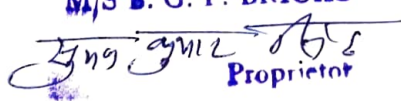


EC
APPLICATION
FOR
SOIL MINING PROJECT
FOR BRICK EARTH
Of
M/S BHAGWAN GITAFIELD (BGF)
AT
District- Katihar (Bihar)

AREA- 3.371 Ha or 8.33 Acres
CAPACITY- 5891.8 CUM per annum or 7659.34 TPA

M/S B. G. F. BRICKS

Proprietor

Applicant

Mr. Suman Kumar Singh S/o Mr. Bhagwan Prasad Mehta,
Mauza- Sivana, Guru Bazar,,Anchal – Barari
District- Katihar(Bihar)Pin code-854104

Proposed Brick Earth Mining of M/s M/s Bhagwan Gita Field (BGF)- Roniya Soil Brick Mining Plan(Katihar) at Village-Roniya, P.O- Guru Bazar, P.S- Barari, ANCHAL-Barari, District-Katihar(Bihar).

PRE FEASIBILITY REPORT

1. Executive Summary:

India is second largest producer of clay fired bricks, accounting for more than 10 percent of global production. India is estimated to have more than 50,000 brick kilns, producing about 50-75 billion bricks annually, employing about 5 million workers a consuming about 12 million tons of coal annually. India brick sector characterized by traditional firing technologies; environment pollution; reliance on manual labor and low mechanization rate; dominance of small-scale brick with limited financial, technical and marginal capacity; dominance of single raw material (clay) and product (solid clay brick)

A brick is a block or a single unit of a ceramic material used in masonry construction. Bricks are made from dried earth, usually from clay –bearing subsoil. It is an activity that can take place in many forms, in large modern factories to small rural business.

1.1. Conditions Needed for Brick making:

The minimum conditions necessary to begin a brick making production are as follows:

1.2. Materials:

The following materials required for manufacturing of bricks:

Clay

Clay soils are compounds of silica and alumina. It takes approximately 1 cum of clay soil to make 400 bricks.

Water

There will need to be enough water for clay, a source of water must be available during brick production. It takes approximately 120 liters of water to produce 400 bricks.

Sand

Sand can be used to make minor adjustments to the quality of soil. It can be added to soil when drying to prevent the soil from becoming too brittle. Sand is also be used as a stabilizer in a mixture. An important use of sand is in brick making process, where it is used to keep the bricks from sticking to moulds.

If no sand is available in a location where bricks making is going in startup, sawdust, ash and fine dry soil can be used to keep the clay sticking to mould.

Fuel

Firewood and coal are the most common fuel sources used for firing bricks.

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1.1.2 Site Characteristics and Access

Space

It is recommended that a brick production 400 bricks per day will require 700 Space.

Transport

Brick production requires transport for supplies and the finished bricks. Depending of production, frequent transportation will be required so there will need to be Tractor or trucks etc. Also access must be good for where the completed bricks will be transported.

Tools and Equipment

The following is sample list of tools and equipment recommended for person

- ❖ Hoes
- ❖ Pickaxes
- ❖ Shovels
- ❖ Axes
- ❖ Machetes
- ❖ Wheelbarrows
- ❖ Empty fuel drums
- ❖ Buckets or pails
- ❖ Hinge molds
- ❖ Molding tables
- ❖ Bow cutters
- ❖ Pallets
- ❖ Carrying boards

1.1.3 Organization and Management

Motivation

Brick making is labor intensive. It will be tedious and tiring. Workers therefore motivated to produce good quality bricks.

Management

Although brick making may be considered a simple or low technology, good management is important brick production. This includes providing an adequate supply of raw materials for the workers. Keeping

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the equipment maintained and providing facilities for the workers. It also involves checking the quality of the product regularly, setting up smooth flow of production and having adequate financial

Arrangements for purchases and salaries. Also it is important to make sure there are skilled personnel and that the workers have all the tools and information needed.

Assistance

Assistance may be financial, technical or managerial.

1.2 The Brick making Process:

The bricks making involves the following process

- ❖ Clay Preparation
- ❖ Molding
- ❖ Drying
- ❖ Firing

2 . Introduction Of the Projects

M/S BHAGWAN GITA FIELD(BGF)Mr. Suman Kumar Singh S/o Late Bhagwan Prasad Mehta at Khasra no- 3672,3673,3674,3675,3676Khata no-290, 342, 628Mauza-Roniya, P.O- Guru Bazar, P.S- Barari, ANCHAL-Barari, District- Katihar (Bihar).The total mine area of proposed brick clay mining project is 8.33 Acres or 3.371 Ha. As per EIA Notification 14th September 2006 & O.M.No-L-11011/47/2011-IA.II(M) dated 24th June 2013 The proposed Project falls under Schedule 1(a) & Category "B-2". As per MOEF&CC office Memorandum No.L- O.M.No-L-11011/47/2011-IA.II (M) dated 24th June 2013 following conditions shall be followed during the mining activity.

No drilling and blasting are proposed for brick clay mining activity:

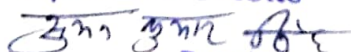
The borrowing / excavation activity will be restricted up to maximum

Depth of 2 meter below general ground water level or up to 2 meter above the ground water table whichever come first

No mining activity will be carried out with in 15 meter periphery of any civil structure.

The break-up of proposed clay mine area is given as table no 1

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Proposed Brick Earth Mining of M/s M/s Bhagwan Gita Field (BGF)- Roniya Soil Brick Mining Plan(Katihar) at Village-Roniya, P.O- Guru Bazar, P.S- Barari, ANCHAL-Barari, District- Katihar(Bihar).

	Khata No.	Khasra No	Area(Acre)	Latitude	Longitude
Location & Revenue Details of Mining Site	290, 342, 628	3672,3673,3674,3675,3676	8.33	25° 29' 27.395" N	87° 24' 10.196" E
				25° 29' 27.434" N	87° 24' 13.286" E
				25° 29' 25.068" N	87° 24' 15.263" E
				25° 29' 22.932" N	87° 24' 16.204" E
				25° 29' 20.593" N	87° 24' 15.817" E
				25° 29' 21.926" N	87° 24' 6.534" E
				25° 29' 24.440" N	87° 24' 5.784" E
				25° 29' 23.842" N	87° 24' 10.369" E
				25.489961" N	87.401222" E
BRICK KILN SITE					

2.1- Identification of project and Project Proponent

The project comprises of Brick Earth at Khasra No-3672,3673,3674,3675,3676Village-Roniya, P.O- Guru Bazar, P.S- Barari, Anchal-Barari, District- Katihar(Bihar) has been leased to Mr. Suman Kumar Singh.

2.2. Brief description of nature of the project:

The Proposed soil mining at Khata no-290, 342, 628Khasara No-3672,3673,3674,3675,3676

Village-Roniya, P.O- Guru Bazar, P.S- Barari, Anchal-Barari, District- Katihar (Bihar) has been leased to Mr. Suman Kumar Singh..The mine lease area is 8.33 Acres or 3.371 Hectare. The total brick making

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Proposed Brick Earth Mining of M/s M/s Bhagwan Gita Field (BGF)- Roniya Soil Brick Mining Plan(Katihar) at Village-Roniya, P.O- Guru Bazar, P.S- Barari, ANCHAL-Barari, District- Katihar(Bihar).

capacity has been estimate to be about 12176 bricks per day (approx. 4.44 million per annum) on the mine lease area that extends up to 6546.5 m3.

Table 1 shows the mine lease along with area along with its dimensions

Sl. No	Village	Area
1	Roniya	8.33 Acres

2.3 Need for the project and its importance to the country

The production of Brick clay will benefit to the state in the form of royalty. Apart from this project operation will provide employment directly and indirectly to the people residing in vicinity. Thus improving the Socio- economic status of the area.

The demand of clay bricks in India due to increasing urbanization many houses and industries to be consecrated as per the requirement of the people.

2.4 Demand – Supply gap

The growth in India's economy and population, coupled with urbanization has resulted in an increasing demand for residential, commercial and public buildings as well as other physical infrastructure. Building as well as other physical infrastructure. Building construction in India is estimated to grow at a rate of 3.5% per year. The building stock is expected to multiply five times during this period, resulting in a very large increased demand for building materials.

2.5. Imports Vs. Indigenous Production

There will be imports for the proposed project. All production of brick making is earmarked for the indigenous demand/ local market.

2.6 Export possibility

The Present project does not seek the export possibility.

2.7 Domestic/Export Markets

The bricks will be only for domestic market.

2.8 Employment generation (direct and indirect) due to project.

The proposed brick making activity is envisaged to improve the socio-economic on a micro-economic scale by generating local employment 25 direct and about 5 indirect.

3- Project Description:

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Proposed Brick Earth Mining of M/s M/s Bhagwan Gita Field (BGF)- Roniya Soil Brick Mining Plan(Katihar) at Village-Roniya, P.O- Guru Bazar, P.S- Barari, ANCHAL-Barari, District- Katihar(Bihar).

3.1- Type of Project including interlinked and interdependent projects, if any.

The Present project is fresh application for environmental clearance and not interlinked or interdependent. The Lease area of the proposed Brick earth is 8.33 Acres. Which is situated at the proposed soil mining Mauza- Roniya, P.O- Guru Bazar, P.S- Barari, Anchal-Barari, District- Katihar (Bihar).

3.2. Location (map showing general location, specific location and project boundary & project site layout) with coordinates:

The mining area is located at the proposed Village-Roniya, P.O- Guru Bazar, P.S- Barari, Anchal-Barari, District- Katihar (Bihar).

Enclosed as Figure-1 Location Plan

3.3. Details of alternate sites considered and the basis of selecting the proposed site particularly the environmental considerations gone should be highlighted.

No alternate sites were considered as the project is mineral specific.

3.4 Size and magnitude of operation

The maximum rated capacity of the project will be 12176 bricks per day (approx. 4.44 m per annum) production and the mine leased area is spread over 6546.5m³.

Soil mining will be done at the proposed site. The brick making involves the following process:

- ❖ Clay Preparation
- ❖ Molding
- ❖ Drying
- ❖ Firing

It is also proposed that the extraction of clay would be done max up to 2 mts.

6.80. Project description with process details

The proposed project is to mine Brick Clay from plot(S) under agreement sustainably and scientifically. Mining will be opencast and manual along the plot(s) keeping the nearby plot(s) unaffected. Following geo-scientific method are proposed to carry out the activity:

- Mining will be confined to extraction of Brick clay in its existing from the allotted plot(s) only.
- Mining of Brick clay from the allotted plot(s) will be restricted to a maximum depth of m from the surface in proper bench as per MMR-1961.
- No drilling and blasting is proposed.
- Approximately 5891.8 tone or 7659.34 cum minor mineral will be extracted.

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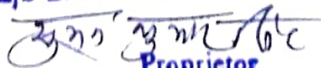
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Proposed Brick Earth Mining of M/s M/s Bhagwan Gita Field (BGF)- Roniya Soil Brick Mining Plan(Katihar) at Village-Roniya, P.O- Guru Bazar, P.S- Barari, ANCHAL-Barari, District-Katihar(Bihar).

- No mining activity will be undertaken during the monsoon season.
- In order to avoid environmental pollution or any accidental hazards, the mining activity will be restricted day time only.
- The operation will remain manual, using tool like shovel, spade, sieve etc.
- During the agreement period, the deposit will be worked from the top surface to 2 m.

3.6. Raw material required along estimated quantity, likely source, marketing area of final products, mode of transport of raw material and finished product.

The main constituents for brick making are clay soil, water, sand & fuel. Along with this Constituent tools equipment and transportation are also required for brick making.

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

Not envisaged

3.8. Availability of water its source, energy/ power requirement and source should be given.

There will be very little of water to carry out operations as it will be done manually. The water will be required either for drinking purposes or for casting of bricks .it is projected that not more than 30 laborers will be required for the proposed project. The total water requirement will be 2.4 KLD. Drinking water requirement for not more than 30 workers would be 0.3 KLD (@30 lpcd), which will be 1.5 KLD and 0.6 KLD for sprinkling will be taken from municipal tankers.

All the activities will be carried out manually. The operation will be done in day time hence

3.9 Quantity of wastes to be generated (liquid and solid) and scheme for their management / disposal

The entire mineral extracted is saleable. The laborers from nearby villages will be hired to carry out work in day time only. Hence there will be no or very less waste is expected to generated. No liquid effluents will be generated at site.

4.Site Analysis

4.1 Connectivity

Connectivity details are given in table-3

Table3: Connectivity details from Proposed Site

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Nearest Railway Station	Karhagola Road Railway Station is at a distance of 3.0 Km North-Westdirection.
Nearest Airport	Purnia Airport at a distance of 33 km in North-East direction.
Nearest Highway	SH road is at a distance of 15 km in North-West Direction.

4.2. Land from, land use and land ownership

The land parcel on which has been leased to Mr. Suman Kumar Singh for Mining.

4.3- Topography

Geographically Katihar coordinates at 25.53' 3508 Latitude and 87.583748 Longitude region with total area 3056 km² is located on the western border of Bihar. The city shares its boundaries with the neighboring state of Jharkhand and WestBengal .PurniaBorders Katihar in the north and west.Bhagalpur: Borders Katihar in the south. Sahebganj: Borders Katihar in the south. Malda: Borders Katihar in the east.Uttar DinajpurBorders Katihar in the east.

The mine lease area is located between co-ordinates (Latitude: 25° 29' 27.395" N Longitude : 87° 24' 10.369" E) failing within Buffer map the topography of the lease a undulating. The highest elevation is 32m.R.L. towards south east side of lease and the lowest elevation is about 31m.R.L .towards north-west of the lease area general slope is towards north-east . Enclosed as figure 2: Buffer Map.

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

Not applicable

4.5. Existing infrastructure

The nearest road is SH road is at distance of approx. 15.0 km in North-West direction. National Highway is at a distance of approx. 9 km in North direction from the project site. SH road is at distance of approx. 15.0 in North-West direction.

4.6- Soil classification

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Thus soil is the backbone of agricultural and industrial development. Soil has a number of characteristics, which may be regarded as the aggregate of physical, chemical and biological properties. The Bihar plane consists of a thick alluvial mantle of drift origin overlying in most part. The siwalik and order tertiary rocks. The soil is mainly young loam rejuvenated every year by constant deposition of silt, clay and sand brought by different streams. This soil is deficient in phosphoric acid, nitrogen and humus but potash and lime are usually present in sufficient quantity.

There are three major types of soil in Bihar:

- ✓ Piedmont Swamp Soil- found in northwestern part of west Champaran district.
- ✓ Terai Soil- found in northern part of the state along the border of Nepal.
- ✓ The Gangetic Alluvium- The plain Bihar is covered by gangetic alluvium (both new as well as old).

4.7- Climate data from secondary sources

The climate here is mild, and generally warm and temperate. In Katihar, the quantity of rainfall during summers surpasses that of winters. The climate is classified as Cwa according to Köppen and Geiger. The temperature in this location is approximately 24.8 °C | 76.6 °F, as determined by statistical analysis. About 1747 mm | 68.8 inch of precipitation falls annually.

Katihar is in the northern hemisphere. Its north to the equator line the onset of summer commences towards the conclusion of June and culminates by September. The months that constitute this season are referred to as June, July, August, September. The optimal period to plan a visit would be during the months of March, April, October, and November.

4.8. Social Infrastructure available

The proposed project is coming Mouza- Roniya, P.O- Guru Bazar, P.S- Barari, ANCHAL-Barari, District-Katihar (Bihar).Katihar is a town having all the basic social and civic activities.

Some of the Social amenities and basic civic amenities are as follow:

Hospital:

The nearest health center is in Guru Bazar.

Education:

Schooling facilities up to Primary School is available Roniya. College Education is available Katihar.

5. PLANNING BRIEF

5.1. Planning concept (type of industries, facilities and transportation etc.) towards country planning / development authority classification.

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Proposed Brick Earth Mining of M/s M/s Bhagwan Gita Field (BGF)- Roniya Soil Brick Mining Plan(Katihar) at Village-Roniya, P.O- Guru Bazar, P.S- Barari, ANCHAL-Barari, District- Katihar(Bihar).

The present project is soil mining for making bricks.

5.2. Population Projection

The project will employ most of the workers from nearby villages. Only supervisory staff be hired from outside. There will not be any increase in population. However, few people from other area may migrate in this area for business opportunities.

5.3. Land use Planning (Breakup along with green belt etc.)

The soil will be carried out on an area of 6546.5.7 m² 1.5 sqm . Green belt will be developed in an area identified by the local gram panchayat.

5.4. Assessment of infrastructure demand (Physical & Social)

5.4.1. Physical

Conditions of roads are moderate and need to upgrade.

5.4.2. Social

- ❖ The good numbers of educational facilities are available in the study area
- ❖ Medical facilities are lacking.

5.5 Amenities/ Facilities

The mine site office, first aid room & rest shelter will be established in the lease area. Clean drinking water will be provided. The toilets will be provided separately for males and females.

6. Proposed Infrastructure

6.1 Industrial area (processing area)

Not Applicable.

6.2. Residential Area (non processing area)

Not Applicable

6.3. Green belt

It is proposed to plant trees along the village roads and other area in consultation with local gram panchayat .the details of the plantation are as given on the tabular form.

Year	Plantation (No of Trees)	Area of Plantation (Green Belt in ha)	Survival Rate	Species to be Planted
1 st	5	0.01	80%	Neem, Gulmohar,
2 nd	5	0.01	80%	Mango, Sagwan,

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3 rd	5	0.01	80%	Kachnar, Gamhar, Jatopha, Babooletc
4 th	5	0.01	80%	
5 th	5	0.01	80%	

6.4. Social Infrastructure

No Social Infrastructure is proposed in present project.

6.5. Connectivity (Traffic and transportation road / rail/ metro/ water ways etc.)

Karhagola Road Railway Station is at a distance of 3.0 Km North-Westdirection. Nearest road is SH is at a distance of approx. 15.0 km in north-west direction. National Highway at a distance of approx. 9.0 km in North direction from the project Site. SH road is at a distance of approx. 15.0 km in north-west direction.

6.6. Drinking water management (Source &Supply of water)

In order to meet the drinking water requirement for site workers water from existing both will be used.

6.7. Sewerage System

The domestic effluent from the clay/ Soil mining site and rest shelter will be generated will be managed through soak pit.

6.8 Solid waste management

Solid waste generated will be of domestic in nature and separate bins will be used collection of organic, inorganic and inert waste. No littering and inert waste no littering will be allowed in the mine area.

6.9 Power requirement & supply/ Source

The mine would be manually. Electrical power will be required only at the brick kiln site office and will be obtained from the state electricity board. Transportation will be through dumpers of tractor / truck operating on diesel.

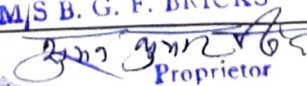
7. Rehabilitation and Resettlement (R&R) plan

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

Since the project involves the soil mining for making bricks and no person is residing in the lease area. The resettlement and rehabilitation is not applicable.

8. Project schedule & cast estimates

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Proposed Brick Earth Mining of M/s M/s Bhagwan Gita Field (BGF)- Roniya Soil Brick Mining Plan(Katihar) at Village-Roniya, P.O- Guru Bazar, P.S- Barari, ANCHAL-Barari, District-Katihar(Bihar).

8.1. Likely date of start of construction and likely date of completion (time scheduled the project to be given)

The Project activity will be taken up a parallel along with the opening of mine after the Environmental Clearance is granted. The production will commence within two months for Environmental Clearance.

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

The project proponent will incur a total cost of Rs. 6.0 lakhs

Sr. No	Description	Cost in Rs
1	Land cost expenditure	250000.00
2	Cost of infrastructure, Equipment, vehicle, man power, machineries etc.	200000.00
3	Environment protection (check dams etc)	100000.00
4	Socio-economic development	50000.00
	TOTAL	600000.00

9. Analysis of proposal (Final Recommendations)

9.1. Financial and social benefits with special emphasis on the benefit to the local people including tribal population, if any, in the area

The project will bring economical benefits to the state by royalty for mineral and people by the way of direct (25 laborers) and secondary employment (5 persons for transport) opportunities. The mine management will be helping nearby villages by providing aid to school, conducting medical and social awareness camps, helping in information of self-help groups etc. especially keeping in the view the tribal and economically backwards population in the area as part of its corporate social responsibility. Thus the project will bring out socio-economic improvement of the area and will prove beneficial to the area. Environment protection and its preservation is today the major concern all over the world. The environment proves that all the human activities on this earth are inter-connected. So much so that an environment damage in the boundaries of one state has trans-border ramifications. Environmental destruction and pollution has seriously threatened the human life, health and livelihood.

Understanding the need to give back to society, state SEIAA has made it mandatory to invest 2-5% of total project benefit cost in CSR activities i.e. 12000 (2% of project cost) in the present case, the project proponent have decided to invest with various activities such as:

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Proposed Brick Earth Mining of M/s M/s Shagwan Gita Field (BGF) Kumbha Soil Brick Mining
Plant(Katihar) at Village Kumbha, P.O. Gura Bazar, P.S. Barani, ANCHAL Barani, District
Katihar(Bihar)

1. Provision of private or community latrine in the village
2. Betterment of village roads
3. Medical facilities or clinics in the village

These activities shall be in consultation with the local authority and shall be needed based to or to
provide maximum benefit to the local

M/S BHAGWAN GITA FIELD(BGF) RONIYA SOIL BRICK MINING PLAN(KATIHAR)

ENVIRONMENTAL MANAGEMENT PLAN

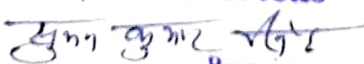
Environmental Management measures for general impacts are below:-

This section recommends the management measures needed to prevent minimize and mitigate the general impacts arising in operation phase as shown in Table 1 below:

Table 1: EMP for the general anticipated impacts

1.Mining Activity Quarrying of brick clay					
Activity	Impact	Duration/Extent	Magnitude	Mitigation Measures	Responsibility
Clay excavation	Removal of fertile top soil	Temporary	Moderate	Fertile top soil will be stored temporarily and will later be used for making buds walls around excavation plot.	Kiln owner
	Pit formation due to excavation	Temporary	Moderate	- Mining operation will be carried out as per mining rules systematically and scientifically. - Mining operations will be carried out on a slope of 45 degree making terraces /benches. The height of the bench not more than 1.5 mt and width of the bench more than height of the bench. - Stabilization of the slope will be done by planting species having extensive root system, so as to bind the soil.	Kiln owner

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				- Species will be planted across the slope so as to arrest to soil movement due to wind and water erosion. - Species planted will be Ficusreligosa (Pipal), Azadirachtaindica(Neem) Ficusglomerata(Gular), Dalbergiasisso(Shisham) and Syzygium cumin(Jamun) may also be recommended. Mangiferaindica(Aam), Emblicaofficinalis(Anwala) , Aeglemamerlos(lbei).	
	Siltation of fertile soil from adjoining farms into the pit formed	Temporary	Moderate	- Loss of fertile top from adjoining farms will be arrested bund wall - Plantation of bio vegetative species along the bund wall to act as a fence. - Stabilization of slope by planting soil binding species.	Kiln owner
	Change of land use from agricultural mining	Temporary	Moderate	- Mining will be done as per the mining rules, sustainably and scientifically. - Mining will be done only	Kiln owner

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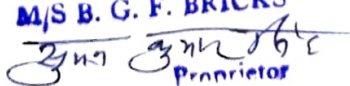
				after obtaining lease from land owner. • It is temporary (for 1 period of 5 years) and reversible. • Agricultural practices will be resumed after mining. • Mining will be done only up to a depth 2 m.	
	Fugitive dust emissions and suspension of dust in air	Temporary	Moderate	• Dust suppression measures like spraying/ sprinkling of water to keep the surface wet. • Plantation on bund walls will act as dust. • No drilling or blasting proposed. • No boiler/ D.G. Sets proposed. • Mining to be done at day time only.	Kiln owner
	Noise generation due to mining	Temporary	Moderate	• No heavy machinery is proposed for the extraction of brick clay, operational is manual. • Suitable noise barriers will be provided.	Kiln owner
	Impact on	Temporary	Moderate	• Mining will be restricted up to depth of 2m. • Mining will have no impact on water table	Kiln owner

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				• Drinking water (.03 KLD) for hired labors (not more than 30) will be brought from existing bore wells from adjoining areas. • Pit formed will have a positively significant impact as it would facilitate faster percolation of water.	
	Impact on Surface Water	Nil	Nil	• No surface water body is present within 500 m radius of excavation plot.	Kiln owner
	Disturbance to microbial flora and fauna, avifaunal migration or migratory routes of domesticated cattle.	Temporary	Moderate	• Top soil (up to a depth of 6 inches) will be excavated and stored under tarpaulin sheets and will be used later for making bund walls. Hence the microbial flora and fauna will be restored while bunding. • There is no migratory route of avifauna or grazing route of domesticated animal is reported, hence there will be no impact anticipated. • Mining operation will be carried out during day time.	

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	Generation of employment	Temporary	Moderate	- The proposed project will generate employment opportunities to all the section of people locally. - Will improve the livelihood condition of the nearby areas by providing employment opportunities.	Kiln owner
	Occupational health of labours	Temporary	Significant	- Predominantly mining activities should be manual, using hand to avoid accidental hazards. - Labors will have access to basic first aid(first aid – box) facility on site. - Anti-venom will be provided in case of snake bites. - Awareness on safety and ensure using of personal protective equipment's(PPE) by workers like nose masks to respiratory disorders.	
2. Transportation Activity.					

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Activity	Impact	Duration/Extent	Magnitude	Mitigation Measures	Responsibility
Transportation of quarried clay/ cast bricks to brick kiln	Impact on adjoining farms	Temporary	low	• Casting/ drying will be done on excavation site to prevent dust emissions along haulage route • Cast brick will be transported to brick kiln through tractor trolleys or carts • Vehicular exhaust will be minimized by using PUC certified vehicles and planting dust barrier species along chak roads • Tractor trolleys/carts will use the existing route for to and fro movements and no additional haulage route shall be formed. • Hence, no impact on adjoining farms anticipated.	Kiln owner
	Impact on crop yield/quality and productivity	Temporary	Low	• Only fugitive dust emissions may occur due to transportation activity which will be minimized by using:	Kiln owner

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	in adjoining farms			1. Tarpaulin covers over tractor trolley /carts. 2. Dust suppression measures like spraying/sprinkling of water to keep the surface wet. 3. Provision of the dust barriers along haulage route. 4. Plantation of soil binding species such as bamboos, euphorbia, agava etc.	
	Impact on existing traffic	Temporary	Low	• Cast bricks will be carried off to brick kiln through tractor trolley/carts through village path roads. • There is no existing traffic on village chak, roads, so no impact predicated on existing traffic.	Kiln owner
	Impact on air environment	Temporary	Moderate	• Fugitive dust emissions and vehicular emissions from tractor trolleys may occurs due to transportation activity which will be minimized by using:	Kiln owner

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				1. Tarpaulin cover over tractor trolleys/carts. 2. PUC certified tractors will be employed. 3. Dust suppression measures like spraying/sprinkling of water to keep the surface wet. 4. Provision of dust barriers along haulage route.. 5- Plantation of soil binding species such as bamboos, euphorbia, agave etc.	
	Impact on noise environment	Temporary	Moderate	• Carts or tractor trolleys will be employed on village roads. • Fitness certified vehicles will be used after obtaining pollution under control certificate. • Timely maintenance of vehicles and their silencers to minimize vibration certificate. • Care will be taken to produce minimum sound during loading. • Noise barriers in form	Kiln owner

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				of plantation will be done at haulage roads.	
	Impact on occupational health of labours	Temporary	Moderate	• Labors will have access to basic to basic first aid (first aid –box) facility on site. • Anti-venom will be provided in case of snake bites. • Awareness on safety and ensure using of personal protective equipment's (PPE) by workers like nose masks to respiratory disorders. • The workers will be trained on using personal equipment's as a precautionary any infectious diseases.	Kiln owner

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