ENVIRONMENT MANAGEMENT PLAN

“BRICK EARTH MINING”
AT
VILLAGE-ROHINA SINGHPUR & KALIYANPUR,
TEHSIL-KOIL,
DISTRICT- ALIGARH,
STATE- UTTAR PRADESH
(AREA- 4.237Ha)

Submitted by:

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ENVIRONMENT MANAGEMENT PLAN

1.0 INTRODUCTION

The environmental management must be integrated into the process of mine planning so that ecological balance of the area is maintained and adverse effects are minimized. The Environmental Management Plan (EMP) consists of a set of monitoring programme, mitigation measures, and management control strategies to minimize adverse environmental impacts.

In order to minimize impacts of mining on different environmental parameters and to keep air and water quality within prescribed limits of CPCB, an EMP has been prepared which is to be implemented in the project and covers the following phases of the project:

- Land Environment
- Water Environment
- Air Environment
- Noise Environment
- Biological Environment
- Socio-economic environment

The environment management plan has been developed with a view to bring down the levels of impacts during proposed mining activities. In each of the areas of impact, measures have to be taken to reduce potentially significant adverse impacts and where these are beneficial in nature, such impacts are to be enhanced/ augmented so that the overall adverse impacts are reduced to as low level as possible. Measures to be taken for each of the impact areas are detailed below.

2.0 LAND ENVIRONMENT

Clay mining is the process of scooping of brick clay that actively supports the agricultural activities of an area. The removal of naturally formed soil from clay particles is really a loss forever of this fertile natural medium. Due to continued and unscientific clay mining, pits of different dimensions are formed in the affected areas. Some of the pits may later be restored to the original level and some of the pits may be converted into water pond. The depths of the pits often reaches >1m (3 ft) or more from the general ground level. The artificial ponds created in random locations due to indiscriminate clay mining may lead to land stability problems in the adjoining areas.

MITIGATION MEASURES

- Top soil (0.2 m) will be scooped first and stored for further reclamation of the mined out areas. Clay/soil mining will be limited to 1 m only from the general ground level.
- No foreign material like polythene bags, jute bags, sachets, pouches and useless articles should be allowed to remain/spill on the land or no pits/pockets will be allowed to be filled with such materials.
- Mining will not exceed beyond the extraction depth.
- The borrowed/excavated pit shall be restored by the project proponent for useful purpose(s).

- Appropriate fencing all around the borrowed/excavated pit shall be made to prevent any mishap.
- A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.

3.0 WATER ENVIRONMENT

During the operational phase of mine no waste water or industrial effluent will be generated.

IMPACTS

Ground water contamination could be due to the excavation of the mineral at an inadequate depth. Impacton surface water is concerned, during mining, transportation and processing, there are chances of contamination of surface water bodies (pond, well etc. if located nearby) with dust or other means. Due to inadequate facility of waste disposal may lead to surface water contamination.

MITIGATION MEASURES

- The borrowing/excavation activity shall be restricted to a maximum depth of 1 m below general ground level at the site.
- The borrowing/excavation activity shall be restricted to 1 m above the ground water table at the site.
- The borrowing/excavation activity shall not alter the natural drainage pattern of the area.
- Safeguard will be taken against health risk on account of breeding vectors in the water bodies created due to burrowing/excavation of soil by sprinkling of pesticides.
- Labourers would not be allowed to throw trashes in the water bodies.

4.0 AIR ENVIRONMENT

IMPACTS

Although the clay mining does not impose any direct impact on the existing air quality. However, transportation and processing of raw clays into the products could cause atmospheric pollution. In brick earth mining, the source of air pollution is the fugitive dust arises during the excavation, loading and transportation. Loading and unloading of brick clay would be associated with the fugitive dust emission in the areas and villages situated adjacent to road. Another source of air pollution would be running of vehicles. Vehicular emission can pose serious health hazard.

MITIGATION MEASURES

- All trucks/tractor trolleys will be covered by tarpaulin sheet to prevent dust emission.
- Regular water sprinkling shall be done on the haul road.
- Overloading of trucks/tractor trolleys shall be avoided.
- Regular maintenance of the vehicles will be carried out and certified from the concerned authority shall be ensured before deployment of the vehicles.
- The boundary of the working site will be covered to avoid dust dispersion

5.0 NOISE ENVIRONMENT

IMPACTS

As far as noise pollution is concerned, clay mining does not contribute much, except the noise generated from the vehicles that transport raw clays scooped from lands and the products from the clay-based industrial units. Noise level in the working environment is compared with the standard prescribed by Central Pollution Control Board which has been adopted and enforced by the Govt. of India through The Noise Pollution (regulation and Control) Rules, 2000 for Ambient Air w.r.t. Noise.

MITIGATION MEASURES

- Regular maintenance of vehicles shall be ensured.
- Only the vehicles having valid fitness certificate shall be deployed.
- There shall be restriction on vehicular movement during the night time

6.0 BIOLOGICAL ENVIRONMENT

The mining activity will have insignificant affect on the existing flora and fauna. Data have been collected from various Government Departments such as forests, agriculture, fisheries, animal husbandry and various offices to establish the pre project biological environmental conditions. It was found that the Brick earth (Soil) mining activity will not have any significant impact on the biological environment of the region. Mine lease is a private barren agricultural land with patches of common herbs and shrubs. These herbs may get cleared due to the proposed project.

MANAGEMENT

There is a requirement to establish a stable ecosystem with both ecological and economic returns. Minimization of soil erosion and dust pollution enhances the beauty of the core and the buffer zone. To achieve this it is planned to increase plantation activities. The basic objectives of plantations are as follows:-

- Improvement of Soil quality
- Quick vegetative cover to check soil erosion
- Conservation of biological diversity
- Provide forage and browse for wild life

7.0 SOCIO-ECONOMIC ENVIRONMENT

This project operation will provide livelihood to the poorest section of the society. The overall impact of Brick earth (Soil) mining on the social economics of the area shall be a very positive one, as not only it will generate employment opportunities for local population at mine site but also in associated activities for transportation of mined material, etc . It will also give a good boost to the general economy of the area.

MANAGEMENT

During mining, employment will be given to locals and after mining; land will be utilized for plantation purpose which will provide aesthetic surrounding. About 30 persons shall be employed at mine site and local villagers are to be benefited directly or indirectly by the project. Sanitation, drinking & medical facilities will be provided to the mine workers and nearby needy people through CER activities of the project proponent.

8.0 ENVIRONMENTAL MONITORING PROGRAM

The proponent shall follow the standard methods for six monthly monitoring various environmental parameters i.e. Air, Water, Noise and Soil through NABL accredited laboratory and submit the compliance report as per EC conditions.

9.0 COST OF EMP

The total EMP cost for the proposed project is Rs. 4.957 Lakhs. Break up of EMP cost is given below:

Budget allocation for EMP implementation

COST OF EMP

S. No	Description	Measures	Capital Cost (in lakhs)
1	Air pollution Control & haul road mentainance	Water sprinkling, Air masks, ear muffs etc.	3.4
2	Green Belt development	Tree Plantation	1.11
	Total		**4.51**

10.0 CONCLUSION

All possible environment aspects have been adequately assessed and necessary control measures have been formulated to meet statutory requirements. Thus implementing this project will not have any appreciable negative impacts.