface of the lease.Along the access road at sand mining site. (List of trees is given):

S.N.	Scientific Name	Hindi Name	Number
1	Azadirachtaindica	Nim	33
2	Tectonagrandis	Teak	33
3	Terminaliaarjuna	Arjun	33
4	Tuti	Tut	33
5	Syzygiumcumini	Jamun	33
6	Ficusreligiosaa	Pipal	33
7	Bambusa vulgaris	Bamboo	33
8	Neolamarckiacadamba	Kadamb	33
9	Dalbergiasissoo	Shisham	33
10	Madhucalongifolia	Mahua	33
Total			**330**

Cost of Environment Management Cost:

S.N.	Description	Cost Rs. (inLakhs)
1	Dust suppression	0.05
2	Haul road maintenance	0.05
3	Green belt & Maintenance	0.05
4	Monitoring cost	0.03

1.7.2 TRANSPORT SYSTEM:

i) Proper parking places should be provided for the tractor trolleys and other vehicles by the Mine Owner to avoid any congestion or blocking of roads.

ii) Spillage of sand on roads may lead to accidents.Proper road safety signs both inside and outside the mine should be displayed for avoiding road accidents.

1.7.3 MONITORING SCHEDULE AND PARAMETERS

1.7.4 MONITORING OF AMBIENT AIR, WATER, and NOISE:

To evaluate the effectiveness of environmental management program regular monitoring of the important environmental parameters to be monitored are shown in following Table:

Monitoring Parameters	Frequency of Monitoring
Ambient Air: (Ambient Air Quality at appropriate location for PM, SO2, NO2): In the vicinity of the mine area&Near Access road.	Half-yearly
Water: Two Surface (up-stream & Down Stream) & One Ground Water Samples nearby the project site	Yearly
Noise: Day & Night level Noise Monitoring at mining site	Half-yearly

For air, water and noise pollution control measures, it has been suggested that samples would be collected and tested all-round the year with appropriate frequency at strategic places by suitable agencies. In case, it is found that any of the control parameters exceed the tolerance limit as fixed by the State/Central Pollution Control Board, preventive measures will be taken and if required expert opinion will be sought for proper remedial measures.

1.7.5 DISASTER PLANNING:

Proper disaster planning should be done to meet any emergency situation arising due to fire,explosion,sudden leakage of gas etc. Firefighting equipment and other safety appliances should be kept ready for use during disaster/emergency situation including natural calamities like earthquake/flood.

1.7.6 ENVIRONMENT MANAGEMENT CELL:

Each mine or group of mine should identify within its setup a Department/Section/Cell with trained personnel to take up the model responsibility of environmental management as required for planning and implementation of the projects.

10.0 CONCEPTUAL MINING PLAN:

This stage not applicable because the Conceptual plan of the proposed lease area at the end of lease period is prepared.

10.1 Ultimate depth, size & shape of the pit:

The Lease will be for 1 year. Therefore, it is very premature to decide the conceptual plan for the Sand Mine. However, based on the available geological information requirement or purpose of mining the shape and size of Sand has been defined and shown as the Ultimate Pit Limits by colored lines in the Geological plan, the Production &Development plan, and the Conceptual plan. Ultimate pit size will be 989 m x 47 m x 0.5 m.The Conceptual plan and Environmental Management Plan are shown in Plate No.-VII.

1.2 Ultimate Capacity of Dump:

No surface dump is proposed at the conceptual stage.

1.3 Land use pattern:

The anticipated land use pattern as envisaged after five years and at the end of conceptual period would be as tabulated below,

S. N.	Particulars	As on Today in Ha	After 1 Years in Ha
1)	Area of top soil spread for afforestation	-	-
2)	Storage for top soil	-	-
3)	Green Belt	-	-
4)	Over burden Dump	-	-
5)	Mineral Storage	-	-
6)	Infrastructure (Workshop, Admin. Building etc.)	-	-
7)	Mine road in Mine lease area	-	-
8)	Utilized area for Sand Mining	0.000	**0.34**
9)	Virgin lease area for Sand Mine & Other Uses	0.34	0.000
10)	Road	-	-
11)	Railway	-	-
12)	Tailing Pond	-	-
13)	Effluent Treatment Plant	-	-
14)	Mineral separation plant	-	-
15)	Township Area	-	-
16)	Others to specify	-	-
17)	Ownership	Government River	Government River

Total	**0.34**	**0.34**

11.0 COMPLIANCE OF SAFETY RULES AND REGULATIONS:

Whether there are any serious violation of safety rules and regulation which may jeopardize human health and safety. If so, give details of violations and state the steps proposed to be taken with the time scheduled to rectify the violations:

No, there are not any serious violation of safety rules and regulation, which may jeopardize human health and safety.The applicant has given a commitment in this effect and undertaking also given to follow and implement, as specified in the mining plan.The applicant is undertake to abide and implement any special conditions imposed by various authorities and also to complete formalities under provision of the Mines & Mineral (Development & Regulation) Act, 1957 and the Bombay Minor Mineral rules, the Mineral Conservation and Development Rules, 1988 as amended, the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule 2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016,Sustainable Sand Mining Management Guidelines 2019,Sand Mining Policy 2020

12.0 ANY OTHER INFORMATION:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment. These things will be religiously followed and its report will be periodically submitted to the concerned authority. All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF &

CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtained relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

PRE FEASIBILITY REPORT

(As per Rules 23 & 26 of MMME (D & R) RULE 2013 & Section 15 of MMDR Act 1957, MoEF & CC Notification 2006, S.O. 141(E) dated 15. 01. 2016; MoEF & CC, Sustainable Sand Mining Management Guidelines 2016,Guidelines for Mining Policy2020)

For

OBTAINING ENVIRONMENT CLEARANCE

of

SAND MINING (MINOR MINERAL)

For

Dongarkhed-K River Bed Sand Mine / Sand Ghat
Khasra No.59,60
Area (0.35Ha)

Village- Dongarkhed-KTehsil Shegav, District- Buldhana ,

Submitted to
THE SR. DY. DIRECTOR, DIRECTORATE OF GEOLOGY & MINING,
GOVERNMENT OF MAHARASHTRA,Nagpur, (M.S.)

District:-Buldhana ,
Applicant/Project Proponent
District Mining Officer
Collector office, Buldhana ,
District: Buldhana ,

Prepared By

MANTRAS GREEN RESOURCES LTD

QCI-NABET ACCREDITED EIA CONSULTANT,

Hall No.1, First Floor, NICE Sankul, MIDC
Satpur, Nashik, Maharashtra

Email:Info@mantrasresources.com,
uksharma@mantrasresources.com
Accredited by NABET: No.: - NABET/EIA/1619/RA0060/ April 19, 2020)

March – 2020

1. EXECUTIVE SUMMARY

This Pre Feasibility Report has been prepared for the proposed sand ghat over the area of 0.35Ha at Purna River Bed adjoiningKhasra No:-59,60 of village Buldhana, Tehsil Shegav, District- Buldhana, Maharashtra,in accordance with theNotification of MoEF S.O. 1533 dated 14th September 2006. The Ministry ofEnvironment, Forest and Climate Change amended Principal Notification vide 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, sand mining framework 2018. and Govt. of Maharashtra Sand Policy 03.01.2018, Mining Guidelines 2020, included Minor Minerals from 0 Ha to 50 Ha in the PrincipalNotification S.O. 1533 (E) dated 14.09.2006. Central Government made furtheramendments to the notification vide S.O. 2269 (E) dated 01.07.2016. In obedience allrelevant notifications to the principal Notification dated 14th September 2006, applicationfor the excavation of sand ghat from proposed sand ghat is being submitted to SEAC, SEIAA,and Maharashtra.

Though any development activity like industry or minor mineral excavation may cause temporary damage to land, forest and induce changes in the quality of air, water, flora and fauna of the area, it has favorable effect of industrialization on social development and progress of the nation. For overall gain, it is necessary to strike a balance between the two aspects of economy and ecology and ensure that impacts on the environment are minimized with improvement in socio-economic conditions. This is better achieved through a well-planned approach of EMP relevant to the area under consideration.

Sand is used for a wide variety of purposes. It is most commonly used as an aggregate in construction projects. Sand is required for road base, concrete aggregate, asphalt pavement aggregate, and many other purposes. The selected area has exposures of sand which is useful for the various purposes mentioned above.

The mining for this sand ghat excavation is proposed to be carried out manually with opencast method of mining engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading will be carried out manually and transportation of mineral from the sand ghat to the depot by tractor with tipper arrangement. As the mineral is soft & loose in nature, no drilling and blasting are required. The proposed sand ghat area is located at Survey of India Toposheet No: 55D/9 and falls between the Latitude 20°55'50.61"N and Longitude 76°40'6.77"E. The lease area is not an agricultural land and the area is classified as River. Maximum production capacity is 731 Brass.

In order to obtain environmental clearance as per the EIA Notification 2006 the Prefeasibility Report (PFR) is submitted along with the application Form I M for the project under

consideration. The project is categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016

2.0 INTRODUCTION

1.1 PROJECT PROPONENT

The possession of the land under consideration lies with State Government (As per the 20 (1) Chapter III of The Maharashtra Land Revenue Code 1966) hence application is made through the legal representative as a Project Proponent. Accordingly, DMOBuldhanaCollectorate, Buldhanahave applied for Environmental Clearance of proposed sand ghat. After obtaining the environmental clearance this sand ghat will be auctioned as per the Notification Goukhani 10/0615/Pra.Kra. 289/Kha dated 03.01.2018. Communication details of the project proponent are as under;

DMOBuldhana
BuldhanaCollectorate,
Collector Office, Buldhana

1.2 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

The selected area has exposures of sand which is useful for the various purposes mentioned above. It is proposed to excavate sand from this area by manual opencast method without using any excavation machinery. Transport of the excavated sand will be carried out using tractor with trolley arrangement from sand ghat to depot and by truck/tipper/dumper onwards to the desired destination. The excavated sand will be sold in the market. The present Pre Feasibility Report has been prepared for Proposed sand ghat over the area of 0.35Ha atPurnaRiver Bed adjoiningKhasra No:-59,60of village Dongarkhed-K - Tehsil Shegav District-Buldhana**.** The project is for excavation of sand (minor mineral) categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016.

1.3 NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY AND OR REGION.

Road/building materialsand is an essential requirement as one of the minor mineral deposits occurring in the majority portion of Maharashtra. It has played a great role in development of civilization and industrialization. The occurrence of sand in the proposed area is proved by the way of exposures and its production has important role in the local infrastructural development. The sediment in the form of river bed material (RBM) deposited every year during monsoon season at many locations of theGodavariRiver. Removal of the sand from the proposed location is unlikely to damage the riparian system if the excavation and transport is carried out in systematic manner proposed in the approved Mining Plan. This project operation

will provide employment directly and indirectly to the people residing in vicinity, thus improving the Socio-economic status of the area.

1.4 DEMAND SUPPLY GAP.

Sand is an essential constituent infrastructural development projects like road, dams, bridges and building. The demand for sand/gravel is ever growing with the growth of the infrastructure sector in our country. The requirement for the mineral is always high in the nearby cities and towns. Therefore there is always a good demand of the mineral in the domestic market. Its demand in industrial area of Buldhanaand nearby areas is increasing very fast. Sand mining not only narrows the gap between the demand and supply if building material but also enhances employment opportunities and economic growth of the region. Besides, the production will also benefit the State in the form of revenue generation. Apart from this, the project will generate direct and indirect employment opportunities from the nearby villages.

1.5 IMPORTS VS. INDIGENOUS PRODUCTION.

Mining of sand is required for various projects within the state of Maharashtra and other states.

1.6 EXPORT POSSIBILITY.

Not explored

1.7 DOMESTIC / EXPORT MARKETS.

There is always an ever increasing demand of these minerals in the domestic market.

1.8 EMPLOYMENT GENERATION (DIRECT AND INDIRECT) DUE TO THE PROJECT.

It is proposed to employ the local population wherever possible in the proposed project activities. Direct employment for this proposed sand ghat excavation will be approximately19 Persons and the there will be indirect employment generation also in service sector. The allocated lease will be directed to deploy local persons on for this project.

Grade of staff	**Designation**	**Nos.**
Supervisory and Technical staff	Mine mate / Mine Supervisor	01
Clerical staff	Clerk/ Time keeper	01
Safety/Security Officer	Security Guard	01
Skilled workers	Tractor Trolley Driver	02
Skilled workers	Tractor trolley Helper	02
Semiskilled workers	Labors Supervisor (Mukadam)	05
Unskilled workers	Labors	08
Total Manpower		**19**

3.0 PROJECT DESCRIPTION

i) Type of project including interlinked and Interdependent project, if any.

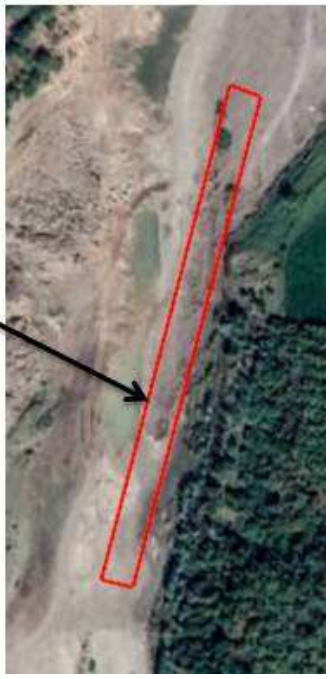
As per Gazette Notification of Ministry of Environment, Forest and Climate Change (MoEF&CC) dated 15th January 2016, New Delhi all projects (minor mineral) less than 25 hectare falls in category “B-2”. As the lease area of the proposed project is 0.35Ha, it falls in “B-2” category and will be appraised by State level authority.The entire mined out mineral will be completely transported to the market /and there is no interlinked project.

ii) Location (map showing general location, specific location, and projectboundary & project site layout) with coordinate

The land is government Waste land. The area is a plain terrain. The location of proposed siteis shown in the **Figure-1.** The proposed area is covered in parts of Survey of India Toposheetno.56D/9 within latitude 20°55'50.61"Nand longitude 76°40'6.77"E (Refer **Figure 2).**

FIGURE-1: LOCATION OF PROPOSED SAND GHAT

PLATE -01
Location map



ADDRESS -DONGARKHED - C RIVER SAND
MINE AT PURNA RIVER
GAT NO.- 59,60,
DISTRICT - SHEGAV
STATE- MAHARASHTRA
TOTAL LEASE AREA- HECT. 0.35

FIGURE-2: SPECIFIC LOCATION OF PROPOSED SAND GHAT

The proposed sand mining ghat was demarcated on the ground by revenue department with reference to adjacent survey numbers of concerned village map. The exploration/assessment of sand Ghats has been carried out by GSDA using probing rods for delineating the total depth of sand and depth of mineable sand with quantity.

Accordingly, reports submitted with mineable reserves of sand in particular location. On the basis of this report State Govt. will auction the sand Ghats for excavation of sand for specific mineable quantity.

The proposed sand ghat has sufficient reserves of sand to excavate731brass for the period of current financial year. This is a temporary type of lease for the limited mentioned period i.e. up to September 2020.

LOCATIONAL DETAILS IN SUMMARIZED FORM

Sr. No.	Details of the area	Particulars
1	Name of Sand Ghat and River	Dongarkhed-K River Bed Sand Mine in Purna Bed Sand Mine
2	Village	Dongarkhed-K
3	Taluka	Buldhana
4	District	Buldhana
5	Adjoining Khasra No./Survey No.	Purna
6	Lease Area (Ha.)	0.35 Ha
7	Ownership/Occupancy of the Lease area	**Government Land**
8	Existence of public road/railway line if any nearby and approximate distance	The mine is located about 1.34 km in SE direction of Dongarkhed-K village.
9	Nearest Village and its distance from lease area	Manasgaon (1.17 KM), Pahurpurna (1.2 KM), & Dongarpur (1.50 KM).
10	Toposheet No. and RL of the Lease area	55D/9and0.35Ha
11	Latitude & Longitude of Lease area boundary points (Coordinates of the boundary points taken as per the area shown by revenue authority Patwari/Talathi)	20°55'50.61"N 76°40'6.77"E

iii) Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental consideration gone into should be highlighted.

Rivers and streams by far have been the most lucrative and attractive source for extracting large volume of building materials such as boulders, stone, pebbles, sand and gravel for a variety of construction activities. In plain reaches, where the bed slope is gentle, the river bed is overlaid with matrix mainly comprising of sand of different gradation along with silt and clay. Due to river dynamics, the sediments which get generated from bed load and wash load move with river and do not settle uniformly over the entire bed. It rather settles at certain places only (aggradations) and must be removed from time to time to avoid flash floods due to reduction in channel width. The Government has identified such locations for sand removal and the present location is one of them. The project is a site specific and has to be undertaken at the place of the occurrence of the mineral and hence no alternative sites explored.

The environmental advantages of using river sediments are that the Sediments can easily be collected / extracted by digging less deep pits in active channel or dry river beds of upper terraces. The sand extracted from the identified stretch is free from weak materials and interstitial loose / fine material. No requirement of processing for the sand excavated from the river and it can be directly used without any beneficiation. The natural replenishment takes place annually due to transportation of sediments from upper course/reaches during high stage of river, which is achieved a number of times during monsoon. Environment Management Plan to mitigate the activities due to the proposed sand ghat excavation is enclosed at **Annexure 1**.

iv) Size or magnitude of operation.

The proposed sand ghat mining having an area of 0.35Ha will be developed as opencast for the excavation of sand/gravel with production capacity of 731brass. The excavation will be carried out from the demarcated area which is dry. Excavation will be carried out in non monsoon season on or before 30th September 2020.

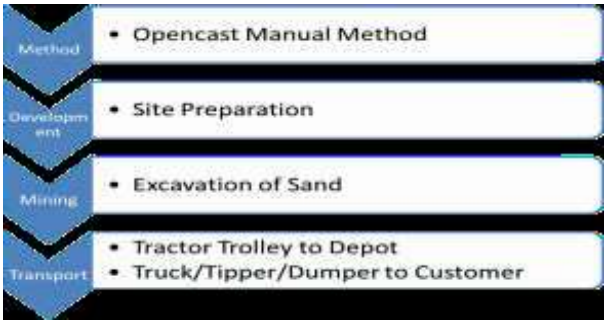
v) Project description with process details (a schematic diagram/ flow chart showing the project layout, components of the project etc. should be given).

The mining will be carried out manually with opencast method of mining by engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading is proposed to be carried out manually and transportation of mineral from the mine to the depot is proposed through tractor with trolley arrangement. As the mineral is dry, loose in nature, no drilling and blasting are required and hence not proposed. Sand excavated manually will be loaded directly into vehicles. Once a pre-determined area has been exhausted of the sand, it shall be replenished by sand during monsoon period leveled it & maintained to its maximum original topography. There will be no OB or waste generation as the sand is directly exposed in the river bed without any soil or silt cover or any other material which can be categorized as overburden material.

Workings will be restricted within the applied area as per the approved Mining Plan. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow. No processing of sand required.

Restriction on mining:

- Mining shall not be carried out within 600 m of any bridge (railway or road).
- Mining shall not be carried out within 100 m from any pumping station, water intake.
- The quarrying of sand will be proposed after leaving a safety distance of 600 meter from bridge falling under NH/SH from both side of the bank, & leaving a safety distance of 100 meter from any bridge.
- Mining shall not be carried out within 3 m from the river bank It will be done leaving a safety zone of total of 1/5th of the width of the river from the banks for bank protection.
- During the entire lease period, the deposit will be worked from the top surface to 3 m bgl or above ground water level, whichever comes first. This will also help in avoiding ponding effect.
- The workability is suggested by keeping in the mind possible effect on the meandering of River. The mining on the concave bank is most suitable than convex bank. Hence, mining is proposed during non monsoon period in a way that is will get replenishment during monsoon.
- Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season.
- No ore dressing/ handling/ processing plant shall be attached with the mine. The whole area demarcated for the purpose of mining as per the approved mining plan shall be mined out so as to maximize the sand production or extraction.
- Systematic plantation will be made in the area outside the river bank to protect the banks from erosion in monsoon.
- In the applied area the velocity & river water flow being less the sediment load get deposited in to the pit During Monsoon season the area get replenished with sediments to be lifted in subsequent years. Excavated area will be replenished naturally due to sediment inflow from the catchment area Therefore, Environment and Ecology of the area remains undisturbed.
- Sequence of mining operation is given below.



vi) Raw material along with estimated quantity, likely source marketing area of final products, mode of transport of raw material and Finished product.

There is no requirement of any Raw Material in this project. Mode of transport of extracted sand is surface transport by existing roads.

vii) Resource optimization / recycling and reuse envisaged in the project, if any, should be briefly outlined.

There is no waste material generation. No recycling and reuse of material is envisaged as entire excavated material will be transported. Minerals are generally depleting asset once mined; but minerals like sand will be replenished naturally. Thus a scientific approach will be taken up for excavation of mineral with systematic method.

viii) Availability of water its source, Energy / power requirement and source should be given

a) **Water Requirement:**Thus total water requirement will be 5.88 KLD. This water will be supplied from the bore well from nearby villages through tankers as well as from surface water sources for dust suppression. Dust suppression and green belt water will beutilized from water tanks. Electricity is not required as the working is only during day timewhich does not demand for artificial lighting.

Sr. No.	Purpose	Water Requirement (KLPD)
1	Dust Suppression and green belt	5.00
2	Domestic (Considering 45 Litres per person per day for19 persons)	0.88
	Total	**5.88**

ix) Quantity of waste to be generated (liquid and solid) and scheme for their Management / disposal.

Solid Waste: There is no solid waste generation during sand excavation.

Liquid Effluent: The sand excavation from the proposed site does not intercept the water table and the area is dry having no impoundment of water. Thus, there is no generation of effluentenvisaged. Small amount of domestic waste will be generated by the workers at the

site, which will be disposed-off through proper municipal way. No other waste generation is expected.

x) Schematic representation of the feasibility drawing which give information of EIA purpose.

The proposed sand ghatproject is for excavation of sand which is categorized as minor mineral vide Notification No. S. O. 423 (E) dated 10.02.2015 issued by Ministry of Mines. The minor mineral project such as sand excavation requires environmental clearance as per the procedure defined by Ministry of Environment, Forest & Climate Change (MoEF & CC) Notification No.141 (E) dated 15th January 2016. EIA for the minor mineral projects >5 Ha is not required as per this Notification. As per the Appendix XI of this Notification, approved Mining Plan, Form I and Prefeasibility Report are required for appraisal of the environmental clearance by SEAC/SEIAA. Accordingly, necessary compliance of the directed procedure is made by the applicant. The Notification issued by the Revenue Department of Government of Maharashtra No. Goukhani-10/0615/Pra.Kra. 289/Kha dated 03.01.2018 and Sustainable Sand Mining Management Guidelines2016& Sustainable Sand Mining Management Guidelines 2019, Mining Guidelines 2020 have also been referred and the directives provided in theseNotification/Guidelines have been used for preparation of these documents.

4.0 SITE ANALYSIS

The suitability for extraction was done taking into consideration general profile river stream, annual deposition factor, and replenishment. The project site is located at a plain topography and within the mature stage of a river. The river bed sand replenished every year with the sand carried out with flow of water in monsoon and there is no such control of mineralization as it depends on the nature of flow of river water.

i) Connectivity

Sr.No.	Particulars	Details
1	Road Connectivity	The mine is located about 1.34 km in SE direction of Dongarkhed-Kvillage.
2	Nearest Highway	National Highway Mumbai –Kolkata Highway is 1.10 km & State Highway 173 is 1.Km
3	Nearest Airport	Jalgaon, 108 km away towards W from ML.
4	Nearest Railway Station	Shegaon Railway Station is15kms

ii) Land form, land use and Land ownership.

There is no village or human settlement in the lease area. There is no reserves forest or protected forest land within the mining area. The area has Flat topography. The lease area forms a part of Survey of India toposheet no 55D/9. The landuse details for the proposed sand ghat area are as under:-

Adjoining Khasra No. of Village / Taluka /District/ State	**Area**	**Type of land**
Adjoining Khasra. 59,60	0.35	Government Notified Land

iii) Topography (along with map).

Latitude and Longitude readings have been taken by using G.P.S. instrument. All the levels have taken with respect to Mean Sea Level. It is flat in nature. Total area if the lease area is 4.65Ha.

iv) Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ), shortest distances from the periphery of the project to periphery of the forest, national park, wild life sanctuary, eco sensitive areas, water bodies (distance from the HFL of the river), CRZ. In case of notified industrial area, a copy of the Gazette notification should be given.

Significant features with their aerial distance of the project are tabulated below;

Sr. No.	**FEATURES**	**DETAILS**	**DISTANCE**
1	Village (Nearest)	Dongarkhed-K	1 km
2	Land use	Agriculture	0 km
3	Water bodies	RiverPurna	1 km
4	Reserved Forest	No	0 km
5	National Park	No	0 km
6	Wildlife Sanctuary	No	0 km
7	Eco Sensitive Area	No	0 km
8	Coastal Regulation Zone	No	0 km
9	Archeological Monument	No	0 km
10	Industries	No	0 km
11	Mines	Sand ghat	1 km

v) Existing Infrastructure.

There is well established road connection from the quarry to the State Highway /village road. Other facilities like market, school, hospital (PHC), drinking water facility, electric, telecommunication etc. are available in nearby villages.

vi) Soil classification.

There is no top soil. The river bed only consists of sand/ gravel.

vii) Climatic data from secondary sources.

Sub–tropical climatic condition prevails in the area. Maximum temperature recorded during summer is45.6°C and the minimum temperature recorded during winter is 12.6° C.
The region receives an average rainfall of around 697 mm to 862 mmwith an annual variation of 100 mm although wider variation has also been noticed in the past. About (50 to 55%) in of rainfall precipitates from June to September.

viii) Social Infrastructure available.

Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities) are found within a distance of 10km of the proposed sand ghat area.

ix) Geology

The lease area as per survey is a River Bed of Godavari River. Applied area for sand extraction is covered with Sand, Pebblesand Gravels of various sizes. The sand of Granitic, Quartzitic.

A) Mineable Reserves of Sand in the proposed Mine Lease Area as per the GSDA:

The proposed Sand Ghat/ River Bed Sand Mine of 0.35Ha area is covered with sand. Theentirearea is occupied by single litho unit sand deposit with flat configuration. Estimationof sand is done by the GSDA, Buldhana and mineable reserves are proposed for sand mining foryear 2019-2020 as follows:.

Av. Length (m)	Av. Width (m)	Area (m^2)	Proposed Depth (m)	Volume of Deposit for Mining (m^3)	Quantity of sand for Excavation (Brass)
L	W	A=L*W	D	V = A * D	Qt = V / 2.83
230	15	3450	0.60	2070	731

4.0 PLAN BRIEF

i) Planning Concept (type of Industries, facilities, transportation etc) Town and country planning/ Development authority Classification.

The mine will be worked by opencast manual method. Mining will be done up to a depth of 1m bgl or above the water level whichever is comes first. The sand will be collected in its existing form. No drilling /blasting are required as the material is loose in nature. There will be no OB or waste generation as the sand is exposed in the river bed. It will be done leaving a safety zone from bank for bank protection. Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season. Roads in the Applied Area for the movement of loaded trippers/ trucks will not have slopes more than 1 in 20.

However, movement of trucks after mineral loading will be towards both sides through approachroads connecting to tar roads. No processing of excavated sand will be done. Workings will be restricted within the lease area/ khasra as per the description report given by Mining Department. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow as the proposed area for the sand ghat is dry. Mining operation will not be carried out during monsoon season. On view monitoring of mining activity technical staff, skilled and non-skilled labours are employed and thus State/Central Govt. and Village Panchayat will get royalty. Workers will get direct employment and equal number or more will get indirect employment.

ii) Population Projection.

The project will employ most of the workers from nearby villages. Thus there will be no increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. The manpower required for the project shall be engaged from the nearby village(s) and hence influx of population to the area is not anticipated.

iii) Landuse Planning (breakup along with green belt etc.)

The sand from the entire allocated area will be excavated as per the approved mining plan. Local species of selected trees will be planted along the river bank and also on the approach road to depot. If permitted by the local authorities, plantation will be carried out in school, gram panchayat, PHC or anaganwadi premises. It is proposed to have plantation along the road sides on both sides to provide cover against dust dissemination and also to act as noise absorber. Approximately 360 trees of will be planted with various types of species. Native plants like Teak,Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tutand other

local species will selected insuitable combination, so that can grow fast and also have good leaf cover.

v) Assessment of Infrastructure Demand (physical & social)

The project requires roads for the transport of the produced material which isadequate, besides it requires manpower to operate the quarry and is availablelocally.

vi) Amenities/Facilities.

Temporary rest shelters, portable toilets, drinking water and first-aid will be madeavailable to the workers.

6.0 . PROPOSED INFRASTRUCTURE

No infrastructure erection is proposed in the mine lease area

i) Industrial area (processing area) - No processing or beneficiation is required hence not proposed.

ii) Residential Area (Non processing Area)- None.

iii) Green Belt.

The entire mining area falls within river course and gets flooded duringmonsoons; therefore, no plantation is possible within this area. Plantation willmainly be done along the kuchha road and along the length of the river bank orapproach road to depot or places as recommended by Gram Panchayat.**Approximately 360 trees**of will be planted with various types of species. Native plants like Teak, Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tut, &other local species will selected in suitable combination, so that can grow fast and also have good leaf cover.

iv) Social Infrastructure.

This Project will provide employment to local people directly and indirectly. Indirect employment will be in the form of shopkeepers, mechanic, drivers, transporters etc. The lessee will be responsible for providing better social infrastructure benefits such as drinking water, health care measures, educational facilities, promotion of culture and religious activities in surroundings as part of their CSR activities.

v) Connectivity (Traffic and Transportation Road/Rail/Metro/Water ways

The area is approachable from NearestNational Highway Mumbai –Kolkata Highway is 1.10 km & State Highway 173 is 1.00 km away.There are metalled roads and unmetalled road up to the mine site.

vi) Drinking Water management (Source & Supply of water)

Water will be supplied from nearby villages for drinking purposes through tankers with NOC from Gram Panchayat.

vii) Sewerage System.

Not required. Temporary toilet facilities will be provided by the proponent at the river banks.

viii) Industrial Waste Management.

Not required

ix) Solid Waste Management.

There is no Solid waste generation during sand mining. The entire excavated sand is useable.

x) Power Requirement & Supply / Source.

Diesel will be used as motive source of primary energy for tractors/ truck arranged by the buyers. Diesel will be outsourced from nearby diesel pumps directly by buyers. Mining method is manual and working hour will be for 12 hours during the day time, so there is no such power requirement.

7.0 REHABILITATION AND RESETTLEMENT (R & R) PLAN

i) Policy to be adopted (central/state) in respect of the project affected person including home oustees, land oustees and landless laborers (a brief outline to be given.)

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

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.)

The operations shall be carried out after obtaining all statutory permissions as per the statutory guidelines. Adequate reserves are available from the proposed sand ghat area. Reclamation and Rehabilitation plan will be prepared for sustainable development and minimized environmental damage. This is a temporary type of lease for the limited mentioned period i.e. Period of Mine Lease will be One Year 2019-2020 or up to 30.09.2020.

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

The sand ghat proposed by the Project Proponent will be auctioned online as perthe procedure in vogue. Hence, project cost cannot be estimated at this stage.

9.0 ANALYSIS OF PROPOSAL FINAL RECOMMENDATIONS)

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 involves collection of river bed material. This is very essential in order to prevent widening of the riverbeds and to prevent flooding off and damage to the adjoining areas. This can only be achieved by maintaining the existing course of the river.
The river banks, on both sides are covered by vegetation and human habitats.Widening of river banks results in excessive erosion; resulting in damage to flora, agricultural land and settlements which are situated at very close proximity. It isproposed to employ the local population wherever possible in the proposedproject activities directly or indirectly. It provides employment to the peopleresiding in vicinity directly or indirectly by the project. The sand extracted fromthis area is in high demand in the local market.

There will be no environmental impact from the project since the scale ofoperation is very less and the method of mining by manual. This operationdoesn’t need relocation manage of any habitants. The plantation of sufficientnumber of trees along the village roads is proposed which will control thedispersion of dust during transportation as well as will be helpful in controllingNoise for propagation.

Annexure 1

ENVIRONMENT MANAGEMENT PLAN

1.0 INTRODUCTION

Preparation of Environmental Management Plan is required for formulation, implementation and monitoring of environmental protection measures during and after commissioning of projects. The plan should indicate the details as to how various measures have been proposed to be taken including cost components as may be required.

1.1 Land Environment

The type of mining and the characteristics of the particular mineral deposit both affect the degree to which mining disturbs the landscape. Sand Mining and allied activities will be done in the fluvial plain formed by river meandering. Mining of sand may cause a few environmental degradations.

A. ANTICIPATED IMPACTS:

Damage of river bank due to access ramps to river bed, may cause soil erosion.

Destruction of river bank hinterland and ecological due to extraction of sand by probability of damage to the flood control bunds (built along the river side) due to heavy movements of vehicles over the bund to approach the mine are and further during transportation for sand from the mine area.

Disposal of packing material, carried by the workers, would not be allowed. This packing material would include used sachet/gutka/pan masala pouches.

Movement of heavy vehicles sometimes cause problems to agricultural land, human habitations, borehole users due to dust, noise and it also causes traffic hazards.

Surface degradation due to road network.

M. MITIGATION MEASURES:

Safety distance of 3 meter or 1/10th of the width of the river whichever is more will be left from both the bank of the river (as per “Sustainable sand mining guidelines”).

No foreign material like polythene bag, jute bag and useless articles should be allowed to remain/spill in river bed and catchment area, or no pits/pockets will be allowed to be filled with such material.

Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained.

Care will be taken to ensure that ponding is not formed in the river bed.

Mining will not exceeds beyond the allowed extraction capacity.

Green belt will be developed along the haul road and the bank of rivers of mine premises and near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.

1.2 Water Environment

A. ANTICIPATED IMPACTS:

As the project activity is carried out in the dry part of river bed, none of the project activities will affect the water environment or riverbank habitats. Project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality. Monitoring of water quality will be checked yearly.

M. MITIGATION MEASURES:

i) Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
ii) Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
iii) River stream will not be diverted to form in active channels.
iv) Utmost care will be taken to minimize or control leakage vehicles to be used for sand transportation.
v) The washing of tractor trolleys in the river will be avoided.
vi) The contractor will follow all guidelines and rules for proper and scientific method of mining during the period of extracting the sand.

1.3 Air Environment:

A. ANTICIPATED IMPACTS:

a) Due to Haul Road/ Access Road:

Plying of tractor trolleys from public road to river sand collection points needs access roads. Majority of such access roads are the same existing roads/tracks being used by pedestrians/cart owners. Movement of heavy vehicles sometimes causes problems to cattle, agriculture land, and human habitations due to dust, noise and movement of public. These environmental problems are felt more as the area is rural in nature.

b) Due to Mining process:

Air pollution is likely to be caused at various stages of sand mining operations such as excavation, loading & transportation of material. Most of the dust will be generated from loading& transportation. This dust becomes air borne and gets carried away to surrounding areas. The impact on air is mainly localized in nature as the dust particles are not carried to longer distances and the effect is felt within the core zone of the project involving active Sand mining operations.

M. MITIGATION MEASURES:

a) Mitigation of Impacts on Access Roads:

Movement of the vehicles on the road will be increased; however, unmetalled road in the mining area will be sprinkled with water at regular intervals. In addition to prevent spillage by tractor trolleys over loading should be controlled along with speed limit (1Brass /tractor trolley). Maintenance of haul road will be done on regular basis.

b) For Fugitive Dust Emission:

i) To avoid fugitive dust emissions at the time of excavation, regular sprinkling of water will be done on regular basis.

ii) Sand is transported to the sites by road through tractor trolleys. The sand carrying vehicles shall be covered by tarpaulin sheets.

iii) The Green Belt development will be prepared along the haul roads, which will act as a pollution sink.

iv) To minimize the vehicular pollution from the sand transporting vehicles, the following conditions will insist to permit the vehicles of the transporters.

- The vehicles should be (Bharat-IV stage) compliant and should have pollution control certificate (PUC) issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.

1.4 Noise:

A. ANTICIPATED IMPACTS:

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since, slight increase in noise levels can be expected.

M. MITIGATION MEASURES:

- ✓ Minimum use of Horns at the village area.
- ✓ Timely maintenance of vehicles and their silencers to minimize vibration and Sound.
- ✓ Phasing out of old and worn out tractor trolleys.

- ✓ Provision of green belts along the road networks.
- ✓ Care will be taken to produce minimum sound during sand loading.
- ✓ Use of Backhoe and ear plugs may be provided to protect the labors working at the site.

1.5 Socio-Economic Environment

This project operation will provide livelihood to the poorest section of the society.
Approximately 19 people shall work at mine site.

A. ANTICIPATED IMPACTS AND EVALUATION:

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. There is no R & R involvement in this project. There is no land acquisition in this project.

The results of the field survey conducted to understand the knowledge and perception of the people living around the project area gives a clear idea about the need for the project.

A major portion of the houses in the study area are semi- pucca type structures. The water source to these areas is from the municipal connection and private bore wells and wells. The awareness level regarding the proposed mining activity is very high.

The proposed mining activity is expected to provide stimulus to socio-economic activities in the region and thereby accelerate further development processes.

i) Social and Demographic Profile:

The workers are from local villages. These people have been provided all welfare from a lessee like medical benefits, insurance, fees for children's education etc. They have some land and cattle for their daily earnings. Additional income earned from the Sand Mining work will improve their living standard. The group of quarries in and around will help to have infrastructure facilities like roads, schools, shops etc. This will improve their social life.

ii) Occupational Health And Safety:

This is River Bed Sand Mine. So the mining activities are comparatively less because the production is not on large scale. Workers do not come across any extreme condition like excessive heat; moisture, etc. Workers working around it may come across this dusty environment. But the impact on health will be within limit.

iii) Human Settlement:

There are no houses in and around lease area. Blasting is only activity, which may affect the settlement, but settlement is at distance of more than 1.0 Km from the Sand Mining. All the due precautions will be taken during mining. Transport of finished products is through the

villages. There will be psychological impact of the traffic on the local people. However, the intensity of traffic is less.

iv) Health and Hygiene:

In general, the health of villagers is moderately good. In the rainy season, the atmospheric condition is unhygienic due to lack of proper drainage and sanitation in the village habitation. Villagers are working in agricultural fields and work as laborers.

v) Education:

Mostly education is up to middle standard. Economic condition is in general moderate. So after this project the standard of education will be increase.

vi) Socio Economic Benefits Arising Out Of Mining:

- Generation of employment in the rural area.
- Improvement in the living standards of the rural people.
- Creating of infrastructural facilities like roads, electricity, shops, school etc.
- Helping to improve literacy in the area
- Exploiting natural mineral so generation of revenue
- Helping to sustain construction activity
- Improving the greenery of the area, this is otherwise very poor.

vii) LIQUID EFFLUENT:

- Not applicable because small mine and impacts are negligible.

viii) SOLID WASTE:

- Not applicable because small mine and impacts are negligible.

1.6 Biological Environment

A. ANTICIPATED IMPACTS:

a) Aquatic environment

Proposed mining of the dry bed of the river, so no any possibility of disturbance of aquatic life.

b) Flora and Fauna

The mining activity will have insignificant affect on the existing flora and fauna. The project area is surrounded with agricultural land. It was found that the sand mining activity will not have any significant impact on the biological environment of the region.

M. MITIGATION MEASURES:

- ✓ Improvement in river bank stability.
- ✓ Large woody debris in the riparian zone will be left undisturbed or replacedwhen moved and not be burnt.
- ✓ Vegetative debris will not be stored within the mine lease area.
- ✓ Operation and storage of heavy vehicles within riparian habitat will be restricted.
- ✓ Covering of loaded vehicles to reduce dust emission, which may harm surrounding agricultural crops and other plant species conservation of biological diversity of plants, birds and animals.
- ✓ Greenbelt Development and Bio-Diversity Preservation

Plantation activities will be carried out at the bank of the river and along the haul roads. This activity will help for maintaining ecology and environment of the area.

1.7 IMPLEMENTATION OF EMP:

Environmental Management Plan serves no purpose if it is not implemented with true spirit. Some loopholes in the EMP can also be detected afterwards when it is implanted and monitored. Thus, an implementation and monitoring programmed has to be prepared.

Implementation of proposed control measures and monitoring programmed has an implication on the surrounding area as well as for the region. Therefore, sand mining management should be strengthen the existing control measures as elaborated earlier in this report and monitor the efficacy of the control measures implemented within the sand mining area relating to the following specific areas:

- ✓ Coordinate with environment monitoring laboratory for collecting and analyzing air, water, soil&noise quality of the area.
- ✓ Implementing the control and protective measures.
- ✓ Co-coordinating the environment related activities within the project as well as with outside agencies.
- ✓ Separate Budget has been allocated for the EMP.
- ✓ Collecting statistics of health of workers and population of surrounding villages.
- ✓ Monitoring the progress of implementation of environmental management program.

1.7.1. GREENBELT DEVELOPMENT:

- ✓ The implementation for development of green belt will be of paramount importance as it will not only add up as an aesthetic feature, but also act as a pollution sink.
- ✓ The species to be grown in the area should be dust tolerant and fast growing species so that permanent green belt is created.
- ✓ To stabilize the river bank erosion the plantation of native species of that area along the river bank.
- ✓ Apart from the green belt and aesthetic plantation for elimination fugitive of emission and noise control, all other plantation efforts shall be decided and executed with the assistance and co-operation of the local community.

Proposed Program for Plantation For Green Belt Development:

A forestation will be carried out to increase the green cover and create harmony with nature. The area will be afforested with variety of local sapling. This will help to have polyculture. The details of a forestation program are given below. This will be done on the statutory barrier to be left and on the general surface of the lease.Along the access road at sand mining site. (List of trees is given):

S.N.	Scientific Name	Hindi Name	Number
1	Azadirachtaindica	Nim	36
2	Tectonagrandis	Teak	36
3	Terminaliaarjuna	Arjun	36
4	Tuti	Tut	36
5	Syzygiumcumini	Jamun	36
6	Ficusreligiosaa	Pipal	36
7	Bambusa vulgaris	Bamboo	36
8	Neolamarckiacadamba	Kadamb	36
9	Dalbergiasissoo	Shisham	36
10	Madhucalongifolia	Mahua	36
Total			**360**

Cost of Environment Management Cost:

S.N.	Description	Cost Rs. (inLakhs)
1	Dust suppression	0.05
2	Haul road maintenance	0.04
3	Green belt & Maintenance	0.07
4	Monitoring cost	0.03

1.7.2 TRANSPORT SYSTEM:

i) Proper parking places should be provided for the tractor trolleys and other vehicles by the Mine Owner to avoid any congestion or blocking of roads.
ii) Spillage of sand on roads may lead to accidents.Proper road safety signs both inside and outside the mine should be displayed for avoiding road accidents.

1.7.3 MONITORING SCHEDULE AND PARAMETERS

1.7.4 MONITORING OF AMBIENT AIR, WATER, and NOISE:

To evaluate the effectiveness of environmental management program regular monitoring of the important environmental parameters to be monitored are shown in following Table:

Monitoring Parameters	Frequency of Monitoring
Ambient Air: (Ambient Air Quality at appropriate location for PM, SO2, NO2): In the vicinity of the mine area&Near Access road.	Half-yearly
Water: Two Surface (up-stream & Down Stream) & One Ground Water Samples nearby the project site	Yearly
Noise: Day & Night level Noise Monitoring at mining site	Half-yearly

For air, water and noise pollution control measures, it has been suggested that samples would be collected and tested all-round the year with appropriate frequency at strategic places by suitable agencies. In case, it is found that any of the control parameters exceed the tolerance limit as fixed by the State/Central Pollution Control Board, preventive measures will be taken and if required expert opinion will be sought for proper remedial measures.

1.7.5 DISASTER PLANNING:

Proper disaster planning should be done to meet any emergency situation arising due to fire,explosion,sudden leakage of gas etc. Firefighting equipment and other safety appliances should be kept ready for use during disaster/emergency situation including natural calamities like earthquake/flood.

1.7.6 ENVIRONMENT MANAGEMENT CELL:

Each mine or group of mine should identify within its setup a Department/Section/Cell with trained personnel to take up the model responsibility of environmental management as required for planning and implementation of the projects.

10.0 CONCEPTUAL MINING PLAN:

This stage not applicable because the Conceptual plan of the proposed lease area at the end of lease period is prepared.

10.1 Ultimate depth, size & shape of the pit:

The Lease will be for 1 year. Therefore, it is very premature to decide the conceptual plan for the Sand Mine. However, based on the available geological information requirement or purpose of mining the shape and size of Sand has been defined and shown as the Ultimate Pit Limits by colored lines in the Geological plan, the Production &Development plan, and the Conceptual plan. Ultimate pit size will be 989 m x 47 m x 0.5 m.The Conceptual plan and Environmental Management Plan are shown in Plate No.-VII.

1.2 Ultimate Capacity of Dump:

No surface dump is proposed at the conceptual stage.

1.3 Land use pattern:

The anticipated land use pattern as envisaged after five years and at the end of conceptual period would be as tabulated below,

S. N.	Particulars	As on Today in Ha	After 1 Years in Ha
1)	Area of top soil spread for afforestation	**-**	**-**
2)	Storage for top soil	**-**	**-**
3)	Green Belt	-	-
4)	Over burden Dump	**-**	**-**
5)	Mineral Storage	**-**	**-**
6)	Infrastructure (Workshop, Admin. Building etc.)	-	-
7)	Mine road in Mine lease area	-	-
8)	Utilized area for Sand Mining	0.000	**0.35**
9)	Virgin lease area for Sand Mine & Other Uses	0.35	0.000
10)	Road	-	-
11)	Railway	-	-
12)	Tailing Pond	-	-
13)	Effluent Treatment Plant	-	-
14)	Mineral separation plant	-	-
15)	Township Area	-	-
16)	Others to specify	-	-
17)	Ownership	Government River	Government River
Total		**0.35**	**0.35**

11.0 COMPLIANCE OF SAFETY RULES AND REGULATIONS:

Whether there are any serious violation of safety rules and regulation which may jeopardize human health and safety. If so, give details of violations and state the steps proposed to be taken with the time scheduled to rectify the violations:

No, there are not any serious violation of safety rules and regulation, which may jeopardize human health and safety.The applicant has given a commitment in this effect and undertaking also given to follow and implement, as specified in the mining plan.The applicant is undertake to abide and implement any special conditions imposed by various authorities and also to complete formalities under provision of the Mines & Mineral (Development & Regulation) Act, 1957 and the Bombay Minor Mineral rules, the Mineral Conservation and Development Rules, 1988 as amended, the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule 2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016,Sustainable Sand Mining Management Guidelines 2019,Sand Mining Policy 2020

12.0 ANY OTHER INFORMATION:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment. These things will be religiously followed and its report will be periodically submitted to the concerned authority. All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there

under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtained relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

PRE FEASIBILITY REPORT

(As per Rules 23 & 26 of MMME (D & R) RULE 2013 & Section 15 of MMDR Act 1957, MoEF & CC Notification 2006, S.O. 141(E) dated 15. 01. 2016; MoEF & CC, Sustainable Sand Mining Management Guidelines 2016,Guidelines for Mining Policy2020)

For

OBTAINING ENVIRONMENT CLEARANCE

of

SAND MINING (MINOR MINERAL)

For

AadsulRiver Bed Sand Mine / Sand Ghat

Khasra No:-230 to 233,

Area (0.15Ha)

Village- AadsulTehsil-Shegav, District- Buldhana ,

Submitted to

THE SR. DY. DIRECTOR, DIRECTORATE OF GEOLOGY & MINING, GOVERNMENT OF MAHARASHTRA,Nagpur, (M.S.)

District:- Buldhana ,

Applicant/Project Proponent
District Mining Officer
Collector office, Buldhana ,
District: Buldhana ,

Prepared By

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Accredited by NABET: No.: - NABET/EIA/1619/RA0060/ April 19, 2020)

March – 2020

1. EXECUTIVE SUMMARY

This Pre Feasibility Report has been prepared for the proposed sand ghat over the area of 0.15Ha at AadsulRiver Bed adjoining Khasra No:-230 to 233,of VillageAadsul, Tehsil Shegav, District- Buldhana,Maharashtra**,**in accordance with theNotification of MoEF S.O. 1533 dated 14th September 2006. The Ministry ofEnvironment, Forest and Climate Change amended Principal Notification vide 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, sand mining framework 2018. and Govt. of Maharashtra Sand Policy 03.01.2018, Mining Guidelines 2020, included Minor Minerals from 0 Ha to 50 Ha in the PrincipalNotification S.O. 1533 (E) dated 14.09.2006. Central Government made furtheramendments to the notification vide S.O. 2269 (E) dated 01.07.2016. In obedience allrelevant notifications to the principal Notification dated 14th September 2006, applicationfor the excavation of sand ghat from proposed sand ghat is being submitted to SEAC, SEIAA,Maharashtra.

Though any development activity like industry or minor mineral excavation may cause temporary damage to land, forest and induce changes in the quality of air, water, flora and fauna of the area, it has favorable effect of industrialization on social development and progress of the nation. For overall gain, it is necessary to strike a balance between the two aspects of economy and ecology and ensure that impacts on the environment are minimized with improvement in socio-economic conditions. This is better achieved through a well-planned approach of EMP relevant to the area under consideration.

Sand is used for a wide variety of purposes. It is most commonly used as an aggregate in construction projects. Sand is required for road base, concrete aggregate, asphalt pavement aggregate, and many other purposes. The selected area has exposures of sand which is useful for the various purposes mentioned above.

The mining for this sand ghat excavation is proposed to be carried out manually with opencast method of mining engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading will be carried out manually and transportation of mineral from the sand ghat to the depot by tractor with tipper arrangement. As the mineral is soft & loose in nature, no drilling and blasting are required. The proposed sand ghat area is located at Survey of India Toposheet No: 55D/9and falls between the Latitude 20°53'8.02"Nand Longitude 76°43'30.45"E.The lease area is not an agricultural land and the area is classified as River. Maximum production capacity is 265 Brass.

In order to obtain environmental clearance as per the EIA Notification 2006 the Prefeasibility Report (PFR) is submitted along with the application Form I M for the project under

consideration. The project is categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016

2.0 INTRODUCTION

1.1 PROJECT PROPONENT

The possession of the land under consideration lies with State Government (As per the 20 (1) Chapter III of The Maharashtra Land Revenue Code 1966) hence application is made through the legal representative as a Project Proponent. Accordingly, DMOBuldhana,Collectorate, Buldhanahave applied for Environmental Clearance of proposed sand ghat. After obtaining the environmental clearance this sand ghat will be auctioned as per the Notification Goukhani 10/0615/Pra.Kra. 289/Kha dated 03.01.2018. Communication details of the project proponent are as under;

DMOBULDHANA
BuldhanaCollectorate,
Collector Office, Buldhana

1.2 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

The selected area has exposures of sand which is useful for the various purposes mentioned above. It is proposed to excavate sand from this area by manual opencast method without using any excavation machinery. Transport of the excavated sand will be carried out using tractor with trolley arrangement from sand ghat to depot and by truck/tipper/dumper onwards to the desired destination. The excavated sand will be sold in the market. The present Pre Feasibility Report has been prepared for Proposed sand ghat over the area of 0.15Ha atMunRiver Bed adjoiningKhasra No.:-230 to 233, of Village:-Aadsul,Tehsil, ShegavDistrict-Buldhana.The project is for excavation of sand (minor mineral) categorized as Category B2 vide Notification 141 (E) dated 15th January 2016.

1.3 NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY AND OR REGION.

Road/building materialsand is an essential requirement as one of the minor mineral deposits occurring in the majority portion of Maharashtra. It has played a great role in development of civilization and industrialization. The occurrence of sand in the proposed area is proved by the way of exposures and its production has important role in the local infrastructural development. The sediment in the form of river bed material (RBM) deposited every year during monsoon season at many locations of theGodavariRiver. Removal of the sand from the proposed location is unlikely to damage the riparian system if the excavation and transport is carried out in systematic manner proposed in the approved Mining Plan. This project operation

will provide employment directly and indirectly to the people residing in vicinity, thus improving the Socio-economic status of the area.

1.4 DEMAND SUPPLY GAP.

Sand is an essential constituent infrastructural development projects like road, dams, bridges and building. The demand for sand/gravel is ever growing with the growth of the infrastructure sector in our country. The requirement for the mineral is always high in the nearby cities and towns. Therefore there is always a good demand of the mineral in the domestic market. Its demand in industrial area of Buldhanaand nearby areas is increasing very fast. Sand mining not only narrows the gap between the demand and supply if building material but also enhances employment opportunities and economic growth of the region. Besides, the production will also benefit the State in the form of revenue generation. Apart from this, the project will generate direct and indirect employment opportunities from the nearby villages.

1.5 IMPORTS VS. INDIGENOUS PRODUCTION.

Mining of sand is required for various projects within the state of Maharashtra and other states.

1.6 EXPORT POSSIBILITY.

Not explored

1.7 DOMESTIC / EXPORT MARKETS.

There is always an ever increasing demand of these minerals in the domestic market.

1.8 EMPLOYMENT GENERATION (DIRECT AND INDIRECT) DUE TO THE PROJECT.

It is proposed to employ the local population wherever possible in the proposed project activities. Direct employment for this proposed sand ghat excavation will be approximately 19 Persons and the there will be indirect employment generation also in service sector. The allocated lease will be directed to deploy local persons on for this project.

Grade of staff	**Designation**	**Nos.**
Supervisory and Technical staff	Mine mate / Mine Supervisor	01
Clerical staff	Clerk/ Time keeper	01
Safety/Security Officer	Security Guard	01
Skilled workers	Tractor Trolley Driver	02
Skilled workers	Tractor trolley Helper	01
Semiskilled workers	Labors Supervisor (Mukadam)	05
Unskilled workers	Labors	08
Total Manpower		19

3.0 PROJECT DESCRIPTION

i) Type of project including interlinked and Interdependent project, if any.

As per Gazette Notification of Ministry of Environment, Forest and Climate Change (MoEF&CC) dated 15th January 2016, New Delhi all projects (minor mineral) less than 25 hectare falls in category “B-2”. As the lease area of the proposed project is 0.15Ha, it falls in “B-2” category and will be appraised by State level authority.The entire mined out mineral will be completely transported to the market /and there is no interlinked project.

ii) Location (map showing general location, specific location, and projectboundary & project site layout) with coordinate

The land is government Waste land. The area is a plain terrain. The location of proposed siteis shown in the Figure-1. The proposed area is covered in parts of Survey of India Toposheetno.55/D9 within latitude 20°53'8.02"N and longitude 76°43'30.45"E (Refer Figure 2).

FIGURE-1: LOCATION OF PROPOSED SAND GHAT

PLATE -01
Location map

ADDRESS - AADSUL RIVER SAND MINE AT
MAAN RIVER
GAT NO.- 230 TO 233,
DISTRICT - SHEGAV
STATE- MAHARASHTRA
TOTAL LEASE AREA- HECT. 0.15

FIGURE-2: SPECIFIC LOCATION OF PROPOSED SAND GHAT

The proposed sand mining ghat was demarcated on the ground by revenue department with reference to adjacent survey numbers of concerned village map. The exploration/assessment of sand Ghats has been carried out by GSDA using probing rods for delineating the total depth of sand and depth of mineable sand with quantity.

Accordingly, reports submitted with mineable reserves of sand in particular location. On the basis of this report State Govt. will auction the sand Ghats for excavation of sand for specific mineable quantity.

The proposed sand ghat has sufficient reserves of sand to excavate265brass for the period of current financial year. This is a temporary type of lease for the limited mentioned period i.e. up to September 2020.

LOCATIONAL DETAILS IN SUMMARIZED FORM

Sr. No.	Details of the area	Particulars
1	Name of Sand Ghat and River	AadsulRiver Bed Sand Mine in
2	Village	Aadsul
3	Taluka	Shegav
4	District	Buldhana
5	Adjoining Khasra No./Survey No.	230 to 233,
6	Lease Area (Ha.)	0.15Ha
7	Ownership/Occupancy of the Lease area	Government Land
8	Existence of public road/railway line if any nearby and approximate distance	The mine is located about less than 0.55km. in NW Direction to Aadsul village. Nearest is Shegav Railway Station is 11.1 km
9	Nearest Village and its distance from lease area	Palodi (3 KM) , Zadegaon (5 KM) , Kalkhed (5 KM) , Manasgaon (6 KM) ,Pahurpurna (6 KM)
10	Toposheet No. and RL of the Lease area	55 D/9and0.15Ha
11	Latitude & Longitude of Lease area boundary points (Coordinates of the boundary points taken as per the area shown by revenue authority Patwari/Talathi)	20°53'8.02"N 76°43'30.45"E

iii) Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental consideration gone into should be highlighted.

Rivers and streams by far have been the most lucrative and attractive source for extracting large volume of building materials such as boulders, stone, pebbles, sand and gravel for a variety of construction activities. In plain reaches, where the bed slope is gentle, the river bed is overlaid with matrix mainly comprising of sand of different gradation along with silt and clay. Due to river dynamics, the sediments which get generated from bed load and wash load move with river and do not settle uniformly over the entire bed. It rather settles at certain places only (aggradations) and must be removed from time to time to avoid flash floods due to reduction in channel width. The Government has identified such locations for sand removal and the present location is one of them. The project is a site specific and has to be undertaken at the place of the occurrence of the mineral and hence no alternative sites explored.

The environmental advantages of using river sediments are that the Sediments can easily be collected / extracted by digging less deep pits in active channel or dry river beds of upper terraces. The sand extracted from the identified stretch is free from weak materials and interstitial loose / fine material. No requirement of processing for the sand excavated from the river and it can be directly used without any beneficiation. The natural replenishment takes place annually due to transportation of sediments from upper course/reaches during high stage of river, which is achieved a number of times during monsoon. Environment Management Plan to mitigate the activities due to the proposed sand ghat excavation is enclosed at **Annexure 1**.

iv) Size or magnitude of operation.

The proposed sand ghat mining having an area of 0.15Ha will be developed as opencast for the excavation of sand/gravel with production capacity of 265 brass. The excavation will be carried out from the demarcated area which is dry. Excavation will be carried out in non monsoon season on or before 30th September 2020.

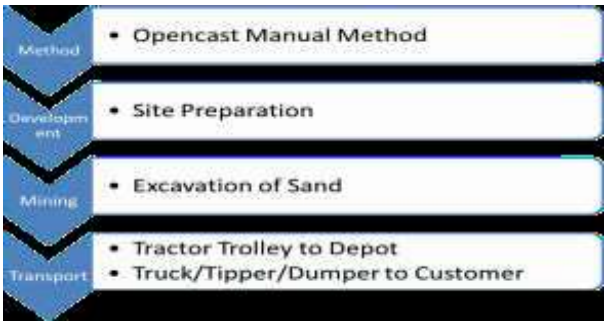
v) Project description with process details (a schematic diagram/ flow chart showing the project layout, components of the project etc. should be given).

The mining will be carried out manually with opencast method of mining by engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading is proposed to be carried out manually and transportation of mineral from the mine to the depot is proposed through tractor with trolley arrangement. As the mineral is dry, loose in nature, no drilling and blasting are required and hence not proposed. Sand excavated manually will be loaded directly into vehicles. Once a pre-determined area has been exhausted of the sand, it shall be replenished by sand during monsoon period leveled it & maintained to its maximum original topography. There will be no OB or waste generation as the sand is directly exposed in the river bed without any soil or silt cover or any other material which can be categorized as overburden material.

Workings will be restricted within the applied area as per the approved Mining Plan. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow. No processing of sand required.

Restriction on mining:

- Mining shall not be carried out within 600 m of any bridge (railway or road).
- Mining shall not be carried out within 100 m from any pumping station, water intake.
- The quarrying of sand will be proposed after leaving a safety distance of 600 meter from bridge falling under NH/SH from both side of the bank, & leaving a safety distance of 100 meter from any bridge.
- Mining shall not be carried out within 3 m from the river bank It will be done leaving a safety zone of total of 1/5th of the width of the river from the banks for bank protection.
- During the entire lease period, the deposit will be worked from the top surface to 3 m bgl or above ground water level, whichever comes first. This will also help in avoiding ponding effect.
- The workability is suggested by keeping in the mind possible effect on the meandering of River. The mining on the concave bank is most suitable than convex bank. Hence, mining is proposed during non monsoon period in a way that is will get replenishment during monsoon.
- Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season.
- No ore dressing/ handling/ processing plant shall be attached with the mine. The whole area demarcated for the purpose of mining as per the approved mining plan shall be mined out so as to maximize the sand production or extraction.
- Systematic plantation will be made in the area outside the river bank to protect the banks from erosion in monsoon.
- In the applied area the velocity & river water flow being less the sediment load get deposited in to the pit During Monsoon season the area get replenished with sediments to be lifted in subsequent years. Excavated area will be replenished naturally due to sediment inflow from the catchment area Therefore, Environment and Ecology of the area remains undisturbed.
- Sequence of mining operation is given below.



vi) Raw material along with estimated quantity, likely source marketing area of final products, mode of transport of raw material and Finished product.

There is no requirement of any Raw Material in this project. Mode of transport of extracted sand is surface transport by existing roads.

vii) Resource optimization / recycling and reuse envisaged in the project, if any, should be briefly outlined.

There is no waste material generation. No recycling and reuse of material is envisaged as entire excavated material will be transported. Minerals are generally depleting asset once mined; but minerals like sand will be replenished naturally. Thus a scientific approach will be taken up for excavation of mineral with systematic method.

viii) Availability of water its source, Energy / power requirement and source should be given

a) **Water Requirement:**Thus total water requirement will be **5.88 KLD**.This water will be supplied from the bore well from nearby villages through tankers as well as from surface water sources for dust suppression. Dust suppression and green belt water will beutilized from water tanks. Electricity is not required as the working is only during day timewhich does not demand for artificial lighting.

Sr. No.	Purpose	Water Requirement (KLPD)
1	Dust Suppression and green belt	5.00
2	Domestic (Considering 45 Litres per person per day for 19 persons)	0.88
	Total	**5.88**

ix) Quantity of waste to be generated (liquid and solid) and scheme for their Management / disposal.

Solid Waste: There is no solid waste generation during sand excavation.

Liquid Effluent: The sand excavation from the proposed site does not intercept the water table and the area is dry having no impoundment of water. Thus, there is no generation of effluentenvisaged. Small amount of domestic waste will be generated by the workers at the site, which will be disposed-off through proper municipal way. No other waste generation is expected.

x) Schematic representation of the feasibility drawing which give information of EIA purpose.

The proposed sand ghatproject is for excavation of sand which is categorized as minor mineral vide Notification No. S. O. 423 (E) dated 10.02.2015 issued by Ministry of Mines. The minor mineral project such as sand excavation requires environmental clearance as per the procedure defined by Ministry of Environment, Forest & Climate Change (MoEF & CC) Notification No.141 (E) dated 15th January 2016. EIA for the minor mineral projects >5 Ha is not required as per this Notification. As per the Appendix XI of this Notification, approved Mining Plan, Form I and Prefeasibility Report are required for appraisal of the environmental clearance by SEAC/SEIAA. Accordingly, necessary compliance of the directed procedure is made by the applicant. The Notification issued by the Revenue Department of Government of Maharashtra No. Goukhani-10/0615/Pra.Kra. 289/Kha dated 03.01.2018 and Sustainable Sand Mining Management Guidelines2016& Sustainable Sand Mining Management Guidelines 2019, Mining Guidelines 2020 have also been referred and the directives provided in theseNotification/Guidelines have been used for preparation of these documents.

4.0 SITE ANALYSIS

The suitability for extraction was done taking into consideration general profile river stream, annual deposition factor, and replenishment. The project site is located at a plain topography and within the mature stage of a river. The river bed sand replenished every year with the sand carried out with flow of water in monsoon and there is no such control of mineralization as it depends on the nature of flow of river water.

i) Connectivity

Sr.No.	Particulars	Details
1	Road Connectivity	The mine is located about less than 0.55 km. in NW Direction to Adsul village
2	Nearest Highway	NH 548C is at 11.0 km & MH SH 197 is 6.0 km, SH-173; is 6.4 km.

3	Nearest Airport	Chikkalthana Airport- 199 km
4	Nearest Railway Station	Shegaon Railway Station is 11.1 km

ii) Land form, land use and Land ownership.

There is no village or human settlement in the lease area. There is no reserves forest or protected forest land within the mining area. The area has Flat topography. The lease area forms a part of Survey of India toposheet no55D/9. The landuse details for the proposed sand ghat area are as under:-

Adjoining Khasra No. of Village / Taluka /District/ State	Area	Type of land
230 to 233,	0.15	Government Notified Land

iii) Topography (along with map).

Latitude and Longitude readings have been taken by using G.P.S. instrument. All the levels have taken with respect to Mean Sea Level. It is flat in nature. Total area if the lease area is 4.65Ha.

iv) Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ), shortest distances from the periphery of the project to periphery of the forest, national park, wild life sanctuary, eco sensitive areas, water bodies (distance from the HFL of the river), CRZ. In case of notified industrial area, a copy of the Gazette notification should be given.

Significant features with their aerial distance of the project are tabulated below;

Sr. No.	FEATURES	DETAILS	DISTANCE
1	Village (Nearest)	Aadsul	1 km
2	Land use	Agriculture	0 km
3	Water bodies	RiverMun	1 km
4	Reserved Forest	No	0 km
5	National Park	No	0 km
6	Wildlife Sanctuary	No	0 km
7	Eco Sensitive Area	No	0 km
8	Coastal Regulation Zone	No	0 km

9	Archeological Monument	No	0 km
10	Industries	No	0 km
11	Mines	Sand ghat	1 km

v) Existing Infrastructure.

There is well established road connection from the quarry to the State Highway /village road. Other facilities like market, school, hospital (PHC), drinking water facility, electric, telecommunication etc. are available in nearby villages.

vi) Soil classification.

There is no top soil. The river bed only consists of sand/ gravel.

vii) Climatic data from secondary sources.

Sub–tropical climatic condition prevails in the area. Maximum temperature recorded during summer is45.6°C and the minimum temperature recorded during winter is 12.6° C.

The region receives an average rainfall of around 697 mm to 862 mmwith an annual variation of 100 mm although wider variation has also been noticed in the past. About (50 to 55%) in of rainfall precipitates from June to September.

viii) Social Infrastructure available.

Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities) are found within a distance of 10km of the proposed sand ghat area.

ix) Geology

The lease area as per survey is a River Bed of Godavari River. Applied area for sand extraction is covered with Sand, Pebblesand Gravels of various sizes. The sand of Granitic, Quartzitic.

A) Mineable Reserves of Sand in the proposed Mine Lease Area as per the GSDA:

The proposed Sand Ghat/ River Bed Sand Mine of 0.15Ha area is covered with sand. Theentirearea is occupied by single litho unit sand deposit with flat configuration. Estimationof sand is done by the GSDA, Buldhana and mineable reserves are proposed for sand mining foryear 2019-2020 as follows:.

Av. Length (m)	Av. Width (m)	Area (m^2)	Proposed Depth (m)	Volume of Deposit for Mining (m^3)	Quantity of sand for Excavation (Brass)
L	W	A=L*W	D	V = A * D	Qt = V / 2.83
100	15	1500	0.50	750	265

4.0 PLANNING BRIEF

i) Planning Concept (type of Industries, facilities, transportation etc) Town and country planning/ Development authority Classification.

The mine will be worked by opencast manual method. Mining will be done up to a depth of 1m bgl or above the water level whichever is comes first. The sand will be collected in its existing form. No drilling /blasting are required as the material is loose in nature. There will be no OB or waste generation as the sand is exposed in the river bed. It will be done leaving a safety zone from bank for bank protection. Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season. Roads in the Applied Area for the movement of loaded trippers/ trucks will not have slopes more than 1 in 20.

However, movement of trucks after mineral loading will be towards both sides through approachroads connecting to tar roads. No processing of excavated sand will be done. Workings will be restricted within the lease area/ khasra as per the description report given by Mining Department. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow as the proposed area for the sand ghat is dry. Mining operation will not be carried out during monsoon season. On view monitoring of mining activity technical staff, skilled and non-skilled labors are employed and thus State/Central Govt. and Village Panchayat will get royalty. Workers will get direct employment and equal number or more will get indirect employment.

ii) Population Projection.

The project will employ most of the workers from nearby villages. Thus there will be no increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. The manpower required for the project shall be engaged from the nearby village(s) and hence influx of population to the area is not anticipated.

iii) Landuse Planning (breakup along with green belt etc.)

The sand from the entire allocated area will be excavated as per the approved mining plan. Local species of selected trees will be planted along the river bank and also on the approach road to depot. If permitted by the local authorities, plantation will be carried out in school, gram panchayat, PHC or Aadsul premises. It is proposed to have plantation along the road sides on both sides to provide cover against dust dissemination and also to act as noise absorber. Approximately 300 trees of will be planted with various types of species. Native plants like Teak,Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tutand other local species will selected insuitable combination, so that can grow fast and also have good leaf cover.

v) Assessment of Infrastructure Demand (physical & social)

The project requires roads for the transport of the produced material which isadequate, besides it requires manpower to operate the quarry and is availablelocally.

vi) Amenities/Facilities.

Temporary rest shelters, portable toilets, drinking water and first-aid will be madeavailable to the workers.

6.0 . PROPOSED INFRASTRUCTURE

No infrastructure erection is proposed in the mine lease area

i) Industrial area (processing area) - No processing or beneficiation is required hence not proposed.

ii) Residential Area (Non processing Area)- None.

iii) Green Belt.

The entire mining area falls within river course and gets flooded duringmonsoons; therefore, no plantation is possible within this area. Plantation willmainly be done along the kuchha road and along the length of the river bank orapproach road to depot or places as recommended by Gram Panchayat. Approximately 300 trees of will be planted with various types of species. Native plants like Teak, Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tut, &other local species will selected in suitable combination, so that can grow fast and also have good leaf cover.

iv) Social Infrastructure.

This Project will provide employment to local people directly and indirectly. Indirect employment will be in the form of shopkeepers, mechanic, drivers, transporters etc. The lessee

will be responsible for providing better social infrastructure benefits such as drinking water, health care measures, educational facilities, promotion of culture and religious activities in surroundings as part of their CSR activities.

v) Connectivity (Traffic and Transportation Road/Rail/Metro/Water ways

The area is approachable from NH 548C is at 11.0 km &MH SH 197 is 6.0 km, SH-173; is 6.4 km. There are metalled roads and unmetalled road up to the mine site.

vi) Drinking Water management (Source & Supply of water)

Water will be supplied from nearby villages for drinking purposes through tankers with NOC from Gram Panchayat.

vii) Sewerage System.

Not required. Temporary toilet facilities will be provided by the proponent at the river banks.

viii) Industrial Waste Management.

Not required

ix) Solid Waste Management.

There is no Solid waste generation during sand mining. The entire excavated sand is useable.

x) Power Requirement & Supply / Source.

Diesel will be used as motive source of primary energy for tractors/ truck arranged by the buyers. Diesel will be outsourced from nearby diesel pumps directly by buyers. Mining method is manual and working hour will be for 12 hours during the day time, so there is no such power requirement.

7.0 REHABILITATION AND RESETTLEMENT (R & R) PLAN

i) Policy to be adopted (central/state) in respect of the project affected person including home oustees, land oustees and landless laborers (a brief outline to be given.)

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

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.)

The operations shall be carried out after obtaining all statutory permissions as per the statutory guidelines. Adequate reserves are available from the proposed sand ghat area. Reclamation and Rehabilitation plan will be prepared for sustainable development and minimized environmental damage. This is a temporary type of lease for the limited mentioned period i.e. Period of Mine Lease will be One Year 2019-2020 or up to 30.09.2020.

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

The sand ghat proposed by the Project Proponent will be auctioned online as perthe procedure in vogue. Hence, project cost cannot be estimated at this stage.

9.0 ANALYSIS OF PROPOSAL FINAL RECOMMENDATIONS)

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 involves collection of river bed material. This is very essential in order to prevent widening of the riverbeds and to prevent flooding off and damage to the adjoining areas. This can only be achieved by maintaining the existing course of the river.
The river banks, on both sides are covered by vegetation and human habitats.Widening of river banks results in excessive erosion; resulting in damage to flora, agricultural land and settlements which are situated at very close proximity. It isproposed to employ the local population wherever possible in the proposedproject activities directly or indirectly. It provides employment to the peopleresiding in vicinity directly or indirectly by the project. The sand extracted fromthis area is in high demand in the local market.

There will be no environmental impact from the project since the scale ofoperation is very less and the method of mining by manual. This operationdoesn’t need relocation manage of any habitants. The plantation of sufficientnumber of trees along the village roads is proposed which

will control thedispersion of dust during transportation as well as will be helpful in controllingNoise for propagation.

Annexure 1

ENVIRONMENT MANAGEMENT PLAN

1.0 INTRODUCTION

Preparation of Environmental Management Plan is required for formulation, implementation and monitoring of environmental protection measures during and after commissioning of projects. The plan should indicate the details as to how various measures have been proposed to be taken including cost components as may be required.

1.1 Land Environment

The type of mining and the characteristics of the particular mineral deposit both affect the degree to which mining disturbs the landscape. Sand Mining and allied activities will be done in the fluvial plain formed by river meandering. Mining of sand may cause a few environmental degradations.

A. ANTICIPATED IMPACTS:

Damage of river bank due to access ramps to river bed, may cause soil erosion.

Destruction of river bank hinterland and ecological due to extraction of sand by probability of damage to the flood control bunds (built along the river side) due to heavy movements of vehicles over the bund to approach the mine are and further during transportation for sand from the mine area.

Disposal of packing material, carried by the workers, would not be allowed. This packing material would include used sachet/gutka/pan masala pouches.

Movement of heavy vehicles sometimes cause problems to agricultural land, human habitations, borehole users due to dust, noise and it also causes traffic hazards.Surface degradation due to road network.

M. MITIGATION MEASURES:

Safety distance of 3 meter or 1/10th of the width of the river whichever is more will be left from both the bank of the river (as per “Sustainable sand mining guidelines”).

No foreign material like polythene bag, jute bag and useless articles should be allowed to remain/spill in river bed and catchment area, or no pits/pockets will be allowed to be filled with such material.

Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained.
Care will be taken to ensure that ponding is not formed in the river bed.
Mining will not exceeds beyond the allowed extraction capacity.
Green belt will be developed along the haul road and the bank of rivers of mine premises and near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.

1.2 Water Environment

A. ANTICIPATED IMPACTS:
As the project activity is carried out in the dry part of river bed, none of the project activities will affect the water environment or riverbank habitats. Project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality. Monitoring of water quality will be checked yearly.

M. MITIGATION MEASURES:

i) Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
ii) Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
iii) River stream will not be diverted to form in active channels.
iv) Utmost care will be taken to minimize or control leakage vehicles to be used for sand transportation.
v) The washing of tractor trolleys in the river will be avoided.
vi) The contractor will follow all guidelines and rules for proper and scientific method of mining during the period of extracting the sand.

1.3 Air Environment:

A. ANTICIPATED IMPACTS:

a) Due to Haul Road/ Access Road:
Plying of tractor trolleys from public road to river sand collection points needs access roads. Majority of such access roads are the same existing roads/tracks being used by pedestrians/cart owners. Movement of heavy vehicles sometimes causes problems to cattle, agriculture land,

and human habitations due to dust, noise and movement of public. These environmental problems are felt more as the area is rural in nature.

b) Due to Mining process:

Air pollution is likely to be caused at various stages of sand mining operations such as excavation, loading & transportation of material. Most of the dust will be generated from loading& transportation. This dust becomes air borne and gets carried away to surrounding areas. The impact on air is mainly localized in nature as the dust particles are not carried to longer distances and the effect is felt within the core zone of the project involving active Sand mining operations.

M. MITIGATION MEASURES:

a) Mitigation of Impacts on Access Roads:

Movement of the vehicles on the road will be increased; however, unmetalled road in the mining area will be sprinkled with water at regular intervals. In addition to prevent spillage by tractor trolleys over loading should be controlled along with speed limit (1Brass /tractor trolley). Maintenance of haul road will be done on regular basis.

b) For Fugitive Dust Emission:

i) To avoid fugitive dust emissions at the time of excavation, regular sprinkling of water will be done on regular basis.

ii) Sand is transported to the sites by road through tractor trolleys. The sand carrying vehicles shall be covered by tarpaulin sheets.

iii) The Green Belt development will be prepared along the haul roads, which will act as a pollution sink.

iv) To minimize the vehicular pollution from the sand transporting vehicles, the following conditions will insist to permit the vehicles of the transporters.

- The vehicles should be (Bharat-IV stage) compliant and should have pollution control certificate (PUC) issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.

1.4 Noise:

A. ANTICIPATED IMPACTS:

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since, slight increase in noise levels can be expected.

M. MITIGATION MEASURES:

- ✓ Minimum use of Horns at the village area.
- ✓ Timely maintenance of vehicles and their silencers to minimize vibration and Sound.
- ✓ Phasing out of old and worn out tractor trolleys.
- ✓ Provision of green belts along the road networks.
- ✓ Care will be taken to produce minimum sound during sand loading.
- ✓ Use of Backhoe and ear plugs may be provided to protect the labors working at the site.

1.5 Socio-Economic Environment

This project operation will provide livelihood to the poorest section of the society.
Approximately 19 people shall work at mine site.

A. ANTICIPATED IMPACTS AND EVALUATION:

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. There is no R & R involvement in this project. There is no land acquisition in this project.

The results of the field survey conducted to understand the knowledge and perception of the people living around the project area gives a clear idea about the need for the project.

A major portion of the houses in the study area are semi- pucca type structures. The water source to these areas is from the municipal connection and private bore wells and wells. The awareness level regarding the proposed mining activity is very high.

The proposed mining activity is expected to provide stimulus to socio-economic activities in the region and thereby accelerate further development processes.

i) Social and Demographic Profile:

The workers are from local villages. These people have been provided all welfare from a lessee like medical benefits, insurance, fees for children's education etc. They have some land and cattle for their daily earnings. Additional income earned from the Sand Mining work will improve their living standard. The group of quarries in and around will help to have infrastructure facilities like roads, schools, shops etc. This will improve their social life.

ii) Occupational Health And Safety:

This is River Bed Sand Mine. So the mining activities are comparatively less because the production is not on large scale. Workers do not come across any extreme condition like excessive heat; moisture, etc. Workers working around it may come across this dusty environment. But the impact on health will be within limit.

iii) Human Settlement:

There are no houses in and around lease area. Blasting is only activity, which may affect the settlement, but settlement is at distance of more than 1.0 Km from the Sand Mining. All the due precautions will be taken during mining. Transport of finished products is through the villages. There will be psychological impact of the traffic on the local people. However, the intensity of traffic is less.

iv) Health and Hygiene:

In general, the health of villagers is moderately good. In the rainy season, the atmospheric condition is unhygienic due to lack of proper drainage and sanitation in the village habitation. Villagers are working in agricultural fields and work as laborers.

v) Education:

Mostly education is up to middle standard. Economic condition is in general moderate. So after this project the standard of education will be increase.

vi) Socio Economic Benefits Arising Out Of Mining:

- Generation of employment in the rural area.
- Improvement in the living standards of the rural people.
- Creating of infrastructural facilities like roads, electricity, shops, school etc.
- Helping to improve literacy in the area
- Exploiting natural mineral so generation of revenue
- Helping to sustain construction activity
- Improving the greenery of the area, this is otherwise very poor.

vii) LIQUID EFFLUENT:

- Not applicable because small mine and impacts are negligible.

viii) SOLID WASTE:

- Not applicable because small mine and impacts are negligible.

1.6 Biological Environment

A. ANTICIPATED IMPACTS:

a) Aquatic environment

Proposed mining of the dry bed of the river, so no any possibility of disturbance of aquatic life.

b) Flora and Fauna

The mining activity will have insignificant affect on the existing flora and fauna. The project area is surrounded with agricultural land. It was found that the sand mining activity will not have any significant impact on the biological environment of the region.

M. MITIGATION MEASURES:

- ✓ Improvement in river bank stability.
- ✓ Large woody debris in the riparian zone will be left undisturbed or replacedwhen moved and not be burnt.
- ✓ Vegetative debris will not be stored within the mine lease area.
- ✓ Operation and storage of heavy vehicles within riparian habitat will be restricted.
- ✓ Covering of loaded vehicles to reduce dust emission, which may harm surrounding agricultural crops and other plant species conservation of biological diversity of plants, birds and animals.
- ✓ Greenbelt Development and Bio-Diversity Preservation

Plantation activities will be carried out at the bank of the river and along the haul roads. This activity will help for maintaining ecology and environment of the area.

1.7 IMPLEMENTATION OF EMP:

Environmental Management Plan serves no purpose if it is not implemented with true spirit. Some loopholes in the EMP can also be detected afterwards when it is implanted and monitored. Thus, an implementation and monitoring programmed has to be prepared.

Implementation of proposed control measures and monitoring programmed has an implication on the surrounding area as well as for the region. Therefore, sand mining management should be strengthen the existing control measures as elaborated earlier in this report and monitor the efficacy of the control measures implemented within the sand mining area relating to the following specific areas:

- ✓ Coordinate with environment monitoring laboratory for collecting and analyzing air, water, soil&noise quality of the area.
- ✓ Implementing the control and protective measures.
- ✓ Co-coordinating the environment related activities within the project as well as with outside agencies.
- ✓ Separate Budget has been allocated for the EMP.
- ✓ Collecting statistics of health of workers and population of surrounding villages.
- ✓ Monitoring the progress of implementation of environmental management program.

1.7.1. GREENBELT DEVELOPMENT:

- ✓ The implementation for development of green belt will be of paramount importance as it will not only add up as an aesthetic feature, but also act as a pollution sink.
- ✓ The species to be grown in the area should be dust tolerant and fast growing species so that permanent green belt is created.
- ✓ To stabilize the river bank erosion the plantation of native species of that area along the river bank.
- ✓ Apart from the green belt and aesthetic plantation for elimination fugitive of emission and noise control, all other plantation efforts shall be decided and executed with the assistance and co-operation of the local community.

Proposed Program for Plantation For Green Belt Development:

A forestation will be carried out to increase the green cover and create harmony with nature. The area will be afforested with variety of local sapling. This will help to have polyculture. The details of a forestation program are given below. This will be done on the statutory barrier to be left and on the general surface of the lease.Along the access road at sand mining site. (List of trees is given):

S.N.	Scientific Name	Hindi Name	Number
1	Azadirachtaindica	Nim	30
2	Tectonagrandis	Teak	30
3	Terminaliaarjuna	Arjun	30
4	Tuti	Tut	30
5	Syzygiumcumini	Jamun	30
6	Ficusreligiosaa	Pipal	30
7	Bambusa vulgaris	Bamboo	30
8	Neolamarckiacadamba	Kadamb	30
9	Dalbergiasissoo	Shisham	30
10	Madhucalongifolia	Mahua	30
Total			**300**

Cost of Environment Management Cost:

S.N.	Description	Cost Rs. (inlakhs)
1	Dust suppression	0.02
2	Haul road maintenance	0.02
3	Green belt & Maintenance	0.01
4	Monitoring cost	0.025

1.7.2 TRANSPORT SYSTEM:

i) Proper parking places should be provided for the tractor trolleys and other vehicles by the Mine Owner to avoid any congestion or blocking of roads.
ii) Spillage of sand on roads may lead to accidents.Proper road safety signs both inside and outside the mine should be displayed for avoiding road accidents.

1.7.3 MONITORING SCHEDULE AND PARAMETERS

1.7.4 MONITORING OF AMBIENT AIR, WATER, and NOISE:

To evaluate the effectiveness of environmental management program regular monitoring of the important environmental parameters to be monitored are shown in following Table:

Monitoring Parameters	Frequency of Monitoring
Ambient Air: (Ambient Air Quality at appropriate location for PM, SO2, NO2): In the vicinity of the mine area&Near Access road.	Half-yearly
Water: Two Surface (up-stream & Down Stream) & One Ground Water Samples nearby the project site	Yearly
Noise: Day & Night level Noise Monitoring at mining site	Half-yearly

For air, water and noise pollution control measures, it has been suggested that samples would be collected and tested all-round the year with appropriate frequency at strategic places by suitable agencies. In case, it is found that any of the control parameters exceed the tolerance limit as fixed by the State/Central Pollution Control Board, preventive measures will be taken and if required expert opinion will be sought for proper remedial measures.

1.7.5 DISASTER PLANNING:

Proper disaster planning should be done to meet any emergency situation arising due to fire,explosion,sudden leakage of gas etc. Firefighting equipment and other safety appliances should be kept ready for use during disaster/emergency situation including natural calamities like earthquake/flood.

1.7.6 ENVIRONMENT MANAGEMENT CELL:

Each mine or group of mine should identify within its setup a Department/Section/Cell with trained personnel to take up the model responsibility of environmental management as required for planning and implementation of the projects.

10.0 CONCEPTUAL MINING PLAN:

This stage not applicable because the Conceptual plan of the proposed lease area at the end of lease period is prepared.

10.1 Ultimate depth, size & shape of the pit:

The Lease will be for 1 year. Therefore, it is very premature to decide the conceptual plan for the Sand Mine. However, based on the available geological information requirement or purpose of mining the shape and size of Sand has been defined and shown as the Ultimate Pit Limits by colored lines in the Geological plan, the Production &Development plan, and the Conceptual plan. Ultimate pit size will be 989 m x 47 m x 0.5 m.The Conceptual plan and Environmental Management Plan are shown in Plate No.-VII.

1.2 Ultimate Capacity of Dump:

No surface dump is proposed at the conceptual stage.

1.3 Land use pattern:

The anticipated land use pattern as envisaged after five years and at the end of conceptual period would be as tabulated below,

S. N.	Particulars	As on Today in Ha	After 1 Years in Ha
1)	Area of top soil spread for a forestation	-	-
2)	Storage for top soil	-	-
3)	Green Belt	-	-
4)	Over burden Dump	-	-
5)	Mineral Storage	-	-
6)	Infrastructure (Workshop, Admin. Building etc.)	-	-
7)	Mine road in Mine lease area	-	-
8)	Utilized area for Sand Mining	0.000	**0.15**
9)	Virgin lease area for Sand Mine & Other Uses	0.15	0.000
10)	Road	-	-
11)	Railway	-	-
12)	Tailing Pond	-	-
13)	Effluent Treatment Plant	-	-
14)	Mineral separation plant	-	-
15)	Township Area	-	-
16)	Others to specify	-	-
17)	Ownership	Government River	Government River
Total		0.15	0.15

11.0 COMPLIANCE OF SAFETY RULES AND REGULATIONS:

Whether there are any serious violation of safety rules and regulation which may jeopardize human health and safety. If so, give details of violations and state the steps proposed to be taken with the time scheduled to rectify the violations:

No, there are not any serious violation of safety rules and regulation, which may jeopardize human health and safety.The applicant has given a commitment in this effect and undertaking also given to follow and implement, as specified in the mining plan.The applicant is undertake to abide and implement any special conditions imposed by various authorities and also to complete formalities under provision of the Mines & Mineral (Development & Regulation) Act, 1957 and the Bombay Minor Mineral rules, the Mineral Conservation and Development Rules, 1988 as amended, the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule 2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016,Sustainable Sand Mining Management Guidelines 2019,Sand Mining Policy 2020

12.0 ANY OTHER INFORMATION:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment. These things will be religiously followed and its report will be periodically submitted to the concerned authority. All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there

under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtained relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

PRE FEASIBILITY REPORT

(As per Rules 23 & 26 of MMME (D & R) RULE 2013 & Section 15 of MMDR Act 1957, MoEF & CC Notification 2006, S.O. 141(E) dated 15. 01. 2016; MoEF & CC, Sustainable Sand Mining Management Guidelines 2016,Guidelines for Mining Policy2020)

For

OBTAINING ENVIRONMENT CLEARANCE

of

SAND MINING (MINOR MINERAL)

For

Kalwad River Bed Sand Mine / Sand Ghat

Khasra No. Purna

145,147

Area (0.84Ha)

Village- KalwadTehsil Shegav, District- Buldhana ,

Submitted to

THE SR. DY. DIRECTOR, DIRECTORATE OF GEOLOGY & MINING,

GOVERNMENT OF MAHARASHTRA,Nagpur, (M.S.)

District:-Buldhana ,

Applicant/Project Proponent

District Mining Officer

Collector office, Buldhana ,

District: Buldhana ,

Prepared By

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Accredited by NABET: No.: - NABET/EIA/1619/RA0060/ April 19, 2020)

March – 2020

1. EXECUTIVE SUMMARY

This Pre Feasibility Report has been prepared for the proposed sand ghat over the area of 0.84Ha at Dhamana River Bed adjoiningKhasra No:-Purnaof village Buldhana, Tehsil Shegav, District- Buldhana, Maharashtra,in accordance with theNotification of MoEF S.O. 1533 dated 14th September 2006. The Ministry ofEnvironment, Forest and Climate Change amended Principal Notification vide 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, sand mining framework 2018. and Govt. of Maharashtra Sand Policy 03.01.2018, Mining Guidelines 2020, included Minor Minerals from 0 Ha to 50 Ha in the PrincipalNotification S.O. 1533 (E) dated 14.09.2006. Central Government made furtheramendments to the notification vide S.O. 2269 (E) dated 01.07.2016. In obedience allrelevant notifications to the principal Notification dated 14th September 2006, applicationfor the excavation of sand ghat from proposed sand ghat is being submitted to SEAC, SEIAA,Maharashtra.

Though any development activity like industry or minor mineral excavation may cause temporary damage to land, forest and induce changes in the quality of air, water, flora and fauna of the area, it has favorable effect of industrialization on social development and progress of the nation. For overall gain, it is necessary to strike a balance between the two aspects of economy and ecology and ensure that impacts on the environment are minimized with improvement in socio-economic conditions. This is better achieved through a well-planned approach of EMP relevant to the area under consideration.

Sand is used for a wide variety of purposes. It is most commonly used as an aggregate in construction projects. Sand is required for road base, concrete aggregate, asphalt pavement aggregate, and many other purposes. The selected area has exposures of sand which is useful for the various purposes mentioned above.

The mining for this sand ghat excavation is proposed to be carried out manually with opencast method of mining engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading will be carried out manually and transportation of mineral from the sand ghat to the depot by tractor with tipper arrangement. As the mineral is soft & loose in nature, no drilling and blasting are required. The proposed sand ghat area is located at Survey of India ToposheetNo: 55D/9 and falls between the Latitude 20°55'31.37"N and Longitude 76°32'39.50"E. The lease area is not an agricultural land and the area is classified as River. Maximum production capacity is 1484 Brass.

In order to obtain environmental clearance as per the EIA Notification 2006 the Prefeasibility Report (PFR) is submitted along with the application Form I M for the project under

consideration. The project is categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016

2.0 INTRODUCTION

1.1 PROJECT PROPONENT

The possession of the land under consideration lies with State Government (As per the 20 (1) Chapter III of The Maharashtra Land Revenue Code 1966) hence application is made through the legal representative as a Project Proponent. Accordingly, DMOBuldhanaCollectorate, Buldhanahave applied for Environmental Clearance of proposed sand ghat. After obtaining the environmental clearance this sand ghat will be auctioned as per the Notification Goukhani 10/0615/Pra.Kra. 289/Kha dated 03.01.2018. Communication details of the project proponent are as under;

DMOBuldhana
BuldhanaCollectorate,
Collector Office, Buldhana

1.2 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

The selected area has exposures of sand which is useful for the various purposes mentioned above. It is proposed to excavate sand from this area by manual opencast method without using any excavation machinery. Transport of the excavated sand will be carried out using tractor with trolley arrangement from sand ghat to depot and by truck/tipper/dumper onwards to the desired destination. The excavated sand will be sold in the market. The present Pre Feasibility Report has been prepared for Proposed sand ghat over the area of 0.84Ha atPurnaRiver Bed adjoiningKhasra No. Khasra No:-Purnaof village Kalwad - Tehsil Shegav District- Buldhana**.** The project is for excavation of sand (minor mineral) categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016.

1.3 NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY AND OR REGION.

Road/building materialsand is an essential requirement as one of the minor mineral deposits occurring in the majority portion of Maharashtra. It has played a great role in development of civilization and industrialization. The occurrence of sand in the proposed area is proved by the way of exposures and its production has important role in the local infrastructural development. The sediment in the form of river bed material (RBM) deposited every year during monsoon season at many locations of theGodavariRiver. Removal of the sand from the proposed location is unlikely to damage the riparian system if the excavation and transport is carried out in systematic manner proposed in the approved Mining Plan. This project operation

will provide employment directly and indirectly to the people residing in vicinity, thus improving the Socio-economic status of the area.

1.4 DEMAND SUPPLY GAP.

Sand is an essential constituent infrastructural development projects like road, dams, bridges and building. The demand for sand/gravel is ever growing with the growth of the infrastructure sector in our country. The requirement for the mineral is always high in the nearby cities and towns. Therefore there is always a good demand of the mineral in the domestic market. Its demand in industrial area of Buldhanaand nearby areas is increasing very fast. Sand mining not only narrows the gap between the demand and supply if building material but also enhances employment opportunities and economic growth of the region. Besides, the production will also benefit the State in the form of revenue generation. Apart from this, the project will generate direct and indirect employment opportunities from the nearby villages.

1.5 IMPORTS VS. INDIGENOUS PRODUCTION.

Mining of sand is required for various projects within the state of Maharashtra and other states.

1.6 EXPORT POSSIBILITY.

Not explored

1.7 DOMESTIC / EXPORT MARKETS.

There is always an ever increasing demand of these minerals in the domestic market.

1.8 EMPLOYMENT GENERATION (DIRECT AND INDIRECT) DUE TO THE PROJECT.

It is proposed to employ the local population wherever possible in the proposed project activities. Direct employment for this proposed sand ghat excavation will be approximately19 Personsand the there will be indirect employment generation also in service sector. The allocated lease will be directed to deploy local persons on for this project.

Grade of staff	**Designation**	**Nos.**
Supervisory and Technical staff	Mine mate / Mine Supervisor	01
Clerical staff	Clerk/ Time keeper	01
Safety/Security Officer	Security Guard	01
Skilled workers	Tractor Trolley Driver	02
Skilled workers	Tractor trolley Helper	01
Semiskilled workers	Labors Supervisor (Mukadam)	05
Unskilled workers	Labors	08
Total Manpower		**19**

3.0 PROJECT DESCRIPTION

i) Type of project including interlinked and Interdependent project, if any.

As per Gazette Notification of Ministry of Environment, Forest and Climate Change (MoEF&CC) dated 15th January 2016, New Delhi all projects (minor mineral) less than 25 hectare falls in category “B-2”. As the lease area of the proposed project is 0.84Ha, it falls in “B-2” category and will be appraised by State level authority.The entire mined out mineral will be completely transported to the market /and there is no interlinked project.

ii) Location (map showing general location, specific location, and projectboundary & project site layout) with coordinate

The land is government Waste land. The area is a plain terrain. The location of proposed siteis shown in the **Figure-1.** The proposed area is covered in parts of Survey of India Toposheetno.56D/9 within latitude 20°55'31.37"Nand longitude 76°32'39.50"E (Refer **Figure 2).**

FIGURE-1: LOCATION OF PROPOSED SAND GHAT

PLATE -01
Location map

ADDRESS - KALVAD RIVER SAND MINE AT
PURNA RIVER
GAT NO.- 145,147
DISTRICT - SHEGAV
STATE- MAHARASHTRA
TOTAL LEASE AREA- HECT. 0.30

FIGURE-2: SPECIFIC LOCATION OF PROPOSED SAND GHAT

The proposed sand mining ghat was demarcated on the ground by revenue department with reference to adjacent survey numbers of concerned village map. The exploration/assessment of sand Ghats has been carried out by GSDA using probing rods for delineating the total depth of sand and depth of mineable sand with quantity.

Accordingly, reports submitted with mineable reserves of sand in particular location. On the basis of this report State Govt. will auction the sand Ghats for excavation of sand for specific mineable quantity.

The proposed sand ghat has sufficient reserves of sand to excavate1484brass for the period of current financial year. This is a temporary type of lease for the limited mentioned period i.e. up to September 2020.

LOCATIONAL DETAILS IN SUMMARIZED FORM

Sr. No.	Details of the area	Particulars
1	Name of Sand Ghat and River	Kalwad River Bed Sand Mine in Purna Bed Sand Mine
2	Village	Kalwad
3	Taluka	Buldhana
4	District	Buldhana
5	Adjoining Khasra No./Survey No.	Purna
6	Lease Area (Ha.)	0.84 Ha
7	Ownership/Occupancy of the Lease area	**Government Land**
8	Existence of public road/railway line if any nearby and approximate distance	The mine is located about 0.57 km in SE direction of Kalwad village.
9	Nearest Village and its distance from lease area	Mahuli (2 KM) , Bhota (2 KM) , Dolarkhed (4 KM) , Bhastan (4 KM) , Dadgaon (5 KM)
10	Toposheet No. and RL of the Lease area	55D/9and0.84Ha
11	Latitude & Longitude of Lease area boundary points (Coordinates of the boundary points taken as per the area shown by revenue authority Patwari/Talathi)	20°55'31.37"N 76°32'39.50"E 20°55'30.75"N 76°32'39.33"E

iii) Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental consideration gone into should be highlighted.

Rivers and streams by far have been the most lucrative and attractive source for extracting large volume of building materials such as boulders, stone, pebbles, sand and gravel for a variety of construction activities. In plain reaches, where the bed slope is gentle, the river bed is overlaid with matrix mainly comprising of sand of different gradation along with silt and clay. Due to river dynamics, the sediments which get generated from bed load and wash load move with river and do not settle uniformly over the entire bed. It rather settles at certain places only (aggradations) and must be removed from time to time to avoid flash floods due to reduction in channel width. The Government has identified such locations for sand removal and the present location is one of them. The project is a site specific and has to be undertaken at the place of the occurrence of the mineral and hence no alternative sites explored.

The environmental advantages of using river sediments are that the Sediments can easily be collected / extracted by digging less deep pits in active channel or dry river beds of upper terraces. The sand extracted from the identified stretch is free from weak materials and interstitial loose / fine material. No requirement of processing for the sand excavated from the river and it can be directly used without any beneficiation. The natural replenishment takes place annually due to transportation of sediments from upper course/reaches during high stage of river, which is achieved a number of times during monsoon. Environment Management Plan to mitigate the activities due to the proposed sand ghat excavation is enclosed at **Annexure 1**.

iv) Size or magnitude of operation.

The proposed sand ghat mining having an area of 0.84Ha will be developed as opencast for the excavation of sand/gravel with production capacity of 1484brass. The excavation will be carried out from the demarcated area which is dry. Excavation will be carried out in non monsoon season on or before 30th September 2020.

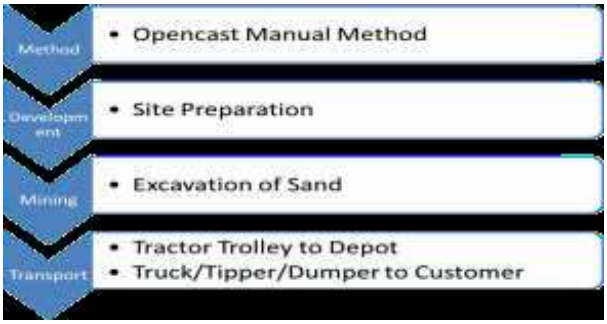
v) Project description with process details (a schematic diagram/ flow chart showing the project layout, components of the project etc. should be given).

The mining will be carried out manually with opencast method of mining by engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading is proposed to be carried out manually and transportation of mineral from the mine to the depot is proposed through tractor with trolley arrangement. As the mineral is dry, loose in nature, no drilling and blasting are required and hence not proposed. Sand excavated manually will be loaded directly into vehicles. Once a pre-determined area has been exhausted of the sand, it shall be replenished by sand during monsoon period leveled it & maintained to its maximum original topography. There will be no OB or waste generation as the sand is directly exposed in the river bed without any soil or silt cover or any other material which can be categorized as overburden material.

Workings will be restricted within the applied area as per the approved Mining Plan. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow. No processing of sand required.

Restriction on mining:

- Mining shall not be carried out within 600 m of any bridge (railway or road).
- Mining shall not be carried out within 100 m from any pumping station, water intake.
- The quarrying of sand will be proposed after leaving a safety distance of 600 meter from bridge falling under NH/SH from both side of the bank, & leaving a safety distance of 100 meter from any bridge.
- Mining shall not be carried out within 3 m from the river bank It will be done leaving a safety zone of total of 1/5th of the width of the river from the banks for bank protection.
- During the entire lease period, the deposit will be worked from the top surface to 3 m bgl or above ground water level, whichever comes first. This will also help in avoiding ponding effect.
- The workability is suggested by keeping in the mind possible effect on the meandering of River. The mining on the concave bank is most suitable than convex bank. Hence, mining is proposed during non monsoon period in a way that is will get replenishment during monsoon.
- Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season.
- No ore dressing/ handling/ processing plant shall be attached with the mine. The whole area demarcated for the purpose of mining as per the approved mining plan shall be mined out so as to maximize the sand production or extraction.
- Systematic plantation will be made in the area outside the river bank to protect the banks from erosion in monsoon.
- In the applied area the velocity & river water flow being less the sediment load get deposited in to the pit During Monsoon season the area get replenished with sediments to be lifted in subsequent years. Excavated area will be replenished naturally due to sediment inflow from the catchment area Therefore, Environment and Ecology of the area remains undisturbed.
- Sequence of mining operation is given below.



vi) Raw material along with estimated quantity, likely source marketing area of final products, mode of transport of raw material and Finished product.

There is no requirement of any Raw Material in this project. Mode of transport of extracted sand is surface transport by existing roads.

vii) Resource optimization / recycling and reuse envisaged in the project, if any, should be briefly outlined.

There is no waste material generation. No recycling and reuse of material is envisaged as entire excavated material will be transported. Minerals are generally depleting asset once mined; but minerals like sand will be replenished naturally. Thus a scientific approach will be taken up for excavation of mineral with systematic method.

viii) Availability of water its source, Energy / power requirement and source should be given

a) **Water Requirement:**Thus total water requirement will be 5.88 KLD. This water will be supplied from the bore well from nearby villages through tankers as well as from surface water sources for dust suppression. Dust suppression and green belt water will beutilized from water tanks. Electricity is not required as the working is only during day timewhich does not demand for artificial lighting.

Sr. No.	Purpose	Water Requirement (KLPD)
1	Dust Suppression and green belt	5.00
2	Domestic (Considering 45 Litres per person per day for19 persons)	0.88
	Total	**5.88**

ix) Quantity of waste to be generated (liquid and solid) and scheme for their Management / disposal.

Solid Waste: There is no solid waste generation during sand excavation.

Liquid Effluent: The sand excavation from the proposed site does not intercept the water table and the area is dry having no impoundment of water. Thus, there is no generation of effluentenvisaged. Small amount of domestic waste will be generated by the workers at the

site, which will be disposed-off through proper municipal way. No other waste generation is expected.

x) Schematic representation of the feasibility drawing which give information of EIA purpose.

The proposed sand ghatproject is for excavation of sand which is categorized as minor mineral vide Notification No. S. O. 423 (E) dated 10.02.2015 issued by Ministry of Mines. The minor mineral project such as sand excavation requires environmental clearance as per the procedure defined by Ministry of Environment, Forest & Climate Change (MoEF & CC) Notification No.141 (E) dated 15th January 2016. EIA for the minor mineral projects >5 Ha is not required as per this Notification. As per the Appendix XI of this Notification, approved Mining Plan, Form I and Prefeasibility Report are required for appraisal of the environmental clearance by SEAC/SEIAA. Accordingly, necessary compliance of the directed procedure is made by the applicant. The Notification issued by the Revenue Department of Government of Maharashtra No. Goukhani-10/0615/Pra.Kra. 289/Kha dated 03.01.2018 and Sustainable Sand Mining Management Guidelines2016& Sustainable Sand Mining Management Guidelines 2019, Mining Guidelines 2020 have also been referred and the directives provided in theseNotification/Guidelines have been used for preparation of these documents.

4.0 SITE ANALYSIS

The suitability for extraction was done taking into consideration general profile river stream, annual deposition factor, and replenishment. The project site is located at a plain topography and within the mature stage of a river. The river bed sand replenished every year with the sand carried out with flow of water in monsoon and there is no such control of mineralization as it depends on the nature of flow of river water.

i) Connectivity

Sr.No.	Particulars	Details
1	Road Connectivity	The mine is located about 0.57 km in SE direction of Kalwadvillage.
2	Nearest Highway	National Highway NH 6 is 15.2 kms& State Highway MH SH 195 is 21.3
3	Nearest Airport	Jalgaon, 95.5 km away towards West from ML.
4	Nearest Railway Station	Jalamb Junction is 13 kms

ii) Land form, land use and Land ownership.

There is no village or human settlement in the lease area. There is no reserves forest or protected forest land within the mining area. The area has Flat topography. The lease area forms a part of Survey of India toposheet no55D/9. The landuse details for the proposed sand ghat area are as under:-

Adjoining Khasra No. of Village / Taluka /District/ State	**Area**	**Type of land**
Adjoining Khasra. 145,147	0.84	Government Notified Land

iii) Topography (along with map).

Latitude and Longitude readings have been taken by using G.P.S. instrument. All the levels have taken with respect to Mean Sea Level. It is flat in nature. Total area if the lease area is 4.65Ha.

iv) Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ), shortest distances from the periphery of the project to periphery of the forest, national park, wild life sanctuary, eco sensitive areas, water bodies (distance from the HFL of the river), CRZ. In case of notified industrial area, a copy of the Gazette notification should be given.

Significant features with their aerial distance of the project are tabulated below;

Sr. No.	**FEATURES**	**DETAILS**	**DISTANCE**
1	Village (Nearest)	Kalwad	1 km
2	Land use	Agriculture	0 km
3	Water bodies	RiverPurna	1 km
4	Reserved Forest	No	0 km
5	National Park	No	0 km
6	Wildlife Sanctuary	No	0 km
7	Eco Sensitive Area	No	0 km
8	Coastal Regulation Zone	No	0 km
9	Archeological Monument	No	0 km
10	Industries	No	0 km
11	Mines	Sand ghat	1 km

v) Existing Infrastructure.

There is well established road connection from the quarry to the State Highway /village road. Other facilities like market, school, hospital (PHC), drinking water facility, electric, telecommunication etc. are available in nearby villages.

vi) Soil classification.

There is no top soil. The river bed only consists of sand/ gravel.

vii) Climatic data from secondary sources.

Sub–tropical climatic condition prevails in the area. Maximum temperature recorded during summer is45.6°C and the minimum temperature recorded during winter is 12.6° C.
The region receives an average rainfall of around 697 mm to 862 mmwith an annual variation of 100 mm although wider variation has also been noticed in the past. About (50 to 55%) in of rainfall precipitates from June to September.

viii) Social Infrastructure available.

Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities) are found within a distance of 10km of the proposed sand ghat area.

ix) Geology

The lease area as per survey is a River Bed of Godavari River. Applied area for sand extraction is covered with Sand, Pebblesand Gravels of various sizes. The sand of Granitic, Quartzitic.

A) Mineable Reserves of Sand in the proposed Mine Lease Area as per the GSDA:

The proposed Sand Ghat/ River Bed Sand Mine of 0.84Ha area is covered with sand. Theentirearea is occupied by single litho unit sand deposit with flat configuration. Estimationof sand is done by the GSDA, Buldhana and mineable reserves are proposed for sand mining foryear 2019-2020 as follows:.

Av. Length (m)	Av. Width (m)	Area (m^2)	Proposed Depth (m)	Volume of Deposit for Mining (m^3)	Quantity of sand for Excavation (Brass)
L	W	A=L*W	D	V = A * D	Qt = V / 2.83
420	20	8400	0.50	4200	1484

4.0 PLANNING BRIEF

i) Planning Concept (type of Industries, facilities, transportation etc) Town and country planning/ Development authority Classification.

The mine will be worked by opencast manual method. Mining will be done up to a depth of 1m bgl or above the water level whichever is comes first. The sand will be collected in its existing form. No drilling /blasting are required as the material is loose in nature. There will be no OB or waste generation as the sand is exposed in the river bed. It will be done leaving a safety zone from bank for bank protection. Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season. Roads in the Applied Area for the movement of loaded trippers/ trucks will not have slopes more than 1 in 20.

However, movement of trucks after mineral loading will be towards both sides through approachroads connecting to tar roads. No processing of excavated sand will be done. Workings will be restricted within the lease area/ khasra as per the description report given by Mining Department. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow as the proposed area for the sand ghat is dry. Mining operation will not be carried out during monsoon season. On view monitoring of mining activity technical staff, skilled and non-skilled labours are employed and thus State/Central Govt. and Village Panchayat will get royalty. Workers will get direct employment and equal number or more will get indirect employment.

ii) Population Projection.

The project will employ most of the workers from nearby villages. Thus there will be no increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. The manpower required for the project shall be engaged from the nearby village(s) and hence influx of population to the area is not anticipated.

iii) Landuse Planning (breakup along with green belt etc.)

The sand from the entire allocated area will be excavated as per the approved mining plan. Local species of selected trees will be planted along the river bank and also on the approach road to depot. If permitted by the local authorities, plantation will be carried out in school, gram panchayat, PHC or anaganwadi premises. It is proposed to have plantation along the road sides on both sides to provide cover against dust dissemination and also to act as noise absorber. Approximately 320 trees of will be planted with various types of species. Native plants like Teak,Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tutand other

local species will selected insuitable combination, so that can grow fast and also have good leaf cover.

v) Assessment of Infrastructure Demand (physical & social)

The project requires roads for the transport of the produced material which isadequate, besides it requires manpower to operate the quarry and is availablelocally.

vi) Amenities/Facilities.

Temporary rest shelters, portable toilets, drinking water and first-aid will be madeavailable to the workers.

6.0 . PROPOSED INFRASTRUCTURE

No infrastructure erection is proposed in the mine lease area

i) Industrial area (processing area) - No processing or beneficiation is required hence not proposed.

ii) Residential Area (Non processing Area)- None.

iii) Green Belt.

The entire mining area falls within river course and gets flooded duringmonsoons; therefore, no plantation is possible within this area. Plantation willmainly be done along the kuchha road and along the length of the river bank orapproach road to depot or places as recommended by Gram Panchayat.**Approximately 320 trees**of will be planted with various types of species. Native plants like Teak, Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tut, &other local species will selected in suitable combination, so that can grow fast and also have good leaf cover.

iv) Social Infrastructure.

This Project will provide employment to local people directly and indirectly. Indirect employment will be in the form of shopkeepers, mechanic, drivers, transporters etc. The lessee will be responsible for providing better social infrastructure benefits such as drinking water, health care measures, educational facilities, promotion of culture and religious activities in surroundings as part of their CSR activities.

v) Connectivity (Traffic and Transportation Road/Rail/Metro/Water ways

The area is approachable from NearestNational Highway NH 6 is 15.2 kms&MH SH 195 is 21.3 km. There are metalled roads and unmetalled road up to the mine site.

vi) Drinking Water management (Source & Supply of water)

Water will be supplied from nearby villages for drinking purposes through tankers with NOC from Gram Panchayat.

vii) Sewerage System.

Not required. Temporary toilet facilities will be provided by the proponent at the river banks.

viii) Industrial Waste Management.

Not required

ix) Solid Waste Management.

There is no Solid waste generation during sand mining. The entire excavated sand is useable.

x) Power Requirement & Supply / Source.

Diesel will be used as motive source of primary energy for tractors/ truck arranged by the buyers. Diesel will be outsourced from nearby diesel pumps directly by buyers. Mining method is manual and working hour will be for 12 hours during the day time, so there is no such power requirement.

7.0 REHABILITATION AND RESETTLEMENT (R & R) PLAN

i) Policy to be adopted (central/state) in respect of the project affected person including home oustees, land oustees and landless laborers (a brief outline to be given.)

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

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.)

The operations shall be carried out after obtaining all statutory permissions as per the statutory guidelines. Adequate reserves are available from the proposed sand ghat area. Reclamation and Rehabilitation plan will be prepared for sustainable development and minimized environmental damage. This is a temporary type of lease for the limited mentioned period i.e. Period of Mine Lease will be One Year 2019-2020 or up to 30.09.2020.

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

The sand ghat proposed by the Project Proponent will be auctioned online as perthe procedure in vogue. Hence, project cost cannot be estimated at this stage.

9.0 ANALYSIS OF PROPOSAL FINAL RECOMMENDATIONS)

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 involves collection of river bed material. This is very essential in order to prevent widening of the riverbeds and to prevent flooding off and damage to the adjoining areas. This can only be achieved by maintaining the existing course of the river.
The river banks, on both sides are covered by vegetation and human habitats.Widening of river banks results in excessive erosion; resulting in damage to flora, agricultural land and settlements which are situated at very close proximity. It isproposed to employ the local population wherever possible in the proposedproject activities directly or indirectly. It provides employment to the peopleresiding in vicinity directly or indirectly by the project. The sand extracted fromthis area is in high demand in the local market.

There will be no environmental impact from the project since the scale ofoperation is very less and the method of mining by manual. This operationdoesn’t need relocation manage of any habitants. The plantation of sufficientnumber of trees along the village roads is proposed which will control thedispersion of dust during transportation as well as will be helpful in controllingNoise for propagation.

Annexure 1

ENVIRONMENT MANAGEMENT PLAN

1.0 INTRODUCTION

Preparation of Environmental Management Plan is required for formulation, implementation and monitoring of environmental protection measures during and after commissioning of projects. The plan should indicate the details as to how various measures have been proposed to be taken including cost components as may be required.

1.1 Land Environment

The type of mining and the characteristics of the particular mineral deposit both affect the degree to which mining disturbs the landscape. Sand Mining and allied activities will be done in the fluvial plain formed by river meandering. Mining of sand may cause a few environmental degradations.

A. ANTICIPATED IMPACTS:

Damage of river bank due to access ramps to river bed, may cause soil erosion.

Destruction of river bank hinterland and ecological due to extraction of sand by probability of damage to the flood control bunds (built along the river side) due to heavy movements of vehicles over the bund to approach the mine are and further during transportation for sand from the mine area.

Disposal of packing material, carried by the workers, would not be allowed. This packing material would include used sachet/gutka/pan masala pouches.

Movement of heavy vehicles sometimes cause problems to agricultural land, human habitations, borehole users due to dust, noise and it also causes traffic hazards.

Surface degradation due to road network.

M. MITIGATION MEASURES:

Safety distance of 3 meter or 1/10th of the width of the river whichever is more will be left from both the bank of the river (as per “Sustainable sand mining guidelines”).

No foreign material like polythene bag, jute bag and useless articles should be allowed to remain/spill in river bed and catchment area, or no pits/pockets will be allowed to be filled with such material.

Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained.

Care will be taken to ensure that ponding is not formed in the river bed.

Mining will not exceeds beyond the allowed extraction capacity.

Green belt will be developed along the haul road and the bank of rivers of mine premises and near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.

1.2 Water Environment

A. ANTICIPATED IMPACTS:

As the project activity is carried out in the dry part of river bed, none of the project activities will affect the water environment or riverbank habitats. Project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality. Monitoring of water quality will be checked yearly.

M. MITIGATION MEASURES:

i) Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
ii) Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
iii) River stream will not be diverted to form in active channels.
iv) Utmost care will be taken to minimize or control leakage vehicles to be used for sand transportation.
v) The washing of tractor trolleys in the river will be avoided.
vi) The contractor will follow all guidelines and rules for proper and scientific method of mining during the period of extracting the sand.

1.3 Air Environment:

A. ANTICIPATED IMPACTS:

a) Due to Haul Road/ Access Road:

Plying of tractor trolleys from public road to river sand collection points needs access roads. Majority of such access roads are the same existing roads/tracks being used by pedestrians/cart owners. Movement of heavy vehicles sometimes causes problems to cattle, agriculture land, and human habitations due to dust, noise and movement of public. These environmental problems are felt more as the area is rural in nature.

b) Due to Mining process:

Air pollution is likely to be caused at various stages of sand mining operations such as excavation, loading & transportation of material. Most of the dust will be generated from loading& transportation. This dust becomes air borne and gets carried away to surrounding areas. The impact on air is mainly localized in nature as the dust particles are not carried to longer distances and the effect is felt within the core zone of the project involving active Sand mining operations.

M. MITIGATION MEASURES:

a) Mitigation of Impacts on Access Roads:

Movement of the vehicles on the road will be increased; however, unmetalled road in the mining area will be sprinkled with water at regular intervals. In addition to prevent spillage by tractor trolleys over loading should be controlled along with speed limit (1Brass /tractor trolley). Maintenance of haul road will be done on regular basis.

b) For Fugitive Dust Emission:

i) To avoid fugitive dust emissions at the time of excavation, regular sprinkling of water will be done on regular basis.

ii) Sand is transported to the sites by road through tractor trolleys. The sand carrying vehicles shall be covered by tarpaulin sheets.

iii) The Green Belt development will be prepared along the haul roads, which will act as a pollution sink.

iv) To minimize the vehicular pollution from the sand transporting vehicles, the following conditions will insist to permit the vehicles of the transporters.

- The vehicles should be (Bharat-IV stage) compliant and should have pollution control certificate (PUC) issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.

1.4 Noise:

A. ANTICIPATED IMPACTS:

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since, slight increase in noise levels can be expected.

M. MITIGATION MEASURES:

- ✓ Minimum use of Horns at the village area.
- ✓ Timely maintenance of vehicles and their silencers to minimize vibration and Sound.
- ✓ Phasing out of old and worn out tractor trolleys.
- ✓ Provision of green belts along the road networks.

- ✓ Care will be taken to produce minimum sound during sand loading.
- ✓ Use of Backhoe and ear plugs may be provided to protect the labors working at the site.

1.5 Socio-Economic Environment

This project operation will provide livelihood to the poorest section of the society.
Approximately 19 people shall work at mine site.

A. ANTICIPATED IMPACTS AND EVALUATION:

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. There is no R & R involvement in this project. There is no land acquisition in this project.

The results of the field survey conducted to understand the knowledge and perception of the people living around the project area gives a clear idea about the need for the project.

A major portion of the houses in the study area are semi- pucca type structures. The water source to these areas is from the municipal connection and private bore wells and wells. The awareness level regarding the proposed mining activity is very high.

The proposed mining activity is expected to provide stimulus to socio-economic activities in the region and thereby accelerate further development processes.

i) Social and Demographic Profile:

The workers are from local villages. These people have been provided all welfare from a lessee like medical benefits, insurance, fees for children's education etc. They have some land and cattle for their daily earnings. Additional income earned from the Sand Mining work will improve their living standard. The group of quarries in and around will help to have infrastructure facilities like roads, schools, shops etc. This will improve their social life.

ii) Occupational Health And Safety:

This is River Bed Sand Mine. So the mining activities are comparatively less because the production is not on large scale. Workers do not come across any extreme condition like excessive heat; moisture, etc. Workers working around it may come across this dusty environment. But the impact on health will be within limit.

iii) Human Settlement:

There are no houses in and around lease area. Blasting is only activity, which may affect the settlement, but settlement is at distance of more than 1.0 Km from the Sand Mining. All the due precautions will be taken during mining. Transport of finished products is through the

villages. There will be psychological impact of the traffic on the local people. However, the intensity of traffic is less.

iv) Health and Hygiene:

In general, the health of villagers is moderately good. In the rainy season, the atmospheric condition is unhygienic due to lack of proper drainage and sanitation in the village habitation. Villagers are working in agricultural fields and work as laborers.

v) Education:

Mostly education is up to middle standard. Economic condition is in general moderate. So after this project the standard of education will be increase.

vi) Socio Economic Benefits Arising Out Of Mining:

- Generation of employment in the rural area.
- Improvement in the living standards of the rural people.
- Creating of infrastructural facilities like roads, electricity, shops, school etc.
- Helping to improve literacy in the area
- Exploiting natural mineral so generation of revenue
- Helping to sustain construction activity
- Improving the greenery of the area, this is otherwise very poor.

vii) LIQUID EFFLUENT:

- Not applicable because small mine and impacts are negligible.

viii) SOLID WASTE:

- Not applicable because small mine and impacts are negligible.

1.6 Biological Environment

A. ANTICIPATED IMPACTS:

a) Aquatic environment

Proposed mining of the dry bed of the river, so no any possibility of disturbance of aquatic life.

b) Flora and Fauna

The mining activity will have insignificant affect on the existing flora and fauna. The project area is surrounded with agricultural land. It was found that the sand mining activity will not have any significant impact on the biological environment of the region.

M. MITIGATION MEASURES:

- ✓ Improvement in river bank stability.
- ✓ Large woody debris in the riparian zone will be left undisturbed or replacedwhen moved and not be burnt.
- ✓ Vegetative debris will not be stored within the mine lease area.
- ✓ Operation and storage of heavy vehicles within riparian habitat will be restricted.
- ✓ Covering of loaded vehicles to reduce dust emission, which may harm surrounding agricultural crops and other plant species conservation of biological diversity of plants, birds and animals.
- ✓ Greenbelt Development and Bio-Diversity Preservation

Plantation activities will be carried out at the bank of the river and along the haul roads. This activity will help for maintaining ecology and environment of the area.

1.7 IMPLEMENTATION OF EMP:

Environmental Management Plan serves no purpose if it is not implemented with true spirit. Some loopholes in the EMP can also be detected afterwards when it is implanted and monitored. Thus, an implementation and monitoring programmed has to be prepared.

Implementation of proposed control measures and monitoring programmed has an implication on the surrounding area as well as for the region. Therefore, sand mining management should be strengthen the existing control measures as elaborated earlier in this report and monitor the efficacy of the control measures implemented within the sand mining area relating to the following specific areas:

- ✓ Coordinate with environment monitoring laboratory for collecting and analyzing air, water, soil&noise quality of the area.
- ✓ Implementing the control and protective measures.
- ✓ Co-coordinating the environment related activities within the project as well as with outside agencies.
- ✓ Separate Budget has been allocated for the EMP.
- ✓ Collecting statistics of health of workers and population of surrounding villages.
- ✓ Monitoring the progress of implementation of environmental management program.

1.7.1. GREENBELT DEVELOPMENT:

- ✓ The implementation for development of green belt will be of paramount importance as it will not only add up as an aesthetic feature, but also act as a pollution sink.
- ✓ The species to be grown in the area should be dust tolerant and fast growing species so that permanent green belt is created.
- ✓ To stabilize the river bank erosion the plantation of native species of that area along the river bank.
- ✓ Apart from the green belt and aesthetic plantation for elimination fugitive of emission and noise control, all other plantation efforts shall be decided and executed with the assistance and co-operation of the local community.

Proposed Program for Plantation For Green Belt Development:

A forestation will be carried out to increase the green cover and create harmony with nature. The area will be afforested with variety of local sapling. This will help to have polyculture. The details of a forestation program are given below. This will be done on the statutory barrier to be left and on the general surface of the lease.Along the access road at sand mining site. (List of trees is given):

S.N.	Scientific Name	Hindi Name	Number
1	Azadirachtaindica	Nim	32
2	Tectonagrandis	Teak	32
3	Terminaliaarjuna	Arjun	32
4	Tuti	Tut	32
5	Syzygiumcumini	Jamun	32
6	Ficusreligiosaa	Pipal	32
7	Bambusa vulgaris	Bamboo	32
8	Neolamarckiacadamba	Kadamb	32
9	Dalbergiasissoo	Shisham	32
10	Madhucalongifolia	Mahua	32
Total			**320**

Cost of Environment Management Cost:

S.N.	Description	Cost Rs. (inLakhs)
1	Dust suppression	0.80
2	Haul road maintenance	0.90
3	Green belt & Maintenance	0.90
4	Monitoring cost	0.12

1.7.2 TRANSPORT SYSTEM:

i) Proper parking places should be provided for the tractor trolleys and other vehicles by the Mine Owner to avoid any congestion or blocking of roads.
ii) Spillage of sand on roads may lead to accidents.Proper road safety signs both inside and outside the mine should be displayed for avoiding road accidents.

1.7.3 MONITORING SCHEDULE AND PARAMETERS

1.7.4 MONITORING OF AMBIENT AIR, WATER, and NOISE:

To evaluate the effectiveness of environmental management program regular monitoring of the important environmental parameters to be monitored are shown in following Table:

Monitoring Parameters	Frequency of Monitoring
Ambient Air: (Ambient Air Quality at appropriate location for PM, SO2, NO2): In the vicinity of the mine area&Near Access road.	Half-yearly
Water: Two Surface (up-stream & Down Stream) & One Ground Water Samples nearby the project site	Yearly
Noise: Day & Night level Noise Monitoring at mining site	Half-yearly

For air, water and noise pollution control measures, it has been suggested that samples would be collected and tested all-round the year with appropriate frequency at strategic places by suitable agencies. In case, it is found that any of the control parameters exceed the tolerance limit as fixed by the State/Central Pollution Control Board, preventive measures will be taken and if required expert opinion will be sought for proper remedial measures.

1.7.5 DISASTER PLANNING:

Proper disaster planning should be done to meet any emergency situation arising due to fire,explosion,sudden leakage of gas etc. Firefighting equipment and other safety appliances should be kept ready for use during disaster/emergency situation including natural calamities like earthquake/flood.

1.7.6 ENVIRONMENT MANAGEMENT CELL:

Each mine or group of mine should identify within its setup a Department/Section/Cell with trained personnel to take up the model responsibility of environmental management as required for planning and implementation of the projects.

10.0 CONCEPTUAL MINING PLAN:

This stage not applicable because the Conceptual plan of the proposed lease area at the end of lease period is prepared.

10.1 Ultimate depth, size & shape of the pit:

The Lease will be for 1 year. Therefore, it is very premature to decide the conceptual plan for the Sand Mine. However, based on the available geological information requirement or purpose of mining the shape and size of Sand has been defined and shown as the Ultimate Pit Limits by colored lines in the Geological plan, the Production &Development plan, and the Conceptual plan. Ultimate pit size will be 989 m x 47 m x 0.5 m.The Conceptual plan and Environmental Management Plan are shown in Plate No.-VII.

1.2 Ultimate Capacity of Dump:

No surface dump is proposed at the conceptual stage.

1.3 Land use pattern:

The anticipated land use pattern as envisaged after five years and at the end of conceptual period would be as tabulated below,

S. N.	Particulars	As on Today in Ha	After 1 Years in Ha
1)	Area of top soil spread for afforestation	-	-
2)	Storage for top soil	-	-
3)	Green Belt	-	-
4)	Over burden Dump	-	-
5)	Mineral Storage	-	-
6)	Infrastructure (Workshop, Admin. Building etc.)	-	-
7)	Mine road in Mine lease area	-	-
8)	Utilized area for Sand Mining	0.000	**0.84**
9)	Virgin lease area for Sand Mine & Other Uses	0.84	0.000
10)	Road	-	-
11)	Railway	-	-
12)	Tailing Pond	-	-
13)	Effluent Treatment Plant	-	-
14)	Mineral separation plant	-	-
15)	Township Area	-	-
16)	Others to specify	-	-
17)	Ownership	Government	Government

		River	River
Total		**0.84**	**0.84**

11.0 COMPLIANCE OF SAFETY RULES AND REGULATIONS:

Whether there are any serious violation of safety rules and regulation which may jeopardize human health and safety. If so, give details of violations and state the steps proposed to be taken with the time scheduled to rectify the violations:

No, there are not any serious violation of safety rules and regulation, which may jeopardize human health and safety.The applicant has given a commitment in this effect and undertaking also given to follow and implement, as specified in the mining plan.The applicant is undertake to abide and implement any special conditions imposed by various authorities and also to complete formalities under provision of the Mines & Mineral (Development & Regulation) Act, 1957 and the Bombay Minor Mineral rules, the Mineral Conservation and Development Rules, 1988 as amended, the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule 2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016,Sustainable Sand Mining Management Guidelines 2019,Sand Mining Policy 2020

12.0 ANY OTHER INFORMATION:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment. These things will be religiously followed and its report will be periodically submitted to the concerned authority. All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF &

CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtained relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

PRE FEASIBILITY REPORT

(As per Rules 23 & 26 of MMME (D & R) RULE 2013 & Section 15 of MMDR Act 1957, MoEF & CC Notification 2006, S.O. 141(E) dated 15. 01. 2016; MoEF & CC, Sustainable Sand Mining Management Guidelines 2016,Guidelines for Mining Policy2020)

For

OBTAINING ENVIRONMENT CLEARANCE

of

SAND MINING (MINOR MINERAL)

For

Kalwad River Bed Sand Mine / Sand Ghat

Khasra No.

No 3,4,5,6,7,13

Area (0.39Ha)

Village- KhatkhedTehsil Shegav, District- Buldhana ,

Submitted to

THE SR. DY. DIRECTOR, DIRECTORATE OF GEOLOGY & MINING, GOVERNMENT OF MAHARASHTRA,Nagpur, (M.S.)

District:-Buldhana ,
Applicant/Project Proponent
District Mining Officer
Collector office, Buldhana ,
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Accredited by NABET: No.: - NABET/EIA/1619/RA0060/ April 19, 2020)

March – 2020

1. EXECUTIVE SUMMARY

This Pre Feasibility Report has been prepared for the proposed sand ghat over the area of 0.39Ha at Purna River Bed adjoiningKhasra No:-3,4,5,6,7,13 of village Buldhana, Tehsil Shegav, District- Buldhana, Maharashtra,in accordance with theNotification of MoEF S.O. 1533 dated 14th September 2006. The Ministry ofEnvironment, Forest and Climate Change amended Principal Notification vide 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, sand mining framework 2018. and Govt. of Maharashtra Sand Policy 03.01.2018, Mining Guidelines 2020, included Minor Minerals from 0 Ha to 50 Ha in the PrincipalNotification S.O. 1533 (E) dated 14.09.2006. Central Government made furtheramendments to the notification vide S.O. 2269 (E) dated 01.07.2016. In obedience allrelevant notifications to the principal Notification dated 14th September 2006, applicationfor the excavation of sand ghat from proposed sand ghat is being submitted to SEAC, SEIAA,Maharashtra.

Though any development activity like industry or minor mineral excavation may cause temporary damage to land, forest and induce changes in the quality of air, water, flora and fauna of the area, it has favorable effect of industrialization on social development and progress of the nation. For overall gain, it is necessary to strike a balance between the two aspects of economy and ecology and ensure that impacts on the environment are minimized with improvement in socio-economic conditions. This is better achieved through a well-planned approach of EMP relevant to the area under consideration.

Sand is used for a wide variety of purposes. It is most commonly used as an aggregate in construction projects. Sand is required for road base, concrete aggregate, asphalt pavement aggregate, and many other purposes. The selected area has exposures of sand which is useful for the various purposes mentioned above.

The mining for this sand ghat excavation is proposed to be carried out manually with opencast method of mining engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading will be carried out manually and transportation of mineral from the sand ghat to the depot by tractor with tipper arrangement. As the mineral is soft & loose in nature, no drilling and blasting are required. The proposed sand ghat area is located at Survey of India ToposheetNo: 55D/9 and falls between the Latitude 20°55'6.59"N and Longitude 76°38'59.66"E. The lease area is not an agricultural land and the area is classified as River. Maximum production capacity is 689 Brass.

In order to obtain environmental clearance as per the EIA Notification 2006 the Prefeasibility Report (PFR) is submitted along with the application Form I M for the project under

consideration. The project is categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016

2.0 INTRODUCTION

1.1 PROJECT PROPONENT

The possession of the land under consideration lies with State Government (As per the 20 (1) Chapter III of The Maharashtra Land Revenue Code 1966) hence application is made through the legal representative as a Project Proponent. Accordingly, DMOBuldhanaCollectorate, Buldhanahave applied for Environmental Clearance of proposed sand ghat. After obtaining the environmental clearance this sand ghat will be auctioned as per the Notification Goukhani 10/0615/Pra.Kra. 289/Kha dated 03.01.2018. Communication details of the project proponent are as under;

DMOBuldhana
BuldhanaCollectorate,
Collector Office, Buldhana

1.2 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

The selected area has exposures of sand which is useful for the various purposes mentioned above. It is proposed to excavate sand from this area by manual opencast method without using any excavation machinery. Transport of the excavated sand will be carried out using tractor with trolley arrangement from sand ghat to depot and by truck/tipper/dumper onwards to the desired destination. The excavated sand will be sold in the market. The present Pre Feasibility Report has been prepared for Proposed sand ghat over the area of 0.39Ha at Purna River Bed adjoiningKhasra No:-3,4,5,6,7,13of village Khatkhed - Tehsil Shegav District- Buldhana**.** The project is for excavation of sand (minor mineral) categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016.

1.3 NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY AND OR REGION.

Road/building materialsand is an essential requirement as one of the minor mineral deposits occurring in the majority portion of Maharashtra. It has played a great role in development of civilization and industrialization. The occurrence of sand in the proposed area is proved by the way of exposures and its production has important role in the local infrastructural development. The sediment in the form of river bed material (RBM) deposited every year during monsoon season at many locations of theGodavariRiver. Removal of the sand from the proposed location is unlikely to damage the riparian system if the excavation and transport is carried out in systematic manner proposed in the approved Mining Plan. This project operation

will provide employment directly and indirectly to the people residing in vicinity, thus improving the Socio-economic status of the area.

1.4 DEMAND SUPPLY GAP.

Sand is an essential constituent infrastructural development projects like road, dams, bridges and building. The demand for sand/gravel is ever growing with the growth of the infrastructure sector in our country. The requirement for the mineral is always high in the nearby cities and towns. Therefore there is always a good demand of the mineral in the domestic market. Its demand in industrial area of Buldhanaand nearby areas is increasing very fast. Sand mining not only narrows the gap between the demand and supply if building material but also enhances employment opportunities and economic growth of the region. Besides, the production will also benefit the State in the form of revenue generation. Apart from this, the project will generate direct and indirect employment opportunities from the nearby villages.

1.5 IMPORTS VS. INDIGENOUS PRODUCTION.

Mining of sand is required for various projects within the state of Maharashtra and other states.

1.6 EXPORT POSSIBILITY.

Not explored

1.7 DOMESTIC / EXPORT MARKETS.

There is always an ever increasing demand of these minerals in the domestic market.

1.8 EMPLOYMENT GENERATION (DIRECT AND INDIRECT) DUE TO THE PROJECT.

It is proposed to employ the local population wherever possible in the proposed project activities. Direct employment for this proposed sand ghat excavation will be approximately19 Personsand there will be indirect employment generation also in service sector. The allocated lease will be directed to deploy local persons on for this project.

Grade of staff	**Designation**	**Nos.**
Supervisory and Technical staff	Mine mate / Mine Supervisor	01
Clerical staff	Clerk/ Time keeper	01
Safety/Security Officer	Security Guard	01
Skilled workers	Tractor Trolley Driver	02
Skilled workers	Tractor trolley Helper	01
Semiskilled workers	Labors Supervisor (Mukadam)	05
Unskilled workers	Labors	08
Total Manpower		**19**

3.0 PROJECT DESCRIPTION

i) Type of project including interlinked and Interdependent project, if any.

As per Gazette Notification of Ministry of Environment, Forest and Climate Change (MoEF&CC) dated 15th January 2016, New Delhi all projects (minor mineral) less than 25 hectare falls in category “B-2”. As the lease area of the proposed project is 0.39Ha, it falls in “B-2” category and will be appraised by State level authority.The entire mined out mineral will be completely transported to the market /and there is no interlinked project.

ii) Location (map showing general location, specific location, and projectboundary & project site layout) with coordinate

The land is government Waste land. The area is a plain terrain. The location of proposed siteis shown in the **Figure-1.** The proposed area is covered in parts of Survey of India Toposheetno.56D/9 within latitude 20°55'6.59"N and longitude 76°38'59.66"E (Refer **Figure 2).**

FIGURE-1: LOCATION OF PROPOSED SAND GHAT

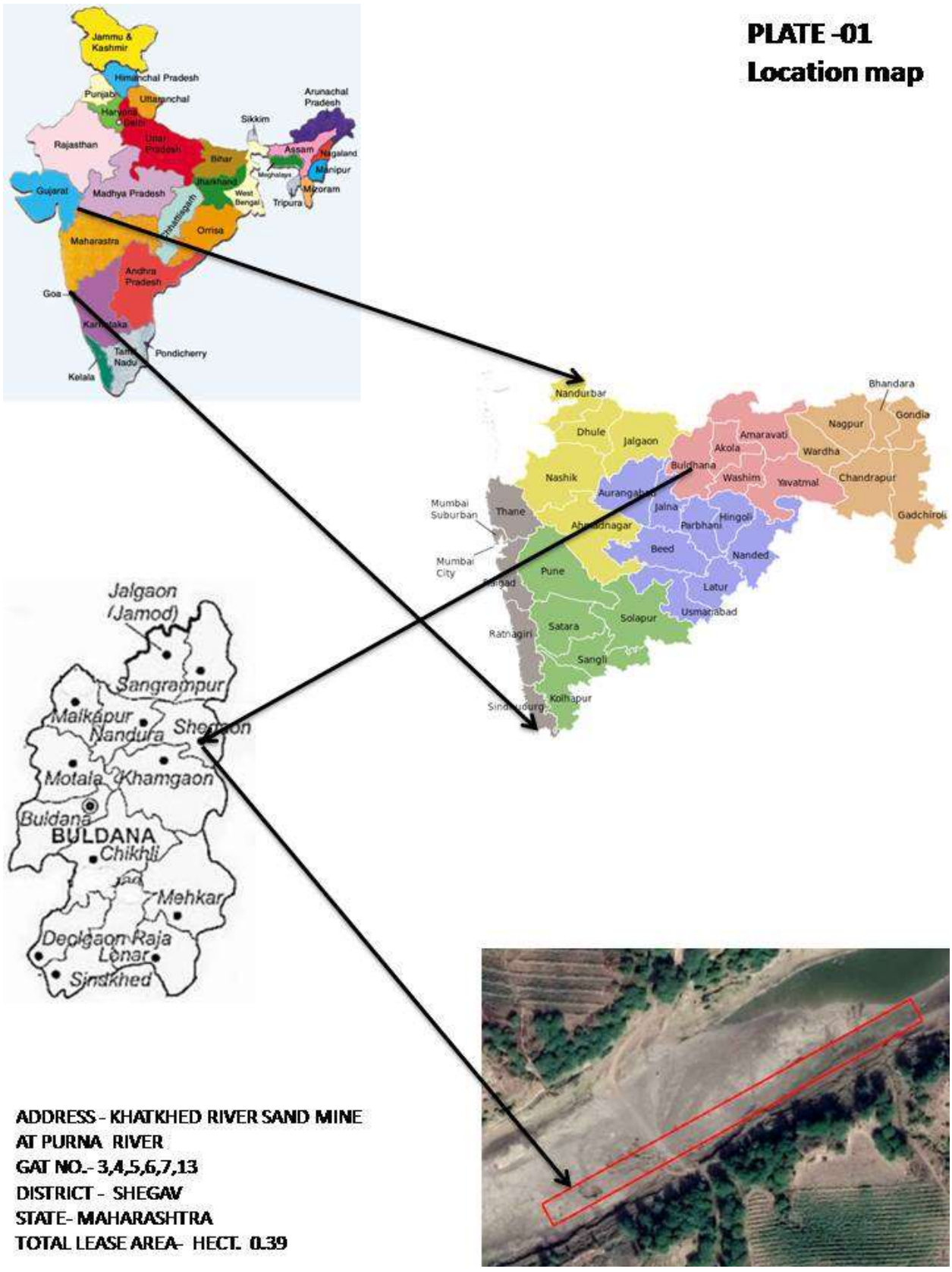


FIGURE-2: SPECIFIC LOCATION OF PROPOSED SAND GHAT

The proposed sand mining ghat was demarcated on the ground by revenue department with reference to adjacent survey numbers of concerned village map. The exploration/assessment of sand Ghats has been carried out by GSDA using probing rods for delineating the total depth of sand and depth of mineable sand with quantity.

Accordingly, reports submitted with mineable reserves of sand in particular location. On the basis of this report State Govt. will auction the sand Ghats for excavation of sand for specific mineable quantity.

The proposed sand ghat has sufficient reserves of sand to excavate689brass for the period of current financial year. This is a temporary type of lease for the limited mentioned period i.e. up to September 2020.

LOCATIONAL DETAILS IN SUMMARIZED FORM

Sr. No.	Details of the area	Particulars
1	Name of Sand Ghat and River	Khatkhed River Bed Sand Mine in Purna Bed Sand Mine
2	Village	Khatkhed
3	Taluka	Buldhana
4	District	Buldhana
5	Adjoining Khasra No./Survey No.	Purna
6	Lease Area (Ha.)	0.39 Ha
7	Ownership/Occupancy of the Lease area	**Government Land**
8	Existence of public road/railway line if any nearby and approximate distance	The mine is located about 0.98 km in SE direction of Khatkhedvillage.
9	Nearest Village and its distance from lease area	Khatkhed(0.87 KM) , Bhon (0.27 KM) , Dongarkhed (2.6 KM),
10	Toposheet No. and RL of the Lease area	55D/9and0.39Ha
11	Latitude & Longitude of Lease area boundary points (Coordinates of the boundary points taken as per the area shown by revenue authority Patwari/Talathi)	20°55'6.59"N 76°38'59.66"E 20°55'6.16"N 76°38'59.90"E

iii) Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental consideration gone into should be highlighted.

Rivers and streams by far have been the most lucrative and attractive source for extracting large volume of building materials such as boulders, stone, pebbles, sand and gravel for a variety of construction activities. In plain reaches, where the bed slope is gentle, the river bed is overlaid with matrix mainly comprising of sand of different gradation along with silt and clay. Due to river dynamics, the sediments which get generated from bed load and wash load move with river and do not settle uniformly over the entire bed. It rather settles at certain places only (aggradations) and must be removed from time to time to avoid flash floods due to reduction in channel width. The Government has identified such locations for sand removal and the present location is one of them. The project is a site specific and has to be undertaken at the place of the occurrence of the mineral and hence no alternative sites explored.

The environmental advantages of using river sediments are that the Sediments can easily be collected / extracted by digging less deep pits in active channel or dry river beds of upper terraces. The sand extracted from the identified stretch is free from weak materials and interstitial loose / fine material. No requirement of processing for the sand excavated from the river and it can be directly used without any beneficiation. The natural replenishment takes place annually due to transportation of sediments from upper course/reaches during high stage of river, which is achieved a number of times during monsoon. Environment Management Plan to mitigate the activities due to the proposed sand ghat excavation is enclosed at **Annexure 1**.

iv) Size or magnitude of operation.

The proposed sand ghat mining having an area of 0.39Ha will be developed as opencast for the excavation of sand/gravel with production capacity of 689brass. The excavation will be carried out from the demarcated area which is dry. Excavation will be carried out in non monsoon season on or before 30th September 2020.

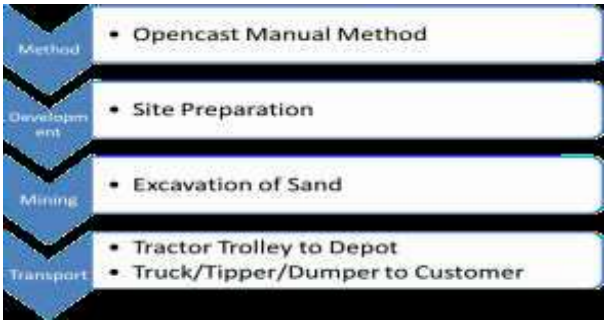
v) Project description with process details (a schematic diagram/ flow chart showing the project layout, components of the project etc. should be given).

The mining will be carried out manually with opencast method of mining by engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading is proposed to be carried out manually and transportation of mineral from the mine to the depot is proposed through tractor with trolley arrangement. As the mineral is dry, loose in nature, no drilling and blasting are required and hence not proposed. Sand excavated manually will be loaded directly into vehicles. Once a pre-determined area has been exhausted of the sand, it shall be replenished by sand during monsoon period leveled it & maintained to its maximum original topography. There will be no OB or waste generation as the sand is directly exposed in the river bed without any soil or silt cover or any other material which can be categorized as overburden material.

Workings will be restricted within the applied area as per the approved Mining Plan. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow. No processing of sand required.

Restriction on mining:

- Mining shall not be carried out within 600 m of any bridge (railway or road).
- Mining shall not be carried out within 100 m from any pumping station, water intake.
- The quarrying of sand will be proposed after leaving a safety distance of 600 meter from bridge falling under NH/SH from both side of the bank, & leaving a safety distance of 100 meter from any bridge.
- Mining shall not be carried out within 3 m from the river bank It will be done leaving a safety zone of total of 1/5th of the width of the river from the banks for bank protection.
- During the entire lease period, the deposit will be worked from the top surface to 3 m bgl or above ground water level, whichever comes first. This will also help in avoiding ponding effect.
- The workability is suggested by keeping in the mind possible effect on the meandering of River. The mining on the concave bank is most suitable than convex bank. Hence, mining is proposed during non monsoon period in a way that is will get replenishment during monsoon.
- Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season.
- No ore dressing/ handling/ processing plant shall be attached with the mine. The whole area demarcated for the purpose of mining as per the approved mining plan shall be mined out so as to maximize the sand production or extraction.
- Systematic plantation will be made in the area outside the river bank to protect the banks from erosion in monsoon.
- In the applied area the velocity & river water flow being less the sediment load get deposited in to the pit During Monsoon season the area get replenished with sediments to be lifted in subsequent years. Excavated area will be replenished naturally due to sediment inflow from the catchment area Therefore, Environment and Ecology of the area remains undisturbed.
- Sequence of mining operation is given below.



vi) Raw material along with estimated quantity, likely source marketing area of final products, mode of transport of raw material and Finished product.

There is no requirement of any Raw Material in this project. Mode of transport of extracted sand is surface transport by existing roads.

vii) Resource optimization / recycling and reuse envisaged in the project, if any, should be briefly outlined.

There is no waste material generation. No recycling and reuse of material is envisaged as entire excavated material will be transported. Minerals are generally depleting asset once mined; but minerals like sand will be replenished naturally. Thus a scientific approach will be taken up for excavation of mineral with systematic method.

viii) Availability of water its source, Energy / power requirement and source should be given

a) **Water Requirement:**Thus total water requirement will be 5.88KLD. This water will be supplied from the bore well from nearby villages through tankers as well as from surface water sources for dust suppression. Dust suppression and green belt water will beutilized from water tanks. Electricity is not required as the working is only during day timewhich does not demand for artificial lighting.

Sr. No.	Purpose	Water Requirement (KLPD)
1	Dust Suppression and green belt	5.00
2	Domestic (Considering 45 Litres per person per day for19 persons)	0.88
	Total	**5.88**

ix) Quantity of waste to be generated (liquid and solid) and scheme for their Management / disposal.

Solid Waste: There is no solid waste generation during sand excavation.

Liquid Effluent: The sand excavation from the proposed site does not intercept the water table and the area is dry having no impoundment of water. Thus, there is no generation of effluentenvisaged. Small amount of domestic waste will be generated by the workers at the

site, which will be disposed-off through proper municipal way. No other waste generation is expected.

x) Schematic representation of the feasibility drawing which give information of EIA purpose.

The proposed sand ghatproject is for excavation of sand which is categorized as minor mineral vide Notification No. S. O. 423 (E) dated 10.02.2015 issued by Ministry of Mines. The minor mineral project such as sand excavation requires environmental clearance as per the procedure defined by Ministry of Environment, Forest & Climate Change (MoEF & CC) Notification No.141 (E) dated 15th January 2016. EIA for the minor mineral projects >5 Ha is not required as per this Notification. As per the Appendix XI of this Notification, approved Mining Plan, Form I and Prefeasibility Report are required for appraisal of the environmental clearance by SEAC/SEIAA. Accordingly, necessary compliance of the directed procedure is made by the applicant. The Notification issued by the Revenue Department of Government of Maharashtra No. Goukhani-10/0615/Pra.Kra. 289/Kha dated 03.01.2018 and Sustainable Sand Mining Management Guidelines2016& Sustainable Sand Mining Management Guidelines 2019, Mining Guidelines 2020 have also been referred and the directives provided in theseNotification/Guidelines have been used for preparation of these documents.

4.0 SITE ANALYSIS

The suitability for extraction was done taking into consideration general profile river stream, annual deposition factor, and replenishment. The project site is located at a plain topography and within the mature stage of a river. The river bed sand replenished every year with the sand carried out with flow of water in monsoon and there is no such control of mineralization as it depends on the nature of flow of river water.

i) Connectivity

Sr.No.	Particulars	Details
1	Road Connectivity	The mine is located about 0.98 km in SE direction of Khatkhedvillage.
2	Nearest Highway	National Highway NH 6 is 23.0kms&SH 173 is 5.4 km, SH 24 is 5.5 km
3	Nearest Airport	Chikkalthana Airport is 188 km.
4	Nearest Railway Station	Shegaon Railway Station is 6.5 kms

ii) Land form, land use and Land ownership.

There is no village or human settlement in the lease area. There is no reserves forest or protected forest land within the mining area. The area has Flat topography. The lease area forms a part of Survey of India toposheet no55D/9. The landuse details for the proposed sand ghat area are as under:-

Adjoining Khasra No. of Village / Taluka /District/ State	**Area**	**Type of land**
Adjoining Khasra. No 3,4,5,6,7,13	0.39	Government Notified Land

iii) Topography (along with map).

Latitude and Longitude readings have been taken by using G.P.S. instrument. All the levels have taken with respect to Mean Sea Level. It is flat in nature. Total area if the lease area is 4.65Ha.

iv) Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ), shortest distances from the periphery of the project to periphery of the forest, national park, wild life sanctuary, eco sensitive areas, water bodies (distance from the HFL of the river), CRZ. In case of notified industrial area, a copy of the Gazette notification should be given.

Significant features with their aerial distance of the project are tabulated below;

Sr. No.	**FEATURES**	**DETAILS**	**DISTANCE**
1	Village (Nearest)	Khatkhed	1 km
2	Land use	Agriculture	0 km
3	Water bodies	RiverPurna	1 km
4	Reserved Forest	No	0 km
5	National Park	No	0 km
6	Wildlife Sanctuary	No	0 km
7	Eco Sensitive Area	No	0 km
8	Coastal Regulation Zone	No	0 km
9	Archeological Monument	No	0 km
10	Industries	No	0 km
11	Mines	Sand ghat	1 km

v) Existing Infrastructure.

There is well established road connection from the quarry to the State Highway /village road. Other facilities like market, school, hospital (PHC), drinking water facility, electric, telecommunication etc. are available in nearby villages.

vi) Soil classification.

There is no top soil. The river bed only consists of sand/ gravel.

vii) Climatic data from secondary sources.

Sub–tropical climatic condition prevails in the area. Maximum temperature recorded during summer is45.6°C and the minimum temperature recorded during winter is 12.6° C.
The region receives an average rainfall of around 697 mm to 862 mmwith an annual variation of 100 mm although wider variation has also been noticed in the past. About (50 to 55%) in of rainfall precipitates from June to September.

viii) Social Infrastructure available.

Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities) are found within a distance of 10km of the proposed sand ghat area.

ix) Geology

The lease area as per survey is a River Bed of Godavari River. Applied area for sand extraction is covered with Sand, Pebblesand Gravels of various sizes. The sand of Granitic, Quartzitic.

A) Mineable Reserves of Sand in the proposed Mine Lease Area as per the GSDA:

The proposed Sand Ghat/ River Bed Sand Mine of 0.39Ha area is covered with sand. Theentirearea is occupied by single litho unit sand deposit with flat configuration. Estimationof sand is done by the GSDA, Buldhana and mineable reserves are proposed for sand mining foryear 2019-2020 as follows:.

Av. Length (m)	Av. Width (m)	Area (m^2)	Proposed Depth (m)	Volume of Deposit for Mining (m^3)	Quantity of sand for Excavation (Brass)
L	W	A=L*W	D	V = A * D	Qt = V / 2.83
260	15	3900	0.50	1950	689

4.0 PLANNING BRIEF

i) Planning Concept (type of Industries, facilities, transportation etc) Town and country planning/ Development authority Classification.

The mine will be worked by opencast manual method. Mining will be done up to a depth of 1m bgl or above the water level whichever is comes first. The sand will be collected in its existing form. No drilling /blasting are required as the material is loose in nature. There will be no OB or waste generation as the sand is exposed in the river bed. It will be done leaving a safety zone from bank for bank protection. Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season. Roads in the Applied Area for the movement of loaded trippers/ trucks will not have slopes more than 1 in 20.

However, movement of trucks after mineral loading will be towards both sides through approachroads connecting to tar roads. No processing of excavated sand will be done. Workings will be restricted within the lease area/ khasra as per the description report given by Mining Department. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow as the proposed area for the sand ghat is dry. Mining operation will not be carried out during monsoon season. On view monitoring of mining activity technical staff, skilled and non-skilled labours are employed and thus State/Central Govt. and Village Panchayat will get royalty. Workers will get direct employment and equal number or more will get indirect employment.

ii) Population Projection.

The project will employ most of the workers from nearby villages. Thus there will be no increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. The manpower required for the project shall be engaged from the nearby village(s) and hence influx of population to the area is not anticipated.

iii) Landuse Planning (breakup along with green belt etc.)

The sand from the entire allocated area will be excavated as per the approved mining plan. Local species of selected trees will be planted along the river bank and also on the approach road to depot. If permitted by the local authorities, plantation will be carried out in school, gram panchayat, PHC or anaganwadi premises. It is proposed to have plantation along the road sides on both sides to provide cover against dust dissemination and also to act as noise absorber. Approximately 300 trees of will be planted with various types of species. Native plants like Teak,Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tutand other

local species will selected insuitable combination, so that can grow fast and also have good leaf cover.

v) Assessment of Infrastructure Demand (physical & social)

The project requires roads for the transport of the produced material which isadequate, besides it requires manpower to operate the quarry and is availablelocally.

vi) Amenities/Facilities.

Temporary rest shelters, portable toilets, drinking water and first-aid will be madeavailable to the workers.

6.0 . PROPOSED INFRASTRUCTURE

No infrastructure erection is proposed in the mine lease area

i) Industrial area (processing area) - No processing or beneficiation is required hence not proposed.

ii) Residential Area (Non processing Area)- None.

iii) Green Belt.

The entire mining area falls within river course and gets flooded duringmonsoons; therefore, no plantation is possible within this area. Plantation willmainly be done along the kuchha road and along the length of the river bank orapproach road to depot or places as recommended by Gram Panchayat.**Approximately 300 trees**of will be planted with various types of species. Native plants like Teak, Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tut, &other local species will selected in suitable combination, so that can grow fast and also have good leaf cover.

iv) Social Infrastructure.

This Project will provide employment to local people directly and indirectly. Indirect employment will be in the form of shopkeepers, mechanic, drivers, transporters etc. The lessee will be responsible for providing better social infrastructure benefits such as drinking water, health care measures, educational facilities, promotion of culture and religious activities in surroundings as part of their CSR activities.

v) Connectivity (Traffic and Transportation Road/Rail/Metro/Water ways

The area is approachable from NearestNational Highway NH 6 is 23.0 kms &SH 173 is 5.4 km, SH 24 IS 5.5 km.There are metalled roads and unmetalled road up to the mine site.

vi) Drinking Water management (Source & Supply of water)

Water will be supplied from nearby villages for drinking purposes through tankers with NOC from Gram Panchayat.

vii) Sewerage System.

Not required. Temporary toilet facilities will be provided by the proponent at the river banks.

viii) Industrial Waste Management.

Not required

ix) Solid Waste Management.

There is no Solid waste generation during sand mining. The entire excavated sand is useable.

x) Power Requirement & Supply / Source.

Diesel will be used as motive source of primary energy for tractors/ truck arranged by the buyers. Diesel will be outsourced from nearby diesel pumps directly by buyers. Mining method is manual and working hour will be for 12 hours during the day time, so there is no such power requirement.

7.0 REHABILITATION AND RESETTLEMENT (R & R) PLAN

i) Policy to be adopted (central/state) in respect of the project affected person including home oustees, land oustees and landless laborers (a brief outline to be given.)

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

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.)

The operations shall be carried out after obtaining all statutory permissions as per the statutory guidelines. Adequate reserves are available from the proposed sand ghat area. Reclamation and Rehabilitation plan will be prepared for sustainable development and minimized environmental damage. This is a temporary type of lease for the limited mentioned period i.e. Period of Mine Lease will be One Year 2019-2020 or up to 30.09.2020.

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

The sand ghat proposed by the Project Proponent will be auctioned online as perthe procedure in vogue. Hence, project cost cannot be estimated at this stage.

9.0 ANALYSIS OF PROPOSAL FINAL RECOMMENDATIONS)

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 involves collection of river bed material. This is very essential in order to prevent widening of the riverbeds and to prevent flooding off and damage to the adjoining areas. This can only be achieved by maintaining the existing course of the river.
The river banks, on both sides are covered by vegetation and human habitats.Widening of river banks results in excessive erosion; resulting in damage to flora, agricultural land and settlements which are situated at very close proximity. It isproposed to employ the local population wherever possible in the proposedproject activities directly or indirectly. It provides employment to the peopleresiding in vicinity directly or indirectly by the project. The sand extracted fromthis area is in high demand in the local market.

There will be no environmental impact from the project since the scale ofoperation is very less and the method of mining by manual. This operationdoesn’t need relocation manage of any habitants. The plantation of sufficientnumber of trees along the village roads is proposed which will control thedispersion of dust during transportation as well as will be helpful in controllingNoise for propagation.

Annexure 1

ENVIRONMENT MANAGEMENT PLAN

1.0 INTRODUCTION

Preparation of Environmental Management Plan is required for formulation, implementation and monitoring of environmental protection measures during and after commissioning of projects. The plan should indicate the details as to how various measures have been proposed to be taken including cost components as may be required.

1.1 Land Environment

The type of mining and the characteristics of the particular mineral deposit both affect the degree to which mining disturbs the landscape. Sand Mining and allied activities will be done in the fluvial plain formed by river meandering. Mining of sand may cause a few environmental degradations.

A. ANTICIPATED IMPACTS:

Damage of river bank due to access ramps to river bed, may cause soil erosion.

Destruction of river bank hinterland and ecological due to extraction of sand by probability of damage to the flood control bunds (built along the river side) due to heavy movements of vehicles over the bund to approach the mine are and further during transportation for sand from the mine area.

Disposal of packing material, carried by the workers, would not be allowed. This packing material would include used sachet/gutka/pan masala pouches.

Movement of heavy vehicles sometimes cause problems to agricultural land, human habitations, borehole users due to dust, noise and it also causes traffic hazards.

Surface degradation due to road network.

M. MITIGATION MEASURES:

Safety distance of 3 meter or 1/10th of the width of the river whichever is more will be left from both the bank of the river (as per “Sustainable sand mining guidelines”).

No foreign material like polythene bag, jute bag and useless articles should be allowed to remain/spill in river bed and catchment area, or no pits/pockets will be allowed to be filled with such material.

Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained.

Care will be taken to ensure that ponding is not formed in the river bed.

Mining will not exceeds beyond the allowed extraction capacity.

Green belt will be developed along the haul road and the bank of rivers of mine premises and near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.

1.2 Water Environment

A. ANTICIPATED IMPACTS:

As the project activity is carried out in the dry part of river bed, none of the project activities will affect the water environment or riverbank habitats. Project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality. Monitoring of water quality will be checked yearly.

M. MITIGATION MEASURES:

i) Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
ii) Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
iii) River stream will not be diverted to form in active channels.
iv) Utmost care will be taken to minimize or control leakage vehicles to be used for sand transportation.
v) The washing of tractor trolleys in the river will be avoided.
vi) The contractor will follow all guidelines and rules for proper and scientific method of mining during the period of extracting the sand.

1.3 Air Environment:

A. ANTICIPATED IMPACTS:

a) Due to Haul Road/ Access Road:

Plying of tractor trolleys from public road to river sand collection points needs access roads. Majority of such access roads are the same existing roads/tracks being used by pedestrians/cart owners. Movement of heavy vehicles sometimes causes problems to cattle, agriculture land, and human habitations due to dust, noise and movement of public. These environmental problems are felt more as the area is rural in nature.

b) Due to Mining process:

Air pollution is likely to be caused at various stages of sand mining operations such as excavation, loading & transportation of material. Most of the dust will be generated from loading& transportation. This dust becomes air borne and gets carried away to surrounding areas. The impact on air is mainly localized in nature as the dust particles are not carried to longer distances and the effect is felt within the core zone of the project involving active Sand mining operations.

M. MITIGATION MEASURES:

a) Mitigation of Impacts on Access Roads:

Movement of the vehicles on the road will be increased; however, unmetalled road in the mining area will be sprinkled with water at regular intervals. In addition to prevent spillage by tractor trolleys over loading should be controlled along with speed limit (1Brass /tractor trolley). Maintenance of haul road will be done on regular basis.

b) For Fugitive Dust Emission:

i) To avoid fugitive dust emissions at the time of excavation, regular sprinkling of water will be done on regular basis.

ii) Sand is transported to the sites by road through tractor trolleys. The sand carrying vehicles shall be covered by tarpaulin sheets.

iii) The Green Belt development will be prepared along the haul roads, which will act as a pollution sink.

iv) To minimize the vehicular pollution from the sand transporting vehicles, the following conditions will insist to permit the vehicles of the transporters.

- The vehicles should be (Bharat-IV stage) compliant and should have pollution control certificate (PUC) issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.

1.4 Noise:

A. ANTICIPATED IMPACTS:

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since, slight increase in noise levels can be expected.

M. MITIGATION MEASURES:

- ✓ Minimum use of Horns at the village area.
- ✓ Timely maintenance of vehicles and their silencers to minimize vibration and Sound.
- ✓ Phasing out of old and worn out tractor trolleys.
- ✓ Provision of green belts along the road networks.

- ✓ Care will be taken to produce minimum sound during sand loading.
- ✓ Use of Backhoe and ear plugs may be provided to protect the labors working at the site.

1.5 Socio-Economic Environment

This project operation will provide livelihood to the poorest section of the society.
Approximately 19 people shall work at mine site.

A. ANTICIPATED IMPACTS AND EVALUATION:

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. There is no R & R involvement in this project. There is no land acquisition in this project.

The results of the field survey conducted to understand the knowledge and perception of the people living around the project area gives a clear idea about the need for the project.

A major portion of the houses in the study area are semi- pucca type structures. The water source to these areas is from the municipal connection and private bore wells and wells. The awareness level regarding the proposed mining activity is very high.

The proposed mining activity is expected to provide stimulus to socio-economic activities in the region and thereby accelerate further development processes.

i) Social and Demographic Profile:

The workers are from local villages. These people have been provided all welfare from a lessee like medical benefits, insurance, fees for children's education etc. They have some land and cattle for their daily earnings. Additional income earned from the Sand Mining work will improve their living standard. The group of quarries in and around will help to have infrastructure facilities like roads, schools, shops etc. This will improve their social life.

ii) Occupational Health And Safety:

This is River Bed Sand Mine. So the mining activities are comparatively less because the production is not on large scale. Workers do not come across any extreme condition like excessive heat; moisture, etc. Workers working around it may come across this dusty environment. But the impact on health will be within limit.

iii) Human Settlement:

There are no houses in and around lease area. Blasting is only activity, which may affect the settlement, but settlement is at distance of more than 1.0 Km from the Sand Mining. All the due precautions will be taken during mining. Transport of finished products is through the

villages. There will be psychological impact of the traffic on the local people. However, the intensity of traffic is less.

iv) Health and Hygiene:

In general, the health of villagers is moderately good. In the rainy season, the atmospheric condition is unhygienic due to lack of proper drainage and sanitation in the village habitation. Villagers are working in agricultural fields and work as laborers.

v) Education:

Mostly education is up to middle standard. Economic condition is in general moderate. So after this project the standard of education will be increase.

vi) Socio Economic Benefits Arising Out Of Mining:

- Generation of employment in the rural area.
- Improvement in the living standards of the rural people.
- Creating of infrastructural facilities like roads, electricity, shops, school etc.
- Helping to improve literacy in the area
- Exploiting natural mineral so generation of revenue
- Helping to sustain construction activity
- Improving the greenery of the area, this is otherwise very poor.

vii) LIQUID EFFLUENT:

- Not applicable because small mine and impacts are negligible.

viii) SOLID WASTE:

- Not applicable because small mine and impacts are negligible.

1.6 Biological Environment

A. ANTICIPATED IMPACTS:

a) Aquatic environment

Proposed mining of the dry bed of the river, so no any possibility of disturbance of aquatic life.

b) Flora and Fauna

The mining activity will have insignificant affect on the existing flora and fauna. The project area is surrounded with agricultural land. It was found that the sand mining activity will not have any significant impact on the biological environment of the region.

M. MITIGATION MEASURES:

- ✓ Improvement in river bank stability.
- ✓ Large woody debris in the riparian zone will be left undisturbed or replacedwhen moved and not be burnt.
- ✓ Vegetative debris will not be stored within the mine lease area.
- ✓ Operation and storage of heavy vehicles within riparian habitat will be restricted.
- ✓ Covering of loaded vehicles to reduce dust emission, which may harm surrounding agricultural crops and other plant species conservation of biological diversity of plants, birds and animals.
- ✓ Greenbelt Development and Bio-Diversity Preservation

Plantation activities will be carried out at the bank of the river and along the haul roads. This activity will help for maintaining ecology and environment of the area.

1.7 IMPLEMENTATION OF EMP:

Environmental Management Plan serves no purpose if it is not implemented with true spirit. Some loopholes in the EMP can also be detected afterwards when it is implanted and monitored. Thus, an implementation and monitoring programmed has to be prepared.

Implementation of proposed control measures and monitoring programmed has an implication on the surrounding area as well as for the region. Therefore, sand mining management should be strengthen the existing control measures as elaborated earlier in this report and monitor the efficacy of the control measures implemented within the sand mining area relating to the following specific areas:

- ✓ Coordinate with environment monitoring laboratory for collecting and analyzing air, water, soil&noise quality of the area.
- ✓ Implementing the control and protective measures.
- ✓ Co-coordinating the environment related activities within the project as well as with outside agencies.
- ✓ Separate Budget has been allocated for the EMP.
- ✓ Collecting statistics of health of workers and population of surrounding villages.
- ✓ Monitoring the progress of implementation of environmental management program.

1.7.1. GREENBELT DEVELOPMENT:

- ✓ The implementation for development of green belt will be of paramount importance as it will not only add up as an aesthetic feature, but also act as a pollution sink.

- ✓ The species to be grown in the area should be dust tolerant and fast growing species so that permanent green belt is created.
- ✓ To stabilize the river bank erosion the plantation of native species of that area along the river bank.
- ✓ Apart from the green belt and aesthetic plantation for elimination fugitive of emission and noise control, all other plantation efforts shall be decided and executed with the assistance and co-operation of the local community.

Proposed Program for Plantation For Green Belt Development:

A forestation will be carried out to increase the green cover and create harmony with nature. The area will be afforested with variety of local sapling. This will help to have polyculture. The details of a forestation program are given below. This will be done on the statutory barrier to be left and on the general surface of the lease.Along the access road at sand mining site. (List of trees is given):

S.N.	Scientific Name	Hindi Name	Number
1	Azadirachtaindica	Nim	30
2	Tectonagrandis	Teak	30
3	Terminaliaarjuna	Arjun	30
4	Tuti	Tut	30
5	Syzygiumcumini	Jamun	30
6	Ficusreligiosaa	Pipal	30
7	Bambusa vulgaris	Bamboo	30
8	Neolamarckiacadamba	Kadamb	30
9	Dalbergiasissoo	Shisham	30
10	Madhucalongifolia	Mahua	30
Total			**300**

Cost of Environment Management Cost:

S.N.	Description	Cost Rs. (inLakhs)
1	Dust suppression	0.05
2	Haul road maintenance	0.04
3	Green belt & Maintenance	0.03
4	Monitoring cost	0.06

1.7.2 TRANSPORT SYSTEM:

i) Proper parking places should be provided for the tractor trolleys and other vehicles by the Mine Owner to avoid any congestion or blocking of roads.

ii) Spillage of sand on roads may lead to accidents.Proper road safety signs both inside and outside the mine should be displayed for avoiding road accidents.

1.7.3 MONITORING SCHEDULE AND PARAMETERS

1.7.4 MONITORING OF AMBIENT AIR, WATER, and NOISE:

To evaluate the effectiveness of environmental management program regular monitoring of the important environmental parameters to be monitored are shown in following Table:

Monitoring Parameters	Frequency of Monitoring
Ambient Air: (Ambient Air Quality at appropriate location for PM, SO2, NO2): In the vicinity of the mine area&Near Access road.	Half-yearly
Water: Two Surface (up-stream & Down Stream) & One Ground Water Samples nearby the project site	Yearly
Noise: Day & Night level Noise Monitoring at mining site	Half-yearly

For air, water and noise pollution control measures, it has been suggested that samples would be collected and tested all-round the year with appropriate frequency at strategic places by suitable agencies. In case, it is found that any of the control parameters exceed the tolerance limit as fixed by the State/Central Pollution Control Board, preventive measures will be taken and if required expert opinion will be sought for proper remedial measures.

1.7.5 DISASTER PLANNING:

Proper disaster planning should be done to meet any emergency situation arising due to fire,explosion,sudden leakage of gas etc. Firefighting equipment and other safety appliances should be kept ready for use during disaster/emergency situation including natural calamities like earthquake/flood.

1.7.6 ENVIRONMENT MANAGEMENT CELL:

Each mine or group of mine should identify within its setup a Department/Section/Cell with trained personnel to take up the model responsibility of environmental management as required for planning and implementation of the projects.

10.0 CONCEPTUAL MINING PLAN:

This stage not applicable because the Conceptual plan of the proposed lease area at the end of lease period is prepared.

10.1 Ultimate depth, size & shape of the pit:

The Lease will be for 1 year. Therefore, it is very premature to decide the conceptual plan for the Sand Mine. However, based on the available geological information requirement or purpose of mining the shape and size of Sand has been defined and shown as the Ultimate Pit Limits by colored lines in the Geological plan, the Production &Development plan, and the Conceptual plan. Ultimate pit size will be 989 m x 47 m x 0.5 m.The Conceptual plan and Environmental Management Plan are shown in Plate No.-VII.

1.2 Ultimate Capacity of Dump:

No surface dump is proposed at the conceptual stage.

1.3 Land use pattern:

The anticipated land use pattern as envisaged after five years and at the end of conceptual period would be as tabulated below,

S. N.	Particulars	As on Today in Ha	After 1 Years in Ha
1)	Area of top soil spread for afforestation	-	-
2)	Storage for top soil	-	-
3)	Green Belt	-	-
4)	Over burden Dump	-	-
5)	Mineral Storage	-	-
6)	Infrastructure (Workshop, Admin. Building etc.)	-	-
7)	Mine road in Mine lease area	-	-
8)	Utilized area for Sand Mining	0.000	**0.39**
9)	Virgin lease area for Sand Mine & Other Uses	0.39	0.000
10)	Road	-	-
11)	Railway	-	-
12)	Tailing Pond	-	-
13)	Effluent Treatment Plant	-	-
14)	Mineral separation plant	-	-
15)	Township Area	-	-
16)	Others to specify	-	-
17)	Ownership	Government River	Government River
Total		**0.39**	**0.39**

11.0 COMPLIANCE OF SAFETY RULES AND REGULATIONS:

Whether there are any serious violation of safety rules and regulation which may jeopardize human health and safety. If so, give details of violations and state the steps proposed to be taken with the time scheduled to rectify the violations:

No, there are not any serious violation of safety rules and regulation, which may jeopardize human health and safety.The applicant has given a commitment in this effect and undertaking also given to follow and implement, as specified in the mining plan.The applicant is undertake to abide and implement any special conditions imposed by various authorities and also to complete formalities under provision of the Mines & Mineral (Development & Regulation) Act, 1957 and the Bombay Minor Mineral rules, the Mineral Conservation and Development Rules, 1988 as amended, the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule 2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016,Sustainable Sand Mining Management Guidelines 2019,Sand Mining Policy 2020

12.0 ANY OTHER INFORMATION:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment. These things will be religiously followed and its report will be periodically submitted to the concerned authority. All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989,

the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtained relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

PRE FEASIBILITY REPORT

(As per Rules 23 & 26 of MMME (D & R) RULE 2013 & Section 15 of MMDR Act 1957, MoEF & CC Notification 2006, S.O. 141(E) dated 15. 01. 2016; MoEF & CC, Sustainable Sand Mining Management Guidelines 2016,Guidelines for Mining Policy2020)

For

OBTAINING ENVIRONMENT CLEARANCE

of

SAND MINING (MINOR MINERAL)

For

PadsulRiver Bed Sand Mine / Sand Ghat

Khasra No:-1

Area (0.33Ha)

Village- PadsulTehsil-Shegav, District- Buldhana ,

Submitted to

THE SR. DY. DIRECTOR, DIRECTORATE OF GEOLOGY & MINING, GOVERNMENT OF MAHARASHTRA,Nagpur, (M.S.)

District:-Buldhana ,
Applicant/Project Proponent
District Mining Officer
Collector office, Buldhana ,
District: Buldhana ,

Prepared By

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Accredited by NABET: No.: - NABET/EIA/1619/RA0060/ April 19, 2020)

March – 2020

1. EXECUTIVE SUMMARY

This Pre Feasibility Report has been prepared for the proposed sand ghat over the area of 0.33Ha at MunnRiver Bed adjoiningKhasra No:-1of VillagePadsul, Tehsil Shegav, District-Buldhana,Maharashtra**,**in accordance with theNotification of MoEF S.O. 1533 dated 14th September 2006. The Ministry ofEnvironment, Forest and Climate Change amended Principal Notification vide 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, sand mining framework 2018. and Govt. of Maharashtra Sand Policy 03.01.2018, Mining Guidelines 2020, included Minor Minerals from 0 Ha to 50 Ha in the PrincipalNotification S.O. 1533 (E) dated 14.09.2006. Central Government made furtheramendments to the notification vide S.O. 2269 (E) dated 01.07.2016. In obedience allrelevant notifications to the principal Notification dated 14th September 2006, applicationfor the excavation of sand ghat from proposed sand ghat is being submitted to SEAC, SEIAA,Maharashtra.

Though any development activity like industry or minor mineral excavation may cause temporary damage to land, forest and induce changes in the quality of air, water, flora and fauna of the area, it has favorable effect of industrialization on social development and progress of the nation. For overall gain, it is necessary to strike a balance between the two aspects of economy and ecology and ensure that impacts on the environment are minimized with improvement in socio-economic conditions. This is better achieved through a well-planned approach of EMP relevant to the area under consideration.

Sand is used for a wide variety of purposes. It is most commonly used as an aggregate in construction projects. Sand is required for road base, concrete aggregate, asphalt pavement aggregate, and many other purposes. The selected area has exposures of sand which is useful for the various purposes mentioned above.

The mining for this sand ghat excavation is proposed to be carried out manually with opencast method of mining engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading will be carried out manually and transportation of mineral from the sand ghat to the depot by tractor with tipper arrangement. As the mineral is soft & loose in nature, no drilling and blasting are required. The proposed sand ghat area is located at Survey of India Toposheet No: 56D/9and falls between the Latitude 20°53'37.32"N and Longitude 76°43'3.26"E. The lease area is not an agricultural land and the area is classified as River. Maximum production capacity is 580 Brass.

In order to obtain environmental clearance as per the EIA Notification 2006 the Prefeasibility Report (PFR) is submitted along with the application Form I M for the project under

consideration. The project is categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016

2.0 INTRODUCTION

1.1 PROJECT PROPONENT

The possession of the land under consideration lies with State Government (As per the 20 (1) Chapter III of The Maharashtra Land Revenue Code 1966) hence application is made through the legal representative as a Project Proponent. Accordingly, DMOBuldhana,Collectorate, Buldhanahave applied for Environmental Clearance of proposed sand ghat. After obtaining the environmental clearance this sand ghat will be auctioned as per the Notification Goukhani 10/0615/Pra.Kra. 289/Kha dated 03.01.2018. Communication details of the project proponent are as under;

DMO BULDHANA
Buldhana Collectorate,
Collector Office, Buldhana

1.2 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

The selected area has exposures of sand which is useful for the various purposes mentioned above. It is proposed to excavate sand from this area by manual opencast method without using any excavation machinery. Transport of the excavated sand will be carried out using tractor with trolley arrangement from sand ghat to depot and by truck/tipper/dumper onwards to the desired destination. The excavated sand will be sold in the market. The present Pre Feasibility Report has been prepared for Proposed sand ghat over the area of 0.33Ha atMunRiver Bed adjoiningKhasra No.:-1 of Village:-Padsul,Tehsil, ShegavDistrict- Buldhana.The project is for excavation of sand (minor mineral) categorized as Category B2 vide Notification 141 (E) dated 15th January 2016.

1.3 NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY AND OR REGION.

Road/building materialsand is an essential requirement as one of the minor mineral deposits occurring in the majority portion of Maharashtra. It has played a great role in development of civilization and industrialization. The occurrence of sand in the proposed area is proved by the way of exposures and its production has important role in the local infrastructural development. The sediment in the form of river bed material (RBM) deposited every year during monsoon season at many locations of theGodavariRiver. Removal of the sand from the proposed location is unlikely to damage the riparian system if the excavation and transport is carried out in systematic manner proposed in the approved Mining Plan. This project operation

will provide employment directly and indirectly to the people residing in vicinity, thus improving the Socio-economic status of the area.

1.4 DEMAND SUPPLY GAP.

Sand is an essential constituent infrastructural development projects like road, dams, bridges and building. The demand for sand/gravel is ever growing with the growth of the infrastructure sector in our country. The requirement for the mineral is always high in the nearby cities and towns. Therefore there is always a good demand of the mineral in the domestic market. Its demand in industrial area of Buldhanaand nearby areas is increasing very fast. Sand mining not only narrows the gap between the demand and supply if building material but also enhances employment opportunities and economic growth of the region. Besides, the production will also benefit the State in the form of revenue generation. Apart from this, the project will generate direct and indirect employment opportunities from the nearby villages.

1.5 IMPORTS VS. INDIGENOUS PRODUCTION.

Mining of sand is required for various projects within the state of Maharashtra and other states.

1.6 EXPORT POSSIBILITY.

Not explored

1.7 DOMESTIC / EXPORT MARKETS.

There is always an ever increasing demand of these minerals in the domestic market.

1.8 EMPLOYMENT GENERATION (DIRECT AND INDIRECT) DUE TO THE PROJECT.

It is proposed to employ the local population wherever possible in the proposed project activities. Direct employment for this proposed sand ghat excavation will be approximately19 Persons and the there will be indirect employment generation also in service sector. The allocated lease will be directed to deploy local persons on for this project.

Grade of staff	**Designation**	**Nos.**
Supervisory and Technical staff	Mine mate / Mine Supervisor	01
Clerical staff	Clerk/ Time keeper	01
Safety/Security Officer	Security Guard	01
Skilled workers	Tractor Trolley Driver	02
Skilled workers	Tractor trolley Helper	01
Semiskilled workers	Labors Supervisor (Mukadam)	05
Unskilled workers	Labors	08
Total Manpower		19

3.0 PROJECT DESCRIPTION

i) Type of project including interlinked and Interdependent project, if any.

As per Gazette Notification of Ministry of Environment, Forest and Climate Change (MoEF&CC) dated 15th January 2016, New Delhi all projects (minor mineral) less than 25 hectare falls in category “B-2”. As the lease area of the proposed project is 0.33Ha, it falls in “B-2” category and will be appraised by State level authority.The entire mined out mineral will be completely transported to the market /and there is no interlinked project.

ii) Location (map showing general location, specific location, and projectboundary & project site layout) with coordinate

The land is government Waste land. The area is a plain terrain. The location of proposed siteis shown in the Figure-1. The proposed area is covered in parts of Survey of India Toposheetno.55/D9 within latitude 20°53'37.32"N and longitude 76°43'3.26"E (Refer Figure 2).

FIGURE-1: LOCATION OF PROPOSED SAND GHAT

PLATE -01
Location map

ADDRESS -PADSUL RIVER SAND MINE AT
MAAN RIVER
GAT NO.- 1
DISTRICT - SHEGAV
STATE- MAHARASHTRA
TOTAL LEASE AREA- HECT. 0.33

FIGURE-2: SPECIFIC LOCATION OF PROPOSED SAND GHAT

The proposed sand mining ghat was demarcated on the ground by revenue department with reference to adjacent survey numbers of concerned village map. The exploration/assessment of sand Ghats has been carried out by GSDA using probing rods for delineating the total depth of sand and depth of mineable sand with quantity.

Accordingly, reports submitted with mineable reserves of sand in particular location. On the basis of this report State Govt. will auction the sand Ghats for excavation of sand for specific mineable quantity.

The proposed sand ghat has sufficient reserves of sand to excavate580brass for the period of current financial year. This is a temporary type of lease for the limited mentioned period i.e. up to September 2020.

LOCATIONAL DETAILS IN SUMMARIZED FORM

Sr. No.	Details of the area	Particulars
1	Name of Sand Ghat and River	PadsulRiver Bed Sand Mine in
2	Village	Padsul
3	Taluka	Shegav
4	District	Buldhana
5	Adjoining Khasra No./Survey No.	1
6	Lease Area (Ha.)	0.33Ha
7	Ownership/Occupancy of the Lease area	Government Land
8	Existence of public road/railway line if any nearby and approximate distance	The mine is located about less than 0.55 km. in SW Direction to Padsul village.
9	Nearest Village and its distance from lease area	Palodi (4 KM) , Manasgaon (4 KM) , Kalkhed (5 KM) , Pahurpurna (5 KM) , Khiroda (6 KM)
10	Toposheet No. and RL of the Lease area	55 D/9 and 0.33Ha
11	Latitude & Longitude of Lease area boundary points (Coordinates of the boundary points taken as per the area shown by revenue authority Patwari/Talathi)	20°53'37.32"N 76°43'3.26"E 20°53'37.43"N 76°43'2.75"E

iii) Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental consideration gone into should be highlighted.

Rivers and streams by far have been the most lucrative and attractive source for extracting large volume of building materials such as boulders, stone, pebbles, sand and gravel for a variety of construction activities. In plain reaches, where the bed slope is gentle, the river bed is overlaid with matrix mainly comprising of sand of different gradation along with silt and clay. Due to river dynamics, the sediments which get generated from bed load and wash load move with river and do not settle uniformly over the entire bed. It rather settles at certain places only (aggradations) and must be removed from time to time to avoid flash floods due to reduction in channel width. The Government has identified such locations for sand removal and the present location is one of them. The project is a site specific and has to be undertaken at the place of the occurrence of the mineral and hence no alternative sites explored.

The environmental advantages of using river sediments are that the Sediments can easily be collected / extracted by digging less deep pits in active channel or dry river beds of upper terraces. The sand extracted from the identified stretch is free from weak materials and interstitial loose / fine material. No requirement of processing for the sand excavated from the river and it can be directly used without any beneficiation. The natural replenishment takes place annually due to transportation of sediments from upper course/reaches during high stage of river, which is achieved a number of times during monsoon. Environment Management Plan to mitigate the activities due to the proposed sand ghat excavation is enclosed at **Annexure 1**.

iv) Size or magnitude of operation.

The proposed sand ghat mining having an area of 0.33Ha will be developed as opencast for the excavation of sand/gravel with production capacity of580brass. The excavation will be carried out from the demarcated area which is dry. Excavation will be carried out in non monsoon season on or before 30th September 2020.

v) Project description with process details (a schematic diagram/ flow chart showing the project layout, components of the project etc. should be given).

The mining will be carried out manually with opencast method of mining by engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading is proposed to be carried out manually and transportation of mineral from the mine to the depot is proposed through tractor with trolley arrangement. As the mineral is dry, loose in nature, no drilling and blasting are required and hence not proposed. Sand excavated manually will be loaded directly into vehicles. Once a pre-determined area has been exhausted of the sand, it shall be replenished by sand during monsoon period leveled it & maintained to its maximum original topography. There will be no OB or waste generation as the sand is directly exposed in the river bed without any soil or silt cover or any other material which can be categorized as overburden material.

Workings will be restricted within the applied area as per the approved Mining Plan. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow. No processing of sand required.

Restriction on mining:

- Mining shall not be carried out within 600 m of any bridge (railway or road).
- Mining shall not be carried out within 100 m from any pumping station, water intake.
- The quarrying of sand will be proposed after leaving a safety distance of 600 meter from bridge falling under NH/SH from both side of the bank, & leaving a safety distance of 100 meter from any bridge.
- Mining shall not be carried out within 3 m from the river bank It will be done leaving a safety zone of total of 1/5th of the width of the river from the banks for bank protection.
- During the entire lease period, the deposit will be worked from the top surface to 3 m bgl or above ground water level, whichever comes first. This will also help in avoiding ponding effect.
- The workability is suggested by keeping in the mind possible effect on the meandering of River. The mining on the concave bank is most suitable than convex bank. Hence, mining is proposed during non monsoon period in a way that is will get replenishment during monsoon.
- Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season.
- No ore dressing/ handling/ processing plant shall be attached with the mine. The whole area demarcated for the purpose of mining as per the approved mining plan shall be mined out so as to maximize the sand production or extraction.
- Systematic plantation will be made in the area outside the river bank to protect the banks from erosion in monsoon.
- In the applied area the velocity & river water flow being less the sediment load get deposited in to the pit During Monsoon season the area get replenished with sediments to be lifted in subsequent years. Excavated area will be replenished naturally due to sediment inflow from the catchment area Therefore, Environment and Ecology of the area remains undisturbed.
- Sequence of mining operation is given below.

vi) Raw material along with estimated quantity, likely source marketing area of final products, mode of transport of raw material and Finished product.

There is no requirement of any Raw Material in this project. Mode of transport of extracted sand is surface transport by existing roads.

vii) Resource optimization / recycling and reuse envisaged in the project, if any, should be briefly outlined.

There is no waste material generation. No recycling and reuse of material is envisaged as entire excavated material will be transported. Minerals are generally depleting asset once mined; but minerals like sand will be replenished naturally. Thus a scientific approach will be taken up for excavation of mineral with systematic method.

viii) Availability of water its source, Energy / power requirement and source should be given

a) **Water Requirement:**Thus total water requirement will be **5.88KLD**.This water will be supplied from the bore well from nearby villages through tankers as well as from surface water sources for dust suppression. Dust suppression and green belt water will beutilized from water tanks. Electricity is not required as the working is only during day timewhich does not demand for artificial lighting.

Sr. No.	Purpose	Water Requirement (KLPD)
1	Dust Suppression and green belt	5.00
2	Domestic (Considering 45 Litres per person per day for11 persons)	0.88
	Total	**5.88**

ix) Quantity of waste to be generated (liquid and solid) and scheme for their Management / disposal.

Solid Waste: There is no solid waste generation during sand excavation.

Liquid Effluent: The sand excavation from the proposed site does not intercept the water table and the area is dry having no impoundment of water. Thus, there is no generation of effluentenvisaged. Small amount of domestic waste will be generated by the workers at the site, which will be disposed-off through proper municipal way. No other waste generation is expected.

x) Schematic representation of the feasibility drawing which give information of EIA purpose.

The proposed sand ghatproject is for excavation of sand which is categorized as minor mineral vide Notification No. S. O. 423 (E) dated 10.02.2015 issued by Ministry of Mines. The minor mineral project such as sand excavation requires environmental clearance as per the procedure defined by Ministry of Environment, Forest & Climate Change (MoEF & CC) Notification No.141 (E) dated 15th January 2016. EIA for the minor mineral projects >5 Ha is not required as per this Notification. As per the Appendix XI of this Notification, approved Mining Plan, Form I and Prefeasibility Report are required for appraisal of the environmental clearance by SEAC/SEIAA. Accordingly, necessary compliance of the directed procedure is made by the applicant. The Notification issued by the Revenue Department of Government of Maharashtra No. Goukhani-10/0615/Pra.Kra. 289/Kha dated 03.01.2018 and Sustainable Sand Mining Management Guidelines2016& Sustainable Sand Mining Management Guidelines 2019, Mining Guidelines 2020 have also been referred and the directives provided in theseNotification/Guidelines have been used for preparation of these documents.

4.0 SITE ANALYSIS

The suitability for extraction was done taking into consideration general profile river stream, annual deposition factor, and replenishment. The project site is located at a plain topography and within the mature stage of a river. The river bed sand replenished every year with the sand carried out with flow of water in monsoon and there is no such control of mineralization as it depends on the nature of flow of river water.

i) Connectivity

Sr.No.	Particulars	Details
1	Road Connectivity	The mine is located about less than 0.55 km. in SW Direction to Padsul village.
2	Nearest Highway	National Highway is NH 548C is at 11.3 km&MH SH 197 is 7.2 km, SH-195; is 18.9 km

3	Nearest Airport	Chikkalthana Airport- 199 km
4	Nearest Railway Station	Shegaon Railway Station is 12.0 km

ii) Land form, land use and Land ownership.

There is no village or human settlement in the lease area. There is no reserves forest or protected forest land within the mining area. The area has Flat topography. The lease area forms a part of Survey of India toposheet no 55D/9. Thelanduse details for the proposed sand ghat area are as under:-

Adjoining Khasra No. of Village / Taluka /District/ State	Area	Type of land
1	0.33	Government Notified Land

iii) Topography (along with map).

Latitude and Longitude readings have been taken by using G.P.S. instrument. All the levels have taken with respect to Mean Sea Level. It is flat in nature. Total area if the lease area is 4.65Ha.

iv) Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ), shortest distances from the periphery of the project to periphery of the forest, national park, wild life sanctuary, eco sensitive areas, water bodies (distance from the HFL of the river), CRZ. In case of notified industrial area, a copy of the Gazette notification should be given.

Significant features with their aerial distance of the project are tabulated below;

Sr. No.	FEATURES	DETAILS	DISTANCE
1	Village (Nearest)	Padsul	1 km
2	Land use	Agriculture	0 km
3	Water bodies	RiverMun	1 km
4	Reserved Forest	No	0 km
5	National Park	No	0 km
6	Wildlife Sanctuary	No	0 km
7	Eco Sensitive Area	No	0 km
8	Coastal Regulation Zone	No	0 km
9	Archeological Monument	No	0 km

10	Industries	No	0 km
11	Mines	Sand ghat	1 km

v) Existing Infrastructure.

There is well established road connection from the quarry to the State Highway /village road. Other facilities like market, school, hospital (PHC), drinking water facility, electric, telecommunication etc. are available in nearby villages.

vi) Soil classification.

There is no top soil. The river bed only consists of sand/ gravel.

vii) Climatic data from secondary sources.

Sub–tropical climatic condition prevails in the area. Maximum temperature recorded during summer is45.6°C and the minimum temperature recorded during winter is 12.6° C.
The region receives an average rainfall of around 697 mm to 862 mmwith an annual variation of 100 mm although wider variation has also been noticed in the past. About (50 to 55%) in of rainfall precipitates from June to September.

viii) Social Infrastructure available.

Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities) are found within a distance of 10km of the proposed sand ghat area.

ix) Geology

The lease area as per survey is a River Bed of Godavari River. Applied area for sand extraction is covered with Sand, Pebblesand Gravels of various sizes. The sand of Granitic, Quartzitic.

A) Mineable Reserves of Sand in the proposed Mine Lease Area as per the GSDA:

The proposed Sand Ghat/ River Bed Sand Mine of 0.33Ha area is covered with sand. Theentirearea is occupied by single litho unit sand deposit with flat configuration. Estimationof sand is done by the GSDA, Buldhana and mineable reserves are proposed for sand mining foryear 2019-2020 as follows:.

Av. Length (m)	Av. Width (m)	Area (m^2)	Proposed Depth (m)	Volume of Deposit for Mining (m^3)	Quantity of sand for Excavation (Brass)
L	W	A=L*W	D	V = A * D	Qt = V / 2.83
219	15	3285	0.50	1624.5	580

4.0 PLANNING BRIEF

i) Planning Concept (type of Industries, facilities, transportation etc) Town and country planning/ Development authority Classification.

The mine will be worked by opencast manual method. Mining will be done up to a depth of 1m bgl or above the water level whichever is comes first. The sand will be collected in its existing form. No drilling /blasting are required as the material is loose in nature. There will be no OB or waste generation as the sand is exposed in the river bed. It will be done leaving a safety zone from bank for bank protection. Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season. Roads in the Applied Area for the movement of loaded trippers/ trucks will not have slopes more than 1 in 20.

However, movement of trucks after mineral loading will be towards both sides through approachroads connecting to tar roads. No processing of excavated sand will be done. Workings will be restricted within the lease area/ khasra as per the description report given by Mining Department. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow as the proposed area for the sand ghat is dry. Mining operation will not be carried out during monsoon season. On view monitoring of mining activity technical staff, skilled and non-skilled labors are employed and thus State/Central Govt. and Village Panchayat will get royalty. Workers will get direct employment and equal number or more will get indirect employment.

ii) Population Projection.

The project will employ most of the workers from nearby villages. Thus there will be no increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. The manpower required for the project shall be engaged from the nearby village(s) and hence influx of population to the area is not anticipated.

iii) Landuse Planning (breakup along with green belt etc.)

The sand from the entire allocated area will be excavated as per the approved mining plan. Local species of selected trees will be planted along the river bank and also on the approach road to depot. If permitted by the local authorities, plantation will be carried out in school, gram panchayat, PHC or Padsul premises. It is proposed to have plantation along the road sides on both sides to provide cover against dust dissemination and also to act as noise absorber. Approximately 300 trees of will be planted with various types of species. Native plants like Teak,Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tutand other local species will selected insuitable combination, so that can grow fast and also have good leaf cover.

v) Assessment of Infrastructure Demand (physical & social)

The project requires roads for the transport of the produced material which isadequate, besides it requires manpower to operate the quarry and is availablelocally.

vi) Amenities/Facilities.

Temporary rest shelters, portable toilets, drinking water and first-aid will be madeavailable to the workers.

6.0 . PROPOSED INFRASTRUCTURE

No infrastructure erection is proposed in the mine lease area

i) Industrial area (processing area) - No processing or beneficiation is required hence not proposed.

ii) Residential Area (Non processing Area)- None.

iii) Green Belt.

The entire mining area falls within river course and gets flooded duringmonsoons; therefore, no plantation is possible within this area. Plantation willmainly be done along the kuchha road and along the length of the river bank orapproach road to depot or places as recommended by Gram Panchayat.Approximately 300 trees of will be planted with various types of species. Native plants like Teak, Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tut, &other local species will selected in suitable combination, so that can grow fast and also have good leaf cover.

iv) Social Infrastructure.

This Project will provide employment to local people directly and indirectly. Indirect employment will be in the form of shopkeepers, mechanic, drivers, transporters etc. The lessee

will be responsible for providing better social infrastructure benefits such as drinking water, health care measures, educational facilities, promotion of culture and religious activities in surroundings as part of their CSR activities.

v) Connectivity (Traffic and Transportation Road/Rail/Metro/Water ways

The area is approachable from NH 548C is at 11.3 km&MH SH 197 is 7.2 km, SH-195; is 18.9 km. There are metalled roads and unmetalled road up to the mine site.

vi) Drinking Water management (Source & Supply of water)

Water will be supplied from nearby villages for drinking purposes through tankers with NOC from Gram Panchayat.

vii) Sewerage System.

Not required. Temporary toilet facilities will be provided by the proponent at the river banks.

viii) Industrial Waste Management.

Not required

ix) Solid Waste Management.

There is no Solid waste generation during sand mining. The entire excavated sand is useable.

x) Power Requirement & Supply / Source.

Diesel will be used as motive source of primary energy for tractors/ truck arranged by the buyers. Diesel will be outsourced from nearby diesel pumps directly by buyers. Mining method is manual and working hour will be for 12 hours during the day time, so there is no such power requirement.

7.0 REHABILITATION AND RESETTLEMENT (R & R) PLAN

i) Policy to be adopted (central/state) in respect of the project affected person including home oustees, land oustees and landless laborers (a brief outline to be given.)

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

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.)

The operations shall be carried out after obtaining all statutory permissions as per the statutory guidelines. Adequate reserves are available from the proposed sand ghat area. Reclamation and Rehabilitation plan will be prepared for sustainable development and minimized environmental damage. This is a temporary type of lease for the limited mentioned period i.e. Period of Mine Lease will be One Year 2019-2020 or up to 30.09.2020.

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

The sand ghat proposed by the Project Proponent will be auctioned online as perthe procedure in vogue. Hence, project cost cannot be estimated at this stage.

9.0 ANALYSIS OF PROPOSAL FINAL RECOMMENDATIONS)

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 involves collection of river bed material. This is very essential in order to prevent widening of the riverbeds and to prevent flooding off and damage to the adjoining areas. This can only be achieved by maintaining the existing course of the river.
The river banks, on both sides are covered by vegetation and human habitats.Widening of river banks results in excessive erosion; resulting in damage to flora, agricultural land and settlements which are situated at very close proximity. It isproposed to employ the local population wherever possible in the proposedproject activities directly or indirectly. It provides employment to the peopleresiding in vicinity directly or indirectly by the project. The sand extracted fromthis area is in high demand in the local market.

There will be no environmental impact from the project since the scale ofoperation is very less and the method of mining by manual. This operationdoesn’t need relocation manage of any habitants. The plantation of sufficientnumber of trees along the village roads is proposed which

will control thedispersion of dust during transportation as well as will be helpful in controllingNoise for propagation.

Annexure 1

ENVIRONMENT MANAGEMENT PLAN

1.0 INTRODUCTION

Preparation of Environmental Management Plan is required for formulation, implementation and monitoring of environmental protection measures during and after commissioning of projects. The plan should indicate the details as to how various measures have been proposed to be taken including cost components as may be required.

1.1 Land Environment

The type of mining and the characteristics of the particular mineral deposit both affect the degree to which mining disturbs the landscape. Sand Mining and allied activities will be done in the fluvial plain formed by river meandering. Mining of sand may cause a few environmental degradations.

A. ANTICIPATED IMPACTS:

Damage of river bank due to access ramps to river bed, may cause soil erosion.

Destruction of river bank hinterland and ecological due to extraction of sand by probability of damage to the flood control bunds (built along the river side) due to heavy movements of vehicles over the bund to approach the mine are and further during transportation for sand from the mine area.

Disposal of packing material, carried by the workers, would not be allowed. This packing material would include used sachet/gutka/pan masala pouches.

Movement of heavy vehicles sometimes cause problems to agricultural land, human habitations, borehole users due to dust, noise and it also causes traffic hazards.Surface degradation due to road network.

M. MITIGATION MEASURES:

Safety distance of 3 meter or 1/10th of the width of the river whichever is more will be left from both the bank of the river (as per “Sustainable sand mining guidelines”).

No foreign material like polythene bag, jute bag and useless articles should be allowed to remain/spill in river bed and catchment area, or no pits/pockets will be allowed to be filled with such material.

Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained.
Care will be taken to ensure that ponding is not formed in the river bed.
Mining will not exceeds beyond the allowed extraction capacity.
Green belt will be developed along the haul road and the bank of rivers of mine premises and near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.

1.2 Water Environment

A. ANTICIPATED IMPACTS:
As the project activity is carried out in the dry part of river bed, none of the project activities will affect the water environment or riverbank habitats. Project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality. Monitoring of water quality will be checked yearly.

M. MITIGATION MEASURES:

i) Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
ii) Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
iii) River stream will not be diverted to form in active channels.
iv) Utmost care will be taken to minimize or control leakage vehicles to be used for sand transportation.
v) The washing of tractor trolleys in the river will be avoided.
vi) The contractor will follow all guidelines and rules for proper and scientific method of mining during the period of extracting the sand.

1.3 Air Environment:

A. ANTICIPATED IMPACTS:

a) Due to Haul Road/ Access Road:
Plying of tractor trolleys from public road to river sand collection points needs access roads. Majority of such access roads are the same existing roads/tracks being used by pedestrians/cart owners. Movement of heavy vehicles sometimes causes problems to cattle, agriculture land,

and human habitations due to dust, noise and movement of public. These environmental problems are felt more as the area is rural in nature.

b) Due to Mining process:

Air pollution is likely to be caused at various stages of sand mining operations such as excavation, loading & transportation of material. Most of the dust will be generated from loading& transportation. This dust becomes air borne and gets carried away to surrounding areas. The impact on air is mainly localized in nature as the dust particles are not carried to longer distances and the effect is felt within the core zone of the project involving active Sand mining operations.

M. MITIGATION MEASURES:

a) Mitigation of Impacts on Access Roads:

Movement of the vehicles on the road will be increased; however, unmetalled road in the mining area will be sprinkled with water at regular intervals. In addition to prevent spillage by tractor trolleys over loading should be controlled along with speed limit (1Brass /tractor trolley). Maintenance of haul road will be done on regular basis.

b) For Fugitive Dust Emission:

i) To avoid fugitive dust emissions at the time of excavation, regular sprinkling of water will be done on regular basis.

ii) Sand is transported to the sites by road through tractor trolleys. The sand carrying vehicles shall be covered by tarpaulin sheets.

iii) The Green Belt development will be prepared along the haul roads, which will act as a pollution sink.

iv) To minimize the vehicular pollution from the sand transporting vehicles, the following conditions will insist to permit the vehicles of the transporters.

- The vehicles should be (Bharat-IV stage) compliant and should have pollution control certificate (PUC) issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.

1.4 Noise:

A. ANTICIPATED IMPACTS:

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since, slight increase in noise levels can be expected.

M. MITIGATION MEASURES:

- ✓ Minimum use of Horns at the village area.
- ✓ Timely maintenance of vehicles and their silencers to minimize vibration and Sound.
- ✓ Phasing out of old and worn out tractor trolleys.
- ✓ Provision of green belts along the road networks.
- ✓ Care will be taken to produce minimum sound during sand loading.
- ✓ Use of Backhoe and ear plugs may be provided to protect the labors working at the site.

1.5 Socio-Economic Environment

This project operation will provide livelihood to the poorest section of the society.
Approximately 19people shall work at mine site.

A. ANTICIPATED IMPACTS AND EVALUATION:

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. There is no R & R involvement in this project. There is no land acquisition in this project.

The results of the field survey conducted to understand the knowledge and perception of the people living around the project area gives a clear idea about the need for the project.

A major portion of the houses in the study area are semi- pucca type structures. The water source to these areas is from the municipal connection and private bore wells and wells. The awareness level regarding the proposed mining activity is very high.

The proposed mining activity is expected to provide stimulus to socio-economic activities in the region and thereby accelerate further development processes.

i) Social and Demographic Profile:

The workers are from local villages. These people have been provided all welfare from a lessee like medical benefits, insurance, fees for children's education etc. They have some land and cattle for their daily earnings. Additional income earned from the Sand Mining work will improve their living standard. The group of quarries in and around will help to have infrastructure facilities like roads, schools, shops etc. This will improve their social life.

ii) Occupational Health And Safety:

This is River Bed Sand Mine. So the mining activities are comparatively less because the production is not on large scale. Workers do not come across any extreme condition like excessive heat; moisture, etc. Workers working around it may come across this dusty environment. But the impact on health will be within limit.

iii) Human Settlement:

There are no houses in and around lease area. Blasting is only activity, which may affect the settlement, but settlement is at distance of more than 1.0 Km from the Sand Mining. All the due precautions will be taken during mining. Transport of finished products is through the villages. There will be psychological impact of the traffic on the local people. However, the intensity of traffic is less.

iv) Health and Hygiene:

In general, the health of villagers is moderately good. In the rainy season, the atmospheric condition is unhygienic due to lack of proper drainage and sanitation in the village habitation. Villagers are working in agricultural fields and work as laborers.

v) Education:

Mostly education is up to middle standard. Economic condition is in general moderate. So after this project the standard of education will be increase.

vi) Socio Economic Benefits Arising Out Of Mining:

- Generation of employment in the rural area.
- Improvement in the living standards of the rural people.
- Creating of infrastructural facilities like roads, electricity, shops, school etc.
- Helping to improve literacy in the area
- Exploiting natural mineral so generation of revenue
- Helping to sustain construction activity
- Improving the greenery of the area, this is otherwise very poor.

vii) LIQUID EFFLUENT:

- Not applicable because small mine and impacts are negligible.

viii) SOLID WASTE:

- Not applicable because small mine and impacts are negligible.

1.6 Biological Environment

A. ANTICIPATED IMPACTS:

a) Aquatic environment

Proposed mining of the dry bed of the river, so no any possibility of disturbance of aquatic life.

b) Flora and Fauna

The mining activity will have insignificant affect on the existing flora and fauna. The project area is surrounded with agricultural land. It was found that the sand mining activity will not have any significant impact on the biological environment of the region.

M. MITIGATION MEASURES:

- ✓ Improvement in river bank stability.
- ✓ Large woody debris in the riparian zone will be left undisturbed or replacedwhen moved and not be burnt.
- ✓ Vegetative debris will not be stored within the mine lease area.
- ✓ Operation and storage of heavy vehicles within riparian habitat will be restricted.
- ✓ Covering of loaded vehicles to reduce dust emission, which may harm surrounding agricultural crops and other plant species conservation of biological diversity of plants, birds and animals.
- ✓ Greenbelt Development and Bio-Diversity Preservation

Plantation activities will be carried out at the bank of the river and along the haul roads. This activity will help for maintaining ecology and environment of the area.

1.7 IMPLEMENTATION OF EMP:

Environmental Management Plan serves no purpose if it is not implemented with true spirit. Some loopholes in the EMP can also be detected afterwards when it is implanted and monitored. Thus, an implementation and monitoring programmed has to be prepared.

Implementation of proposed control measures and monitoring programmed has an implication on the surrounding area as well as for the region. Therefore, sand mining management should be strengthen the existing control measures as elaborated earlier in this report and monitor the efficacy of the control measures implemented within the sand mining area relating to the following specific areas:

- ✓ Coordinate with environment monitoring laboratory for collecting and analyzing air, water, soil&noise quality of the area.
- ✓ Implementing the control and protective measures.
- ✓ Co-coordinating the environment related activities within the project as well as with outside agencies.
- ✓ Separate Budget has been allocated for the EMP.
- ✓ Collecting statistics of health of workers and population of surrounding villages.
- ✓ Monitoring the progress of implementation of environmental management program.

1.7.1. GREENBELT DEVELOPMENT:

- ✓ The implementation for development of green belt will be of paramount importance as it will not only add up as an aesthetic feature, but also act as a pollution sink.
- ✓ The species to be grown in the area should be dust tolerant and fast growing species so that permanent green belt is created.
- ✓ To stabilize the river bank erosion the plantation of native species of that area along the river bank.
- ✓ Apart from the green belt and aesthetic plantation for elimination fugitive of emission and noise control, all other plantation efforts shall be decided and executed with the assistance and co-operation of the local community.

Proposed Program for Plantation For Green Belt Development:

A forestation will be carried out to increase the green cover and create harmony with nature. The area will be afforested with variety of local sapling. This will help to have polyculture. The details of a forestation program are given below. This will be done on the statutory barrier to be left and on the general surface of the lease.Along the access road at sand mining site. (List of trees is given):

S.N.	Scientific Name	Hindi Name	Number
1	Azadirachtaindica	Nim	30
2	Tectonagrandis	Teak	30
3	Terminaliaarjuna	Arjun	30
4	Tuti	Tut	30
5	Syzygiumcumini	Jamun	30
6	Ficusreligiosaa	Pipal	30
7	Bambusa vulgaris	Bamboo	30
8	Neolamarckiacadamba	Kadamb	30
9	Dalbergiasissoo	Shisham	30
10	Madhucalongifolia	Mahua	30
Total			**300**

Cost of Environment Management Cost:

S.N.	Description	Cost Rs. (inlakhs)
1	Dust suppression	0.04
2	Haul road maintenance	0.04
3	Green belt & Maintenance	0.03
4	Monitoring cost	0.04

1.7.2 TRANSPORT SYSTEM:

i) Proper parking places should be provided for the tractor trolleys and other vehicles by the Mine Owner to avoid any congestion or blocking of roads.
ii) Spillage of sand on roads may lead to accidents.Proper road safety signs both inside and outside the mine should be displayed for avoiding road accidents.

1.7.3 MONITORING SCHEDULE AND PARAMETERS

1.7.4 MONITORING OF AMBIENT AIR, WATER, and NOISE:

To evaluate the effectiveness of environmental management program regular monitoring of the important environmental parameters to be monitored are shown in following Table:

Monitoring Parameters	Frequency of Monitoring
Ambient Air: (Ambient Air Quality at appropriate location for PM, SO2, NO2): In the vicinity of the mine area&Near Access road.	Half-yearly
Water: Two Surface (up-stream & Down Stream) & One Ground Water Samples nearby the project site	Yearly
Noise: Day & Night level Noise Monitoring at mining site	Half-yearly

For air, water and noise pollution control measures, it has been suggested that samples would be collected and tested all-round the year with appropriate frequency at strategic places by suitable agencies. In case, it is found that any of the control parameters exceed the tolerance limit as fixed by the State/Central Pollution Control Board, preventive measures will be taken and if required expert opinion will be sought for proper remedial measures.

1.7.5 DISASTER PLANNING:

Proper disaster planning should be done to meet any emergency situation arising due to fire,explosion,sudden leakage of gas etc. Firefighting equipment and other safety appliances should be kept ready for use during disaster/emergency situation including natural calamities like earthquake/flood.

1.7.6 ENVIRONMENT MANAGEMENT CELL:

Each mine or group of mine should identify within its setup a Department/Section/Cell with trained personnel to take up the model responsibility of environmental management as required for planning and implementation of the projects.

10.0 CONCEPTUAL MINING PLAN:

This stage not applicable because the Conceptual plan of the proposed lease area at the end of lease period is prepared.

10.1 Ultimate depth, size & shape of the pit:

The Lease will be for 1 year. Therefore, it is very premature to decide the conceptual plan for the Sand Mine. However, based on the available geological information requirement or purpose of mining the shape and size of Sand has been defined and shown as the Ultimate Pit Limits by colored lines in the Geological plan, the Production &Development plan, and the Conceptual plan. Ultimate pit size will be 989 m x 47 m x 0.5 m.The Conceptual plan and Environmental Management Plan are shown in Plate No.-VII.

1.2 Ultimate Capacity of Dump:

No surface dump is proposed at the conceptual stage.

1.3 Land use pattern:

The anticipated land use pattern as envisaged after five years and at the end of conceptual period would be as tabulated below,

S. N.	Particulars	As on Today in Ha	After 1 Years in Ha
1)	Area of top soil spread for a forestation	-	-
2)	Storage for top soil	-	-
3)	Green Belt	-	-
4)	Over burden Dump	-	-
5)	Mineral Storage	-	-
6)	Infrastructure (Workshop, Admin. Building etc.)	-	-
7)	Mine road in Mine lease area	-	-
8)	Utilized area for Sand Mining	0.000	**0.33**
9)	Virgin lease area for Sand Mine & Other Uses	0.33	0.000
10)	Road	-	-
11)	Railway	-	-
12)	Tailing Pond	-	-
13)	Effluent Treatment Plant	-	-
14)	Mineral separation plant	-	-
15)	Township Area	-	-
16)	Others to specify	-	-
17)	Ownership	Government River	Government River
Total		0.33	0.33

11.0 COMPLIANCE OF SAFETY RULES AND REGULATIONS:

Whether there are any serious violation of safety rules and regulation which may jeopardize human health and safety. If so, give details of violations and state the steps proposed to be taken with the time scheduled to rectify the violations:

No, there are not any serious violation of safety rules and regulation, which may jeopardize human health and safety.The applicant has given a commitment in this effect and undertaking also given to follow and implement, as specified in the mining plan.The applicant is undertake to abide and implement any special conditions imposed by various authorities and also to complete formalities under provision of the Mines & Mineral (Development & Regulation) Act, 1957 and the Bombay Minor Mineral rules, the Mineral Conservation and Development Rules, 1988 as amended, the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule 2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016,Sustainable Sand Mining Management Guidelines 2019,Sand Mining Policy 2020

12.0 ANY OTHER INFORMATION:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment. These things will be religiously followed and its report will be periodically submitted to the concerned authority. All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there

under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtained relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

PRE FEASIBILITY REPORT

(As per Rules 23 & 26 of MMME (D & R) RULE 2013 & Section 15 of MMDR Act 1957, MoEF & CC Notification 2006, S.O. 141(E) dated 15. 01. 2016; MoEF & CC, Sustainable Sand Mining Management Guidelines 2016,Guidelines for Mining Policy2020)

For

OBTAINING ENVIRONMENT CLEARANCE

of

SAND MINING (MINOR MINERAL)

For

Palodi River Bed Sand Mine / Sand Ghat

Khasra No:-212 to 215

Area (0.35Ha)

Village- PalodiTehsil-Shegav, District- Buldhana ,

Submitted to

THE SR. DY. DIRECTOR, DIRECTORATE OF GEOLOGY & MINING, GOVERNMENT OF MAHARASHTRA,Nagpur, (M.S.)

District:-Buldhana ,
Applicant/Project Proponent
District Mining Officer
Collector office, Buldhana ,
District: Buldhana ,

Prepared By

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Accredited by NABET: No.: - NABET/EIA/1619/RA0060/ April 19, 2020)

March – 2020

1. EXECUTIVE SUMMARY

This Pre Feasibility Report has been prepared for the proposed sand ghat over the area of 0.35Ha at MunnRiver Bed adjoiningKhasra No:-212 to 215of VillagePalodi, Tehsil Shegav, District- Buldhana,Maharashtra**,**in accordance with theNotification of MoEF S.O. 1533 dated 14th September 2006. The Ministry ofEnvironment, Forest and Climate Change amended Principal Notification vide 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, sand mining framework 2018. and Govt. of Maharashtra Sand Policy 03.01.2018, Mining Guidelines 2020, included Minor Minerals from 0 Ha to 50 Ha in the PrincipalNotification S.O. 1533 (E) dated 14.09.2006. Central Government made furtheramendments to the notification vide S.O. 2269 (E) dated 01.07.2016. In obedience allrelevant notifications to the principal Notification dated 14th September 2006, applicationfor the excavation of sand ghat from proposed sand ghat is being submitted to SEAC, SEIAA,Maharashtra.

Though any development activity like industry or minor mineral excavation may cause temporary damage to land, forest and induce changes in the quality of air, water, flora and fauna of the area, it has favorable effect of industrialization on social development and progress of the nation. For overall gain, it is necessary to strike a balance between the two aspects of economy and ecology and ensure that impacts on the environment are minimized with improvement in socio-economic conditions. This is better achieved through a well-planned approach of EMP relevant to the area under consideration.

Sand is used for a wide variety of purposes. It is most commonly used as an aggregate in construction projects. Sand is required for road base, concrete aggregate, asphalt pavement aggregate, and many other purposes. The selected area has exposures of sand which is useful for the various purposes mentioned above.

The mining for this sand ghat excavation is proposed to be carried out manually with opencast method of mining engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading will be carried out manually and transportation of mineral from the sand ghat to the depot by tractor with tipper arrangement. As the mineral is soft & loose in nature, no drilling and blasting are required. The proposed sand ghat area is located at Survey of India Toposheet No: 56D/9 and falls between the Latitude 20°52'13.55"N and Longitude 76°44'53.24"E.The lease area is not an agricultural land and the area is classified as River. Maximum production capacity is 610 Brass.

In order to obtain environmental clearance as per the EIA Notification 2006 the Prefeasibility Report (PFR) is submitted along with the application Form I M for the project under

consideration. The project is categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016

2.0 INTRODUCTION

1.1 PROJECT PROPONENT

The possession of the land under consideration lies with State Government (As per the 20 (1) Chapter III of The Maharashtra Land Revenue Code 1966) hence application is made through the legal representative as a Project Proponent. Accordingly, DMOBuldhana,Collectorate, Buldhanahave applied for Environmental Clearance of proposed sand ghat. After obtaining the environmental clearance this sand ghat will be auctioned as per the Notification Goukhani 10/0615/Pra.Kra. 289/Kha dated 03.01.2018. Communication details of the project proponent are as under;

DMO BULDHANA
Buldhana Collectorate,
Collector Office, Buldhana

1.2 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

The selected area has exposures of sand which is useful for the various purposes mentioned above. It is proposed to excavate sand from this area by manual opencast method without using any excavation machinery. Transport of the excavated sand will be carried out using tractor with trolley arrangement from sand ghat to depot and by truck/tipper/dumper onwards to the desired destination. The excavated sand will be sold in the market. The present Pre Feasibility Report has been prepared for Proposed sand ghat over the area of 0.35Ha atMunRiver Bed adjoiningKhasra No.:- 212 to 215, of Village:-Palodi,Tehsil, ShegavDistrict-Buldhana.The project is for excavation of sand (minor mineral) categorized as Category B2 vide Notification 141 (E) dated 15th January 2016.

1.3 NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY AND OR REGION.

Road/building materialsand is an essential requirement as one of the minor mineral deposits occurring in the majority portion of Maharashtra. It has played a great role in development of civilization and industrialization. The occurrence of sand in the proposed area is proved by the way of exposures and its production has important role in the local infrastructural development. The sediment in the form of river bed material (RBM) deposited every year during monsoon season at many locations of theGodavariRiver. Removal of the sand from the proposed location is unlikely to damage the riparian system if the excavation and transport is carried out in systematic manner proposed in the approved Mining Plan. This project operation

will provide employment directly and indirectly to the people residing in vicinity, thus improving the Socio-economic status of the area.

1.4 DEMAND SUPPLY GAP.

Sand is an essential constituent infrastructural development projects like road, dams, bridges and building. The demand for sand/gravel is ever growing with the growth of the infrastructure sector in our country. The requirement for the mineral is always high in the nearby cities and towns. Therefore there is always a good demand of the mineral in the domestic market. Its demand in industrial area of Buldhanaand nearby areas is increasing very fast. Sand mining not only narrows the gap between the demand and supply if building material but also enhances employment opportunities and economic growth of the region. Besides, the production will also benefit the State in the form of revenue generation. Apart from this, the project will generate direct and indirect employment opportunities from the nearby villages.

1.5 IMPORTS VS. INDIGENOUS PRODUCTION.

Mining of sand is required for various projects within the state of Maharashtra and other states.

1.6 EXPORT POSSIBILITY.

Not explored

1.7 DOMESTIC / EXPORT MARKETS.

There is always an ever increasing demand of these minerals in the domestic market.

1.8 EMPLOYMENT GENERATION (DIRECT AND INDIRECT) DUE TO THE PROJECT.

It is proposed to employ the local population wherever possible in the proposed project activities. Direct employment for this proposed sand ghat excavation will be approximately19 Persons and the there will be indirect employment generation also in service sector. The allocated lease will be directed to deploy local persons on for this project.

Grade of staff	**Designation**	**Nos.**
Supervisory and Technical staff	Mine mate / Mine Supervisor	01
Clerical staff	Clerk/ Time keeper	01
Safety/Security Officer	Security Guard	01
Skilled workers	Tractor Trolley Driver	02
Skilled workers	Tractor trolley Helper	01
Semiskilled workers	Labors Supervisor (Mukadam)	05
Unskilled workers	Labors	08
Total Manpower		19

3.0 PROJECT DESCRIPTION

i) Type of project including interlinked and Interdependent project, if any.

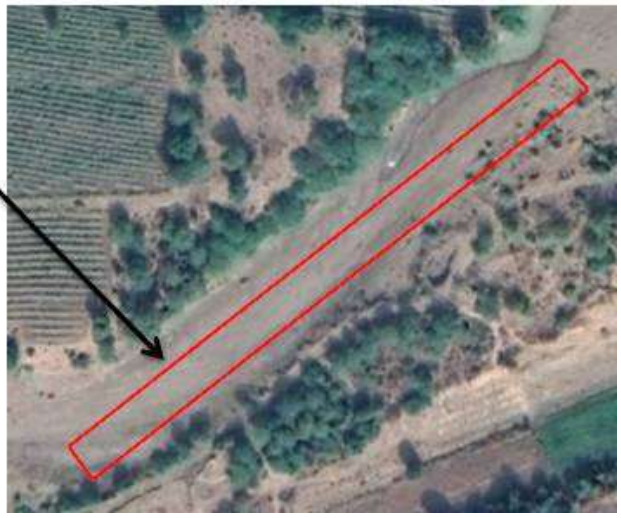
As per Gazette Notification of Ministry of Environment, Forest and Climate Change (MoEF&CC) dated 15th January 2016, New Delhi all projects (minor mineral) less than 25 hectare falls in category “B-2”. As the lease area of the proposed project is 0.35Ha, it falls in “B-2” category and will be appraised by State level authority.The entire mined out mineral will be completely transported to the market /and there is no interlinked project.

ii) Location (map showing general location, specific location, and projectboundary & project site layout) with coordinate

The land is government Waste land. The area is a plain terrain. The location of proposed siteis shown in the Figure-1. The proposed area is covered in parts of Survey of India Toposheetno.55/D9 within latitude 20°52'13.55"N and longitude 76°44'53.24"E Refer Figure 2).

FIGURE-1: LOCATION OF PROPOSED SAND GHAT

PLATE -01
Location map



ADDRESS -PALODI RIVER SAND MINE AT
MAAN RIVER
GAT NO.- 212 TO 215
DISTRICT - SHEGAV
STATE- MAHARASHTRA
TOTAL LEASE AREA- HECT. 0.35

FIGURE-2: SPECIFIC LOCATION OF PROPOSED SAND GHAT

The proposed sand mining ghat was demarcated on the ground by revenue department with reference to adjacent survey numbers of concerned village map. The exploration/assessment of sand Ghats has been carried out by GSDA using probing rods for delineating the total depth of sand and depth of mineable sand with quantity.

Accordingly, reports submitted with mineable reserves of sand in particular location. On the basis of this report State Govt. will auction the sand Ghats for excavation of sand for specific mineable quantity.

The proposed sand ghat has sufficient reserves of sand to excavate610 brassfor the period of current financial year. This is a temporary type of lease for the limited mentioned period i.e. up to September 2020.

LOCATIONAL DETAILS IN SUMMARIZED FORM

Sr. No.	Details of the area	Particulars
1	Name of Sand Ghat and River	PalodiRiver Bed Sand Mine in
2	Village	Palodi
3	Taluka	Shegav
4	District	Buldhana
5	Adjoining Khasra No./Survey No.	212 to 215
6	Lease Area (Ha.)	0.35Ha
7	Ownership/Occupancy of the Lease area	Government Land
8	Existence of public road/railway line if any nearby and approximate distance	The mine is located about less than 0.52 km. in SW Direction to Palodi village.
9	Nearest Village and its distance from lease area	Adsul (3 KM) , Padsul (4 KM) , Kalkhed (8 KM) , Manasgaon (9 KM) , Pahurpurna (9 KM)
10	Toposheet No. and RL of the Lease area	55 D/9and 0.35Ha
11	Latitude & Longitude of Lease area boundary points (Coordinates of the boundary points taken as per the area shown by revenue authority Patwari/Talathi)	20°52'13.55"N 76°44'53.24"E 20°52'13.16"N 76°44'53.54"E

iii) Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental consideration gone into should be highlighted.

Rivers and streams by far have been the most lucrative and attractive source for extracting large volume of building materials such as boulders, stone, pebbles, sand and gravel for a variety of construction activities. In plain reaches, where the bed slope is gentle, the river bed is overlaid with matrix mainly comprising of sand of different gradation along with silt and clay. Due to river dynamics, the sediments which get generated from bed load and wash load move with river and do not settle uniformly over the entire bed. It rather settles at certain places only (aggradations) and must be removed from time to time to avoid flash floods due to reduction in channel width. The Government has identified such locations for sand removal and the present location is one of them. The project is a site specific and has to be undertaken at the place of the occurrence of the mineral and hence no alternative sites explored.

The environmental advantages of using river sediments are that the Sediments can easily be collected / extracted by digging less deep pits in active channel or dry river beds of upper terraces. The sand extracted from the identified stretch is free from weak materials and interstitial loose / fine material. No requirement of processing for the sand excavated from the river and it can be directly used without any beneficiation. The natural replenishment takes place annually due to transportation of sediments from upper course/reaches during high stage of river, which is achieved a number of times during monsoon. Environment Management Plan to mitigate the activities due to the proposed sand ghat excavation is enclosed at **Annexure 1**.

iv) Size or magnitude of operation.

The proposed sand ghat mining having an area of 0.35Ha will be developed as opencast for the excavation of sand/gravel with production capacity of610brass. The excavation will be carried out from the demarcated area which is dry. Excavation will be carried out in non monsoon season on or before 30th September 2020.

v) Project description with process details (a schematic diagram/ flow chart showing the project layout, components of the project etc. should be given).

The mining will be carried out manually with opencast method of mining by engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading is proposed to be carried out manually and transportation of mineral from the mine to the depot is proposed through tractor with trolley arrangement. As the mineral is dry, loose in nature, no drilling and blasting are required and hence not proposed. Sand excavated manually will be loaded directly into vehicles. Once a pre-determined area has been exhausted of the sand, it shall be replenished by sand during monsoon period leveled it & maintained to its maximum original topography. There will be no OB or waste generation as the sand is directly exposed in the river bed without any soil or silt cover or any other material which can be categorized as overburden material.

Workings will be restricted within the applied area as per the approved Mining Plan. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow. No processing of sand required.

Restriction on mining:

- Mining shall not be carried out within 600 m of any bridge (railway or road).
- Mining shall not be carried out within 100 m from any pumping station, water intake.
- The quarrying of sand will be proposed after leaving a safety distance of 600 meter from bridge falling under NH/SH from both side of the bank, & leaving a safety distance of 100 meter from any bridge.
- Mining shall not be carried out within 3 m from the river bank It will be done leaving a safety zone of total of 1/5th of the width of the river from the banks for bank protection.
- During the entire lease period, the deposit will be worked from the top surface to 3 m bgl or above ground water level, whichever comes first. This will also help in avoiding ponding effect.
- The workability is suggested by keeping in the mind possible effect on the meandering of River. The mining on the concave bank is most suitable than convex bank. Hence, mining is proposed during non monsoon period in a way that is will get replenishment during monsoon.
- Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season.
- No ore dressing/ handling/ processing plant shall be attached with the mine. The whole area demarcated for the purpose of mining as per the approved mining plan shall be mined out so as to maximize the sand production or extraction.
- Systematic plantation will be made in the area outside the river bank to protect the banks from erosion in monsoon.
- In the applied area the velocity & river water flow being less the sediment load get deposited in to the pit During Monsoon season the area get replenished with sediments to be lifted in subsequent years. Excavated area will be replenished naturally due to sediment inflow from the catchment area Therefore, Environment and Ecology of the area remains undisturbed.
- Sequence of mining operation is given below.

vi) Raw material along with estimated quantity, likely source marketing area of final products, mode of transport of raw material and Finished product.

There is no requirement of any Raw Material in this project. Mode of transport of extracted sand is surface transport by existing roads.

vii) Resource optimization / recycling and reuse envisaged in the project, if any, should be briefly outlined.

There is no waste material generation. No recycling and reuse of material is envisaged as entire excavated material will be transported. Minerals are generally depleting asset once mined; but minerals like sand will be replenished naturally. Thus a scientific approach will be taken up for excavation of mineral with systematic method.

viii) Availability of water its source, Energy / power requirement and source should be given

a) **Water Requirement:**Thus total water requirement will be **5.88 KLD**.This water will be supplied from the bore well from nearby villages through tankers as well as from surface water sources for dust suppression. Dust suppression and green belt water will beutilized from water tanks. Electricity is not required as the working is only during day timewhich does not demand for artificial lighting.

Sr. No.	Purpose	Water Requirement (KLPD)
1	Dust Suppression and green belt	5.00
2	Domestic (Considering 45 Litres per person per day for19persons)	0.88
	Total	**5.88**

ix) Quantity of waste to be generated (liquid and solid) and scheme for their Management / disposal.

Solid Waste: There is no solid waste generation during sand excavation.

Liquid Effluent: The sand excavation from the proposed site does not intercept the water table and the area is dry having no impoundment of water. Thus, there is no generation of effluentenvisaged. Small amount of domestic waste will be generated by the workers at the site, which will be disposed-off through proper municipal way. No other waste generation is expected.

x) Schematic representation of the feasibility drawing which give information of EIA purpose.

The proposed sand ghatproject is for excavation of sand which is categorized as minor mineral vide Notification No. S. O. 423 (E) dated 10.02.2015 issued by Ministry of Mines. The minor mineral project such as sand excavation requires environmental clearance as per the procedure defined by Ministry of Environment, Forest & Climate Change (MoEF & CC) Notification No.141 (E) dated 15th January 2016. EIA for the minor mineral projects >5 Ha is not required as per this Notification. As per the Appendix XI of this Notification, approved Mining Plan, Form I and Prefeasibility Report are required for appraisal of the environmental clearance by SEAC/SEIAA. Accordingly, necessary compliance of the directed procedure is made by the applicant. The Notification issued by the Revenue Department of Government of Maharashtra No. Goukhani-10/0615/Pra.Kra. 289/Kha dated 03.01.2018 and Sustainable Sand Mining Management Guidelines2016& Sustainable Sand Mining Management Guidelines 2019, Mining Guidelines 2020 have also been referred and the directives provided in theseNotification/Guidelines have been used for preparation of these documents.

4.0 SITE ANALYSIS

The suitability for extraction was done taking into consideration general profile river stream, annual deposition factor, and replenishment. The project site is located at a plain topography and within the mature stage of a river. The river bed sand replenished every year with the sand carried out with flow of water in monsoon and there is no such control of mineralization as it depends on the nature of flow of river water.

i) Connectivity

Sr.No.	Particulars	Details
1	Road Connectivity	The mine is located about less than 0.52 km. in SW Direction to Palodi village.
2	Nearest Highway	National Highway NH 548C isat 10.9 km&MH SH 197 is 3.7 km, SH173 is 11.0 km away.

3	Nearest Airport	Chikkalthana Airport- 200km
4	Nearest Railway Station	Shegaon Railway Station is 10.0 km

ii) Land form, land use and Land ownership.

There is no village or human settlement in the lease area. There is no reserves forest or protected forest land within the mining area. The area has Flat topography. The lease area forms a part of Survey of India toposheet no55D/9. The landuse details for the proposed sand ghat area are as under:-

Adjoining Khasra No. of Village / Taluka /District/ State	**Area**	**Type of land**
212 to 215	0.35	Government Notified Land

iii) Topography (along with map).

Latitude and Longitude readings have been taken by using G.P.S. instrument. All the levels have taken with respect to Mean Sea Level. It is flat in nature. Total area if the lease area is 4.65Ha.

iv) Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ), shortest distances from the periphery of the project to periphery of the forest, national park, wild life sanctuary, eco sensitive areas, water bodies (distance from the HFL of the river), CRZ. In case of notified industrial area, a copy of the Gazette notification should be given.

Significant features with their aerial distance of the project are tabulated below;

Sr. No.	**FEATURES**	**DETAILS**	**DISTANCE**
1	Village (Nearest)	Palodi	1 km
2	Land use	Agriculture	0 km
3	Water bodies	RiverMun	1 km
4	Reserved Forest	No	0 km
5	National Park	No	0 km
6	Wildlife Sanctuary	No	0 km
7	Eco Sensitive Area	No	0 km
8	Coastal Regulation Zone	No	0 km
9	Archeological Monument	No	0 km

10	Industries	No	0 km
11	Mines	Sand ghat	1 km

v) Existing Infrastructure.

There is well established road connection from the quarry to the State Highway /village road. Other facilities like market, school, hospital (PHC), drinking water facility, electric, telecommunication etc. are available in nearby villages.

vi) Soil classification.

There is no top soil. The river bed only consists of sand/ gravel.

vii) Climatic data from secondary sources.

Sub–tropical climatic condition prevails in the area. Maximum temperature recorded during summer is45.6°C and the minimum temperature recorded during winter is 12.6° C.
The region receives an average rainfall of around 697 mm to 862 mmwith an annual variation of 100 mm although wider variation has also been noticed in the past. About (50 to 55%) in of rainfall precipitates from June to September.

viii) Social Infrastructure available.

Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities) are found within a distance of 10km of the proposed sand ghat area.

ix) Geology

The lease area as per survey is a River Bed of Godavari River. Applied area for sand extraction is covered with Sand, Pebblesand Gravels of various sizes. The sand of Granitic, Quartzitic.

A) Mineable Reserves of Sand in the proposed Mine Lease Area as per the GSDA:

The proposed Sand Ghat/ River Bed Sand Mine of 0.35Ha area is covered with sand. Theentirearea is occupied by single litho unit sand deposit with flat configuration. Estimationof sand is done by the GSDA, Buldhana and mineable reserves are proposed for sand mining foryear 2019-2020 as follows:.

Av. Length (m)	Av. Width (m)	Area (m^2)	Proposed Depth (m)	Volume of Deposit for Mining (m^3)	Quantity of sand for Excavation (Brass)
L	W	A=L*W	D	V = A * D	Qt = V / 2.83
230	15	3450	0.50	1725	610

4.0 PLANNING BRIEF

i) Planning Concept (type of Industries, facilities, transportation etc) Town and country planning/ Development authority Classification.

The mine will be worked by opencast manual method. Mining will be done up to a depth of 1m bgl or above the water level whichever is comes first. The sand will be collected in its existing form. No drilling /blasting are required as the material is loose in nature. There will be no OB or waste generation as the sand is exposed in the river bed. It will be done leaving a safety zone from bank for bank protection. Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season. Roads in the Applied Area for the movement of loaded trippers/ trucks will not have slopes more than 1 in 20.

However, movement of trucks after mineral loading will be towards both sides through approachroads connecting to tar roads. No processing of excavated sand will be done. Workings will be restricted within the lease area/ khasra as per the description report given by Mining Department. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow as the proposed area for the sand ghat is dry. Mining operation will not be carried out during monsoon season. On view monitoring of mining activity technical staff, skilled and non-skilled labors are employed and thus State/Central Govt. and Village Panchayat will get royalty. Workers will get direct employment and equal number or more will get indirect employment.

ii) Population Projection.

The project will employ most of the workers from nearby villages. Thus there will be no increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. The manpower required for the project shall be engaged from the nearby village(s) and hence influx of population to the area is not anticipated.

iii) Landuse Planning (breakup along with green belt etc.)

The sand from the entire allocated area will be excavated as per the approved mining plan. Local species of selected trees will be planted along the river bank and also on the approach road to depot. If permitted by the local authorities, plantation will be carried out in school, gram panchayat, PHC or Palodi premises. It is proposed to have plantation along the road sides on both sides to provide cover against dust dissemination and also to act as noise absorber. Approximately 320 trees of will be planted with various types of species. Native plants like Teak,Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tutand other local species will selected insuitable combination, so that can grow fast and also have good leaf cover.

v) Assessment of Infrastructure Demand (physical & social)

The project requires roads for the transport of the produced material which isadequate, besides it requires manpower to operate the quarry and is availablelocally.

vi) Amenities/Facilities.

Temporary rest shelters, portable toilets, drinking water and first-aid will be madeavailable to the workers.

6.0 . PROPOSED INFRASTRUCTURE

No infrastructure erection is proposed in the mine lease area

i) Industrial area (processing area) - No processing or beneficiation is required hence not proposed.

ii) Residential Area (Non processing Area)- None.

iii) Green Belt.

The entire mining area falls within river course and gets flooded duringmonsoons; therefore, no plantation is possible within this area. Plantation willmainly be done along the kuchha road and along the length of the river bank orapproach road to depot or places as recommended by Gram Panchayat.Approximately 320 treesof will be planted with various types of species. Native plants like Teak, Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tut, &other local species will selected in suitable combination, so that can grow fast and also have good leaf cover.

iv) Social Infrastructure.

This Project will provide employment to local people directly and indirectly. Indirect employment will be in the form of shopkeepers, mechanic, drivers, transporters etc. The lessee

will be responsible for providing better social infrastructure benefits such as drinking water, health care measures, educational facilities, promotion of culture and religious activities in surroundings as part of their CSR activities.

v) Connectivity (Traffic and Transportation Road/Rail/Metro/Water ways

The area is approachable from NH 548C is at 10.9 kmMH SH 197 is 3.7 km, SH173 is 11.0 km. There are metalled roads and unmetalled road up to the mine site.

vi) Drinking Water management (Source & Supply of water)

Water will be supplied from nearby villages for drinking purposes through tankers with NOC from Gram Panchayat.

vii) Sewerage System.

Not required. Temporary toilet facilities will be provided by the proponent at the river banks.

viii) Industrial Waste Management.

Not required

ix) Solid Waste Management.

There is no Solid waste generation during sand mining. The entire excavated sand is useable.

x) Power Requirement & Supply / Source.

Diesel will be used as motive source of primary energy for tractors/ truck arranged by the buyers. Diesel will be outsourced from nearby diesel pumps directly by buyers. Mining method is manual and working hour will be for 12 hours during the day time, so there is no such power requirement.

7.0 REHABILITATION AND RESETTLEMENT (R & R) PLAN

i) Policy to be adopted (central/state) in respect of the project affected person including home oustees, land oustees and landless laborers (a brief outline to be given.)

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

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.)

The operations shall be carried out after obtaining all statutory permissions as per the statutory guidelines. Adequate reserves are available from the proposed sand ghat area. Reclamation and Rehabilitation plan will be prepared for sustainable development and minimized environmental damage. This is a temporary type of lease for the limited mentioned period i.e. Period of Mine Lease will be One Year 2019-2020 or up to 30.09.2020.

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

The sand ghat proposed by the Project Proponent will be auctioned online as perthe procedure in vogue. Hence, project cost cannot be estimated at this stage.

9.0 ANALYSIS OF PROPOSAL FINAL RECOMMENDATIONS)

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 involves collection of river bed material. This is very essential in order to prevent widening of the riverbeds and to prevent flooding off and damage to the adjoining areas. This can only be achieved by maintaining the existing course of the river.
The river banks, on both sides are covered by vegetation and human habitats.Widening of river banks results in excessive erosion; resulting in damage to flora, agricultural land and settlements which are situated at very close proximity. It isproposed to employ the local population wherever possible in the proposedproject activities directly or indirectly. It provides employment to the peopleresiding in vicinity directly or indirectly by the project. The sand extracted fromthis area is in high demand in the local market.

There will be no environmental impact from the project since the scale ofoperation is very less and the method of mining by manual. This operationdoesn’t need relocation manage of any habitants. The plantation of sufficientnumber of trees along the village roads is proposed which

will control thedispersion of dust during transportation as well as will be helpful in controllingNoise for propagation.

Annexure 1

ENVIRONMENT MANAGEMENT PLAN

1.0 INTRODUCTION

Preparation of Environmental Management Plan is required for formulation, implementation and monitoring of environmental protection measures during and after commissioning of projects. The plan should indicate the details as to how various measures have been proposed to be taken including cost components as may be required.

1.1 Land Environment

The type of mining and the characteristics of the particular mineral deposit both affect the degree to which mining disturbs the landscape. Sand Mining and allied activities will be done in the fluvial plain formed by river meandering. Mining of sand may cause a few environmental degradations.

A. ANTICIPATED IMPACTS:

Damage of river bank due to access ramps to river bed, may cause soil erosion.

Destruction of river bank hinterland and ecological due to extraction of sand by probability of damage to the flood control bunds (built along the river side) due to heavy movements of vehicles over the bund to approach the mine are and further during transportation for sand from the mine area.

Disposal of packing material, carried by the workers, would not be allowed. This packing material would include used sachet/gutka/pan masala pouches.

Movement of heavy vehicles sometimes cause problems to agricultural land, human habitations, borehole users due to dust, noise and it also causes traffic hazards.Surface degradation due to road network.

M. MITIGATION MEASURES:

Safety distance of 3 meter or 1/10th of the width of the river whichever is more will be left from both the bank of the river (as per “Sustainable sand mining guidelines”).

No foreign material like polythene bag, jute bag and useless articles should be allowed to remain/spill in river bed and catchment area, or no pits/pockets will be allowed to be filled with such material.

Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained.
Care will be taken to ensure that ponding is not formed in the river bed.
Mining will not exceeds beyond the allowed extraction capacity.
Green belt will be developed along the haul road and the bank of rivers of mine premises and near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.

1.2 Water Environment

A. ANTICIPATED IMPACTS:

As the project activity is carried out in the dry part of river bed, none of the project activities will affect the water environment or riverbank habitats. Project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality. Monitoring of water quality will be checked yearly.

M. MITIGATION MEASURES:

i) Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
ii) Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
iii) River stream will not be diverted to form in active channels.
iv) Utmost care will be taken to minimize or control leakage vehicles to be used for sand transportation.
v) The washing of tractor trolleys in the river will be avoided.
vi) The contractor will follow all guidelines and rules for proper and scientific method of mining during the period of extracting the sand.

1.3 Air Environment:

A. ANTICIPATED IMPACTS:

a) Due to Haul Road/ Access Road:

Plying of tractor trolleys from public road to river sand collection points needs access roads. Majority of such access roads are the same existing roads/tracks being used by pedestrians/cart owners. Movement of heavy vehicles sometimes causes problems to cattle, agriculture land,

and human habitations due to dust, noise and movement of public. These environmental problems are felt more as the area is rural in nature.

b) Due to Mining process:

Air pollution is likely to be caused at various stages of sand mining operations such as excavation, loading & transportation of material. Most of the dust will be generated from loading& transportation. This dust becomes air borne and gets carried away to surrounding areas. The impact on air is mainly localized in nature as the dust particles are not carried to longer distances and the effect is felt within the core zone of the project involving active Sand mining operations.

M. MITIGATION MEASURES:

a) Mitigation of Impacts on Access Roads:

Movement of the vehicles on the road will be increased; however, unmetalled road in the mining area will be sprinkled with water at regular intervals. In addition to prevent spillage by tractor trolleys over loading should be controlled along with speed limit (1Brass /tractor trolley). Maintenance of haul road will be done on regular basis.

b) For Fugitive Dust Emission:

i) To avoid fugitive dust emissions at the time of excavation, regular sprinkling of water will be done on regular basis.

ii) Sand is transported to the sites by road through tractor trolleys. The sand carrying vehicles shall be covered by tarpaulin sheets.

iii) The Green Belt development will be prepared along the haul roads, which will act as a pollution sink.

iv) To minimize the vehicular pollution from the sand transporting vehicles, the following conditions will insist to permit the vehicles of the transporters.

- The vehicles should be (Bharat-IV stage) compliant and should have pollution control certificate (PUC) issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.

1.4 Noise:

A. ANTICIPATED IMPACTS:

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since, slight increase in noise levels can be expected.

M. MITIGATION MEASURES:

- ✓ Minimum use of Horns at the village area.
- ✓ Timely maintenance of vehicles and their silencers to minimize vibration and Sound.
- ✓ Phasing out of old and worn out tractor trolleys.
- ✓ Provision of green belts along the road networks.
- ✓ Care will be taken to produce minimum sound during sand loading.
- ✓ Use of Backhoe and ear plugs may be provided to protect the labors working at the site.

1.5 Socio-Economic Environment

This project operation will provide livelihood to the poorest section of the society.
Approximately19 people shall work at mine site.

A. ANTICIPATED IMPACTS AND EVALUATION:

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. There is no R & R involvement in this project. There is no land acquisition in this project.

The results of the field survey conducted to understand the knowledge and perception of the people living around the project area gives a clear idea about the need for the project.

A major portion of the houses in the study area are semi- pucca type structures. The water source to these areas is from the municipal connection and private bore wells and wells. The awareness level regarding the proposed mining activity is very high.

The proposed mining activity is expected to provide stimulus to socio-economic activities in the region and thereby accelerate further development processes.

i) Social and Demographic Profile:

The workers are from local villages. These people have been provided all welfare from a lessee like medical benefits, insurance, fees for children's education etc. They have some land and cattle for their daily earnings. Additional income earned from the Sand Mining work will improve their living standard. The group of quarries in and around will help to have infrastructure facilities like roads, schools, shops etc. This will improve their social life.

ii) Occupational Health And Safety:

This is River Bed Sand Mine. So the mining activities are comparatively less because the production is not on large scale. Workers do not come across any extreme condition like excessive heat; moisture, etc. Workers working around it may come across this dusty environment. But the impact on health will be within limit.

iii) Human Settlement:

There are no houses in and around lease area. Blasting is only activity, which may affect the settlement, but settlement is at distance of more than 1.0 Km from the Sand Mining. All the due precautions will be taken during mining. Transport of finished products is through the villages. There will be psychological impact of the traffic on the local people. However, the intensity of traffic is less.

iv) Health and Hygiene:

In general, the health of villagers is moderately good. In the rainy season, the atmospheric condition is unhygienic due to lack of proper drainage and sanitation in the village habitation. Villagers are working in agricultural fields and work as laborers.

v) Education:

Mostly education is up to middle standard. Economic condition is in general moderate. So after this project the standard of education will be increase.

vi) Socio Economic Benefits Arising Out Of Mining:

- Generation of employment in the rural area.
- Improvement in the living standards of the rural people.
- Creating of infrastructural facilities like roads, electricity, shops, school etc.
- Helping to improve literacy in the area
- Exploiting natural mineral so generation of revenue
- Helping to sustain construction activity
- Improving the greenery of the area, this is otherwise very poor.

vii) LIQUID EFFLUENT:

- Not applicable because small mine and impacts are negligible.

viii) SOLID WASTE:

- Not applicable because small mine and impacts are negligible.

1.6 Biological Environment

A. ANTICIPATED IMPACTS:

a) Aquatic environment

Proposed mining of the dry bed of the river, so no any possibility of disturbance of aquatic life.

b) Flora and Fauna

The mining activity will have insignificant affect on the existing flora and fauna. The project area is surrounded with agricultural land. It was found that the sand mining activity will not have any significant impact on the biological environment of the region.

M. MITIGATION MEASURES:

- ✓ Improvement in river bank stability.
- ✓ Large woody debris in the riparian zone will be left undisturbed or replacedwhen moved and not be burnt.
- ✓ Vegetative debris will not be stored within the mine lease area.
- ✓ Operation and storage of heavy vehicles within riparian habitat will be restricted.
- ✓ Covering of loaded vehicles to reduce dust emission, which may harm surrounding agricultural crops and other plant species conservation of biological diversity of plants, birds and animals.
- ✓ Greenbelt Development and Bio-Diversity Preservation

Plantation activities will be carried out at the bank of the river and along the haul roads. This activity will help for maintaining ecology and environment of the area.

1.7 IMPLEMENTATION OF EMP:

Environmental Management Plan serves no purpose if it is not implemented with true spirit. Some loopholes in the EMP can also be detected afterwards when it is implanted and monitored. Thus, an implementation and monitoring programmed has to be prepared.

Implementation of proposed control measures and monitoring programmed has an implication on the surrounding area as well as for the region. Therefore, sand mining management should be strengthen the existing control measures as elaborated earlier in this report and monitor the efficacy of the control measures implemented within the sand mining area relating to the following specific areas:

- ✓ Coordinate with environment monitoring laboratory for collecting and analyzing air, water, soil&noise quality of the area.
- ✓ Implementing the control and protective measures.
- ✓ Co-coordinating the environment related activities within the project as well as with outside agencies.
- ✓ Separate Budget has been allocated for the EMP.
- ✓ Collecting statistics of health of workers and population of surrounding villages.
- ✓ Monitoring the progress of implementation of environmental management program.

1.7.1. GREENBELT DEVELOPMENT:

- ✓ The implementation for development of green belt will be of paramount importance as it will not only add up as an aesthetic feature, but also act as a pollution sink.
- ✓ The species to be grown in the area should be dust tolerant and fast growing species so that permanent green belt is created.
- ✓ To stabilize the river bank erosion the plantation of native species of that area along the river bank.
- ✓ Apart from the green belt and aesthetic plantation for elimination fugitive of emission and noise control, all other plantation efforts shall be decided and executed with the assistance and co-operation of the local community.

Proposed Program for Plantation For Green Belt Development:

A forestation will be carried out to increase the green cover and create harmony with nature. The area will be afforested with variety of local sapling. This will help to have polyculture. The details of a forestation program are given below. This will be done on the statutory barrier to be left and on the general surface of the lease.Along the access road at sand mining site. (List of trees is given):

S.N.	Scientific Name	Hindi Name	Number
1	Azadirachtaindica	Nim	32
2	Tectonagrandis	Teak	32
3	Terminaliaarjuna	Arjun	32
4	Tuti	Tut	32
5	Syzygiumcumini	Jamun	32
6	Ficusreligiosaa	Pipal	32
7	Bambusa vulgaris	Bamboo	32
8	Neolamarckiacadamba	Kadamb	32
9	Dalbergiasissoo	Shisham	32
10	Madhucalongifolia	Mahua	32
Total			**320**

Cost of Environment Management Cost:

S.N.	Description	Cost Rs. (inlakhs)
1	Dust suppression	0.04
2	Haul road maintenance	0.04
3	Green belt & Maintenance	0.04
4	Monitoring cost	0.04

1.7.2 TRANSPORT SYSTEM:

i) Proper parking places should be provided for the tractor trolleys and other vehicles by the Mine Owner to avoid any congestion or blocking of roads.

ii) Spillage of sand on roads may lead to accidents.Proper road safety signs both inside and outside the mine should be displayed for avoiding road accidents.

1.7.3 MONITORING SCHEDULE AND PARAMETERS

1.7.4 MONITORING OF AMBIENT AIR, WATER, and NOISE:

To evaluate the effectiveness of environmental management program regular monitoring of the important environmental parameters to be monitored are shown in following Table:

Monitoring Parameters	Frequency of Monitoring
Ambient Air: (Ambient Air Quality at appropriate location for PM, SO2, NO2): In the vicinity of the mine area&Near Access road.	Half-yearly
Water: Two Surface (up-stream & Down Stream) & One Ground Water Samples nearby the project site	Yearly
Noise: Day & Night level Noise Monitoring at mining site	Half-yearly

For air, water and noise pollution control measures, it has been suggested that samples would be collected and tested all-round the year with appropriate frequency at strategic places by suitable agencies. In case, it is found that any of the control parameters exceed the tolerance limit as fixed by the State/Central Pollution Control Board, preventive measures will be taken and if required expert opinion will be sought for proper remedial measures.

1.7.5 DISASTER PLANNING:

Proper disaster planning should be done to meet any emergency situation arising due to fire,explosion,sudden leakage of gas etc. Firefighting equipment and other safety appliances should be kept ready for use during disaster/emergency situation including natural calamities like earthquake/flood.

1.7.6 ENVIRONMENT MANAGEMENT CELL:

Each mine or group of mine should identify within its setup a Department/Section/Cell with trained personnel to take up the model responsibility of environmental management as required for planning and implementation of the projects.

10.0 CONCEPTUAL MINING PLAN:

This stage not applicable because the Conceptual plan of the proposed lease area at the end of lease period is prepared.

10.1 Ultimate depth, size & shape of the pit:

The Lease will be for 1 year. Therefore, it is very premature to decide the conceptual plan for the Sand Mine. However, based on the available geological information requirement or purpose of mining the shape and size of Sand has been defined and shown as the Ultimate Pit Limits by colored lines in the Geological plan, the Production &Development plan, and the Conceptual plan. Ultimate pit size will be 989 m x 47 m x 0.5 m.The Conceptual plan and Environmental Management Plan are shown in Plate No.-VII.

1.2 Ultimate Capacity of Dump:

No surface dump is proposed at the conceptual stage.

1.3 Land use pattern:

The anticipated land use pattern as envisaged after five years and at the end of conceptual period would be as tabulated below,

S. N.	Particulars	As on Today in Ha	After 1 Years in Ha
1)	Area of top soil spread for a forestation	-	-
2)	Storage for top soil	-	-
3)	Green Belt	-	-
4)	Over burden Dump	-	-
5)	Mineral Storage	-	-
6)	Infrastructure (Workshop, Admin. Building etc.)	-	-
7)	Mine road in Mine lease area	-	-
8)	Utilized area for Sand Mining	0.000	**0.35**
9)	Virgin lease area for Sand Mine & Other Uses	0.35	0.000
10)	Road	-	-
11)	Railway	-	-
12)	Tailing Pond	-	-
13)	Effluent Treatment Plant	-	-
14)	Mineral separation plant	-	-
15)	Township Area	-	-
16)	Others to specify	-	-
17)	Ownership	Government River	Government River
Total		0.35	0.35

11.0 COMPLIANCE OF SAFETY RULES AND REGULATIONS:

Whether there are any serious violation of safety rules and regulation which may jeopardize human health and safety. If so, give details of violations and state the steps proposed to be taken with the time scheduled to rectify the violations:

No, there are not any serious violation of safety rules and regulation, which may jeopardize human health and safety.The applicant has given a commitment in this effect and undertaking also given to follow and implement, as specified in the mining plan.The applicant is undertake to abide and implement any special conditions imposed by various authorities and also to complete formalities under provision of the Mines & Mineral (Development & Regulation) Act, 1957 and the Bombay Minor Mineral rules, the Mineral Conservation and Development Rules, 1988 as amended, the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule 2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016,Sustainable Sand Mining Management Guidelines 2019,Sand Mining Policy 2020

12.0 ANY OTHER INFORMATION:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment. These things will be religiously followed and its report will be periodically submitted to the concerned authority. All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there

under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtained relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

PRE FEASIBILITY REPORT

(As per Rules 23 & 26 of MMME (D & R) RULE 2013 & Section 15 of MMDR Act 1957, MoEF & CC Notification 2006, S.O. 141(E) dated 15. 01. 2016; MoEF & CC, Sustainable Sand Mining Management Guidelines 2016,Guidelines for Mining Policy2020)

For

OBTAINING ENVIRONMENT CLEARANCE

of

SAND MINING (MINOR MINERAL)

For

Sagoda-A River Bed Sand Mine / Sand Ghat

Khasra No:-193,194

Area (0.86Ha)

Village- Sagoda-A Tehsil-Shegav, District- Buldhana ,

Submitted to

THE SR. DY. DIRECTOR, DIRECTORATE OF GEOLOGY & MINING, GOVERNMENT OF MAHARASHTRA,Nagpur, (M.S.)

District:-Buldhana ,
Applicant/Project Proponent
District Mining Officer
Collector office, Buldhana ,
District: Buldhana ,

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Accredited by NABET: No.: - NABET/EIA/1619/RA0060/ April 19, 2020)

March – 2020

1. EXECUTIVE SUMMARY

This Pre Feasibility Report has been prepared for the proposed sand ghat over the area of 0.86Ha at PurnaRiver Bed adjoiningKhasra No:-193,194of VillageSagoda-A ,Tehsil Shegav, District- Buldhana,Maharashtra**,**in accordance with theNotification of MoEF S.O. 1533 dated 14th September 2006. The Ministry ofEnvironment, Forest and Climate Change amended Principal Notification vide 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, sand mining framework 2018. and Govt. of Maharashtra Sand Policy 03.01.2018, Mining Guidelines 2020, included Minor Minerals from 0 Ha to 50 Ha in the PrincipalNotification S.O. 1533 (E) dated 14.09.2006. Central Government made furtheramendments to the notification vide S.O. 2269 (E) dated 01.07.2016. In obedience allrelevant notifications to the principal Notification dated 14th September 2006, applicationfor the excavation of sand ghat from proposed sand ghat is being submitted to SEAC, SEIAA,Maharashtra.

Though any development activity like industry or minor mineral excavation may cause temporary damage to land, forest and induce changes in the quality of air, water, flora and fauna of the area, it has favorable effect of industrialization on social development and progress of the nation. For overall gain, it is necessary to strike a balance between the two aspects of economy and ecology and ensure that impacts on the environment are minimized with improvement in socio-economic conditions. This is better achieved through a well-planned approach of EMP relevant to the area under consideration.

Sand is used for a wide variety of purposes. It is most commonly used as an aggregate in construction projects. Sand is required for road base, concrete aggregate, asphalt pavement aggregate, and many other purposes. The selected area has exposures of sand which is useful for the various purposes mentioned above.

The mining for this sand ghat excavation is proposed to be carried out manually with opencast method of mining engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading will be carried out manually and transportation of mineral from the sand ghat to the depot by tractor with tipper arrangement. As the mineral is soft & loose in nature, no drilling and blasting are required. The proposed sand ghat area is located at Survey of India Toposheet No: 56D/9 and falls between the Latitude 20°54'54.68"N and longitude 76°36'11.30"E.The lease area is not an agricultural land and the area is classified as River. Maximum production capacity is 1519 Brass.

In order to obtain environmental clearance as per the EIA Notification 2006 the Prefeasibility Report (PFR) is submitted along with the application Form I M for the project under

consideration. The project is categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016

2.0 INTRODUCTION

1.1 PROJECT PROPONENT

The possession of the land under consideration lies with State Government (As per the 20 (1) Chapter III of The Maharashtra Land Revenue Code 1966) hence application is made through the legal representative as a Project Proponent. Accordingly, DMOBuldhana,Collectorate, Buldhanahave applied for Environmental Clearance of proposed sand ghat. After obtaining the environmental clearance this sand ghat will be auctioned as per the Notification Goukhani 10/0615/Pra.Kra. 289/Kha dated 03.01.2018. Communication details of the project proponent are as under;

DMO BULDHANA
Buldhana Collectorate,
Collector Office, Buldhana

1.2 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

The selected area has exposures of sand which is useful for the various purposes mentioned above. It is proposed to excavate sand from this area by manual opencast method without using any excavation machinery. Transport of the excavated sand will be carried out using tractor with trolley arrangement from sand ghat to depot and by truck/tipper/dumper onwards to the desired destination. The excavated sand will be sold in the market. The present Pre Feasibility Report has been prepared for Proposed sand ghat over the area of 0.86Ha atPurnaRiver Bed adjoiningKhasra No.:-193,194 of Village:-Sagoda-A ,Tehsil, ShegavDistrict-Buldhana.The project is for excavation of sand (minor mineral) categorized as Category B2 vide Notification 141 (E) dated 15th January 2016.

1.3 NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY AND OR REGION.

Road/building materialsand is an essential requirement as one of the minor mineral deposits occurring in the majority portion of Maharashtra. It has played a great role in development of civilization and industrialization. The occurrence of sand in the proposed area is proved by the way of exposures and its production has important role in the local infrastructural development. The sediment in the form of river bed material (RBM) deposited every year during monsoon season at many locations of theGodavariRiver. Removal of the sand from the proposed location is unlikely to damage the riparian system if the excavation and transport is carried out in systematic manner proposed in the approved Mining Plan. This project operation

will provide employment directly and indirectly to the people residing in vicinity, thus improving the Socio-economic status of the area.

1.4 DEMAND SUPPLY GAP.

Sand is an essential constituent infrastructural development projects like road, dams, bridges and building. The demand for sand/gravel is ever growing with the growth of the infrastructure sector in our country. The requirement for the mineral is always high in the nearby cities and towns. Therefore there is always a good demand of the mineral in the domestic market. Its demand in industrial area of Buldhanaand nearby areas is increasing very fast. Sand mining not only narrows the gap between the demand and supply if building material but also enhances employment opportunities and economic growth of the region. Besides, the production will also benefit the State in the form of revenue generation. Apart from this, the project will generate direct and indirect employment opportunities from the nearby villages.

1.5 IMPORTS VS. INDIGENOUS PRODUCTION.

Mining of sand is required for various projects within the state of Maharashtra and other states.

1.6 EXPORT POSSIBILITY.

Not explored

1.7 DOMESTIC / EXPORT MARKETS.

There is always an ever increasing demand of these minerals in the domestic market.

1.8 EMPLOYMENT GENERATION (DIRECT AND INDIRECT) DUE TO THE PROJECT.

It is proposed to employ the local population wherever possible in the proposed project activities. Direct employment for this proposed sand ghat excavation will be approximately 19 Persons and the there will be indirect employment generation also in service sector. The allocated lease will be directed to deploy local persons on for this project.

Grade of staff	**Designation**	**Nos.**
Supervisory and Technical staff	Mine mate / Mine Supervisor	01
Clerical staff	Clerk/ Time keeper	01
Safety/Security Officer	Security Guard	01
Skilled workers	Tractor Trolley Driver	02
Skilled workers	Tractor trolley Helper	02
Semiskilled workers	Labors Supervisor (Mukadam)	05
Unskilled workers	Labors	08
Total Manpower		19

3.0 PROJECT DESCRIPTION

i) Type of project including interlinked and Interdependent project, if any.

As per Gazette Notification of Ministry of Environment, Forest and Climate Change (MoEF&CC) dated 15th January 2016, New Delhi all projects (minor mineral) less than 25 hectare falls in category “B-2”. As the lease area of the proposed project is 0.86Ha, it falls in “B-2” category and will be appraised by State level authority.The entire mined out mineral will be completely transported to the market /and there is no interlinked project.

ii) Location (map showing general location, specific location, and projectboundary & project site layout) with coordinate

The land is government Waste land. The area is a plain terrain. The location of proposed siteis shown in the Figure-1. The proposed area is covered in parts of Survey of India Toposheetno.55/D9 within latitude 20°54'54.68and longitude N 76°36'11.30"E (Refer Figure 2).

FIGURE-1: LOCATION OF PROPOSED SAND GHAT

PLATE -01
Location map

ADDRESS - SAGODA - A RIVER SAND MINE
AT PURNA RIVER
GAT NO.- 193,194
DISTRICT - SHEGAV
STATE- MAHARASHTRA
TOTAL LEASE AREA- HECT. 0.86

FIGURE-2: SPECIFIC LOCATION OF PROPOSED SAND GHAT

The proposed sand mining ghat was demarcated on the ground by revenue department with reference to adjacent survey numbers of concerned village map. The exploration/assessment of sand Ghats has been carried out by GSDA using probing rods for delineating the total depth of sand and depth of mineable sand with quantity.

Accordingly, reports submitted with mineable reserves of sand in particular location. On the basis of this report State Govt. will auction the sand Ghats for excavation of sand for specific mineable quantity.

The proposed sand ghat has sufficient reserves of sand to excavate1519 brass for the period of current financial year. This is a temporary type of lease for the limited mentioned period i.e. up to September 2020.

LOCATIONAL DETAILS IN SUMMARIZED FORM

Sr. No.	Details of the area	Particulars
1	Name of Sand Ghat and River	Sagoda-A River Bed Sand Mine in
2	Village	Sagoda-A
3	Taluka	Shegav
4	District	Buldhana
5	Adjoining Khasra No./Survey No.	1
6	Lease Area (Ha.)	0.86Ha
7	Ownership/Occupancy of the Lease area	Government Land
8	Existence of public road/railway line if any nearby and approximate distance	The mine is located about less than 0.61 km. in SW Direction to Sagoda village.
9	Nearest Village and its distance from lease area	Sagoda (0.61 KM) , Itkhed (0.86 KM) , Chinchkhed (0.91 KM) ,Pesoda(1.8 KM).
10	Toposheet No. and RL of the Lease area	55 D/9 and0.86Ha
11	Latitude & Longitude of Lease area boundary points (Coordinates of the boundary points taken as per the area shown by revenue authority Patwari/Talathi)	20°54'54.68"N 76°36'11.30"E 20°54'54.04"N 76°36'11.34"E

iii) Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental consideration gone into should be highlighted.

Rivers and streams by far have been the most lucrative and attractive source for extracting large volume of building materials such as boulders, stone, pebbles, sand and gravel for a variety of construction activities. In plain reaches, where the bed slope is gentle, the river bed is overlaid with matrix mainly comprising of sand of different gradation along with silt and clay. Due to river dynamics, the sediments which get generated from bed load and wash load move with river and do not settle uniformly over the entire bed. It rather settles at certain places only (aggradations) and must be removed from time to time to avoid flash floods due to reduction in channel width. The Government has identified such locations for sand removal and the present location is one of them. The project is a site specific and has to be undertaken at the place of the occurrence of the mineral and hence no alternative sites explored.

The environmental advantages of using river sediments are that the Sediments can easily be collected / extracted by digging less deep pits in active channel or dry river beds of upper terraces. The sand extracted from the identified stretch is free from weak materials and interstitial loose / fine material. No requirement of processing for the sand excavated from the river and it can be directly used without any beneficiation. The natural replenishment takes place annually due to transportation of sediments from upper course/reaches during high stage of river, which is achieved a number of times during monsoon. Environment Management Plan to mitigate the activities due to the proposed sand ghat excavation is enclosed at **Annexure 1**.

iv) Size or magnitude of operation.

The proposed sand ghat mining having an area of 0.86Ha will be developed as opencast for the excavation of sand/gravel with production capacity of1519brass. The excavation will be carried out from the demarcated area which is dry. Excavation will be carried out in non monsoon season on or before 30th September 2020.

v) Project description with process details (a schematic diagram/ flow chart showing the project layout, components of the project etc. should be given).

The mining will be carried out manually with opencast method of mining by engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading is proposed to be carried out manually and transportation of mineral from the mine to the depot is proposed through tractor with trolley arrangement. As the mineral is dry, loose in nature, no drilling and blasting are required and hence not proposed. Sand excavated manually will be loaded directly into vehicles. Once a pre-determined area has been exhausted of the sand, it shall be replenished by sand during monsoon period leveled it & maintained to its maximum original topography. There will be no OB or waste generation as the sand is directly exposed in the river bed without any soil or silt cover or any other material which can be categorized as overburden material.

Workings will be restricted within the applied area as per the approved Mining Plan. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow. No processing of sand required.

Restriction on mining:

- Mining shall not be carried out within 600 m of any bridge (railway or road).
- Mining shall not be carried out within 100 m from any pumping station, water intake.
- The quarrying of sand will be proposed after leaving a safety distance of 600 meter from bridge falling under NH/SH from both side of the bank, & leaving a safety distance of 100 meter from any bridge.
- Mining shall not be carried out within 3 m from the river bank It will be done leaving a safety zone of total of 1/5th of the width of the river from the banks for bank protection.
- During the entire lease period, the deposit will be worked from the top surface to 3 m bgl or above ground water level, whichever comes first. This will also help in avoiding ponding effect.
- The workability is suggested by keeping in the mind possible effect on the meandering of River. The mining on the concave bank is most suitable than convex bank. Hence, mining is proposed during non monsoon period in a way that is will get replenishment during monsoon.
- Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season.
- No ore dressing/ handling/ processing plant shall be attached with the mine. The whole area demarcated for the purpose of mining as per the approved mining plan shall be mined out so as to maximize the sand production or extraction.
- Systematic plantation will be made in the area outside the river bank to protect the banks from erosion in monsoon.
- In the applied area the velocity & river water flow being less the sediment load get deposited in to the pit During Monsoon season the area get replenished with sediments to be lifted in subsequent years. Excavated area will be replenished naturally due to sediment inflow from the catchment area Therefore, Environment and Ecology of the area remains undisturbed.
- Sequence of mining operation is given below.

vi) Raw material along with estimated quantity, likely source marketing area of final products, mode of transport of raw material and Finished product.

There is no requirement of any Raw Material in this project. Mode of transport of extracted sand is surface transport by existing roads.

vii) Resource optimization / recycling and reuse envisaged in the project, if any, should be briefly outlined.

There is no waste material generation. No recycling and reuse of material is envisaged as entire excavated material will be transported. Minerals are generally depleting asset once mined; but minerals like sand will be replenished naturally. Thus a scientific approach will be taken up for excavation of mineral with systematic method.

viii) Availability of water its source, Energy / power requirement and source should be given

a) **Water Requirement:**Thus total water requirement will be **5.88KLD**.This water will be supplied from the bore well from nearby villages through tankers as well as from surface water sources for dust suppression. Dust suppression and green belt water will beutilized from water tanks. Electricity is not required as the working is only during day timewhich does not demand for artificial lighting.

Sr. No.	Purpose	Water Requirement (KLPD)
1	Dust Suppression and green belt	5.00
2	Domestic (Considering 45 Litres per person per day for19persons)	0.88
	Total	**5.88**

ix) Quantity of waste to be generated (liquid and solid) and scheme for their Management / disposal.

Solid Waste: There is no solid waste generation during sand excavation.

Liquid Effluent: The sand excavation from the proposed site does not intercept the water table and the area is dry having no impoundment of water. Thus, there is no generation of effluentenvisaged. Small amount of domestic waste will be generated by the workers at the site, which will be disposed-off through proper municipal way. No other waste generation is expected.

x) Schematic representation of the feasibility drawing which give information of EIA purpose.

The proposed sand ghatproject is for excavation of sand which is categorized as minor mineral vide Notification No. S. O. 423 (E) dated 10.02.2015 issued by Ministry of Mines. The minor mineral project such as sand excavation requires environmental clearance as per the procedure defined by Ministry of Environment, Forest & Climate Change (MoEF & CC) Notification No.141 (E) dated 15th January 2016. EIA for the minor mineral projects >5 Ha is not required as per this Notification. As per the Appendix XI of this Notification, approved Mining Plan, Form I and Prefeasibility Report are required for appraisal of the environmental clearance by SEAC/SEIAA. Accordingly, necessary compliance of the directed procedure is made by the applicant. The Notification issued by the Revenue Department of Government of Maharashtra No. Goukhani-10/0615/Pra.Kra. 289/Kha dated 03.01.2018 and Sustainable Sand Mining Management Guidelines2016& Sustainable Sand Mining Management Guidelines 2019, Mining Guidelines 2020 have also been referred and the directives provided in theseNotification/Guidelines have been used for preparation of these documents.

4.0 SITE ANALYSIS

The suitability for extraction was done taking into consideration general profile river stream, annual deposition factor, and replenishment. The project site is located at a plain topography and within the mature stage of a river. The river bed sand replenished every year with the sand carried out with flow of water in monsoon and there is no such control of mineralization as it depends on the nature of flow of river water.

i) Connectivity

Sr.No.	Particulars	Details
1	Road Connectivity	The mine is located about less than 0.61 km. in SW Direction to Sagoda village.
2	Nearest Highway	National Highway NH 6 is at 23.0 km&SH 173 is 5.9km.

3	Nearest Airport	Chikkalthana Airport- 200km
4	Nearest Railway Station	Shegaon Railway Station is 5.6 km

ii) Land form, land use and Land ownership.

There is no village or human settlement in the lease area. There is no reserves forest or protected forest land within the mining area. The area has Flat topography. The lease area forms a part of Survey of India toposheet no55D/9. Thelanduse details for the proposed sand ghat area are as under:-

Adjoining Khasra No. of Village / Taluka /District/ State	**Area**	**Type of land**
193,194	0.86	Government Notified Land

iii) Topography (along with map).

Latitude and Longitude readings have been taken by using G.P.S. instrument. All the levels have taken with respect to Mean Sea Level. It is flat in nature. Total area if the lease area is 4.65Ha.

iv) Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ), shortest distances from the periphery of the project to periphery of the forest, national park, wild life sanctuary, eco sensitive areas, water bodies (distance from the HFL of the river), CRZ. In case of notified industrial area, a copy of the Gazette notification should be given.

Significant features with their aerial distance of the project are tabulated below;

Sr. No.	**FEATURES**	**DETAILS**	**DISTANCE**
1	Village (Nearest)	Sagoda	1 km
2	Land use	Agriculture	0 km
3	Water bodies	RiverPurna	1 km
4	Reserved Forest	No	0 km
5	National Park	No	0 km
6	Wildlife Sanctuary	No	0 km
7	Eco Sensitive Area	No	0 km
8	Coastal Regulation Zone	No	0 km
9	Archeological Monument	No	0 km

10	Industries	No	0 km
11	Mines	Sand ghat	1 km

v) Existing Infrastructure.

There is well established road connection from the quarry to the State Highway /village road. Other facilities like market, school, hospital (PHC), drinking water facility, electric, telecommunication etc. are available in nearby villages.

vi) Soil classification.

There is no top soil. The river bed only consists of sand/ gravel.

vii) Climatic data from secondary sources.

Sub–tropical climatic condition prevails in the area. Maximum temperature recorded during summer is45.6°C and the minimum temperature recorded during winter is 12.6° C.
The region receives an average rainfall of around 697 mm to 862 mmwith an annual variation of 100 mm although wider variation has also been noticed in the past. About (50 to 55%) in of rainfall precipitates from June to September.

viii) Social Infrastructure available.

Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities) are found within a distance of 10km of the proposed sand ghat area.

ix) Geology

The lease area as per survey is a River Bed of Godavari River. Applied area for sand extraction is covered with Sand, Pebblesand Gravels of various sizes. The sand of Granitic, Quartzitic.

A) Mineable Reserves of Sand in the proposed Mine Lease Area as per the GSDA:

The proposed Sand Ghat/ River Bed Sand Mine of 0.86Ha area is covered with sand. Theentirearea is occupied by single litho unit sand deposit with flat configuration. Estimationof sand is done by the GSDA, Buldhana and mineable reserves are proposed for sand mining foryear 2019-2020 as follows:.

Av. Length (m)	Av. Width (m)	Area (m^2)	Proposed Depth (m)	Volume of Deposit for Mining (m^3)	Quantity of sand for Excavation (Brass)
L	W	A=L*W	D	V = A * D	Qt = V / 2.83
430	20	8600	0.50	430000	1519

4.0 PLANNING BRIEF

i) Planning Concept (type of Industries, facilities, transportation etc) Town and country planning/ Development authority Classification.

The mine will be worked by opencast manual method. Mining will be done up to a depth of 1m bgl or above the water level whichever is comes first. The sand will be collected in its existing form. No drilling /blasting are required as the material is loose in nature. There will be no OB or waste generation as the sand is exposed in the river bed. It will be done leaving a safety zone from bank for bank protection. Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season. Roads in the Applied Area for the movement of loaded trippers/ trucks will not have slopes more than 1 in 20.

However, movement of trucks after mineral loading will be towards both sides through approachroads connecting to tar roads. No processing of excavated sand will be done. Workings will be restricted within the lease area/ khasra as per the description report given by Mining Department. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow as the proposed area for the sand ghat is dry. Mining operation will not be carried out during monsoon season. On view monitoring of mining activity technical staff, skilled and non-skilled labors are employed and thus State/Central Govt. and Village Panchayat will get royalty. Workers will get direct employment and equal number or more will get indirect employment.

ii) Population Projection.

The project will employ most of the workers from nearby villages. Thus there will be no increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. The manpower required for the project shall be engaged from the nearby village(s) and hence influx of population to the area is not anticipated.

iii) Landuse Planning (breakup along with green belt etc.)

The sand from the entire allocated area will be excavated as per the approved mining plan. Local species of selected trees will be planted along the river bank and also on the approach road to depot. If permitted by the local authorities, plantation will be carried out in school, gram panchayat, PHC or Sagoda-A premises. It is proposed to have plantation along the road sides on both sides to provide cover against dust dissemination and also to act as noise absorber. Approximately 550trees of will be planted with various types of species. Native plants like Teak,Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tutand other local species will selected insuitable combination, so that can grow fast and also have good leaf cover.

v) Assessment of Infrastructure Demand (physical & social)

The project requires roads for the transport of the produced material which isadequate, besides it requires manpower to operate the quarry and is availablelocally.

vi) Amenities/Facilities.

Temporary rest shelters, portable toilets, drinking water and first-aid will be madeavailable to the workers.

6.0 . PROPOSED INFRASTRUCTURE

No infrastructure erection is proposed in the mine lease area

i) Industrial area (processing area) - No processing or beneficiation is required hence not proposed.

ii) Residential Area (Non processing Area)- None.

iii) Green Belt.

The entire mining area falls within river course and gets flooded duringmonsoons; therefore, no plantation is possible within this area. Plantation willmainly be done along the kuchha road and along the length of the river bank orapproach road to depot or places as recommended by Gram Panchayat.Approximately 550 treesof will be planted with various types of species. Native plants like Teak, Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tut, &other local species will selected in suitable combination, so that can grow fast and also have good leaf cover.

iv) Social Infrastructure.

This Project will provide employment to local people directly and indirectly. Indirect employment will be in the form of shopkeepers, mechanic, drivers, transporters etc. The lessee

will be responsible for providing better social infrastructure benefits such as drinking water, health care measures, educational facilities, promotion of culture and religious activities in surroundings as part of their CSR activities.

v) Connectivity (Traffic and Transportation Road/Rail/Metro/Water ways

The area is approachable from NH 6 is at 23.0 km&SH 173 is 5.9km. . There are metalled roads and unmetalled road up to the mine site.

vi) Drinking Water management (Source & Supply of water)

Water will be supplied from nearby villages for drinking purposes through tankers with NOC from Gram Panchayat.

vii) Sewerage System.

Not required. Temporary toilet facilities will be provided by the proponent at the river banks.

viii) Industrial Waste Management.

Not required

ix) Solid Waste Management.

There is no Solid waste generation during sand mining. The entire excavated sand is useable.

x) Power Requirement & Supply / Source.

Diesel will be used as motive source of primary energy for tractors/ truck arranged by the buyers. Diesel will be outsourced from nearby diesel pumps directly by buyers. Mining method is manual and working hour will be for 12 hours during the day time, so there is no such power requirement.

7.0 REHABILITATION AND RESETTLEMENT (R & R) PLAN

i) Policy to be adopted (central/state) in respect of the project affected person including home oustees, land oustees and landless laborers (a brief outline to be given.)

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

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.)

The operations shall be carried out after obtaining all statutory permissions as per the statutory guidelines. Adequate reserves are available from the proposed sand ghat area. Reclamation and Rehabilitation plan will be prepared for sustainable development and minimized environmental damage. This is a temporary type of lease for the limited mentioned period i.e. Period of Mine Lease will be One Year 2019-2020 or up to 30.09.2020.

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

The sand ghat proposed by the Project Proponent will be auctioned online as perthe procedure in vogue. Hence, project cost cannot be estimated at this stage.

9.0 ANALYSIS OF PROPOSAL FINAL RECOMMENDATIONS)

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 involves collection of river bed material. This is very essential in order to prevent widening of the riverbeds and to prevent flooding off and damage to the adjoining areas. This can only be achieved by maintaining the existing course of the river.
The river banks, on both sides are covered by vegetation and human habitats.Widening of river banks results in excessive erosion; resulting in damage to flora, agricultural land and settlements which are situated at very close proximity. It isproposed to employ the local population wherever possible in the proposedproject activities directly or indirectly. It provides employment to the peopleresiding in vicinity directly or indirectly by the project. The sand extracted fromthis area is in high demand in the local market.

There will be no environmental impact from the project since the scale ofoperation is very less and the method of mining by manual. This operationdoesn’t need relocation manage of any habitants. The plantation of sufficientnumber of trees along the village roads is proposed which

will control thedispersion of dust during transportation as well as will be helpful in controllingNoise for propagation.

Annexure 1

ENVIRONMENT MANAGEMENT PLAN

1.0 INTRODUCTION

Preparation of Environmental Management Plan is required for formulation, implementation and monitoring of environmental protection measures during and after commissioning of projects. The plan should indicate the details as to how various measures have been proposed to be taken including cost components as may be required.

1.1 Land Environment

The type of mining and the characteristics of the particular mineral deposit both affect the degree to which mining disturbs the landscape. Sand Mining and allied activities will be done in the fluvial plain formed by river meandering. Mining of sand may cause a few environmental degradations.

A. ANTICIPATED IMPACTS:

Damage of river bank due to access ramps to river bed, may cause soil erosion.

Destruction of river bank hinterland and ecological due to extraction of sand by probability of damage to the flood control bunds (built along the river side) due to heavy movements of vehicles over the bund to approach the mine are and further during transportation for sand from the mine area.

Disposal of packing material, carried by the workers, would not be allowed. This packing material would include used sachet/gutka/pan masala pouches.

Movement of heavy vehicles sometimes cause problems to agricultural land, human habitations, borehole users due to dust, noise and it also causes traffic hazards.Surface degradation due to road network.

M. MITIGATION MEASURES:

Safety distance of 3 meter or 1/10th of the width of the river whichever is more will be left from both the bank of the river (as per “Sustainable sand mining guidelines”).

No foreign material like polythene bag, jute bag and useless articles should be allowed to remain/spill in river bed and catchment area, or no pits/pockets will be allowed to be filled with such material.

Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained.
Care will be taken to ensure that ponding is not formed in the river bed.
Mining will not exceeds beyond the allowed extraction capacity.
Green belt will be developed along the haul road and the bank of rivers of mine premises and near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.

1.2 Water Environment

A. ANTICIPATED IMPACTS:

As the project activity is carried out in the dry part of river bed, none of the project activities will affect the water environment or riverbank habitats. Project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality. Monitoring of water quality will be checked yearly.

M. MITIGATION MEASURES:

i) Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
ii) Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
iii) River stream will not be diverted to form in active channels.
iv) Utmost care will be taken to minimize or control leakage vehicles to be used for sand transportation.
v) The washing of tractor trolleys in the river will be avoided.
vi) The contractor will follow all guidelines and rules for proper and scientific method of mining during the period of extracting the sand.

1.3 Air Environment:

A. ANTICIPATED IMPACTS:

a) Due to Haul Road/ Access Road:

Plying of tractor trolleys from public road to river sand collection points needs access roads. Majority of such access roads are the same existing roads/tracks being used by pedestrians/cart owners. Movement of heavy vehicles sometimes causes problems to cattle, agriculture land,

and human habitations due to dust, noise and movement of public. These environmental problems are felt more as the area is rural in nature.

b) Due to Mining process:

Air pollution is likely to be caused at various stages of sand mining operations such as excavation, loading & transportation of material. Most of the dust will be generated from loading& transportation. This dust becomes air borne and gets carried away to surrounding areas. The impact on air is mainly localized in nature as the dust particles are not carried to longer distances and the effect is felt within the core zone of the project involving active Sand mining operations.

M. MITIGATION MEASURES:

a) Mitigation of Impacts on Access Roads:

Movement of the vehicles on the road will be increased; however, unmetalled road in the mining area will be sprinkled with water at regular intervals. In addition to prevent spillage by tractor trolleys over loading should be controlled along with speed limit (1Brass /tractor trolley). Maintenance of haul road will be done on regular basis.

b) For Fugitive Dust Emission:

i) To avoid fugitive dust emissions at the time of excavation, regular sprinkling of water will be done on regular basis.

ii) Sand is transported to the sites by road through tractor trolleys. The sand carrying vehicles shall be covered by tarpaulin sheets.

iii) The Green Belt development will be prepared along the haul roads, which will act as a pollution sink.

iv) To minimize the vehicular pollution from the sand transporting vehicles, the following conditions will insist to permit the vehicles of the transporters.

- The vehicles should be (Bharat-IV stage) compliant and should have pollution control certificate (PUC) issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.

1.4 Noise:

A. ANTICIPATED IMPACTS:

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since, slight increase in noise levels can be expected.

M. MITIGATION MEASURES:

- ✓ Minimum use of Horns at the village area.
- ✓ Timely maintenance of vehicles and their silencers to minimize vibration and Sound.
- ✓ Phasing out of old and worn out tractor trolleys.
- ✓ Provision of green belts along the road networks.
- ✓ Care will be taken to produce minimum sound during sand loading.
- ✓ Use of Backhoe and ear plugs may be provided to protect the labors working at the site.

1.5 Socio-Economic Environment

This project operation will provide livelihood to the poorest section of the society.
Approximately 19 people shall work at mine site.

A. ANTICIPATED IMPACTS AND EVALUATION:

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. There is no R & R involvement in this project. There is no land acquisition in this project.

The results of the field survey conducted to understand the knowledge and perception of the people living around the project area gives a clear idea about the need for the project.

A major portion of the houses in the study area are semi- pucca type structures. The water source to these areas is from the municipal connection and private bore wells and wells. The awareness level regarding the proposed mining activity is very high.

The proposed mining activity is expected to provide stimulus to socio-economic activities in the region and thereby accelerate further development processes.

i) Social and Demographic Profile:

The workers are from local villages. These people have been provided all welfare from a lessee like medical benefits, insurance, fees for children's education etc. They have some land and cattle for their daily earnings. Additional income earned from the Sand Mining work will improve their living standard. The group of quarries in and around will help to have infrastructure facilities like roads, schools, shops etc. This will improve their social life.

ii) Occupational Health And Safety:

This is River Bed Sand Mine. So the mining activities are comparatively less because the production is not on large scale. Workers do not come across any extreme condition like excessive heat; moisture, etc. Workers working around it may come across this dusty environment. But the impact on health will be within limit.

iii) Human Settlement:

There are no houses in and around lease area. Blasting is only activity, which may affect the settlement, but settlement is at distance of more than 1.0 Km from the Sand Mining. All the due precautions will be taken during mining. Transport of finished products is through the villages. There will be psychological impact of the traffic on the local people. However, the intensity of traffic is less.

iv) Health and Hygiene:

In general, the health of villagers is moderately good. In the rainy season, the atmospheric condition is unhygienic due to lack of proper drainage and sanitation in the village habitation. Villagers are working in agricultural fields and work as laborers.

v) Education:

Mostly education is up to middle standard. Economic condition is in general moderate. So after this project the standard of education will be increase.

vi) Socio Economic Benefits Arising Out Of Mining:

- Generation of employment in the rural area.
- Improvement in the living standards of the rural people.
- Creating of infrastructural facilities like roads, electricity, shops, school etc.
- Helping to improve literacy in the area
- Exploiting natural mineral so generation of revenue
- Helping to sustain construction activity
- Improving the greenery of the area, this is otherwise very poor.

vii) LIQUID EFFLUENT:

- Not applicable because small mine and impacts are negligible.

viii) SOLID WASTE:

- Not applicable because small mine and impacts are negligible.

1.6 Biological Environment

A. ANTICIPATED IMPACTS:

a) Aquatic environment

Proposed mining of the dry bed of the river, so no any possibility of disturbance of aquatic life.

b) Flora and Fauna

The mining activity will have insignificant affect on the existing flora and fauna. The project area is surrounded with agricultural land. It was found that the sand mining activity will not have any significant impact on the biological environment of the region.

M. MITIGATION MEASURES:

- ✓ Improvement in river bank stability.
- ✓ Large woody debris in the riparian zone will be left undisturbed or replacedwhen moved and not be burnt.
- ✓ Vegetative debris will not be stored within the mine lease area.
- ✓ Operation and storage of heavy vehicles within riparian habitat will be restricted.
- ✓ Covering of loaded vehicles to reduce dust emission, which may harm surrounding agricultural crops and other plant species conservation of biological diversity of plants, birds and animals.
- ✓ Greenbelt Development and Bio-Diversity Preservation

Plantation activities will be carried out at the bank of the river and along the haul roads. This activity will help for maintaining ecology and environment of the area.

1.7 IMPLEMENTATION OF EMP:

Environmental Management Plan serves no purpose if it is not implemented with true spirit. Some loopholes in the EMP can also be detected afterwards when it is implanted and monitored. Thus, an implementation and monitoring programmed has to be prepared.

Implementation of proposed control measures and monitoring programmed has an implication on the surrounding area as well as for the region. Therefore, sand mining management should be strengthen the existing control measures as elaborated earlier in this report and monitor the efficacy of the control measures implemented within the sand mining area relating to the following specific areas:

- ✓ Coordinate with environment monitoring laboratory for collecting and analyzing air, water, soil&noise quality of the area.
- ✓ Implementing the control and protective measures.
- ✓ Co-coordinating the environment related activities within the project as well as with outside agencies.
- ✓ Separate Budget has been allocated for the EMP.
- ✓ Collecting statistics of health of workers and population of surrounding villages.
- ✓ Monitoring the progress of implementation of environmental management program.

1.7.1. GREENBELT DEVELOPMENT:

- ✓ The implementation for development of green belt will be of paramount importance as it will not only add up as an aesthetic feature, but also act as a pollution sink.
- ✓ The species to be grown in the area should be dust tolerant and fast growing species so that permanent green belt is created.
- ✓ To stabilize the river bank erosion the plantation of native species of that area along the river bank.
- ✓ Apart from the green belt and aesthetic plantation for elimination fugitive of emission and noise control, all other plantation efforts shall be decided and executed with the assistance and co-operation of the local community.

Proposed Program for Plantation For Green Belt Development:

A forestation will be carried out to increase the green cover and create harmony with nature. The area will be afforested with variety of local sapling. This will help to have polyculture. The details of a forestation program are given below. This will be done on the statutory barrier to be left and on the general surface of the lease.Along the access road at sand mining site. (List of trees is given):

S.N.	Scientific Name	Hindi Name	Number
1	Azadirachtaindica	Nim	50
2	Tectonagrandis	Teak	50
3	Terminaliaarjuna	Arjun	50
4	Tuti	Tut	50
5	Syzygiumcumini	Jamun	50
6	Ficusreligiosaa	Pipal	50
7	Bambusa vulgaris	Bamboo	50
8	Neolamarckiacadamba	Kadamb	50
9	Dalbergiasissoo	Shisham	50
10	Madhucalongifolia	Mahua	50
Total			**550**

Cost of Environment Management Cost:

S.N.	Description	Cost Rs. (inlakhs)
1	Dust suppression	0.09
2	Haul road maintenance	0.12
3	Green belt & Maintenance	0.09
4	Monitoring cost	0.09

1.7.2 TRANSPORT SYSTEM:

i) Proper parking places should be provided for the tractor trolleys and other vehicles by the Mine Owner to avoid any congestion or blocking of roads.
ii) Spillage of sand on roads may lead to accidents.Proper road safety signs both inside and outside the mine should be displayed for avoiding road accidents.

1.7.3 MONITORING SCHEDULE AND PARAMETERS

1.7.4 MONITORING OF AMBIENT AIR, WATER, and NOISE:

To evaluate the effectiveness of environmental management program regular monitoring of the important environmental parameters to be monitored are shown in following Table:

Monitoring Parameters	Frequency of Monitoring
Ambient Air: (Ambient Air Quality at appropriate location for PM, SO2, NO2): In the vicinity of the mine area&Near Access road.	Half-yearly
Water: Two Surface (up-stream & Down Stream) & One Ground Water Samples nearby the project site	Yearly
Noise: Day & Night level Noise Monitoring at mining site	Half-yearly

For air, water and noise pollution control measures, it has been suggested that samples would be collected and tested all-round the year with appropriate frequency at strategic places by suitable agencies. In case, it is found that any of the control parameters exceed the tolerance limit as fixed by the State/Central Pollution Control Board, preventive measures will be taken and if required expert opinion will be sought for proper remedial measures.

1.7.5 DISASTER PLANNING:

Proper disaster planning should be done to meet any emergency situation arising due to fire,explosion,sudden leakage of gas etc. Firefighting equipment and other safety appliances should be kept ready for use during disaster/emergency situation including natural calamities like earthquake/flood.

1.7.6 ENVIRONMENT MANAGEMENT CELL:

Each mine or group of mine should identify within its setup a Department/Section/Cell with trained personnel to take up the model responsibility of environmental management as required for planning and implementation of the projects.

10.0 CONCEPTUAL MINING PLAN:

This stage not applicable because the Conceptual plan of the proposed lease area at the end of lease period is prepared.

10.1 Ultimate depth, size & shape of the pit:

The Lease will be for 1 year. Therefore, it is very premature to decide the conceptual plan for the Sand Mine. However, based on the available geological information requirement or purpose of mining the shape and size of Sand has been defined and shown as the Ultimate Pit Limits by colored lines in the Geological plan, the Production &Development plan, and the Conceptual plan. Ultimate pit size will be 989 m x 47 m x 0.5 m.The Conceptual plan and Environmental Management Plan are shown in Plate No.-VII.

1.2 Ultimate Capacity of Dump:

No surface dump is proposed at the conceptual stage.

1.3 Land use pattern:

The anticipated land use pattern as envisaged after five years and at the end of conceptual period would be as tabulated below,

S. N.	Particulars	As on Today in Ha	After 1 Years in Ha
1)	Area of top soil spread for a forestation	-	-
2)	Storage for top soil	-	-
3)	Green Belt	-	-
4)	Over burden Dump	-	-
5)	Mineral Storage	-	-
6)	Infrastructure (Workshop, Admin. Building etc.)	-	-
7)	Mine road in Mine lease area	-	-
8)	Utilized area for Sand Mining	0.000	**0.86**
9)	Virgin lease area for Sand Mine & Other Uses	0.86	0.000
10)	Road	-	-
11)	Railway	-	-
12)	Tailing Pond	-	-
13)	Effluent Treatment Plant	-	-
14)	Mineral separation plant	-	-
15)	Township Area	-	-
16)	Others to specify	-	-
17)	Ownership	Government River	Government River

Total	0.86	0.86

11.0 COMPLIANCE OF SAFETY RULES AND REGULATIONS:

Whether there are any serious violation of safety rules and regulation which may jeopardize human health and safety. If so, give details of violations and state the steps proposed to be taken with the time scheduled to rectify the violations:

No, there are not any serious violation of safety rules and regulation, which may jeopardize human health and safety.The applicant has given a commitment in this effect and undertaking also given to follow and implement, as specified in the mining plan.The applicant is undertake to abide and implement any special conditions imposed by various authorities and also to complete formalities under provision of the Mines & Mineral (Development & Regulation) Act, 1957 and the Bombay Minor Mineral rules, the Mineral Conservation and Development Rules, 1988 as amended, the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule 2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016,Sustainable Sand Mining Management Guidelines 2019,Sand Mining Policy 2020

12.0 ANY OTHER INFORMATION:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment. These things will be religiously followed and its report will be periodically submitted to the concerned authority. All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF &

CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtained relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

PRE FEASIBILITY REPORT

(As per Rules 23 & 26 of MMME (D & R) RULE 2013 & Section 15 of MMDR Act 1957, MoEF & CC Notification 2006, S.O. 141(E) dated 15. 01. 2016; MoEF & CC, Sustainable Sand Mining Management Guidelines 2016,Guidelines for Mining Policy2020)

For

OBTAINING ENVIRONMENT CLEARANCE

of

SAND MINING (MINOR MINERAL)

For

Sagoda-B River Bed Sand Mine / Sand Ghat

Khasra No:- 232,233,235

Area (0.92 Ha)

Village- Sagoda-BTehsil-Shegav, District- Buldhana ,

Submitted to

THE SR. DY. DIRECTOR, DIRECTORATE OF GEOLOGY & MINING, GOVERNMENT OF MAHARASHTRA,Nagpur, (M.S.)

District:-Buldhana ,
Applicant/Project Proponent
District Mining Officer
Collector office, Buldhana ,
District: Buldhana ,

Prepared By

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Accredited by NABET: No.: - NABET/EIA/1619/RA0060/ April 19, 2020)

March – 2020

1. EXECUTIVE SUMMARY

This Pre Feasibility Report has been prepared for the proposed sand ghat over the area of 0.92 Haat PurnaRiver Bed adjoining Khasra No:- 232,233,235of Village Sagoda-B, Tehsil Shegav, District- Buldhana,Maharashtra**,**in accordance with theNotification of MoEF S.O. 1533 dated 14th September 2006. The Ministry ofEnvironment, Forest and Climate Change amended Principal Notification vide 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, sand mining framework 2018. and Govt. of Maharashtra Sand Policy 03.01.2018, Mining Guidelines 2020, included Minor Minerals from 0 Ha to 50 Ha in the PrincipalNotification S.O. 1533 (E) dated 14.09.2006. Central Government made furtheramendments to the notification vide S.O. 2269 (E) dated 01.07.2016. In obedience allrelevant notifications to the principal Notification dated 14th September 2006, applicationfor the excavation of sand ghat from proposed sand ghat is being submitted to SEAC, SEIAA,Maharashtra.

Though any development activity like industry or minor mineral excavation may cause temporary damage to land, forest and induce changes in the quality of air, water, flora and fauna of the area, it has favorable effect of industrialization on social development and progress of the nation. For overall gain, it is necessary to strike a balance between the two aspects of economy and ecology and ensure that impacts on the environment are minimized with improvement in socio-economic conditions. This is better achieved through a well-planned approach of EMP relevant to the area under consideration.

Sand is used for a wide variety of purposes. It is most commonly used as an aggregate in construction projects. Sand is required for road base, concrete aggregate, asphalt pavement aggregate, and many other purposes. The selected area has exposures of sand which is useful for the various purposes mentioned above.

The mining for this sand ghat excavation is proposed to be carried out manually with opencast method of mining engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading will be carried out manually and transportation of mineral from the sand ghat to the depot by tractor with tipper arrangement. As the mineral is soft & loose in nature, no drilling and blasting are required. The proposed sand ghat area is located at Survey of India Toposheet No: 56D/9and falls between the Latitude 20°55'9.10"N and longitude 76°36'0.95"E.The lease area is not an agricultural land and the area is classified as River. Maximum production capacity is 1625 Brass.

In order to obtain environmental clearance as per the EIA Notification 2006 the Prefeasibility Report (PFR) is submitted along with the application Form I M for the project under

consideration. The project is categorized as **Category B2** vide Notification 141 (E) dated 15th January 2016 and MoEF & CC Sustainable Sand Mining Management Guidelines 2016

2.0 INTRODUCTION

1.1 PROJECT PROPONENT

The possession of the land under consideration lies with State Government (As per the 20 (1) Chapter III of The Maharashtra Land Revenue Code 1966) hence application is made through the legal representative as a Project Proponent. Accordingly, DMOBuldhana,Collectorate, Buldhanahave applied for Environmental Clearance of proposed sand ghat. After obtaining the environmental clearance this sand ghat will be auctioned as per the Notification Goukhani 10/0615/Pra.Kra. 289/Kha dated 03.01.2018. Communication details of the project proponent are as under;

DMO BULDHANA
BuldhanaCollectorate,
Collector Office, Buldhana

1.2 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

The selected area has exposures of sand which is useful for the various purposes mentioned above. It is proposed to excavate sand from this area by manual opencast method without using any excavation machinery. Transport of the excavated sand will be carried out using tractor with trolley arrangement from sand ghat to depot and by truck/tipper/dumper onwards to the desired destination. The excavated sand will be sold in the market. The present Pre Feasibility Report has been prepared for Proposed sand ghat over the area of 0.92 Ha atPurnaRiver Bed adjoiningKhasra No.:- 232,233,235 of Village:-Sagoda-B,Tehsil, Shegav District-Buldhana.The project is for excavation of sand (minor mineral) categorized as Category B2 vide Notification 141 (E) dated 15th January 2016.

1.3 NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY AND OR REGION.

Road/building materialsand is an essential requirement as one of the minor mineral deposits occurring in the majority portion of Maharashtra. It has played a great role in development of civilization and industrialization. The occurrence of sand in the proposed area is proved by the way of exposures and its production has important role in the local infrastructural development. The sediment in the form of river bed material (RBM) deposited every year during monsoon season at many locations of theGodavariRiver. Removal of the sand from the proposed location is unlikely to damage the riparian system if the excavation and transport is carried out in systematic manner proposed in the approved Mining Plan. This project operation

will provide employment directly and indirectly to the people residing in vicinity, thus improving the Socio-economic status of the area.

1.4 DEMAND SUPPLY GAP.

Sand is an essential constituent infrastructural development projects like road, dams, bridges and building. The demand for sand/gravel is ever growing with the growth of the infrastructure sector in our country. The requirement for the mineral is always high in the nearby cities and towns. Therefore there is always a good demand of the mineral in the domestic market. Its demand in industrial area of Buldhanaand nearby areas is increasing very fast. Sand mining not only narrows the gap between the demand and supply if building material but also enhances employment opportunities and economic growth of the region. Besides, the production will also benefit the State in the form of revenue generation. Apart from this, the project will generate direct and indirect employment opportunities from the nearby villages.

1.5 IMPORTS VS. INDIGENOUS PRODUCTION.

Mining of sand is required for various projects within the state of Maharashtra and other states.

1.6 EXPORT POSSIBILITY.

Not explored

1.7 DOMESTIC / EXPORT MARKETS.

There is always an ever increasing demand of these minerals in the domestic market.

1.8 EMPLOYMENT GENERATION (DIRECT AND INDIRECT) DUE TO THE PROJECT.

It is proposed to employ the local population wherever possible in the proposed project activities. Direct employment for this proposed sand ghat excavation will be approximately 19 Persons and the there will be indirect employment generation also in service sector. The allocated lease will be directed to deploy local persons on for this project.

Grade of staff	**Designation**	**Nos.**
Supervisory and Technical staff	Mine mate / Mine Supervisor	01
Clerical staff	Clerk/ Time keeper	01
Safety/Security Officer	Security Guard	01
Skilled workers	Tractor Trolley Driver	02
Skilled workers	Tractor trolley Helper	01
Semiskilled workers	Labors Supervisor (Mukadam)	05
Unskilled workers	Labors	08
Total Manpower		19

3.0 PROJECT DESCRIPTION

i) Type of project including interlinked and Interdependent project, if any.

As per Gazette Notification of Ministry of Environment, Forest and Climate Change (MoEF&CC) dated 15th January 2016, New Delhi all projects (minor mineral) less than 25 hectare falls in category “B-2”. As the lease area of the proposed project is 0.92 Ha, it falls in “B-2” category and will be appraised by State level authority.The entire mined out mineral will be completely transported to the market /and there is no interlinked project.

ii) Location (map showing general location, specific location, and projectboundary & project site layout) with coordinate

The land is government Waste land. The area is a plain terrain. The location of proposed siteis shown in the Figure-1. The proposed area is covered in parts of Survey of India Toposheetno.55/Dwithin latitude20°54'57.61"N and longitude76°36'6.41"E(Refer Figure 2).

FIGURE-1: LOCATION OF PROPOSED SAND GHAT

PLATE -01
Location map

ADDRESS -SAGODA - B RIVER SAND MINE
AT PURNA RIVER
GAT NO.- 232,233,235
DISTRICT - SHEGAV
STATE- MAHARASHTRA
TOTAL LEASE AREA- HECT. 0.92

FIGURE-2: SPECIFIC LOCATION OF PROPOSED SAND GHAT

The proposed sand mining ghat was demarcated on the ground by revenue department with reference to adjacent survey numbers of concerned village map. The exploration/assessment of sand Ghats has been carried out by GSDA using probing rods for delineating the total depth of sand and depth of mineable sand with quantity.

Accordingly, reports submitted with mineable reserves of sand in particular location. On the basis of this report State Govt. will auction the sand Ghats for excavation of sand for specific mineable quantity.

The proposed sand ghat has sufficient reserves of sand to excavate1625brass for the period of current financial year. This is a temporary type of lease for the limited mentioned period i.e. up to September 2020.

LOCATIONAL DETAILS IN SUMMARIZED FORM

Sr. No.	Details of the area	Particulars
1	Name of Sand Ghat and River	Sagoda-BRiver Bed Sand Mine
2	Village	Sagoda-B
3	Taluka	Shegav
4	District	Buldhana
5	Adjoining Khasra No./Survey No.	1
6	Lease Area (Ha.)	0.92 Ha
7	Ownership/Occupancy of the Lease area	Government Land
8	Existence of public road/railway line if any nearby and approximate distance	The mine is located about less than 0.47 km. in SW Direction to Sagoda village.
9	Nearest Village and its distance from lease area	Sagoda (0.61 KM) , Itkhed (0.92 KM) , Chinchkhed (0.91 KM) ,Pesoda(1.8 KM).
10	Toposheet No. and RL of the Lease area	55 D/9and0.92 Ha
11	Latitude & Longitude of Lease area boundary points (Coordinates of the boundary points taken as per the area shown by revenue authority Patwari/Talathi)	20°55'9.10"N 76°36'0.95"E 20°55'8.80"N 76°36'0.33"E

iii) Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental consideration gone into should be highlighted.

Rivers and streams by far have been the most lucrative and attractive source for extracting large volume of building materials such as boulders, stone, pebbles, sand and gravel for a variety of construction activities. In plain reaches, where the bed slope is gentle, the river bed is overlaid with matrix mainly comprising of sand of different gradation along with silt and clay. Due to river dynamics, the sediments which get generated from bed load and wash load move with river and do not settle uniformly over the entire bed. It rather settles at certain places only (aggradations) and must be removed from time to time to avoid flash floods due to reduction in channel width. The Government has identified such locations for sand removal and the present location is one of them. The project is a site specific and has to be undertaken at the place of the occurrence of the mineral and hence no alternative sites explored.

The environmental advantages of using river sediments are that the Sediments can easily be collected / extracted by digging less deep pits in active channel or dry river beds of upper terraces. The sand extracted from the identified stretch is free from weak materials and interstitial loose / fine material. No requirement of processing for the sand excavated from the river and it can be directly used without any beneficiation. The natural replenishment takes place annually due to transportation of sediments from upper course/reaches during high stage of river, which is achieved a number of times during monsoon. Environment Management Plan to mitigate the activities due to the proposed sand ghat excavation is enclosed at **Annexure 1**.

iv) Size or magnitude of operation.

The proposed sand ghat mining having an area of 0.92 Ha will be developed as opencast for the excavation of sand/gravel with production capacity of1625brass. The excavation will be carried out from the demarcated area which is dry. Excavation will be carried out in non monsoon season on or before 30th September 2020.

v) Project description with process details (a schematic diagram/ flow chart showing the project layout, components of the project etc. should be given).

The mining will be carried out manually with opencast method of mining by engaging labors with help of crow bars, hand shovel, pick axes and baskets. Loading is proposed to be carried out manually and transportation of mineral from the mine to the depot is proposed through tractor with trolley arrangement. As the mineral is dry, loose in nature, no drilling and blasting are required and hence not proposed. Sand excavated manually will be loaded directly into vehicles. Once a pre-determined area has been exhausted of the sand, it shall be replenished by sand during monsoon period leveled it & maintained to its maximum original topography. There will be no OB or waste generation as the sand is directly exposed in the river bed without any soil or silt cover or any other material which can be categorized as overburden material.

Workings will be restricted within the applied area as per the approved Mining Plan. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow. No processing of sand required.

Restriction on mining:

- Mining shall not be carried out within 600 m of any bridge (railway or road).
- Mining shall not be carried out within 100 m from any pumping station, water intake.
- The quarrying of sand will be proposed after leaving a safety distance of 600 meter from bridge falling under NH/SH from both side of the bank, & leaving a safety distance of 100 meter from any bridge.
- Mining shall not be carried out within 3 m from the river bank It will be done leaving a safety zone of total of 1/5th of the width of the river from the banks for bank protection.
- During the entire lease period, the deposit will be worked from the top surface to 3 m bgl or above ground water level, whichever comes first. This will also help in avoiding ponding effect.
- The workability is suggested by keeping in the mind possible effect on the meandering of River. The mining on the concave bank is most suitable than convex bank. Hence, mining is proposed during non monsoon period in a way that is will get replenishment during monsoon.
- Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season.
- No ore dressing/ handling/ processing plant shall be attached with the mine. The whole area demarcated for the purpose of mining as per the approved mining plan shall be mined out so as to maximize the sand production or extraction.
- Systematic plantation will be made in the area outside the river bank to protect the banks from erosion in monsoon.
- In the applied area the velocity & river water flow being less the sediment load get deposited in to the pit During Monsoon season the area get replenished with sediments to be lifted in subsequent years. Excavated area will be replenished naturally due to sediment inflow from the catchment area Therefore, Environment and Ecology of the area remains undisturbed.
- Sequence of mining operation is given below.

vi) Raw material along with estimated quantity, likely source marketing area of final products, mode of transport of raw material and Finished product.

There is no requirement of any Raw Material in this project. Mode of transport of extracted sand is surface transport by existing roads.

vii) Resource optimization / recycling and reuse envisaged in the project, if any, should be briefly outlined.

There is no waste material generation. No recycling and reuse of material is envisaged as entire excavated material will be transported. Minerals are generally depleting asset once mined; but minerals like sand will be replenished naturally. Thus a scientific approach will be taken up for excavation of mineral with systematic method.

viii) Availability of water its source, Energy / power requirement and source should be given

a) **Water Requirement:**Thus total water requirement will be **5.88 KLD**.This water will be supplied from the bore well from nearby villages through tankers as well as from surface water sources for dust suppression. Dust suppression and green belt water will beutilized from water tanks. Electricity is not required as the working is only during day timewhich does not demand for artificial lighting.

Sr. No.	Purpose	Water Requirement (KLPD)
1	Dust Suppression and green belt	5.00
2	Domestic (Considering 45 Litres per person per day for21persons)	0.88
	Total	**5.88**

ix) Quantity of waste to be generated (liquid and solid) and scheme for their Management / disposal.

Solid Waste: There is no solid waste generation during sand excavation.

Liquid Effluent: The sand excavation from the proposed site does not intercept the water table and the area is dry having no impoundment of water. Thus, there is no generation of effluentenvisaged. Small amount of domestic waste will be generated by the workers at the site, which will be disposed-off through proper municipal way. No other waste generation is expected.

x) Schematic representation of the feasibility drawing which give information of EIA purpose.

The proposed sand ghatproject is for excavation of sand which is categorized as minor mineral vide Notification No. S. O. 423 (E) dated 10.02.2015 issued by Ministry of Mines. The minor mineral project such as sand excavation requires environmental clearance as per the procedure defined by Ministry of Environment, Forest & Climate Change (MoEF & CC) Notification No.141 (E) dated 15th January 2016. EIA for the minor mineral projects >5 Ha is not required as per this Notification. As per the Appendix XI of this Notification, approved Mining Plan, Form I and Prefeasibility Report are required for appraisal of the environmental clearance by SEAC/SEIAA. Accordingly, necessary compliance of the directed procedure is made by the applicant. The Notification issued by the Revenue Department of Government of Maharashtra No. Goukhani-10/0615/Pra.Kra. 289/Kha dated 03.01.2018 and Sustainable Sand Mining Management Guidelines2016& Sustainable Sand Mining Management Guidelines 2019, Mining Guidelines 2020 have also been referred and the directives provided in theseNotification/Guidelines have been used for preparation of these documents.

4.0 SITE ANALYSIS

The suitability for extraction was done taking into consideration general profile river stream, annual deposition factor, and replenishment. The project site is located at a plain topography and within the mature stage of a river. The river bed sand replenished every year with the sand carried out with flow of water in monsoon and there is no such control of mineralization as it depends on the nature of flow of river water.

i) Connectivity

Sr.No.	Particulars	Details
1	Road Connectivity	The mine is located about less than 0.47 km. in SW Direction to Sagoda village.
2	Nearest Highway	National Highway NH 6 is at 23.0 km&SH 173 is 5.9km.

3	Nearest Airport	Chikkalthana Airport- 200km
4	Nearest Railway Station	Shegaon Railway Station is 5.6 km

ii) Land form, land use and Land ownership.

There is no village or human settlement in the lease area. There is no reserves forest or protected forest land within the mining area. The area has Flat topography. The lease area forms a part of Survey of India toposheet no55D/9. The landuse details for the proposed sand ghat area are as under:-

Adjoining Khasra No. of Village / Taluka /District/ State	**Area**	**Type of land**
232,233,235	0.92	Government Notified Land

iii) Topography (along with map).

Latitude and Longitude readings have been taken by using G.P.S. instrument. All the levels have taken with respect to Mean Sea Level. It is flat in nature. Total area if the lease area is 4.65Ha.

iv) Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ), shortest distances from the periphery of the project to periphery of the forest, national park, wild life sanctuary, eco sensitive areas, water bodies (distance from the HFL of the river), CRZ. In case of notified industrial area, a copy of the Gazette notification should be given.

Significant features with their aerial distance of the project are tabulated below;

Sr. No.	**FEATURES**	**DETAILS**	**DISTANCE**
1	Village (Nearest)	Sagoda	1 km
2	Land use	Agriculture	0 km
3	Water bodies	RiverPurna	1 km
4	Reserved Forest	No	0 km
5	National Park	No	0 km
6	Wildlife Sanctuary	No	0 km
7	Eco Sensitive Area	No	0 km
8	Coastal Regulation Zone	No	0 km
9	Archeological Monument	No	0 km

10	Industries	No	0 km
11	Mines	Sand ghat	1 km

v) Existing Infrastructure.

There is well established road connection from the quarry to the State Highway /village road. Other facilities like market, school, hospital (PHC), drinking water facility, electric, telecommunication etc. are available in nearby villages.

vi) Soil classification.

There is no top soil. The river bed only consists of sand/ gravel.

vii) Climatic data from secondary sources.

Sub–tropical climatic condition prevails in the area. Maximum temperature recorded during summer is45.6°C and the minimum temperature recorded during winter is 12.6° C.
The region receives an average rainfall of around 697 mm to 862 mmwith an annual variation of 100 mm although wider variation has also been noticed in the past. About (50 to 55%) in of rainfall precipitates from June to September.

viii) Social Infrastructure available.

Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities) are found within a distance of 10km of the proposed sand ghat area.

ix) Geology

The lease area as per survey is a River Bed of Godavari River. Applied area for sand extraction is covered with Sand, Pebblesand Gravels of various sizes. The sand of Granitic, Quartzitic.

A) Mineable Reserves of Sand in the proposed Mine Lease Area as per the GSDA:

The proposed Sand Ghat/ River Bed Sand Mine of 0.92 Ha area is covered with sand. Theentirearea is occupied by single litho unit sand deposit with flat configuration. Estimationof sand is done by the GSDA, Buldhana and mineable reserves are proposed for sand mining foryear 2019-2020 as follows:.

Av. Length (m)	Av. Width (m)	Area (m^2)	Proposed Depth (m)	Volume of Deposit for Mining (m^3)	Quantity of sand for Excavation (Brass)
L	W	A=L*W	D	V = A * D	Qt = V / 2.83
460	20	9200	0.50	4600	1625

4.0 PLANNING BRIEF

i) Planning Concept (type of Industries, facilities, transportation etc) Town and country planning/ Development authority Classification.

The mine will be worked by opencast manual method. Mining will be done up to a depth of 1m bgl or above the water level whichever is comes first. The sand will be collected in its existing form. No drilling /blasting are required as the material is loose in nature. There will be no OB or waste generation as the sand is exposed in the river bed. It will be done leaving a safety zone from bank for bank protection. Mining will be carried out only during the day time. Excavation of river bed material will be completely stopped during the monsoon season. Roads in the Applied Area for the movement of loaded trippers/ trucks will not have slopes more than 1 in 20.

However, movement of trucks after mineral loading will be towards both sides through approachroads connecting to tar roads. No processing of excavated sand will be done. Workings will be restricted within the lease area/ khasra as per the description report given by Mining Department. Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow as the proposed area for the sand ghat is dry. Mining operation will not be carried out during monsoon season. On view monitoring of mining activity technical staff, skilled and non-skilled labors are employed and thus State/Central Govt. and Village Panchayat will get royalty. Workers will get direct employment and equal number or more will get indirect employment.

ii) Population Projection.

The project will employ most of the workers from nearby villages. Thus there will be no increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. The manpower required for the project shall be engaged from the nearby village(s) and hence influx of population to the area is not anticipated.

iii) Landuse Planning (breakup along with green belt etc.)

The sand from the entire allocated area will be excavated as per the approved mining plan. Local species of selected trees will be planted along the river bank and also on the approach road to depot. If permitted by the local authorities, plantation will be carried out in school, gram panchayat, PHC or Sagoda-B premises. It is proposed to have plantation along the road sides on both sides to provide cover against dust dissemination and also to act as noise absorber. Approximately 610 trees of will be planted with various types of species. Native plants like Teak,Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tutand other local species will selected insuitable combination, so that can grow fast and also have good leaf cover.

v) Assessment of Infrastructure Demand (physical & social)

The project requires roads for the transport of the produced material which isadequate, besides it requires manpower to operate the quarry and is availablelocally.

vi) Amenities/Facilities.

Temporary rest shelters, portable toilets, drinking water and first-aid will be madeavailable to the workers.

6.0 . PROPOSED INFRASTRUCTURE

No infrastructure erection is proposed in the mine lease area

i) Industrial area (processing area) - No processing or beneficiation is required hence not proposed.

ii) Residential Area (Non processing Area)- None.

iii) Green Belt.

The entire mining area falls within river course and gets flooded duringmonsoons; therefore, no plantation is possible within this area. Plantation willmainly be done along the kuchha road and along the length of the river bank orapproach road to depot or places as recommended by Gram Panchayat.Approximately 610 treesof will be planted with various types of species. Native plants like Teak, Neem, Arjun ,JamunPeepal, Shisham, Mahua, Kadamb, Bamboo, Tut, &other local species will selected in suitable combination, so that can grow fast and also have good leaf cover.

iv) Social Infrastructure.

This Project will provide employment to local people directly and indirectly. Indirect employment will be in the form of shopkeepers, mechanic, drivers, transporters etc. The lessee

will be responsible for providing better social infrastructure benefits such as drinking water, health care measures, educational facilities, promotion of culture and religious activities in surroundings as part of their CSR activities.

v) Connectivity (Traffic and Transportation Road/Rail/Metro/Water ways

The area is approachable from NH 6 is at 23.0 km&SH 173 is 5.9km. . There are metalled roads and unmetalled road up to the mine site.

vi) Drinking Water management (Source & Supply of water)

Water will be supplied from nearby villages for drinking purposes through tankers with NOC from Gram Panchayat.

vii) Sewerage System.

Not required. Temporary toilet facilities will be provided by the proponent at the river banks.

viii) Industrial Waste Management.

Not required

ix) Solid Waste Management.

There is no Solid waste generation during sand mining. The entire excavated sand is useable.

x) Power Requirement & Supply / Source.

Diesel will be used as motive source of primary energy for tractors/ truck arranged by the buyers. Diesel will be outsourced from nearby diesel pumps directly by buyers. Mining method is manual and working hour will be for 12 hours during the day time, so there is no such power requirement.

7.0 REHABILITATION AND RESETTLEMENT (R & R) PLAN

i) Policy to be adopted (central/state) in respect of the project affected person including home oustees, land oustees and landless laborers (a brief outline to be given.)

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

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.)

The operations shall be carried out after obtaining all statutory permissions as per the statutory guidelines. Adequate reserves are available from the proposed sand ghat area. Reclamation and Rehabilitation plan will be prepared for sustainable development and minimized environmental damage. This is a temporary type of lease for the limited mentioned period i.e. Period of Mine Lease will be One Year 2019-2020 or up to 30.09.2020.

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

The sand ghat proposed by the Project Proponent will be auctioned online as perthe procedure in vogue. Hence, project cost cannot be estimated at this stage.

9.0 ANALYSIS OF PROPOSAL FINAL RECOMMENDATIONS)

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 involves collection of river bed material. This is very essential in order to prevent widening of the riverbeds and to prevent flooding off and damage to the adjoining areas. This can only be achieved by maintaining the existing course of the river.
The river banks, on both sides are covered by vegetation and human habitats.Widening of river banks results in excessive erosion; resulting in damage to flora, agricultural land and settlements which are situated at very close proximity. It isproposed to employ the local population wherever possible in the proposedproject activities directly or indirectly. It provides employment to the peopleresiding in vicinity directly or indirectly by the project. The sand extracted fromthis area is in high demand in the local market.

There will be no environmental impact from the project since the scale ofoperation is very less and the method of mining by manual. This operationdoesn’t need relocation manage of any habitants. The plantation of sufficientnumber of trees along the village roads is proposed which

will control thedispersion of dust during transportation as well as will be helpful in controllingNoise for propagation.

Annexure 1

ENVIRONMENT MANAGEMENT PLAN

1.0 INTRODUCTION

Preparation of Environmental Management Plan is required for formulation, implementation and monitoring of environmental protection measures during and after commissioning of projects. The plan should indicate the details as to how various measures have been proposed to be taken including cost components as may be required.

1.1 Land Environment

The type of mining and the characteristics of the particular mineral deposit both affect the degree to which mining disturbs the landscape. Sand Mining and allied activities will be done in the fluvial plain formed by river meandering. Mining of sand may cause a few environmental degradations.

A. ANTICIPATED IMPACTS:

Damage of river bank due to access ramps to river bed, may cause soil erosion.

Destruction of river bank hinterland and ecological due to extraction of sand by probability of damage to the flood control bunds (built along the river side) due to heavy movements of vehicles over the bund to approach the mine are and further during transportation for sand from the mine area.

Disposal of packing material, carried by the workers, would not be allowed. This packing material would include used sachet/gutka/pan masala pouches.

Movement of heavy vehicles sometimes cause problems to agricultural land, human habitations, borehole users due to dust, noise and it also causes traffic hazards.Surface degradation due to road network.

M. MITIGATION MEASURES:

Safety distance of 3 meter or 1/10th of the width of the river whichever is more will be left from both the bank of the river (as per “Sustainable sand mining guidelines”).

No foreign material like polythene bag, jute bag and useless articles should be allowed to remain/spill in river bed and catchment area, or no pits/pockets will be allowed to be filled with such material.

Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained.

Care will be taken to ensure that ponding is not formed in the river bed.
Mining will not exceeds beyond the allowed extraction capacity.
Green belt will be developed along the haul road and the bank of rivers of mine premises and near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.

1.2 Water Environment

A. ANTICIPATED IMPACTS:

As the project activity is carried out in the dry part of river bed, none of the project activities will affect the water environment or riverbank habitats. Project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality. Monitoring of water quality will be checked yearly.

M. MITIGATION MEASURES:

i) Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
ii) Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
iii) River stream will not be diverted to form in active channels.
iv) Utmost care will be taken to minimize or control leakage vehicles to be used for sand transportation.
v) The washing of tractor trolleys in the river will be avoided.
vi) The contractor will follow all guidelines and rules for proper and scientific method of mining during the period of extracting the sand.

1.3 Air Environment:

A. ANTICIPATED IMPACTS:

a) Due to Haul Road/ Access Road:

Plying of tractor trolleys from public road to river sand collection points needs access roads. Majority of such access roads are the same existing roads/tracks being used by pedestrians/cart owners. Movement of heavy vehicles sometimes causes problems to cattle, agriculture land, and human habitations due to dust, noise and movement of public. These environmental problems are felt more as the area is rural in nature.

b) Due to Mining process:

Air pollution is likely to be caused at various stages of sand mining operations such as excavation, loading & transportation of material. Most of the dust will be generated from loading& transportation. This dust becomes air borne and gets carried away to surrounding areas. The impact on air is mainly localized in nature as the dust particles are not carried to longer distances and the effect is felt within the core zone of the project involving active Sand mining operations.

M. MITIGATION MEASURES:

a) Mitigation of Impacts on Access Roads:

Movement of the vehicles on the road will be increased; however, unmetalled road in the mining area will be sprinkled with water at regular intervals. In addition to prevent spillage by tractor trolleys over loading should be controlled along with speed limit (1Brass /tractor trolley). Maintenance of haul road will be done on regular basis.

b) For Fugitive Dust Emission:

i) To avoid fugitive dust emissions at the time of excavation, regular sprinkling of water will be done on regular basis.

ii) Sand is transported to the sites by road through tractor trolleys. The sand carrying vehicles shall be covered by tarpaulin sheets.

iii) The Green Belt development will be prepared along the haul roads, which will act as a pollution sink.

iv) To minimize the vehicular pollution from the sand transporting vehicles, the following conditions will insist to permit the vehicles of the transporters.

- The vehicles should be (Bharat-IV stage) compliant and should have pollution control certificate (PUC) issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.

1.4 Noise:

A. ANTICIPATED IMPACTS:

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since, slight increase in noise levels can be expected.

M. MITIGATION MEASURES:

- ✓ Minimum use of Horns at the village area.
- ✓ Timely maintenance of vehicles and their silencers to minimize vibration and Sound.
- ✓ Phasing out of old and worn out tractor trolleys.

- ✓ Provision of green belts along the road networks.
- ✓ Care will be taken to produce minimum sound during sand loading.
- ✓ Use of Backhoe and ear plugs may be provided to protect the labors working at the site.

1.5 Socio-Economic Environment

This project operation will provide livelihood to the poorest section of the society.
Approximately 19 people shall work at mine site.

A. ANTICIPATED IMPACTS AND EVALUATION:

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. There is no R & R involvement in this project. There is no land acquisition in this project.

The results of the field survey conducted to understand the knowledge and perception of the people living around the project area gives a clear idea about the need for the project.

A major portion of the houses in the study area are semi- pucca type structures. The water source to these areas is from the municipal connection and private bore wells and wells. The awareness level regarding the proposed mining activity is very high.

The proposed mining activity is expected to provide stimulus to socio-economic activities in the region and thereby accelerate further development processes.

i) Social and Demographic Profile:

The workers are from local villages. These people have been provided all welfare from a lessee like medical benefits, insurance, fees for children's education etc. They have some land and cattle for their daily earnings. Additional income earned from the Sand Mining work will improve their living standard. The group of quarries in and around will help to have infrastructure facilities like roads, schools, shops etc. This will improve their social life.

ii) Occupational Health And Safety:

This is River Bed Sand Mine. So the mining activities are comparatively less because the production is not on large scale. Workers do not come across any extreme condition like excessive heat; moisture, etc. Workers working around it may come across this dusty environment. But the impact on health will be within limit.

iii) Human Settlement:

There are no houses in and around lease area. Blasting is only activity, which may affect the settlement, but settlement is at distance of more than 1.0 Km from the Sand Mining. All the due precautions will be taken during mining. Transport of finished products is through the

villages. There will be psychological impact of the traffic on the local people. However, the intensity of traffic is less.

iv) Health and Hygiene:

In general, the health of villagers is moderately good. In the rainy season, the atmospheric condition is unhygienic due to lack of proper drainage and sanitation in the village habitation. Villagers are working in agricultural fields and work as laborers.

v) Education:

Mostly education is up to middle standard. Economic condition is in general moderate. So after this project the standard of education will be increase.

vi) Socio Economic Benefits Arising Out Of Mining:

- Generation of employment in the rural area.
- Improvement in the living standards of the rural people.
- Creating of infrastructural facilities like roads, electricity, shops, school etc.
- Helping to improve literacy in the area
- Exploiting natural mineral so generation of revenue
- Helping to sustain construction activity
- Improving the greenery of the area, this is otherwise very poor.

vii) LIQUID EFFLUENT:

- Not applicable because small mine and impacts are negligible.

viii) SOLID WASTE:

- Not applicable because small mine and impacts are negligible.

1.6 Biological Environment

A. ANTICIPATED IMPACTS:

a) Aquatic environment

Proposed mining of the dry bed of the river, so no any possibility of disturbance of aquatic life.

b) Flora and Fauna

The mining activity will have insignificant affect on the existing flora and fauna. The project area is surrounded with agricultural land. It was found that the sand mining activity will not have any significant impact on the biological environment of the region.

M. MITIGATION MEASURES:

- ✓ Improvement in river bank stability.
- ✓ Large woody debris in the riparian zone will be left undisturbed or replacedwhen moved and not be burnt.
- ✓ Vegetative debris will not be stored within the mine lease area.
- ✓ Operation and storage of heavy vehicles within riparian habitat will be restricted.
- ✓ Covering of loaded vehicles to reduce dust emission, which may harm surrounding agricultural crops and other plant species conservation of biological diversity of plants, birds and animals.
- ✓ Greenbelt Development and Bio-Diversity Preservation

Plantation activities will be carried out at the bank of the river and along the haul roads. This activity will help for maintaining ecology and environment of the area.

1.7 IMPLEMENTATION OF EMP:

Environmental Management Plan serves no purpose if it is not implemented with true spirit. Some loopholes in the EMP can also be detected afterwards when it is implanted and monitored. Thus, an implementation and monitoring programmed has to be prepared.

Implementation of proposed control measures and monitoring programmed has an implication on the surrounding area as well as for the region. Therefore, sand mining management should be strengthen the existing control measures as elaborated earlier in this report and monitor the efficacy of the control measures implemented within the sand mining area relating to the following specific areas:

- ✓ Coordinate with environment monitoring laboratory for collecting and analyzing air, water, soil&noise quality of the area.
- ✓ Implementing the control and protective measures.
- ✓ Co-coordinating the environment related activities within the project as well as with outside agencies.
- ✓ Separate Budget has been allocated for the EMP.
- ✓ Collecting statistics of health of workers and population of surrounding villages.
- ✓ Monitoring the progress of implementation of environmental management program.

1.7.1. GREENBELT DEVELOPMENT:

- ✓ The implementation for development of green belt will be of paramount importance as it will not only add up as an aesthetic feature, but also act as a pollution sink.
- ✓ The species to be grown in the area should be dust tolerant and fast growing species so that permanent green belt is created.
- ✓ To stabilize the river bank erosion the plantation of native species of that area along the river bank.
- ✓ Apart from the green belt and aesthetic plantation for elimination fugitive of emission and noise control, all other plantation efforts shall be decided and executed with the assistance and co-operation of the local community.

Proposed Program for Plantation For Green Belt Development:

A forestation will be carried out to increase the green cover and create harmony with nature. The area will be afforested with variety of local sapling. This will help to have polyculture. The details of a forestation program are given below. This will be done on the statutory barrier to be left and on the general surface of the lease.Along the access road at sand mining site. (List of trees is given):

S.N.	Scientific Name	Hindi Name	Number
1	Azadirachtaindica	Nim	61
2	Tectonagrandis	Teak	61
3	Terminaliaarjuna	Arjun	61
4	Tuti	Tut	61
5	Syzygiumcumini	Jamun	61
6	Ficusreligiosaa	Pipal	61
7	Bambusa vulgaris	Bamboo	61
8	Neolamarckiacadamba	Kadamb	61
9	Dalbergiasissoo	Shisham	61
10	Madhucalongifolia	Mahua	61
Total			**610**

Cost of Environment Management Cost:

S.N.	Description	Cost Rs. (inlakhs)
1	Dust suppression	0.10
2	Haul road maintenance	0.11
3	Green belt & Maintenance	0.10
4	Monitoring cost	0.10

1.7.2 TRANSPORT SYSTEM:

i) Proper parking places should be provided for the tractor trolleys and other vehicles by the Mine Owner to avoid any congestion or blocking of roads.
ii) Spillage of sand on roads may lead to accidents.Proper road safety signs both inside and outside the mine should be displayed for avoiding road accidents.

1.7.3 MONITORING SCHEDULE AND PARAMETERS

1.7.4 MONITORING OF AMBIENT AIR, WATER, and NOISE:

To evaluate the effectiveness of environmental management program regular monitoring of the important environmental parameters to be monitored are shown in following Table:

Monitoring Parameters	Frequency of Monitoring
Ambient Air: (Ambient Air Quality at appropriate location for PM, SO2, NO2): In the vicinity of the mine area&Near Access road.	Half-yearly
Water: Two Surface (up-stream & Down Stream) & One Ground Water Samples nearby the project site	Yearly
Noise: Day & Night level Noise Monitoring at mining site	Half-yearly

For air, water and noise pollution control measures, it has been suggested that samples would be collected and tested all-round the year with appropriate frequency at strategic places by suitable agencies. In case, it is found that any of the control parameters exceed the tolerance limit as fixed by the State/Central Pollution Control Board, preventive measures will be taken and if required expert opinion will be sought for proper remedial measures.

1.7.5 DISASTER PLANNING:

Proper disaster planning should be done to meet any emergency situation arising due to fire,explosion,sudden leakage of gas etc. Firefighting equipment and other safety appliances should be kept ready for use during disaster/emergency situation including natural calamities like earthquake/flood.

1.7.6 ENVIRONMENT MANAGEMENT CELL:

Each mine or group of mine should identify within its setup a Department/Section/Cell with trained personnel to take up the model responsibility of environmental management as required for planning and implementation of the projects.

10.0 CONCEPTUAL MINING PLAN:

This stage not applicable because the Conceptual plan of the proposed lease area at the end of lease period is prepared.

10.1 Ultimate depth, size & shape of the pit:

The Lease will be for 1 year. Therefore, it is very premature to decide the conceptual plan for the Sand Mine. However, based on the available geological information requirement or purpose of mining the shape and size of Sand has been defined and shown as the Ultimate Pit Limits by colored lines in the Geological plan, the Production &Development plan, and the Conceptual plan. Ultimate pit size will be 989 m x 47 m x 0.5 m.The Conceptual plan and Environmental Management Plan are shown in Plate No.-VII.

1.2 Ultimate Capacity of Dump:

No surface dump is proposed at the conceptual stage.

1.3 Land use pattern:

The anticipated land use pattern as envisaged after five years and at the end of conceptual period would be as tabulated below,

S. N.	Particulars	As on Today in Ha	After 1 Years in Ha
1)	Area of top soil spread for a forestation	**-**	**-**
2)	Storage for top soil	**-**	**-**
3)	Green Belt	-	-
4)	Over burden Dump	**-**	**-**
5)	Mineral Storage	**-**	**-**
6)	Infrastructure (Workshop, Admin. Building etc.)	-	-
7)	Mine road in Mine lease area	-	-
8)	Utilized area for Sand Mining	0.000	**0.92**
9)	Virgin lease area for Sand Mine & Other Uses	0.92	0.000
10)	Road	-	-
11)	Railway	-	-
12)	Tailing Pond	-	-
13)	Effluent Treatment Plant	-	-
14)	Mineral separation plant	-	-
15)	Township Area	-	-
16)	Others to specify	-	-
17)	Ownership	Government River	Government River
Total		0.92	0.92

11.0 COMPLIANCE OF SAFETY RULES AND REGULATIONS:

Whether there are any serious violation of safety rules and regulation which may jeopardize human health and safety. If so, give details of violations and state the steps proposed to be taken with the time scheduled to rectify the violations:

No, there are not any serious violation of safety rules and regulation, which may jeopardize human health and safety.The applicant has given a commitment in this effect and undertaking also given to follow and implement, as specified in the mining plan.The applicant is undertake to abide and implement any special conditions imposed by various authorities and also to complete formalities under provision of the Mines & Mineral (Development & Regulation) Act, 1957 and the Bombay Minor Mineral rules, the Mineral Conservation and Development Rules, 1988 as amended, the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule 2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016,Sustainable Sand Mining Management Guidelines 2019,Sand Mining Policy 2020

12.0 ANY OTHER INFORMATION:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment. These things will be religiously followed and its report will be periodically submitted to the concerned authority. All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there

under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtained relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.