Environmental Management Plan

Brick Earth (Soil) Excavation Project

At

Gata No. - 15

Village: Shahpur Nij Morta

Tehsil: Ghaziabad,

District: Ghaziabad, Uttar Pradesh

Submitted by

M/s Krishana Brick Field

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1.0 BRICK EARTH (SOIL) EXCAVATION

1.1 Introduction

The land area of project site for Brick Earth (Soil) Excavation is 2.456 Ha of Gata No. 15 located at Village: Shahpur Nij Morta Tehsil: Ghaziabad District Ghaziabad, Uttar Pradesh. The topography of the land depicts undulations on the entire project sites which is not suitable for agriculture, moreover; the upper top soil is infertile and is covered with most obnoxious weeds. It would be quite rationale to excavate the top barren layer of soil to about 1.7meter depth producing 33,402 cubic meter of Brick Earth (Soil). By removing the top infertile soil the soil fertility could be restored by exposing the underneath fertile soil. The manual excavation will make the land flat and cultivable and in the meantime the removed soil can be used to process the bricks.

2.0 IMPACTS OF SOILEXCAVATION& MITIGATION

Since the land of Gata No. 15 located in Tehsil: Ghaziabad in District Ghaziabad, Uttar Pradesh are barren owing to the sodicity and rugged nature. The land of projected site is not in use at present and neither belongs to any forested or sensitive area nor having any trace of exclusive biodiversity. The land is completely rugged and undulated and need to be improved only by removing the soil. There are no likely impacts of the excavation activity of any kind rather it will improve the quality of land. The fugitive dust emission is anticipated because of wind turbulence and extreme temperature during the day time. However; in the present project soil transportation is proposed by the conventional bullock carts which cannot be linked with the gaseous emission which otherwise cause environmental air pollution. Excavation will be completely manual and cannot be expected to cause significant impact on the local natives or any other living organism. Since fugitive dust emission and lesser gaseous emission along with noise of machines will be resulted therefore it is essential to follow the excavation activity to keep the emissions under control for the overall management of the environment.

Depending on the location and the type of excavation, the magnitude and the importance of environmental impact would vary. These likely impacts can be broadly classified into three categories:

(1) Impact on Land

(2) Impact on air Environment

(3) Impact on Noise Environment

These impacts are often categorized collectively as physical impacts. All these impacts need to be addressed properly to minimize the associated impacts. Depending on the nature of activities and environmental screening, the impacts have been identified for their importance. Mitigating & monitoring requirement are focused in the Environmental Management Plan to counter or to minimize the potential environmental impacts associated with Brick Earth (Soil) excavation. Impact on various environmental parameters and likely mitigation measures to be adopted are described below.

2.1 Air Environment

2.1.1 Anticipated Impacts

Although Brick Earth (Soil) does not cause any direct change in air environment, transportation could cause atmospheric pollution. In Brick Earth (Soil) excavation operations, the source of air pollution may cause deterioration of air quality due to the fugitive dust emission during scooping, loading-unloading operations, of soil. Since there is no scope of loading of excavated soil as the removed mineral will be processed in situ and the semi processed bricks will be transported to the brick kiln for final processing.

2.1.2 Mitigation Measures

2.1.2.1 For Fugitive dust Emission:

- Since the excavated soil will be processed on site and the semi-finished bricks will be transported to the brick kiln only by the conventional carts.
- Water will be sprinkled on the land surface which will check the dust emission because of wind turbulence.

2.1.2.2 For Vehicular Emission:

- No vehicular pollution is anticipated because no transportation is proposed; the bricks will be prepared on site and the semi-finished bricks will be taken to the kiln. Since No any JCB machine will be used for excavation so no gaseous emissions can be expected as a result of combustion of diesel which generates, nitrogen oxides and sulphur dioxide ($NO2$, $SO2$). During the Brick Earth (Soil) excavation, conventional carts will be used.
- CPCB prescribed emission standards for the vehicle would be followed.
- Proper plant species as a sink of the pollutants will be planted on the haulage road.

2.2 Land Environment

Brick Earth (Soil) excavation is the process of scooping of soil that actively supports the agricultural activities of an area. The top soil is usually fertile in nature however; not in the case of present project site. The top soil of the lease area is unsuitable for agricultural activity (non-arable). But the subsurface layers seem to be more fertile and good for cultivation. In such cases, removal of the top soil layer up to 1.5meters would be a beneficial.

2.2.1 Anticipated Impacts

Although the soil is proposed to be excavated for brick processing which will result the flattening of the rugged land therefore no likely impacts are anticipated. However; in general, the major impacts of soil excavation on land are changes in land stability and soil loss. Due to continued and unscientific soil excavation, pits of different dimensions would be formed in the affected areas.

2.2.2 Mitigation Measures

- Leftover material of foreign origin like polythene bag, jute bag and useless articles will not be allowed to litter, and no dumping will be allowed to be filled into the pits.
- Excavation will not exceed beyond the agreed extraction depth.
- No open bore is proposed.

2.3 Noise Environment

2.3.1 Anticipated Impacts

As far as noise pollution is concerned, soil excavation does not contribute much to noise pollution, except the noise generated from the excavator used to remove soil from the lands. Noise level in the working environment will be compared with the standards prescribed by Central Pollution Control Board which has been adopted and enforced by the Govt. of India through *Noise Pollution (Regulation and Control) Rules, 2000.*

2.3.2 Mitigation Measures

- Manpower will be used and other machinery is not used during excavation period.
- There would be no activity in the night time.

2.4 Biological Environment

Generally, the area of soil excavation usually belong to non-agricultural and waste lands which are generally devoid of any natural vegetation. The magnitude of impact is feasible only on such lands lies in the hot-spot zones brought under reclamation. The lease area where the soli excavation is proposed in this project does not belong to any such places for e.g., notified hot-spot of endemic or exotic birds, eco-sensitive zone and forested area therefore there will not be any impact on the biological environment on the surrounding area.

2.4.1 Conservation and Protection of Flora & Fauna

Soil excavation from the project site will not have any ecological impact. No endangered and rare species of flora and fauna were found at the project site. 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 will be dust tolerant and fast growing. Apart from the green belt and aesthetic plantation for elimination of fugitive dust emission and noise control, all other plantation efforts shall be decided and executed with the assistance and co-operation of the local community.

<u>Trees proposed for green belt development</u>

Sl. No.	Scientific Name	Common Name	Pollution Control Features
1.	*Populuseumericana*	Poplar	Tolerant to NO_x

2.	*Azadirachtaindica*	Neem	Tolerant to SO_2
3.	*Mangiferaindica*	Aam	Tolerant to dust control
4.	*Ficusbenghalensis*	Bargad	Tolerant to dust control
5.	*Ficusreligiosa*	Peepal	Dust particles absorbance

2.5 Safety Measures during Excavation

- Qualified trained staff will train the workers for occupational safety measures and conduct safety drills to educate them.
- First-aid facilities will be provided to the laborer at the project site.
- A temporary shelter with one or two beds will be provided in case any miss-happening along with a light motor vehicle equipped with first aids to carry the severely injured person to the nearest hospital.

2.6 Environmental Management Plan Implementation

Environmental Management Plan serves no purpose if it is not implemented with true spirit. Thus, an implementation and monitoring programme has to be prepared. Implementation of proposed control measures and monitoring programme has an implication on the surrounding area as well as for the region. Therefore, soil excavation 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 soil excavation area relating to the following specific areas:

- Regular examination will be carried out to avoid any single possibility of soil erosion. Any abnormal condition, if observed will be taken care of.
- Examination of noise levels at excavation site, stationary and mobile sources, and adjacent villages will be done.
- Environmental awareness program will be conducted for the workers and the supervisory during the excavation period.
- Necessary suggestions will be suit to improve environmental conditions.
- Temporary toilets will be arranged for workers and staff from the nearby town.

2.7 Solid Waste Management

- Disposal of packing material, carried by the workers at the project site. This packing material would include used sachet/guthka/pan masala pouches. Polythene bag used by the workers to bring their foods etc. would be separately stored in bins and managed as per Solid Waste Management Rules.

2.8 Information Record

- Daily data of soil excavation at the project site will be registered by the supervisory staff.
- Number of employed workers will be registered by the supervisory staff daily.

- Number of vehicles used for the transportation of excavated brick earth (soil) will be recorded.