ENVIRONMENT MANAGEMENT PLAN

1.1. INTRODUCTION

Environment Clearance is sought for extraction of proposed capacity Expansion of Sandstone (Gitti-Pathhar, Khandas, Boulder) mine, at Gata No./Araji No. /Plot no. – 310, Khand No.01, Area 2.023 ha. (5.0 Acres) at Village – Dangriyaroond, Tehsil- Jhansi, District- Jhansi, Uttar Pradesh of Shri Sushil Parecha S/o Late. Goverdharn Das Parecha, R/o A-27 Ramnath City, District- Jhansi, UP

The Mining is proposed in a barren hilly uncultivated government land.

- Environment Clearance is required for lease period of the mining as per lease deed.
- Proposed mining lease area is 2.023 ha.
- It has been proposed that approximately 70,000 m3 / 1,75,000 tons per annum of Building Stone (Gitti-Pathhar, Khandas, Boulder).
- Latitude: 25° 21’40.05’’ N
- Longitude78° 31’ 30.98”E
- There is no National Park, Sanctuary, Elephant/Tiger Reserve, eco-sensitive area, Interstate boundary, migratory routes within 05 km of the project site.

The proposed project falls under item 1(a), category ‘B*’ (sub category B-2) as it does not attract General Condition as specified in Environment Notification, 2006.

**Since there are no protected areas notified under the Wildlife (Protection) Act, 1972, critically polluted areas, notified Eco sensitive area, interstate boundaries are falling in whole or in part within 05 km radius of the proposed project, general conditions are not applicable to proposed project.*

1.2. ENVIRONMENTAL & SOCIAL LEGAL POLICY AND INSTITUTIONAL FRAMEWORK

1. The EIA Notification of the MoEF, 14th September 2006 warrants environmental clearance from the SEIAA for Mining of Minerals (section 1(a) as the case may be. Apart from the EIA notification, the Government of India has laid out various policy guidelines, acts and regulations for protection of environment. Summary of relevant legal requirements considered for this project are tabulated below. The mining sector has separate set of legislations covering management, conservation, grant and operation of mining lease. In addition to that, there are environmental/forest regulation, applicable to mining of minor minerals as prescribed by MoEF and CPCB time to time are tabulated as under-

Table 1: Acts and Legislations applicable to the project

S. No.	Acts and Legislations	Year
1.	The Mines Act	1952
2.	Mines Rules	1955
3.	The Mines and Mineral (development and Regulation) Act	1957
4.	Mineral Concession Rules	1960
5.	Mineral Conservation and Development Rules	1988
6.	Uttar Pradesh Minor Mineral Concession Rules	1960
7.	Granite Conservation and Development Rules	1999
8.	The Environment (Protection) Act, MoEF, CPCB	1986
9.	Notification on Environment Impact Assessment of Development projects (and amendments) (referred to as the Notification on Environmental Clearance) MoEF, CPCB	2006, 2009
10.	Wildlife Protection Act, MoEF	1972
11.	The Forest (Conservation) Act, MoEF	1980
12.	Water (Prevention and Control of Pollution) Act (and subsequent amendments), CPCB	1974
13.	Air (Prevention and Control of Pollution) Act (and subsequent amendments), CPCB	1981
14.	National Resettlement and Rehabilitation Policy,	2007

2. Honorable Supreme Court has given the ruling, dated 27.02.12, for obtaining prior EC of the mining lease area of less than five hectares (< 5 Ha) also. The gist of the ruling is as under:

"*We in the meanwhile, order that leases of minor mineral including their renewal for an area of less than five hectares be granted by the State/Union Territories only after getting environmental clearance from the MoEF ordered accordingly*."

1.3. PROJECT TECHNOLOGY /PROCESS DESCRIPTION

The Proposed Environmental Clearance of mining lease for Building Stone (Gitti-Pathhar, Khandas, Boulder) mine, at Gata No./Araji No. /Plot no. – 310, Khand No.01, Area 2.023 ha. (5.0 Acres) at Village – Dangriyaroond, Tehsil- Jhansi, District- Jhansi, Uttar Pradesh .

The Following geo-scientific methods are proposed to carry out the activity:

- Mining will be confined to extraction of Granite (Gitti, Boulder & Khandas) over the lease area only.
- Mining of Granite (Gitti, Boulder & Khandas) will be restricted to a maximum depth of 18 m from top level and will not intercept the water table in the area.
- Blasting shall be performed under the supervision of competent blaster & Mines manager.
- Approximately 8900 cubic meters per annum Granite (Gitti, Boulder & Khandas) will be extracted.
- No mining activity will be undertaken with in 7.5m barrier and plantation shall be done on both side of haulage route progressively every year.
- The mining activity will be restricted to daytime only in order to avoid environmental pollution or any accidental hazards.
- The operation will remain opencast semi-mechanized. The deposit will be worked from the top surface to downward by making 6m x 6m benches along the slope & below.

To formulate a suitable environmental management plan depicting all mitigation measure it is necessary to have a scientific assessment of all the impacts of the project activity on various environmental domains that exist in the area, it can also help in implementing the project in eco-friendly manner. The following domains of environment will be taken into consideration while preparing the EMP of Granite (Gitti, Boulder & Khandas) mining.

- Land use pattern
- Air Quality
- Noise Quality
- Water Quality
- Ecological Condition
- Socio-Economic Condition

The various allied processes used during mining activity which are supposed to affect various environmental domains of the area are follows:-

- Excavation
- Construction of approach and haulage road
- Drilling & Blasting
- Loading and Transportation
- Disposal of overburden/waste etc.
- Site preparation

The magnitude of the proposed mining activity being small is not likely to create any serious impacts on the existing environmental set up of the area. However, the likely impacts of the proposed mining and allied activities on the various environmental parameters are discussed as under and tabulated in separate heads.

IMPACT AREA	PROBABLE IMPACTS	PROBABLE SOURCE	MITIGATION MEASURES	REMARKS
LAND USE	Change in land use pattern	Site preparation Excavation Construction of approach and haulage road. Drilling & Blasting. Disposal of overburden/ waste etc.	At any point of time, area under reclamation should be kept at minimum by ensuring simultaneous reclamation of land along with mining activity to reduce the time gap between land reclamation and mitigation. The scheme of Plantation has been proposed all along the approach road of lease area & will be made accordingly. The selection of plant species will be based on the local soil conditions. Post plantation care like watering and protection from grazing will be done by proving tree guard / fencing. The top soil shall be scraped manually and send to the plantation site directly. Number of access roads to mining site should be kept minimum. Stockpiling of stone shall be avoided. There shall be no waste generated during the mining as all the ROM shall be used in making aggregates	The existing land form is hilly barren terrain there is no forest land in the lease area, the land use is waste land and ownership is owned by state government. There is no agriculture in the vicinity of lease area so mining will not have any impact on agricultural pattern. Aesthetic environment will also be not affected as the mine lease area is waste land (rocky terrain) with some bushes only.

IMPACT AREA	PROBABLE	PROBABLE SOURCE	MITIGATION MEASURES	REMARKS
AIR QUALITY	Probable contamination of air with dust and exhaust gases of the vehicle transporting stone and by NOx drilling operations.	▯ The dust generated from mining activities is the primary source of air pollution. The emission sources include excavation and mining of stone, drilling, sizing and transportation within the project area. ▯ Negligible amount of auto exhaust emissions also expected to be found in the core zone because of vehicular activities arising due to transportation of limestone and waste by dumpers and Excavators. ▯ NOx generated from blasting ▯ Storage of	▯ As the primary concern in air quality is emanated dust to dust suppression system mainly water spraying is to be done in and around mining area. ▯ Use of sharp drill bits for drilling holes and drills with water flushing system to reduce dust generation at source. ▯ Loading of mineral should be done at optimum height so as to reduce the dust below. ▯ Overloading will be prevented. The trucks and trolley after loading will be covered by suitable cover. ▯ Timely maintenance of vehicle used for transportation of mineral shall be ensured. ▯ Green belt all along mining area & haulage roads shall minimized the impact.	Spreading of dust particles shall be negligible as the dust shall be suppressed at source. However, plantation all along lease boundary & haulage roads shall act as dust arrester & sink hole for suspended particles.

WATER QUALITY				
IMPACT AREA	**PROBABLE IMPACTS**	**PROBABLE SOURCE**	**MITIGATION MEASURES**	**REMARKS**
SURFACE WATER	Change in quality as well as quantity.	Waste generated due to mining. Due to runoff water from the rain. Due to disposal of waste by labors. Due to washing of vehicles used in transportation Due to disposal of	Waste shall not be generated as all the quantity of ROM shall be used in making aggregates. Massive plantation in and around lease area and haulage road. Rainwater accumulated in worked out pit will be collected and will be used for dust suppression and green belt development. Retaining wall & Check dam construction all along slope. Drains all along road side.	Mining will be done above the water table in leased area which is waste land and there is no river or surface water exists within this area. However, composition of granitic rock merely reacts with surface water as it

IMPACT	PROBABLE IMPACTS	PROBABLE SOURCE	MITIGATION MEASURES	REMARKS
GROUND WATER	Interception, diversion, contamination and wastage of ground water	Digging and excavation. Piling of overburden.	Regular monitoring of ground water. Piling of overburden will be avoided Whenever the mining reaches the water table the leaseholder should dig a separate well in the lease area itself in which water from mining pit is disposed with objective of	No interception diversion or contamination of groundwater because Mining will be done above the water table in leased area. There is not any generation of toxic waste from mining site and ground water is not used for any mining activity Except, drinking purpose which shall be procure from nearby hand pump/ tube well. Bottom of the excavated

IMPACT AREA	PROBABLE IMPACTS	PROBABLE SOURCE	MITIGATION MEASURES	REMARKS
NOISE QUALITY	Increase in Noise level of the area which will affect the inhabitant residing nearby and there.	Drilling & blasting Heavy earth moving machinery Due to vehicle used for transportation of excavated material Accumulation of labor in mining area, noise is created from their verbal communicationand manual excavation.	Drilling & Blasting shall be performed under the supervision of competent Blaster & Mines Manager with Optimum hole charge by using delay detonators & muffle blasting to minimizes nose impact & rock fly Care will be taken to produce minimum sound during loading of mineral. Minimum use of horn and provision of speed limit will be ensured. Timely maintenance of vehicles and their silencers	Noise limit shall be within 90db limit during mining operation by using these mitigation norms.
ECO-LOGICAL /BIO-LOGICAL	Loss of flora and fauna residing there and nearby.	Site preparation Excavation Construction of approach and haulage road Drilling	No measure loss has been noticed so no mitigation measure is proposed	Mining is done on mining lease area which is barren, unfertile. No wildlife of any sort is found within lease hold area. The fauna found in the area are of common variety and no endangered or threatened species are reported in the area.

IMPACT AREA	PROBABLE IMPACTS	PROBABLE SOURCE	MITIGATION MEASURES	REMARKS
OCCUPATIONAL HEALTH	▯ Workers of area likely to get affected by respiratory or pulmonary diseases like bronchitis, silicosis and asthma fungal infection. ▯ Water related disease such as diarrhea, dysentery etc. ▯ Minor accidents such as cut and bone	▯ Due to emanation of dust, exhaust and noise from vehicle transport. ▯ Due to lack of personnel hygiene ▯ Due to lack of personal safety procedure	▯ First aid facility will be provided at mining site. ▯ Training of the worker regarding use of safety appliances and first aid. ▯ Every six month Periodical medical examination of all workers by experienced medical professional shall be ensured. ▯ Training shall also includes emergency response including location and proper use of emergency equipment, procedure for raising alarm and notifying contractor and proper response action for each foreseeable emergency situation.	
DEMOGRAPHY/ SOCIO-ECONOMY	Strain on existing amenities like housing, water sources and sanitation, medical and infrastructure Facilities.	Influx of employees as well as contractor's employee/laborers.	Only local peoples in limited numbers and residing in nearby area will be employed as man power.	No additional impacts