

EXECUTIVE SUMMARY
OF
ENVIRONMENTAL IMPACT ASSESSMENT
For
EXTRACTION OF SAND, STONE & BAJRI MINING
PROJECT

Khasra No. 162/2 & 159/1
Mauza & Mohal Phoolpur Shamshergarh,
District- Sirmour, Himachal Pradesh
Area - 02-58-35 Hectares
Proposed capacity: - 29,925 MTPA

Applicant

Sh. Jaswant Singh
Village- Salihar, Tehsil - Khundian,
District- Kangra, Himachal Pradesh.



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EXECUTIVE SUMMARY

INTRODUCTION

The proposed project is for Extraction of Sand, Stone & Bajri from Khasra No. 162/2 & 159/1 Measuring 02.5835 Hectares or 30.13 Bighas Falling in Mauza & Mohal- Phoolpur Shamshergarh, District- Sirmour, Himachal Pradesh. The project has been proposed by Sh. Jaswant Singh. Proposed project has been allotted to the proponent vide letter no. Udyog-Bhu (Khani-4) Laghu- 51/2017- 9518 dated 03-02-2020. Mining plan has been approved vide letter no. Udyog-Bhu (Khani-4) Laghu – 51/2017-5848 dated 05.10.2021. The estimated project cost is Rs 30 Lakh. The proposed production is 29,925 MTPA.

Other mines also exist within 500 meters of the mining project whose cluster area is more than 5.0 hectares. As per MoEF&CC, New Delhi Gazette dated 14th September 2006 and amended thereof, the proposed project is categorized as **Category ‘B1’** project.

PROJECT DESCRIPTION

LOCATION

The proposed project is situated at Khasra No. 162/2 & 159/1 Measuring 02-58-35 Hectares or 30.13 Bighas (Private Land, River Bed) Falling in Mauza & Mohal- Phoolpur Shamshergarh, District- Sirmour, Himachal Pradesh.

| Pillar No. | Latitude N | Longitude E |
|-------------------|-------------------|--------------------|
| Survey Station | 30°30'35.7" | 77°40'12.0" |
| Northeast Point | 30°30'37.70" | 77°40'15.75" |
| Southeast Point | 30°30'35.30" | 77°40'16.32" |
| Northwest | 30°30'36.34" | 77°40'7.64" |
| Southwest | 30°30'34.09" | 77°40'8.85" |

Connectivity

The nearest railway station is Dehradun Railway Station is approx 41.10 km towards SE direction. The Nearest airport is Shimla Airport is approx 85.90 km towards NW direction. The lease area can be approached from SH 1 at a distance of about 1.50 Km from quarry site. NH-707- About 1.64 km in W direction.

Salient Features of Project

| | |
|-----------------------|---|
| Name of the applicant | Sh. Jaswant Singh. |
| Address of Lessee | Village- Salihar, Tehsil – Khundian, District- Kangra, Himachal Pradesh. |
| Name of Mine | Project of Extraction of Sand, Stone & Bajri mining project |
| Village | Phoolpur Shamshegarh |
| Tehsil | Paonta Sahib |
| District & State | Sirmaur, Himachal Pradesh |
| Mineral | Sand, Bajri & Stone |
| Area (ha) | 02.5835 Hectares or 30.13 Bighas |

MINING/ EXTRACTION

Extraction will be carried out by opencast manual/mechanized method without adoption of drilling & blasting. The extraction will be confined to excavation of Sand from the River bed (Giri River). Excavation of minerals will be carried out only up to a depth of 1 m.

RESERVE AND PRODUCTION

Summary of Geological reserves is as below:

| Area in sqm. | Specific Gravity | Depth in metres | Geological Reserves (in MT) |
|---------------------|-------------------------|------------------------|--|
| 25835 | 2.25 | 5.0 | 2,90,643 |

Year wise Production detail

| Year | Boulders (MT) | Bajri (MT) | Sand (MT) | Production of Mineral (Boulders, Bajri and Sand) | Silt/Clay (MT) | Total (MT) |
|--------------|---------------|--------------|--------------|--|----------------|---------------|
| 1st Year | 14175 | 12600 | 3150 | 29925 | 1575 | 31500 |
| 2nd Year | 14175 | 12600 | 3150 | 29925 | 1575 | 31500 |
| 3rd Year | 14175 | 12600 | 3150 | 29925 | 1575 | 31500 |
| 4th Year | 14175 | 12600 | 3150 | 29925 | 1575 | 31500 |
| 5th Year | 14175 | 12600 | 3150 | 29925 | 1575 | 31500 |
| Total | 70875 | 63000 | 15750 | 149625 | 7875 | 157500 |

SITE FACILITIES AND UTILITIES

Water Supply

Water will be provided to workers for drinking & domestic purpose. Water will also be required for dust suppression. A total of 12.75 ~ 12.80 KLD water will be required for the proposed project. Fresh water will be only used for drinking purpose.

Temporary Rest Shelter

A temporary rest shelter will be provided for the workers near to the site for rest. In addition, First aid box along with anti-venoms to counteract poison produced by certain species of small insects, if any and sanitation facility i.e. septic tank or community toilet facility will be provided for the workers.

BASELINE ENVIRONMENTAL STATUS

Environmental data has been collected in relation to proposed mining for Air, Noise, Water, Soil, and Flora & Fauna. The baseline environment study was carried out over an area with radial distance of 10 km around the mining lease area during pre monsoon season from March 2022 to May 2022.

Table Baseline Environmental Status

| Attribute | Baseline status |
|----------------------------|---|
| Ambient Air Quality | <p>Ambient Air Quality Monitoring reveals that the minimum & maximum concentrations of PM10 for all the 8 AQ monitoring stations were found to be 46.23 µg/m³ & 79.82 µg/m³, respectively and the minimum & maximum concentrations of PM 2.5 were found to be 16.64 µg/m³ and 39.48µg/m³ respectively.</p> <p>As far as the gaseous pollutants SO₂ and NO_x are concerned, the prescribed CPCB limit of 80 µg/m³ for residential and rural areas has never surpassed at any station. The maximum & minimum concentrations of SO₂ were found to be 5.24 µg/m³ & 15.89µg/m³ respectively. The maximum & minimum concentrations of NO_x were found to be in between 8.25 µg/m³ & 20.55 µg/m³.</p> |
| Noise Levels | <p>Noise monitoring was carried out at 08 locations. The results of the monitoring program indicated that both the daytime and night time levels of noise were well within the prescribed limits of NAAQS, at all the locations monitored.</p> |
| Water Quality | <p>07 Groundwater samples and 3 surface water samples were analyzed and concluded that:</p> <p>The ground water from all sources remains suitable for drinking purposes as all the constituents are within the limits prescribed by drinking water standards promulgated by Indian Standards IS: 10500.</p> <p>From the Surface water analysis it is evident that most of the parameters of the samples comply with 'Category 'B' standards of CPCB indicating their suitability for Drinking water source after conventional treatment and disinfection.</p> |
| Soil Quality | <p>Samples collected from identified locations indicate the soil is sandy type and the pH value ranging from 7.25 to 7.62, which shows that</p> |

| | |
|---------------------------------|--|
| | the soil is alkaline in nature. Potassium is found to be from 142.69 mg/kg to 284.40 mg/kg. The water holding capacity is found in between 34.32 % to 36.21 %. |
| Ecology and Biodiversity | There are no Ecologically Sensitive Areas present in the study area, but many reserved forests regions surround the project area |
| Socio-economy | The implementation of the Sand, Stone & Bajri extraction project on river Giri River will throw opportunities to local people for both direct and indirect employment. The study area is still lacking in education, health, housing, water, electricity etc. It is expected that same will improve to a great extent due to proposed mining project and associated industrial and business activities. |

ANTICIPATED ENVIRONMENTAL IMPACTS

Impact on Air Environment

The proposed extraction activities loading and movement of other transport vehicles used in mining will generate dust (SPM/RSPM). Proper water sprinkling shall be carried out at the mine site. The mineral will be transported by road through covered tarpaulin trucks/tippers to reduce the fugitive emission caused by the wind.

Impact on Water Environment

Extraction of Sand, Stone & Bajri from within or near a streambed has a direct impact on the stream's physical habitat characteristics. These characteristics include geometry, bed evaluation, substrate composition and stability, in stream roughness elements, depth, velocity, turbidity, sediment transport, stream discharge and temperature. Altering these habitat characteristics can have deleterious impacts on both in stream biota and associated riparian habitat.

The detrimental effects to biota resulting from bed material mining are caused by three main processes:

- alteration of flow patterns resulting from modification of the river bed
- an excess of suspended sediment

- damage to riparian vegetation and in stream habitat

As the project activity is carried out in the meandering part of the river bed, none of the project activities affect the water environment or riparian habitats. In the projects, it is not proposed to divert or truncate any stream. No proposal is envisaged for pumping of water either from the river or tapping the ground water.

Impact on Land Environment

The proposed extraction of stream bed materials, mining below the existing streambed, and alteration of channel-bed form and shape may lead to several impacts such as erosion of channel bed and banks, increase in channel slope, and change in channel morphology if, the operations are not carried out systematically.

The systematic and scientific removal of Sand, Stone & Bajri will not cause bed degradation. The silt and clay generated as waste will be used for plantation or filling up low lying area elsewhere. The mining is planned in non monsoon seasons only, so that the excavated area gets replenished gradually during the monsoons each year.

Impact on Noise Environment

The proposed extraction activity is manual/ mechanized in nature. No drilling & blasting is envisaged for the mining activity. Hence, the only impact is anticipated is due to movement of vehicles deployed for transportation of minerals. The vehicles will be maintained in good running condition so that noise will be reduced to minimum possible level.

Impact on Biological Environment

As the proposed extraction will be carried out in a scientific manner, not much significant impact is anticipated. No mining will be carried out during the monsoon season to minimize impact on aquatic life which is mainly breeding season for many of the species. The site has no vegetation; no clearance of vegetation will be done. Haul roads will be sprinkled with water which would reduce the dust emission, thus avoiding damage to the crops.

Impact on Socio Economic Environment

The impact of extraction activity in the area is positive on the socio-economic environment of the region. Sand, Stone & Bajri extraction will be providing employment to local people whenever there is requirement of manpower.

POST PROJECT ENVIRONMENTAL MONITORING

| S.No. | Description of Parameters | Schedule of Monitoring |
|--------------|---------------------------------------|--|
| 1 | Air Quality | 24 hourly samples twice a week in each season except monsoon |
| 2 | Water Quality (Surface & Groundwater) | Once a season for 4 seasons in a year |
| 3 | Soil Quality | Once in a year in project area |
| 4 | Noise Level | Twice a year for first two years & then once a year |
| 5 | Socio-economic Condition | Once in 3 years |
| 6 | Plantation Monitoring | Once in a season |

ADDITIONAL STUDIES

Public Hearing

Public hearing is yet to be conducted.

Risk Assessment

The complete extraction operation will be carried out under the management control and direction of a qualified mine manager holding. The DGMS have been regularly issuing standing orders, model standing orders and circulars to be followed by the mine management in case of disaster, if any. Moreover, mining staff will be sent to refresher courses from time to time to keep them alert.

Disaster Management Plan

Emergency preparedness is an important aspect in the planning of Disaster Management. Personnel would be trained suitably and prepared mentally and physically in emergency response through

carefully planned, simulated procedures. Similarly, the key personnel and essential personnel shall be trained in the operations.

PROJECT BENEFITS

Physical Benefits: Road Transport, Market, Enhancement of green cover & Creation of community assets.

Social Benefits: Increase in Employment Potential, Contribution to the Exchequer, Increased Health related activities, Educational attainments & Strengthening of existing community facilities.

Environmental Benefits:

- Controlling river channel and protection of banks.
- Reducing submergence of adjoining agricultural lands due to flooding.
- Reducing aggradation of river level.
- A check on illegal mining activity.

CORPORATE ENVIRONMENTAL RESPONSIBILITY

Corporate environmental Responsibility for activities related to education, social causes, healthcare & environmental.

Table- 8.2, Budget for Corporate Environmental Responsibility (CER)

| S.No | Activities | Capital cost (in Rs.) | Reoccurring Cost (lakh/annum) | | | | |
|------|---|-----------------------|-------------------------------|----------|----------|----------|----------|
| | | | 1 st year | 2nd year | 3rd year | 4th year | 5th year |
| 1 | Donation of 1 plastic waste shredder machine @ Rs. 1.5 lakh/machine | 1.5 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| 2 | Donation of 1 plastic waste bailing machine @ Rs. 1.5 lakh/machine | 1.5 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| 3 | Donation of 1 waste compactor machine @ Rs. 1.5 lakh/machine | 1.5 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |

| | | | | | | | |
|--------------|---|-----------------|------------------|------------------|------------------|------------------|------------------|
| 4 | Distribution of 4 solar lights in nearby village @ Rs. 0.25 lakh/ light | 1.0 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Total | | 5.5 Lakh | 0.25 lakh | 0.25 lakh | 0.25 lakh | 0.25 lakh | 0.25 lakh |

ENVIRONMENTAL MANAGEMENT PLAN (EMP)

- Extraction will be done from the bed leaving safety zone from bank.
- The maximum working depth will remain above ground water table of the area.
- Provide health facilities to the workers & surrounding people in the impact area to reduce the health impacts.
- Ensuring wildlife protection & arranging awareness campaigns for the same.
- Minimize activities that release fine sediment to the *river*.
- Effective mitigation measures will be adopted to minimize disturbance during transportation & handling of minerals
- Establishment of reclamation program with plantation of local/native & fast growing species
- Establishment of restoration plan during the closure of mine at the onset of monsoon season.
- Establishment of effective Disaster Management Plan to take timely precautionary measures to avoid effects of impending disasters.
- Establishment of effective Monitoring Program monitored by Environment Management Cell.

Table 9.3, Budget allotted for the Environmental Management Plan

| S.NO | TITLE | CAPITAL COST RS IN LAKHS | RECURRING COST/YR RS IN LAKHS | RECURRING COST FOR 5 YRS | TIMELINE |
|------|---|--------------------------|-------------------------------|--------------------------|---|
| 1. | Monitoring of Air, Water, Soil, etc. twice a year. | -- | 0.8 | 4.0 | Once in a six month (As per CPCB guideline) |
| 2. | Air Pollution Control- Management of Haulage Roads & mine road of 1500 meters including Sprinkling. Tractor trolley with sprinkler (*Depreciate cost of tanker & Sprinkler) | 3.0 | 0.54 | 2.7 | Twice a day & as per requirement |

| | | | | | |
|--------------|--|-------------|-------------|---|---|
| 3. | Green Belt Development Area for Plantation= .852 Ha No. of plants = 800 Plants Cost and No. of plants are as per the *No.Ft.1790-/71(D)2011-12/Vol-VIII(Norms), Himachal Pradesh Forest Department, Shimla Dated 07 June 2019 | 0.80 | ---- | 0.5 | As per norms recurring cost for next three years |
| 4. | Retaining wall structure/Check Dam 5 Nos. of check dam. Total = 300 Cu.m. @*(@Rs. 1180/cu.m and labour cost Rs. 200.45/cu.m. Dry rubble masonry in breast wall and retaining walls revetment walls and parapets etc. as per Gov. of Himachal Pradesh PWD, Standard Schedule of Rate 2009) | 4.14 | 0.1 | YEAR I - 0 YEAR II - 0.1 YEAR III - 0.2 YEAR IV – 0.3 YEAR V – 0.4 Total – 1.0 | Retaining Wall have been proposed for protect the water to flow out of HFL. |
| 5. | Occupational Health Measures Provision of PPE, First Aid and other, miscellaneous expenditure. | 0.30 | --- | 0.15 | As per requirement |
| Total | | 8.24 | 1.44 | 8.35 | ----- |

- *Plants (@Rs. 80000 @ 800 Plant i.e Rs.100/ plant*
- *Maintenance of haul road @ Rs. 2.0 lakh/km*
- *Salary of Labour for haul road maintenance 2 labor*Rs. 200* 300 days= Rs. 3,00,000/-*

CONCLUSION

Based on the EIA study it is observed that there will be an increase in the dust pollution, which will be controlled by sprinkling of water and plantation. There will be an insignificant impact on ambient environment and ecology due to the mining activities moreover the mining operation will lead to direct and indirect employment generation in the area. Green belt development around the area will also be taken up as an effective pollution mitigative technique, as well as to control the pollutants released from the premises of the Mine. Monitoring program will be followed till the mining operations continue. Hence, it can be summarized that the development of the mine will have a positive impact on the socio-economic environment of the area and lead to sustainable development of the region.
