

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 bund walls around excavation plot.	Kiln owner
	Pit formation due to excavation	Temporary	Moderate	• Mining operations will be carried out as per mining rules systematically and scientifically. • Mining operations will be carried out on a slope of 45° 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 slope will be done by planting species having extensive root system, so as to bind the soil. • Species will be planted across the slope so as to arrest	Kiln owner

1.Mining Activity/ Quarrying of brick clay					
Activity	Impact	Duration / Extent	Magnitude	Mitigation Measures	Responsibility
				the soil movement, due to wind and water erosion. Species planted will be Ficusreligosa (pipal), Azadirachta indica (Neem), Ficusglomerata (Gular), Dalbergiasisso (Shisham) and Syzygium cumin (Jamun) may also be recommended. Mangifera indica (Aam), Emblica officinalis (Anwala), Aegle marmelos (Ibei).	
	Siltation of fertile soil from adjoining farms into the pit formed	Temporary	Moderate	• Loss of fertile top soil from adjoining farms will be arrested by the bund wall • Plantation of bio vegetative species along the bund wall to act as a fence • Stabilisation of slope by planting soil binding species	Kiln owner
	Change of land use from agricultural to	Temporary	Moderate	• Mining will be done as per the mining rules, sustainably and scientifically.	Kiln owner

1.Mining Activity/ Quarrying of brick clay					
Activity	Impact	Duration / Extent	Magnitude	Mitigation Measures	Responsibility
	mining			• Mining will be done only after obtaining lease from land owner. • It is temporary (for a period of 5 years) and reversible • Agricultural practices will be resumed after mining • Mining will be done only upto a depth of 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 upto a	Kiln owner

1.Mining Activity/ Quarrying of brick clay					
Activity	Impact	Duration / Extent	Magnitude	Mitigation Measures	Responsibility
	Ground Water			depth of 2 m • Mining will have no impact on water table • Drinking water (0.3 KLD) for hired labours (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 (upto 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	Kiln owner

1.Mining Activity/ Quarrying of brick clay					
Activity	Impact	Duration / Extent	Magnitude	Mitigation Measures	Responsibility
				impact anticipated. • Mining operation will be carried out during day time	
	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 equipments (PPE) by workers like nose masks to respiratory disorders.	

2. Transportation Activity					
Activity	Impact	Durati on / Extent	Magnit ude	Mitigation Measures	Respon sibility
Transpor tation of quarried clay/ cast bricks to brick kiln	Impact on adjoining farms	Tempo rary	low	• Casting / drying will be done on excavation site to prevent dust emissions along haulage route • Cast bricks will be transported to brick kiln through tractor trolleys or carts. • Vehicular exhaust will be minimised 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 in adjoining farms	Tempo rary	low	• Only fugitive dust emissions may occur due to transportation activity which will be minimised by using: 1. Tarpaulin cover over tractor trolleys/ 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, agave etc.	Kiln owner
	Impact on existing traffic	Tempo rary	low	• Cast bricks will be carried off to brick kiln through tractor	Kiln owner

2.Transportation Activity					
Activity	Impact	Durati on / Extent	Magnit ude	Mitigation Measures	Respon sibility
				trolley/ carts through village path roads. There is no existing traffic on village chak roads, so no impact predicted on existing traffic.	
	Impact on air environment	Tempo rary	Moder ate	- Fugitive dust emissions and vehicular emissions from tractor trolleys may occur due to transportation activity which will be minimised by using: - Tarpaulin cover over tractor trolleys/ carts - PUC certified tractors will be employed - Dust suppression measures like spraying/sprinkling of water to keep the surface wet - Provision of the dust barriers along haulage route - Plantation of soil binding species such as bamboos, euphorbia, agave etc.	Kiln owner
	Impact on noise environment	Tempo rary	Moder ate	- 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 and sound. - Care will be taken to produce minimum sound during loading.	Kiln owner

2.Transportation Activity					
Activity	Impact	Durati on / Extent	Magnit ude	Mitigation Measures	Respon sibility
				Noise barriers in form of plantations will be done at haulage roads.	
	Impact on occupational health of labours	Tempo rary	Moder ate	- 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 equipments (PPE) by workers nose masks to avoid respiratory disorders. - The workers will be trained on using personal equipments as a precautionary measure & thereby preventing any infectious diseases.	Kiln owner