EXECUTIVE SUMMARY

1.0 Introduction

The proposed project of 6.07 ha area is of *Gitti*, *Patthar* & Boulder mining and falls under Category- "B1" as per EIA Notification 2006 of the Ministry of Environment Forests & Climate Change, New Delhi & Their amendments their of. **The cluster area will be more than 25 ha within 500 meter**. The mining lease area is situated at village Bhatauti, Tehsil: Meja, District: Allahabad Uttar Pradesh.

The proposed rate of production is 5, 65,500tonnes/annum and estimated project cost is Rs. 45 lacs. The expected life of mine is 6 years. The total mine lease area is a stony waste land.

1.2 Salient features of the project

Project Name	Bhatauti (Plot no-2089 Khand- 87) Gitti, Patthar & Boulder Mining Project
Mining Lease Area	6.07 ha
Location of mine	Village: Bhatauti Tehsil: Meja District : Allahabad State : Uttar Pradesh
Latitude/Longitude	25° 9'1.74"N 82° 2'5.94"E
Toposheet number	63-K/4
Land Use	Stony Waste Land
Minerals of mine	*Gitti*, *Patthar* & Boulder
Total Geological reserves	5224800 tonnes (2089920 cum)
Total mineable reserve	3648600 tonnes (1459440 cum)
Proposed production of mine	5,62,500 tonnes (2,25,000 cum)
Method of mining	Opencast semi-mechanized mining
Drilling/Blasting	Drilling and blasting by licensed vendors, if required

No of working days	300 days
Water demand	Total water requirement is about 2.595 KLD = 1.395 KLD (Drinking & Domestic Uses) + 1.2 KLD (Dust Suppression).
Sources of water	Water for dust suppression and plantation will be collected from nearby villages. Water tanker will provide the drinking water. During monsoon period, rain water accumulated on the pit which will be used for dust suppression and plantation.
Man power	31
Nearest railway station	Meja Road railway station (About 10 Km In NE Direction.)
Nearest state/national highway	NH-76 (about 9.5 km in NE direction) Koraon-Meja Link Road (about 9.0 km in E direction)
Nearest airport	Allahabad airport (About 44.5 Km In NW Direction)
Seismic zone	Zone II

2. INTRODUCTION OF THE PROJECT/ BACKGROUND INFORMATION

2.1 Identification of Project and Project Proponent

The project is proposed to mine *Gitti* , *Patthar* and Boulder in an area of 6.07 ha (15 acre). The lease is situated at village Bhatauti, Tehsil: Meja, District: Allahabad Uttar Pradesh.

The mining lease was applied by **M/s D K Associates**, through Partner Mohd. Afzal- S/o Late Abdul Rasheed, R/o Millat Nagar, Obra, Sonebhadra (UP). State Govt. has given its consent vide letter no. 315/khanan/2016-17 dated 25.05.2016 to grant lease deed with condition (Annexure I)

Application for Lease is attached as **Annexure I.**

The details of the project are given below:

Name of the applicant	M/s D K Associates
Address of applicant	Mohd. Afzal S/o Late Abdul Rasheed R/o Millat Nagar, Obra, Sonebhadra (UP).

Name of Mine	Bhatauti Plot no-2061 Khand- 1 A & 8 *Gitti Patthar* & Boulder Mining project
Mineral	*Gitti Patthar* & Boulder
Area (ha)	6.07 ha
Location of the site	Village: Bhatauti Tehsil: Meja District : Allahabad State : Uttar Pradesh
Status of Mine	New

2.2 Brief Information about the Project

The proposed project has lease area of 6.07 ha and annual production capacity of 5, 62,500 tonnes (2, 25,000 cum) of mineral. Mining operations will be carried out by semi-mechanized method. The expected life of the mine is 5 years. Extraction *of Gitti*, *Patthar* and Boulder will be carried out by open cast Semi Mechanized method through bench formation which would be 6m in height and 6m wide. Deep hole blasting will be done only for hard rock if encountered during mining operation. Water requirement for the proposed project is 2.595 kld for domestic use and dust suppression, which will be taken from nearby village & water tankers.

2.3 Need for the Project and Its Importance to the Country or Region

Building a huge infrastructure as being envisaged by Government of India particularly in road and housing sector requires basic building materials. The stone is one of primary building material required for this purpose. The mining activities as proposed are the backbone of all construction and infrastructure projects as the raw material for construction is available only from such mining. The stone extracted is highly in demand in the local market for road construction and real estate industry.

2.4 Demands-Supply Gap

The demand for stone is ever growing with the growth of the infrastructure sector in our country. The mineral is used in the construction activities like roads, buildings, bridges etc. 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.

2.5 Imports vs. Indigenous Production

The demand in the domestic market is high for *Gitti, Patthar &* Boulder. Mineral is available in abundant quantity in area and can be extracted indigenously.

2.6 Export Possibility

There is no proposal to export the mineral as the minerals extracted cater the indigenous demand and the development is a never ending process.

2.7 DOMESTIC MARKET

There is always an ever increasing demand of these minerals in the domestic market. The finished product will be used for saleable purpose in the local market.

EXPORT MARKET

The proposed mining activity is for indigenous consumption only.

2.8 Employment Generation

The project operation will provide livelihood to the 31 workers. It will provide employment to the people residing in the vicinity and indirectly by the development of supporting infrastructure.

3.0 PROJECT DESCRIPTION

3.1 Type of Project Including Interlinked and Interdependent Projects, If Any.

The proposed project is at village Bhatauti, Tehsil: Meja, District: Allahabad Uttar Pradesh has a total area of 6.07 ha with the production capacity of 5, 62,500 tonnes (2, 25,000 cum). This is an independent mining project and there are no interlinked projects involved.

3.2 Location

The mining lease area is located in village Bhatauti, Tehsil: Meja, District: Allahabad Uttar Pradesh. The details of location of mining lease area are given below:

Toposheet No. : 63-K/4

Coordinates:

25° 9'1.74"N
82° 2'5.94"E

The vicinity map of the location is given below

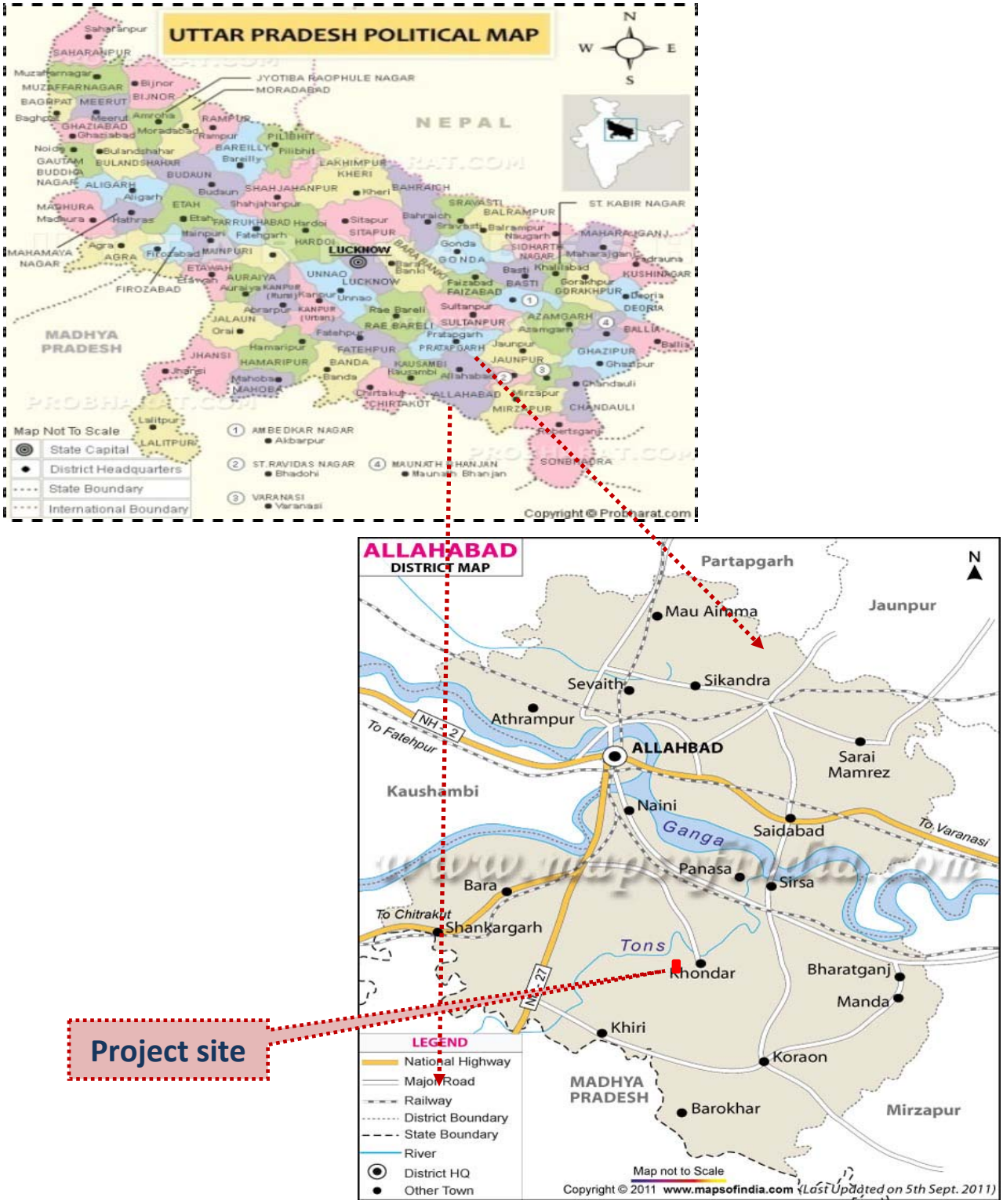


Fig 1: Location Map

3.3 Details of Alternate Sites

Mineral is site specific as well as the lease has been allotted in the particular area. Hence no alternative site is examined for mining.

3.4 Size or magnitude of operation

The proposed mine has lease over an area of 6.07 ha with the production capacity of 5, 62,500 tonnes(2, 25,000 cum). The mine will be worked on the day shift only. The average number of working days in the year would be 300.

Geological and mineable reserves

Category of Resource	**Total Capacity (Cum)**	**Total Capacity (Tonnes)**
Proved	1194240	2985600
Probable	597120	1492800
Possible	298560	746400
Total	2089920	**5224800**

Mineable Reserve

Bench Level (mRL)	**Quantities of Minerals (CUM)**	**Quantities of Minerals (tonnes)**
105	328560	821400
99	292128	730320
93	257424	643560
87	224448	561120
81	193200	483000
75	163680	409200
Total	**1459440**	**3648600**

Production Details

The production target for the Next 5 years is 5, 62,200 tonnes (2, 25,000 cum)

3.5 PROJECT DESCRIPTION WITH PROCESS DETAILS

3.5.1 Method of Mining

Operation will be carried out by semi-mechanized method. Spades, hammer, crowbar, chisel etc will be used for excavation. If at places hard rocks are found drilling and blasting would be carried out in a controlled manner by licensed vendor. Sorting, sizing and loading of the stone will be done manually. Mining will be done from top to bottom by making benches having height of 6m and width of 6m with face slope 70 degree. Approach road having width 6m & gradient 1:16 shall be provided to join the mining faces.

To meet the required production wagon drilling with deep hole shall be carried out. The blasted material will be handled with excavator and loaded in to dumpers.

The following mining parameters are proposed for production in 3years:

Type of working : Opencast, semi-mechanized
Bench Height : 6 m
Bench Width : 6 m
Total no. of benches : 5
Face slope : 70^0

PRODUCTION DETAILS

The production target for Five years is given below:

Year	Bench Level	Production (Cum)	Production (Tonnes)
1st	105	225000	562500
	Total	**225000**	**562500**
2nd	105	103560	258900
	99	121440	303600

	Total	**225000**	**562500**
3rd	99	170688	426720
	93	54312	135780
	Total	**225000**	**562500**
4th	93	203112	507780
	87	21888	54720
	Total	**225000**	**562500**
5th	87	202560	506400
	81	22440	56100
	Total	**225000**	**562500**
Total		**1125000**	**2812500**

(Source: Mine Plan)

The mine will be worked on the day shift only. The average number of working days in the year would be 300 days.

3.6 Raw Material Required Along With Estimated Quantity, Likely Source, Marketing Area of Final Product/S, Mode of Transport of Raw Material and Finished Product

No raw material will be required in the proposed project. The operation involves the excavation of *Gitti, Patthar* and Boulder in its existing form and transported to the end users/ market.

3.6.1 Use of Mineral

The minerals i.e. the *Gitti, Patthar* and Boulder are used:

- As construction material for buildings
- As raw material for construction of dams,
- In roads making, paving, etc.

3.6.2 Mineral Beneficiation

No mineral beneficiation is involved for this mineral. The materials are excavated in from of slabs, and the rest is taken out stones of small sizes i.e. *Gitti, Patthar* and Boulder etc.

3.7 RESOURCE OPTIMIZATION/ RECYCLING AND REUSE

Minerals are depleting asset once mined; they cannot be replenished like sand & gravel. Thus a scientific approach will be taken up while excavation of mineral with systematic method.

3.8 AVAILABILITY OF WATER ITS SOURCE, ENERGY/ POWER REQUIREMENT AND SOURCE

3.8.1 Water Requirement

The water requirement will be around 2.595 KLD. About 1.395 KLD for domestic and 1.2 KLD will be required for dust suppression. Water for drinking purpose will be supplied from the tube well from nearby villages and for dust suppression, from nearby *talabs*/ponds.

The rain water stored in existing pits shall also be used for dust suppression and watering the plants.

3.8.2 POWER

All the activities will be carried out in a semi-mechanized manner. The material will be extracted and loaded with the help of excavator on dipper. The operation will be done only from sun rise to sun set hence there is no power requirement for the project at site.

3.9 QUANTITY OF WASTES TO BE GENERATED (LIQUID AND SOLID) AND SCHEME FOR THEIR MANAGEMENT/ DISPOSAL

3.9.1 Solid Waste Generation & its Disposal

As all the quantities of the minerals *gitti*, *patthar* boulders excavated from mining site will be proposed to send to crusher unit outside the area. Therefore the waste generated shall be nil & so no proposal has been envisaged for its separate dumping.

3.9.2 Liquid Effluent

No liquid effluent will be generated from the proposed mining project.

4. Site Analysis

4.1 Connectivity

4.1.1 Nearest Railway Station

Meja Road Railway Station (about 10 km in NE direction)

4.1.2 Nearest Airport

Allahabad Airport (about 44.5 km in the NW direction)

4.1.3 Nearest Highway

NH-76 (About 9.5 km in the NE direction.)
Koraon Meja Link Road (About 9.0 km in the E direction.)

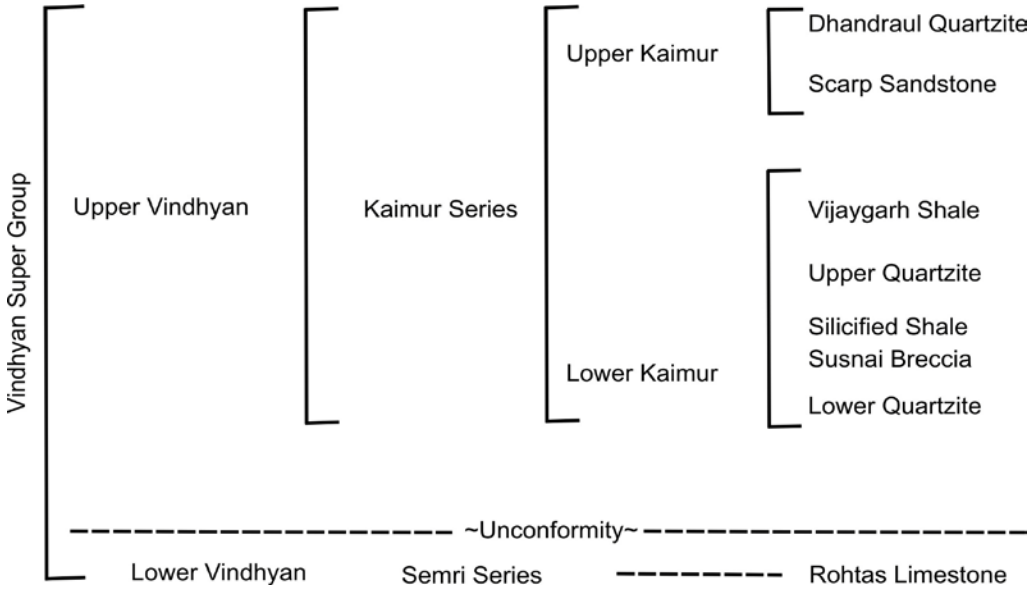
4.2 LANDFORM, LANDUSE AND LAND OWNERSHIP

The mine lease area forms a part of hillock (stony waste land) with moderate slope which is a stony waste land. There are no settlements near the project site. The maximum height of the area is 110.78 m and minimum height of the area is 107.54 m.

The Surface Plan showing contours of the lease area is attached with report.

4.2.2 General Geology:

The sand stone of applied area belongs to upper part of Kaimur Plateau. Regional Geology of the area is given below:



GEOLOGY OF THE AREA:

The sand stone of area is full grained, massive in colour & gently dipping. Colour variation is observed in some place. The upper layer shows signs of weathering. Two sets of joints are prominent within area & areas bel

Joints	**Direction**	**Degree**
J1	305N	30
J2	240N	60

DETAILS OF EXPLORATION:

a) Already carried out in the area:

One trial pits having dimension of 5m x 5m x 5m were dug with in applied area & later on all the trial pits have been converted into mining pits.

b) Proposed to be carried out:

The entire area is consists of stony outcrops and occurrence of stone are seen across the nala cutting in the vicinity of area. Apart from these occurrences of stone are also seen in the wells dug surrounding of area. Therefore occurrence of stone has been established upto depth 20m to 30m & no future exploration likely to be carried out within the area. Therefore, no future exploration programme has been envisaged during plan period.

Soil Classification

AES	**SITUATION**	**SOIL TYPE**	**AREA IN % *HA**	**BLOCK**
AES1	Black & Coarse gray land (Jamuna par)	Clay Loam to Sandy Loam	48%/230.1	Shankargarh, Koraon, Manda, **Meja**
AES2	Jamuna Khadar & Alluvial (Jamunapar	Loam & Sandy Loam	10%/51.1	Jasra, Karchhana, Chaka, Kaundhiara
AES3	Ganga low land & Sodic (Gangapar)	Sandy Loam to Sodic	15% /92	Pratappur, Handia, Phulpur
AES4	Ganga Plain (Gangapar)	Sandy Loam & Clay	27% /138.1	Phulpur, Saidabad, Soraon

4.3 TOPOGRAPHY

Allahabad district covers an area of 5246 sq.km and underlain by Quaternary alluvium and Vindhyan formation. The district is administratively divided into 08 tehsils and 20 development blocks. District lies between $24^0$47' and $25^0$47' north latitude and $81^0$09' and $81^0$21'E. Total population as per 2001 census is 4,76,1134. Out of which 14,258 were males and 12, 36,544 were females. The density of population is 1121 person per sq.km. and decadal growth is 20.50%.
The district area represents alluvial, as well as hard rock. District is bifurcated by river Yamuna, Vindhyan hills. Physiographically district is characterized with Ganga and Yamuna plain and Vindhyan plateau. It can be divided into three

natural subdivisions; i) Active Flood Plain ii) Older Alluvial Plain and Rock Surface (Denudational Hills). The Active Alluvial Plain is of low relief characterized by thick deposition of clay, kankar, sand and gravel. Older Alluvial Plain lies along river Ganga. It is less pronounced in trans Yamuna area. The Denudational hills are quite prominent in Trans Yamuna area and in Shankargarh, Koraon, Meja and Manda in particular.

Source: *http://cgwb.gov.in/District_Profile/UP/Allahabad.pdf*

4.4 LAND USE

At present the land in the area is not occupied for any other use. The leased out area is completely a stony waste land. This will be used for mining and also will be restored by green belt development.

4.5 Climatic data from secondary sources

The average annual rainfall is 934 mm. Climate is sub humid and is characterized by hot summer and pleasant monsoon and cold season. About 90% of rainfall takes place from June to September. During monsoon surplus water is available for deep percolation to ground water. From February there is rapid increase in temperature, May is the hottest month with the mean daily maximum temperature is 41.5^0 C and mean daily minimum temperature 26^0 C. After the onset of the monsoon there is appreciable drop in temperature, January is the coldest month with mean daily maximum temperature is 26.20^{0}C and mean daily minimum temperature is 9.3^0 C. The mean monthly maximum temperature is 19.54^0 C and means monthly minimum temperature is 6.23^0 C. The relative humidity is high during the southwest monsoon season, with mean monthly morning relative humidity at 63.92% and mean monthly evening relative humidity at 48%.

Source: *http://cgwb.gov.in/District_Profile/UP/Allahabad.pdf*

5 PLANNING BRIEF

5.1 Planning Concept

Mining will be done as per approved mine plan. Operation will be carried out by semi mechanized method. Spades, hammer, crowbar, chisel etc will be used for excavation. If at places hard rocks are found drilling and blasting would be carried out in a controlled manner. The excavation will be done bench wise. During the 5 year mining will be done at 116-92mRL.

The detail of minable area along with reserve is tabulated below.

Year	Bench Level	Production (Cum)	Production (Tonnes)
1st	105	225000	562500
	Total	**225000**	**562500**
2nd	105	103560	258900
	99	121440	303600
	Total	**225000**	**562500**
3rd	99	170688	426720
	93	54312	135780
	Total	**225000**	**562500**
4th	93	203112	507780
	87	21888	54720
	Total	**225000**	**562500**
5th	87	202560	506400
	81	22440	56100
	Total	**225000**	**562500**
Total		**1125000**	**2812500**

5.2 Population projection

The project will employ most of the workers from nearby villages except for supervisory staff. Thus there will no increase in population due to the project.

However, few people from other area may migrate in this area for employment directly and indirectly for business opportunities.

5.3 Amenities/Facilities

- Temporary rest room shelter
- First-Aid facilities (along with anti-venom)
- Safe drinking water
- Facilities for sanitation-community toilets.
- Direct and indirect Employment, most of which most will be from nearby villages.
- Arrangements for safe and healthy working conditions.
- Provision of safety equipments like ear-muffs, gloves, etc.
- Conducting medical camps for workers and nearby villagers at regular interval.

6 PROPOSED INFRASTRUCTURE

6.1 Industrial Area (Processing Area)

No infrastructure is proposed.

6.2 Residential Area (Non Processing Area)

As the local people will be given employment, no residential area/ housing are proposed.

6.3 Green Belt

The applied area is marked by large exposure of barren land. The applied area is rocky terrain so it is not feasible to undertake the plantation with in lease hold. The plantation will be undertaken within 7.5 m barrier zone. The year wise plantation as below-

Year	Area (Ha)	No of sapling
1st	0.01	10
2nd	0.01	10
3rd	0.01	10
4th	0.01	10
5th	0.01	10
Total	**0.05**	**50**

The tree species recommended are Ficus religosa (pipal), Boswellia serrata (Salai), Shorea robusta (sal) and tactone grandis (teak) may also be recommended. Mangifera indica (Aam), Emblica officinalis (Anwala), Aegle marmerlos (Ibei), Planting should be done in large sized 90 cm x 90 cm. due in advance and filled about 50 days before planting. The plantation raised earlier should be carefully maintained. Mortalities should be replaced by fresh planting.

Post Plantation Care:

Following precaution to be undertaken for survival of plants:

- The samplings will be undertaken for survival of plants.
- Plants will be taken care by applying fertilizers and proper wedding etc.
- Healthy tree species will be recommends for plantation.
- Fatal saplings will be replaced with new healthy saplings.
- Every sapling will be covered by tree guard to avoid damage through cattle grazing.
- A Gardner or *mazdoor/Mali* should be employed for care.
- Necessary arrangement will be provided for watering tree species planted at different parts.

6.4 Connectivity

The lease area is well connected to the metalled road by a kuchcha road at a distance of about 0.25 Km which is towards NH 76.

6.5 Water Management

The total water requirement for drinking and dust suppression will be 2.73 KLD. This water will be supplied from the available source of nearby village for drinking and from nearby *talabs*/ponds for dust suppression.

6.6 Sewerage System

No sewerage system is proposed.

However garland drain is proposed to be constructed, which will prevent the rain water to enter into the lease area. Sumps will be made, which will hold the silt/clay in it and the clear water will be further discharged or used for dust suppression.

6.7 Industrial Waste Management

Not applicable

6.8 Solid Waste management

The soil as waste generated will be stored as dumps on 7.5m wide lane along the periphery of the lease area. As all the quantities of the minerals *Gitti*, *Patthar* & Boulders excavated from mining site will be proposed to send to crusher unit outside the area. Therefore the waste generated shall be nil & so no proposal has been envisaged for its separate dumping.

6.9 Power Requirement & Supply/Source

The operation will be done only from sun rise to sun set hence there is no power requirement for the project at site.

7 REHABILITATION AND RESETTLEMENT (R&R) PLAN

Not Applicable

8 PROJECT SCHEDULE & COST ESTIMATES

8.1 Likely date of start of construction and likely date of completion.

The project will commence once Environmental Clearance and other necessary certificates are obtained from the respective departments.

8.2 Estimated project cost along with analysis in terms of economic viability of the project

Sr. No.	Description	Cost in Rs. (Lakh)
1	Land cost expenditure	Nil
2	Cost of infrastructure, Equipment, Vehicles,etc.	25.0
3	Environmental Protection & Implementation	5.50
4	Green belt Development	2.50
5	Socio-economic development	12.0
TOTAL		**45.0**

The total project cost is Rs. 45 lakh**.**

8.3 Corporate Social Responsibility

The mine management will also help nearby villages by, providing drinking water facilities, conducting medical and social awareness camps, helping in formation of self help groups, distributing solar lamps, blankets, Ladies Toilets etc as per the need & requirement as a part of corporate social responsibility for the Mining Period. About 2 to 5 percent of the total cost will be used for CSR activities. The list of beneficiary will be provided along with compliance report.

SI. No.	Activity	Capital Cost (in Rs.)

1	Provide drinking water facility in surrounding villages and schools by constructing water tanks at schools and	50000
2	Solar lamp distribution	40000
3	Construction of Ladies Toilets	60000
4	Educational support & sanitary facilities in schools for poor students	75000
TOTAL (in life time)		**2,25,000**

List of beneficiaries will be provided at the time of compliance.

9 ANALYSIS OF PROPOSAL (FINAL RECOMMENDATIONS)

The proposed mine will bring economical benefits to the state by the way of Royalty for mineral and to the local people by way of direct and secondary employment opportunities. The mining activities as proposed are the backbone of all construction and infrastructure projects as the raw material for construction is available only from such mining activities. The *Gitti*, *Patthar*, & Boulder extracted is in high demand at the local market for building, construction of dams, roads, paves, etc.

Achieving a huge infrastructure as being envisaged by Government of India particularly in road and housing sector requires basic building materials. *Gitti*, *Patthar*, & Boulder are one of primary construction/building material required for the purpose. The mining activities as proposed are the backbone of all construction and infrastructure projects as the raw material for construction is available only from such mining.

This project operation will provide livelihood to the poorest section of the society/economically backward population in the area. It provides employment to the people residing in vicinity directly or indirectly. The mine management will also help nearby villages by providing aid to school, conducting medical and

social awareness camps, helping in formation of self help groups, distributing solar lamps, blankets etc as a part of corporate social responsibility. Thus the project will bring about socio-economic improvement of the area and will prove beneficial to the area.

****