DRAFT ENVIRONMENT IMPACT ASSESSMENT REPORT

OF

MINING OF MINOR MINERALS

Project	**Collection/ Extraction of Sand, Stone & Bajri by Sh. Vipul Sehgal, through GPA Holder Sh. Ashwani Kumar, Prop. M/s Bhagwati Stone Crusher**
Location	**Khasra no. 730 falling in Mohal Maira Batrah, Mauja Maira Doomal, Tehsil Nurpur, District Kangra, Himachal Pradesh**
Land Status/ Type	**Private Land/ River Bed**
Mining Area	**04-44-12 Ha (Cluster Area- 18-30-37 hectare)**
Category (as per EIA Notification, 2006)	**Category B1 (Due to cluster formation as four mining lease area exists within 500m periphery of project site)**
Production	**99,900 MTPA**
TOR Letter No.	**HPSEIAA /2024/1186 dated 26.06.2024**
Baseline study period	**March 2024 -May 2024**

APPLICANT

Sh. Vipul Sehgal, through GPA Holder Sh. Ashwani Kumar; Prop M/s Bhagwati Stone Crusher

Village & P.O. Kandwal, Tehsil Nurpur,

District Kangra, Himachal Pradesh

PREPARED BY

Chandigarh Pollution Testing Laboratory- EIA Division

(QCI/ NABET Certificate No: NABET/EIA/2225/RA 0250)

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Date: 06-07-2024

DECLARATION BY CONSULTANT

TO WHOMSOEVER IT MAY CONCERN

I hereby declare that the EIA/EMP report for the proposed mining project for Extraction of sand, stone and bajri from Chakki River by **Sh. Vipul Sehgal, through GPA Holder Sh. Ashwani Kumar, Prop. M/s Bhagwati Stone Crusher** located at Khasra No. 730 over an area of 04.4412 Ha falling in Mohal Maira Batrah, Mauja Maira Doomal, Tehsil Nurpur, District Kangra, Himachal Pradesh has been prepared by as per "Terms of reference" and information supplied by the project proponent.

CEO
Chandigarh Pollution Testing laboratory

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PROJECT AT A GLANCE

<table>
<tr><td>Name of the project</td><td>Extraction of Sand, Stone & Bajri by Sh. Vipul Sehgal, Through GPA Holder Ashwani Kumar; Prop: M/s Bhagwati Stone Crusher</td></tr>
<tr><td>Type of project</td><td>Mining of Minor Minerals i.e. Sand, Stone and Bajri.</td></tr>
<tr><td>Location</td><td>Khasra Nos. 730, Mohal Maira Batrah, Mauza Maira Dhoomal, Tehsil Nurpur, District Kangra, Himachal Pradesh.</td></tr>
<tr><td>Lease Area Co-ordinates</td><td>
<table>
<tr><th>Pillar No.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>P1</td><td>32°20'34.30"N</td><td>75°48'31.30"E</td></tr>
<tr><td>P2</td><td>32°20'36.59"N</td><td>75°48'30.03"E</td></tr>
<tr><td>P3</td><td>32°20'36.16"N</td><td>75°48'36.02"E</td></tr>
<tr><td>P4</td><td>32°20'26.53"N</td><td>75°48'35.61"E</td></tr>
<tr><td>P5</td><td>32°20'26.94"N</td><td>75°48'30.09"E</td></tr>
</table>
</td></tr>
<tr><td>Elevation (Altitude at origin)</td><td>Highest 433.8 meters above MSL.
Lowest 431.2 meters above MSL.</td></tr>
<tr><td>Land Status/ Type</td><td>Private Land/ River Bed</td></tr>
<tr><td>Mining Area</td><td>04-44-12 Hectare</td></tr>
<tr><td>Products</td><td>Sand, Stone and Bajri</td></tr>
<tr><td>Production Capacity</td><td>Approx. 99,900 MT/year or 4,99,500 MT over a period of five years (including silt/clay)</td></tr>
<tr><td>Cost Details</td><td>Total Project cost = Rs. 25 Lakhs
EMP = Rs. 9.0 (Capital cost) and Rs. 2.8 (Recurring Cost)</td></tr>
<tr><td>Source of Electricity</td><td>Not required</td></tr>
<tr><td>Alternative source</td><td>Nil</td></tr>
<tr><td>Power Requirement at mining area</td><td>Not required</td></tr>
<tr><td>Water consumption</td><td>3.13 KLD</td></tr>
<tr><td>Source of water supply</td><td>Borewell</td></tr>
<tr><td>Air pollution control at mining site</td><td>Water sprinklers & tree plantations</td></tr>
</table>

Hazardous chemical	Nil.
Hazardous waste	Nil.
Manpower requirement	92 persons
Validity of Lease	As per grant order
Method of mining	Manual
Working Days	270
Waste (silt/clay)	Approx. 4995 MT/year or 24,975 MT over a period of five years

TOR LETTER

सत्यमेव जयते

File No: HPSEIAA/2024/ 1186
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA), HIMACHAL PRADESH)
***

Dated **26/06/2024**

To,

Sh. ASHWANI KUMAR
Address- village and post office kandwal, Tehsil- Nurpur, District- Kangra State- Himanchal Pradesh, KANGRA, HIMACHAL PRADESH, 176001
maira4.44ha@gmail.com

Subject: Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding.

Sir/Madam,

This is in reference to your application for Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding in respect of project Maira Batrah Sand, Stone & Bajri Quarry Lease Project submitted to Ministry vide proposal number SIA/HP/MIN/461941/2024 dated 12/04/2024.

2. The particulars of the proposal are as below :

(i) TOR Identification No.	TO24B0107HP5223055N
(ii) File No.	HPSEIAA/2024/ 1186
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vii) Name of Project	Maira Batrah Sand, Stone & Bajri Quarry Lease Project
(viii) Name of Company/Organization	ASHWANI KUMAR
(ix) Location of Project (District, State)	KANGRA, HIMACHAL PRADESH
(x) Issuing Authority	SEIAA
(xii) Applicability of General Conditions	no
(xiii) Applicability of Specific Conditions	no

3. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were submitted to the Ministry for an appraisal by the State Environment Impact AssessmentAuthority(SEIAA) Appraisal Committee (SEIAA) in the Ministry under the provision of EIA notification 2006 and its subsequent amendments.

4. The above-mentioned proposal has been considered by State Environment Impact AssessmentAuthority(SEIAA)

Appraisal Committee of SEIAA in the meeting held on 18/06/2024. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B, Part C EIA, EMP)] are available on PARIVESH portal which can be accessed by scanning the QR Code above.

5. The brief about configuration of plant/equipment, products and byproducts and salient features of the project along with environment settings, as submitted by the Project proponent in Form-1 (Part A, B and C)/EIA & EMP Reports/presented during SEIAA are annexed to this EC as Annexure (1).
6. The SEIAA, in its meeting held on 18/06/2024, based on information & clarifications provided by the project proponent and after detailed deliberations recommended the proposal for grant of Terms of Reference under the provision of EIA Notification, 2006 and as amended thereof subject to stipulation of specific and general conditions as detailed in Annexure (2).
7. The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the State Environment Impact AssessmentAuthority(SEIAA) Appraisal Committee hereby decided to grant Terms of Reference for instant proposal of M/s. ASHWANI KUMAR under the provisions of EIA Notification, 2006 and as amended thereof.
8. The Ministry reserves the right to stipulate additional conditions, if found necessary.
9. The Terms of Reference to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
10. This issues with the approval of the Competent Authority.

Copy To

1. The Secretary, MoEF&CC, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi- 110003.
2. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi- 110032.
3. The Chairman, State Pollution Control Board, Shimla-9.
4. The Director, Env., Sci. Tech., Paryavaran Bhawan, US Club, Shimla-1.
5. The Advisor (IA),Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi- 110003.
6. The Regional Officer, MOEF&CC, at Shimla, HP.
7. Monitoring Cell, MOEF&CC, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi- 110003.

Annexure 1

Specific Terms of Reference for (Mining Of Minerals)

1. Revenue Record

S. No	Terms of Reference
1.1	**The project proponent while submitting the case for grant of Environment Clearance before SEAC, shall ensure to submit the Jamabandi (in original) mentioning his/her name as owner or lease holder in the Jamabandi.**

2. District Survey Report

S. No	Terms of Reference
2.1	**The project proponent shall ensure that the approved Mining Plans, Letter of Intents/ Mining Lease shall refer updated and recommended/ approved DSRs of the concerned district by SEIAA & SEAC, Himachal Pradesh.**

Standard Terms of Reference for (Mining of minerals)

1.

S. No	Terms of Reference
1.1	An EIA-EMP Report shall be prepared for peak capacity (.....MTPA)operation in an ML/project area of.....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
1.2	An EIA-EMP Report would be prepared for peak capacity operation to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.
1.3	If the washery is located within the mine lease or near to the mine lease its location should be cited seperately also, providing pillar cordinates and site layout plan. Insuch cases cumulative impact of mine operation with washery to be assessd and EMP measure to be drawn to the worst scenario
1.4	Plan of mechanized transportation of coal to coal washery also for rejects and washed coal to be drawn
1.5	Propoer KML file with pin drop and coordinate of mine at 500-1000 m interval be provided
1.6	A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries, mines, coal washery and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given. The above details to be furnished in tabular form also
1.7	Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
1.8	A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
1.9	Catchment area with its drainage map of 25 km area within and outside the mine shall be provided with names, details of rivers/ riverlet system and its respective order. The map should clearly indicate drainage pattern of the catchment area with basin of major rivers. Diversion of drains/ river

S. No	Terms of Reference
	need eloboration in form of lengthe, quantity and quality of water to be diverted
1.10	(Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
1.11	Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
1.12	Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing though the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
1.13	A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
1.14	Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified. Area under Surface Rights S.N ML/Project Land use Area under Surface Rights(ha) Area Under Mining Rights(ha) (ha) Area under Both (ha) 1 Agricultural land 2 Forest Land 3 Grazing Land 4 Settlements 5 Others (specify) S.N. Details Area (ha) 1 Buildings 2 Infrastructure 3 Roads 4 Others (specify) Total
1.15	Study on the existing flora and fauna in the study area (10km) should be carried out by an institution

S. No	Terms of Reference
	of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
1.16	One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided. The detail of NABL/ MoEF&CC certification of the respective laborartory and NABET accreditation of the consultant to be provided.
1.17	Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
1.18	For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area. In case of expansion, the displayed data of CAAQMS and its comparison with the monitoring data to be provided
1.19	A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road. The project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/ EMP report.
1.20	The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data should be provided in EIA/ EMP report also occupational status & economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.
1.21	The Ecology and biodiversity study should also indicate the likely impact of change in forest area for surface infrastructural development or mining activity in relation to the climate change of that area and what will be the compensatory measure to be adopted by PP to minimize the impact of forest diversion.
1.22	Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.

S. No	Terms of Reference
1.23	Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted
1.24	Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
1.25	Study on land subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
1.26	Detailed water balance should be provided. The break up of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
1.27	PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs
1.28	PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of coal. The measures adopted to conserve energy or use of renewable sources shall be explored
1.29	PP to evaluate the green house emission gases from the mine operation/ washery plant and corresponding carbon absorption plan.
1.30	PP shall explore the use of vent gases as generated from under ground Mine for use of energy generation/ in house energy consumption
1.31	Site specific Impact assessment with its mitigation measures, Risk Assessment and Disaster Preparedness and Management Plan should be provided.
1.32	Impact of stowing by using coal washery rejects/ flyash/ bottom ash shall be assessed in term of leachate generation and its characteristics
1.33	Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
1.34	Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
1.35	Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.

S. No	Terms of Reference
1.36	Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
1.37	The number and efficiency of mobile/static water jet, Fog cannon sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
1.38	Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.
1.39	Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
1.40	Adequate greenbelt nearby areas, coal stock yard and transportaion area of coal shall be provided with details of species selected and survival rate Greenbelt development should be undertaken particularly around the transport route and CHP.
1.41	Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
1.42	Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
1.43	CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
1.44	Corporate Environment Responsibility:
1.45	a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
1.46	b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
1.47	c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
1.48	d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
1.49	e) Environment Managament Cell and its responsibilities to be clearly spleel out in EIA/ EMP report

S. No	Terms of Reference
1.50	f) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
1.51	Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
1.52	Status of any litigations/ court cases filed/pending on the project should be provided.
1.53	PP shall submit clarification from PCCF that mine does not falls under corridors of any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary.
1.54	Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.
1.55	Details on the Forest Clearance should be given as per the format given: Total Project Area (ha) / Total Forest land (ha) / Date of FC / Extent of Forest Land / Balance area for which FC is yet to be obtained / Status of appl For diversion of forest land If more than one provide details of each FC
1.56	In case of expansion of the proposal, the status of the work done as per mining plan and approved mine closure plan shall be detailed in EIA/ EMP report
1.57	Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the time bound action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
1.58	PP shall carry out survey through drone highlighting the ground reality for atleast 10 minutes
1.59	Detailed Chronology of the project starting from the first lease deed alloted/Block allotment/ Land acquired to its No. of renewals, CTO /CTE with details of no. renewals, previous EC(s) granted details and its compliance details, NOC details from various Govt bodies like Forest NOC(s), CGWA permissions, Power permissions, etc as per the requisites respectively to be furnished in tabular form.
1.60	A copy of application submitted for 5 star rating system to Ministry of coal for expansion cases may be provided. Certificate /rating given to project shall be provided with EIA-EMP report
1.61	The first page of the EIA/ EMP report must mention the peak capacity production, area, detail of PP, Consultant (NABET acrreditation) and Laboratory (NABL / MoEF & CC certification)
1.62	The compliances of ToR must be properly cited with respective chapter section and page no in tabular form and also mention sequence of the respective ToR complied within the EIA-EMP report

S. No	Terms of Reference
	in all the chapter,s section.

Additional Terms of Reference

1) The project proponent shall include the detailed analysis of GLC-2.5 with air modeling and shall prepare the wind-rose diagram of the site to plan the installation of PCDs.

2) The project proponent will be permitted to carry out mining activities manually only.

3) The project proponent will assess and erasure that, after ceasing mining operations, to undertake-re-grassing the mining area and any other area which may have been disturbed due to their mining activities and for restoration of the land to a condition which is fit for growth of fodder, flora, fauna etc.

4) The project proponent shall submit a certificate from the Director (Industries) to the fact that the proposed mining site is recommended/approved on the basis of the District Survey Report prepared & approved by SEIAA authorities in conformity with the SO No. 141 (E), SO No. 3611(E) and as per Sustainable Sand Mining Management Guidelines, 2016 and Enforcement & Monitoring Guidelines for Sand Mining, 2020 published by MoEF&CC, GoI.

5. The project proponent while submitting the case for grant of Environment Clearance before SEAC, shall ensure to submit the Jamabandi (in original) mentioning his/her name as owner or lease holder in the Jamabandi.

6. The project proponent shall ensure that the approved Mining Plans, Letter of Intents/ Mining Lease shall refer updated and recommended/ approved DSRs of the concerned district by SEIAA & SEAC, Himachal Pradesh.

Annexure 2

Details of Products & By-products

Name of the product /By-product	Product / By-product	Quantity	Unit	Mode of Transport / Transmission	Remarks (eg. CAS number)
Boulder	Boulder	39960	metric tonnes	Road	NA
Bajri	Bajri	29970	metric tonnes	Road	NA
Sand	Sand	24975	metric tonnes	Road	NA
Clay & Silt	Clay & Silt	4995	metric tonnes	Road	NA

Signature Not Verified

Digitally Signed by : Sh D C Rana
Member Secretary, SEIAA

Date: 26/06/2024

TOR

COMPLIANCE

S.No.	Terms of Reference (TOR)	TOR Compliance	Reference in EIA
Specific Terms of Reference for (Mining of Minerals)			
1.	**Revenue Record**		
1.1	The project proponent while submitting the case for grant of Environment Clearance before SEAC, shall ensure to submit the Jamabandi (in original) mentioning his/her name as owner or lease holder in the Jamabandi.	The Jamabandi (in original) mentioning the name of lease holder is attached as Annexure III.	Annexure III.
2.	**District Survey Report**		
2.1	The project proponent shall ensure that the approved Mining Plans, Letter of Intents/ Mining Lease shall refer updated and recommended/ approved DSRs of the concerned district by SEIAA & SEAC, Himachal Pradesh.	The DSR and its approval is pending at the end of Authority. It will be incorporated in the Final EIA report.	
1. Standard Terms of Reference for (Mining of Minerals)			
1.1	An EIA-EMP Report shall be prepared for peak capacity (…...MTPA) operation in an ML/project area of....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.	Based on the generic structure specified in Appendix III of the EIA Notification, 2006, an EIA-EMP Report has been prepared for peak capacity of 99,900 MTPA of minerals in a mining lease area of 4-44-12 hectare.	Chapter 2
1.2	An EIA-EMP Report would be prepared for peak capacity operation to cover the impacts and Environment management plan for the project specific activities on the environment of the region and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.	The condition is not applicable as the project does not involve coal production. It involves mining of minor minerals (sand, stone & bajri) only. However, the EIA report has been prepared which covers all the impacts and Environment Management Plan for the project activity. Baseline data has been collected for the period of March 2024 to May 2024.	Chapter 3
1.3	If the washery is located within the mine lease or near to the mine lease its location should be cited separately also, providing pillar co-ordinates and site layout plan. In such cases cumulative impact of mine operation with washery to be assessed and EMP measure to be drawn to the worst scenario.	Not applicable as the project involves mining & screening only.	
1.4	Plan of mechanized transportation of coal-to-coal washery also for rejects and washed coal to be drawn.	The condition is not applicable as the project does not involve coal production.	

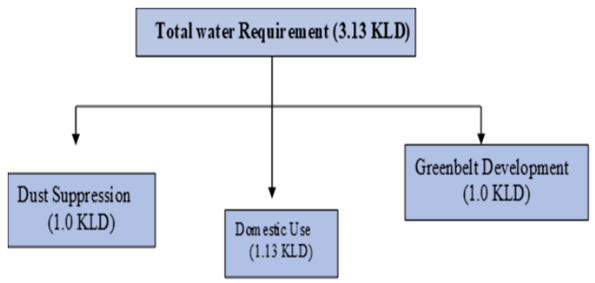
1.5	Proper KML file with pin drop and coordinate of mine at 500-1000 m interval be provided.	Agreed and will be complied while submitting the case for Environmental Clearance.	Parivesh Portal 2.0
1.6	A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries, mines, coal washery and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given. The above details to be furnished in tabular form also.	As the area falls in restricted zone of Himachal Pradesh, the 10 km toposheet map is unavailable in Survey of India. Therefore, Google map of 10 km Buffer area is provided in fig.3.1. There are no Notified Wild Life Sanctuaries, Protected and Reserved Forests within the 10Km radius of the study area.	Chapter 3; Figure 3.1
1.7	Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc. should be furnished.	Detailed LULC map delineating the land use classification has been provided in Figure 3.6 of the EIA report.	Chapter 3; Section 3.9 (Table 3.7 & Figure 3.6)
1.8	A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.	Agreed & will be complied.	
1.9	Catchment area with its drainage map of 25 km area within and outside the mine shall be provided with names, details of rivers/ riverlet system and its respective order. The map should clearly indicate drainage pattern of the catchment area with basin of major rivers. Diversion of drains/ river need elaboration in form of length, quantity and quality of water to be diverted.	Agreed & will be complied.	
1.10	(Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan	The details of mineral and geological reserves of the study area along with the progressive stage wise working scheme is provided in Chapter 2. The geological/ surface plan is shown in figure 2.1 and five-year pit plan is shown figure 2.2. The progressive mine development (Reclamation plan, Mine waste, Top soil arrangement, and Plantation work) is incorporated in Chapter 2 (Para 2.8).	Chapter 2

	should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.		
1.11	Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.	Mining will be open cast and will be done manually, So, there will be no use of any mining machinery.	Chapter 2; Section 2.13
1.12	Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing though the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.	Mining will be done in Chakki Khad. No modification or diversion and channeling of the existing rivers/water courses will be done. The mining will be done manually.	
1.13	A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channeling of the water courses, etc., approach roads, major haul roads, etc. should be indicated.	A brief description of the project has been in EIA Report. There will not be any buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML) as the mining will be done in river bed and most of the workers will be locals from the neighboring areas.	Chapter 1 & 2
1.14	Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified. Area under Surface Rights S.N ML/Project Land use Area under Surface Rights Area Under Mining Rights Area under Both (ha) 1 Agricultural land 2 Forest Land 3 Grazing Land 4 Settlements	The land use land cover study (Chapter 3, section 3.9.1) of the project area has been done through digital image processing and visual interpretation technique to generate output of Land use / Land cover map of study area on 1:50,000 scale.	Chapter 3; section 3.9.1 & figure 3.6

	5 Others (specify) S.N. Details Area (ha) 1 Buildings 2 Infrastructure 3 Roads 4 Others (specify) Total		
1.15	Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.	Biological study has been carried out (Chapter 3, section 3.13). There is no endangered species of flora and fauna found in the study The list of flora & fauna found in the core zone and study area (buffer zone) is tabulated in table 3.19 (a) and 3.19 (b) respectively.	Chapter 3; Section 3.18 (Table 3.19 (a) and 3.19 (b))
1.16	One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc.), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided. The detail of NABL/ MoEF&CC certification of the respective laboratory and NABET accreditation of the consultant to be provided.	Baseline data (Water quality, noise level, soil, flora & fauna, AAQ and Meteorological data) for the period March to May within the study area is elaborated in Chapter- 3 of EIA report along with the details of NABL accredited testing laboratory & NABET accreditation of consultant.	Chapter 3; Section 3.8 to 3.12.
1.17	Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should	Map of the study area (core and buffer zone) showing the location of various samplings (Ambient Air locations in Fig- 3.5, Soil locations in Fig – 3.9, Surface and Ground water locations in Fig – 3.11 and Noise locations in Fig – 3.12) stations superimposed with location of habitats, other	Chapter 3

	be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.	industries/mines, polluting sources has been provided Chapter 3.	
1.18	For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area. In case of expansion, the displayed data of CAAQMS and its comparison with the monitoring data to be provided.	Location of Ambient Air Quality Monitoring stations has been fixed by studying the wind rose pattern of the area and the baseline samples collected in the project area both in upwind and downwind directions including the project site.	
1.19	A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road. The project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/ EMP report.	A number of villages exists within 10km radius of study area. However, there is no habitation within 100m distance on either side of approach road to the project site. The Nurpur- Pathankot Road is in good condition and can bear the additional truck/transport load to transport the finished product. **Measures for fugitive emission control:** • Dust suppressions shall be done by water sprinkling through tanker as per requirement. • Transportation of material in tarpaulin covered vehicles to crusher site, and shall be carried out in day time only. • Mining shall be done in a controlled manner. • Green belt shall be developed in the buffer zone • The speed of vehicle used in transportation will be limited to avoid generation of dust. **Carbon Emission Control:** Gasoline & diesel used in transportation adds	

		to the buildup of GHG is atmosphere leading to climate change, we are experiencing today to achieve Net Zero Carbon, the following measures are proposed: • Using zero emission vehicles is with no tail piece emissions e.g. battery operated, electric plug-in hybrid electric & fuel cell electric vehicles. • Use of low carbon fuels e.g. mineable diesel & ethanol. • High vehicle load factor shall be maintained. • Tree plantation @1500 trees/ha in the suitable land as per the requirement.	
1.20	The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data should be provided in EIA/ EMP report also occupational status & economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.	Socio-Economic study has been conducted and the details provided in Chapter 3 of EIA Report.	Chapter 3; Section 3.14.
1.21	The Ecology and Biodiversity study should also indicate the likely impact of change in forest area for surface infrastructural development or mining activity in relation to the climate change of that area and what will be the compensatory measure to be adopted by PP to minimize the impact of forest diversion.	The common wild life of the area is not likely to be impacted by the operation of proposed project.	Chapter 4; Section 4.7
1.22	Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.	The details of baseline health status of population in the 10 km radius of project are given in EIA report. The occupational health & safety of all the workers will be maintained as provided in the Mines, Rules- 1955 as detailed in Chapter-IV. Other preventive measures e.g. rest room/shelter, drinking water, sanitation facilities & rotation of workers exposed to high noise etc. shall be in place with the commencement of operations.	Chapter 4

1.23	Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted.	As per CGWA hydrogeological study of Kangra Distt. (H.P.), the average depth of water level pre & post monsoon is 200- 45m bgl & 1.5- 42m bgl respectively. The static water level is 1.45- 43.0m bgl. In the case of proposed project, the highest and lowest altitudes at origin are 433.8 and 431.2 m above msl respectively. The mining will be done up to 1 m depth. No water will be used in mining nor will the water table will be intersected. In view of these topographical features of project site hydrological regime will not be affected due to project operation. As such Hydrological study of the area has not been done. However, adequate safeguards as detailed in EIA/EMP report has been proposed to minimize contamination of groundwater.	
1.24	Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.	There will be no impact of project operation on the groundwater regime & the surface water quality as the proposal involves river bed mining involving no intersection of water level and no abstraction of groundwater. No mining will be done in monsoon which will affect surface water. However, necessary measures for containing water pollution have been proposed in the EIA/EMP report.	
1.25	Study on land subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.	The method of mining is manually. Subsidence study is not applicable as the same is not underground mining. Mining will be done in day time and non- monsoon period. There will be no chance of pet failure. Detail of occupations health & safety is given in Chapter- IV.	
1.26	Detailed water balance should be provided. The breakup of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.	The breakup of water requirement as per different activities in the mining operations is given below:  The water will be sourced from Borewell (at crusher site). Affidavit for the same will be provided in Final EIA Report.	Chapter 2; Section 2.14

1.27	PP shall submit design details of all Air Pollution Control Equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs	Air pollution will be controlled by the following abatement measures: • Dust suppressions shall be done by water sprinkling through tanker as per requirement. • Transportation of material in tarpaulin covered vehicles to crusher site, and shall be carried out in day time only. • Mining shall be done in a controlled manner. • Green belt shall be developed in the buffer zone The speed of vehicle used in transportation will be regulated.	
1.28	PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of coal. The measures adopted to conserve energy or use of renewable sources shall be explored.	The use of gaseous fuels e.g. CNG/LNG transport vehicles will be explored as & when made commercially available.	
1.29	PP to evaluate the greenhouse emission gases from the mine operation/ washery plant and corresponding carbon absorption plan.	The project does not involve mineral beneficiation using washing. The mining operation will be mostly manual. The only impact of GHG emission will be due to mineral transportation which has been evaluated as below: The material will be transported by truck/tipper & an estimated 42 vehicles/day will be employed each @9 MT and an estimated 25 km of transport route. Only GHG emission in terms of CO2 has been considered. The measures proposed for offsetting GHG emissions/ decarburization are: -Energy efficiency improvement in vehicle with internal combustion engine. -Stressing the use of electric vehicles. -Higher use of bio-fuels in place of diesel & gasoline. This GHG emission is based on scope-2 emissions which on indirect emissions as a consequence of activity of project but from sources not owned or controlled by it.	
1.30	PP shall explore the use of vent gases as generated from underground Mine for use of energy generation/ in house energy consumption.	Not applicable being on open cast mining of minerals.	

1.31	Site specific Impact assessment with its mitigation measures, Risk Assessment and Disaster Preparedness and Management Plan should be provided.	Site specific impact prediction & mitigation measure, risk assessment & disaster preparedness and management plan have been detailed in chapter VII of EIA report.	Chapter- 7
1.32	Impact of stowing by using coal washery rejects/ fly ash/ bottom ash shall be assessed in term of leachate generation and its characteristics	Not applicable as the project is open cast mineral mining without mineral beneficiation.	
1.33	Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc., Impact of blasting, noise and vibrations should be provided.	Not applicable as the project is open cast mineral mining without mineral beneficiation.	
1.34	Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc., management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.	There will not be any significant impact on local transport infrastructure due to the proposed project. Facilities as rest shelter, drinking water and PPE's will be available at mining site and the sanitation facilities at the nearby crusher site. Since, locals from the nearby villages will be employed who will have their own eating/tea arrangement, canteen facility will therefore be not proposed.	
1.35	Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.	Not applicable, being on open cast mineral mining.	
1.36	Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.	Most of the mine workers will be drawn from the surrounding villages having their own cycles/ motorcycles which will be ported near the site but away from road. A rest room/ shelter will also be provided. The workers will meet their drinking water requirement from the water tankers and sanitation facilities at the nearby stone crusher. Septic treated waste water at stone crusher will be disposed off on land for plantation at crusher site.	
1.37	The number and efficiency of mobile/static water jet, fog cannon sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.	A mobile water tanker with water sprinklers will be hired for water sprinkling on haul road. Depending upon the season, water will be sprayed to suppress dust generation. In addition, the mining benches will be kept wet with the help of hydrogen. Similarly, the waste stockpile of mine waste will be kept wet to avoid its being air- borne.	

1.38	Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided	There will be no CHP so the condition is not applicable.	
1.39	Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined-out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.	The project is river bed mining having adequately replenishing capacity during monsoon as well as during winter rains when the river gets heavy load for a short period.	
1.40	Adequate greenbelt nearby areas, coal stock yard and transportation area of coal shall be provided with details of species selected and survival rate Greenbelt development should be undertaken particularly around the transport route and CHP.	The project does not involve coal mining. However, adequate greenbelt will be developed in the surroundings of river bed or suitable land as per the requirement.	Chapter 3, Section 2.11
1.41	Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.	Agreed & complied.	
1.42	Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc. and costs along with the schedule of the implementation of the R&R Plan should be given.	As no habitation is present in the project site, no displacement & settlement will be involved. Hence, no R/R plan is envisaged.	
1.43	CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.	Agreed & will be complied.	
1.44	**Corporate Environment Responsibility:**		
1.45	a) The Company must have a well laid down Environment Policy approved by the Board of Directors.	The project will formulate a comprehensive environmental policy and the same will be executed by duly constituted Environment Management Cell (EMC).	

1.46	b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.	Agreed.	
1.47	c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.	Agreed in view of point 1.45 (a).	
1.48	d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.	Agreed.	
1.49	e) Environment Management Cell and its responsibilities to be clearly spelled out in EIA/ EMP report.	Agreed & complied.	
1.50	f) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.	Self-regulation includes the processes of self-monitoring, self-evaluation and self-reinforcement for which detailed EMP has been prepared which includes self-monitoring with environment regulations. In addition: - Environmental audit of various mitigation measures proposed for different environmental components/ sections. - Setting up of environment management cell (EMC) & formulation of monitoring protocol of various environment components has been proposed in EIA.EMP report.	
1.51	Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.	The condition is not applicable as the project does not involve Coal mining.	
1.52	Status of any litigations/ court cases filed/pending on the project should be provided.	None.	
1.53	PP shall submit clarification from PCCF that mine does not fall under corridors of any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary	Complied, necessary certificate enclosed in EIA report.	
1.54	Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.	Complied, all the tested certificate/clearances enclosed in EIA report.	

<table>
<tr><td>1.55</td><td>Details on the Forest Clearance should be given as per the format given:<table><tr><td>Total ML Project Atea (ha)</td><td>Total Forest Land (ha) (If more than one, provide details of each FC)</td><td>Date of FC</td><td>Extent of Forest Land</td><td>Balance for whic is yet t obtained</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table></td><td>Forest Clearance is not applicable as it does not involve any forest land.</td><td></td></tr>
<tr><td>1.56</td><td>In case of expansion of the proposal, the status of the work done as per mining plan and approved mine closure plan shall be detailed in EIA/ EMP report.</td><td>Not applicable as it is a green field proposal.</td><td></td></tr>
<tr><td>1.57</td><td>Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the time bound action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.</td><td>Noted, details will be included in Final EIA report after conduct of public hearing.</td><td></td></tr>
<tr><td>1.58</td><td>PP shall carry out survey through drone highlighting the ground reality for at least 10 minutes.</td><td>Agreed for compliance. Drone survey will be conducted and will be shown at the time of appraisal.</td><td></td></tr>
<tr><td>1.59</td><td>Detailed Chronology of the project starting from the first lease deed allotted/Block allotment/ Land acquired to its No. of renewals, CTO /CTE with details of no. renewals, previous EC(s) granted details and its compliance details, NOC details from various Govt bodies like Forest NOC(s), CGWA permissions, Power permissions, etc. as per the requisites respectively to be furnished in tabular form.</td><td>Noted & all the details will be furnished in tabular form in final EIA Report.</td><td></td></tr>
<tr><td>1.60</td><td>A copy of application submitted for 5-star rating system to Ministry of coal for expansion cases may be provided. Certificate /rating given to project shall be provided with EIA-EMP report</td><td>Not applicable as it is not a coal mine.</td><td></td></tr>
<tr><td>1.61</td><td>The first page of the EIA/ EMP report must mention the peak capacity production, area, detail of PP, Consultant (NABET accreditation) and</td><td>Agreed & complied.</td><td>EIA Report</td></tr>
</table>

	Laboratory (NABL / MoEF & CC certification		
1.62	The compliances of TOR must be properly cited with respective chapter section and page no in tabular form and also mention sequence of the respective TOR complied within the EIA-EMP report in all the chapters section.	Complied.	
Additional Terms of Reference			
1.	The project proponent shall include the detailed analysis of GLC-2.5 with air modeling and shall prepare the wind-rose diagram of the site to plan the installation of PCDs.	Noted & complied.	Chapter- 4
2.	The project proponent will be permitted to carry out mining activities manually only.	Noted. Mining will be carried out manually.	
3.	The project proponent will assess and erasure that, after ceasing mining operations, to undertake-re-grassing the mining area and any other area which may have been disturbed due to their mining activities and for restoration of the land to a condition which is fit for growth of fodder, flora, fauna etc.	It is a river bed mining project having adequately replenishing capacity during monsoon as well as during winter rains when the river gets heavy load for a short period. So, restoration of the land to a condition fit for growth of fodder, flora, fauna etc. is not applicable.	
4.	The project proponent shall submit a certificate from the Director (Industries) to the fact that the proposed mining site is recommended/approved on the basis of the District Survey Report prepared & approved by SEIAA authorities in conformity with the SO No. 141 (E), SO No. 3611(E) and as per Sustainable Sand Mining Management Guidelines, 2016 and Enforcement & Monitoring Guidelines for Sand Mining, 2020 published by MoEF&CC, GoI.	Agreed for compliance.	
5.	The project proponent while submitting the case for grant of Environment Clearance before SEAC, shall ensure to submit the Jamabandi (in original) mentioning his/her name as owner or lease holder in the Jamabandi.	Noted & complied.	Annexure III
6.	The project proponent shall ensure that the approved Mining Plans, Letter of Intents/ Mining Lease shall refer updated and recommended/ approved DSRs of the concerned district by SEIAA & SEAC, Himachal Pradesh.	Noted & agreed. The DSR and its approval is pending at the end of Authority. It will be incorporated in the Final EIA report.	
Details of Products & By-products			

Name of the product / By-products	Product / By-product	Quantity	Unit	Mode of Transport / Transmission	Remarks (eg. CAS number)
Boulder	Boulder	39960	Metric tonnes	Road	NA
Bajri	Bajri	29970	Metric tonnes	Road	NA
Sand	Sand	24975	Metric tonnes	Road	NA
Clay & Silt	Clay & Silt	4995	Metric tonnes	Road	NA

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

1.0 PROJECT NAME AND LOCATION:

Sh. Vipul Sehgal, Through GPA Holder Ashwani Kumar; Prop: M/s Bhagwati Stone Crusher, has proposed mining of approx. 99,900 TPA of minor minerals viz. sand, stone & bajri from the mining lease of 4-44-12 Hectare on the river bed of Chakki Khad falling in Mauza Maira Dhoomal, Mohal Maira Batrah Tehsil- Nurpur, District- Kangra, Himachal Pradesh.

2.0 PROJECT PROPOSAL:

The Letter of Intent (LOI) has been issued by the Industries Department, GoHP. vide letter No. Udyog- Bhu (khani-4) Laghu-196/2022-5887 dated 20.09.2023 for a period of one year for the purpose of obtaining Environment Clearance.

The applicant is seeking prior Environmental Clearance for the above-said proposed project as per EIA notification- 2006 and the subsequent amendments under Schedule 1(a) Category B for mining of minor minerals.

The project proponent has engaged QCI NABET Accredited Environmental Consultant, ***Chandigarh Pollution Testing Laboratory-EIA Division*** for conducting EIA study and preparation of EIA/EMP report.

DETAILS OF THE PROJECT

<table>
<tr><td>Name of the project</td><td>Extraction of Sand, Stone & Bajri by Sh. Vipul Sehgal, Through GPA Holder Ashwani Kumar; Prop: M/s Bhagwati Stone Crusher</td></tr>
<tr><td>Type of project</td><td>Mining of Minor Minerals i.e. Sand, Stone and Bajri.</td></tr>
<tr><td>Location</td><td>Khasra Nos. 730, Mohal Maira Batrah, Mauza Maira Dhoomal, Tehsil Nurpur, District Kangra, Himachal Pradesh.</td></tr>
<tr><td>Lease Area Co-ordinates</td><td>
<table>
<tr><th>Pillar No.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>P1</td><td>32°20'34.30"N</td><td>75°48'31.30"E</td></tr>
<tr><td>P2</td><td>32°20'36.59"N</td><td>75°48'30.03"E</td></tr>
<tr><td>P3</td><td>32°20'36.16"N</td><td>75°48'36.02"E</td></tr>
<tr><td>P4</td><td>32°20'26.53"N</td><td>75°48'35.61"E</td></tr>
<tr><td>P5</td><td>32°20'26.94"N</td><td>75°48'30.09"E</td></tr>
</table>
</td></tr>
</table>

Elevation (Altitude at origin)	Highest 433.8 meters above MSL. Lowest 431.2 meters above MSL.
River/Khad	Chakki River
Width of river at the mining site	400- 450 m.
Mining Area	04-44-12 Hectare
Products	Sand, Stone and Bajri
Production Capacity	Approx. 99,900 MT/year or 4,99,500 MT over a period of five years (including silt/clay)
Waste (Silt/Clay)	Approx. 4995 MT/year or 24,975 MT over a period of five years
Manpower	92 persons
Water Requirement	3.13 KLD
Source of Water	Borewell
Cost Details	
Cost of project	Rs. 25 lacs.
Cost of EMP	Rs. 9.0 lacs. (Capital) Rs. 2.8 lacs (Recurring)/Annum
Environmental setting of the area	
Ecological sensitive area (national parks, Wildlife sanctuaries, Biosphere reserves etc.)	None within 10 km radius.
International boundary within 5 km radius	None
Nearest highway	NH-154A (7.0 Km towards W direction)/ Link Road (500m.)
Nearest railhead/Railway station	Nurpur Railway station (7.31 Km towards S Direction)
Nearest airport	Gaggal Airport (47.0 km towards SE direction)
Nearest Major City	Nurpur (7.0 Km)

Nearest Major Settlement	Nurpur (7.0 Km)

3.0 PROJECT DESCRIPTION:

The proposed project involves the mining of sand, stone & bajri by open cast mining method in the river bed over an area measuring 04-44-12 Hectare with proposed production capacity of approx. 99900 TPA (including silt/clay).

Details of the production during the five-year period are given below:

Showing year-wise production programme of mining in mineable area

Period	Proposed area (in sqm)	Boulders (in MT)	Bajri (in MT)	Sand (in MT)	Silt and clay (in MT)	Total Potential (in MT)
1st year	44400	39960	29970	24975	4995	99900
2nd year	44400	39960	29970	24975	4995	99900
3rd year	44400	39960	29970	24975	4995	99900
4th year	44400	39960	29970	24975	4995	99900
5th year	44400	39960	29970	24975	4995	99900
Total						**4,99,500**

The total geological reserves are 199854 TPA, mineable reserves are 99900 TPA and the mining will be restricted to 2.0 m depth. River block will be fully replenished during the rainy seasons. The extracted minerals which are widely used in buildings, bridges and other infrastructure will be transported by trucks/dumpers for processing at the stone crusher owned by the proponent. Total water requirement of project will be 3.13 KLD and the manpower requirement is 92 persons. Site facilities like shelter, water, electricity and sanitation will be provided as per requirement. No litigation is pending against the project.

4.0 DESCRIPTION OF ENVIRONMENT:

The baseline data in respect of environmental components: Air, Soil, Noise, Water, Ecology & Biodiversity has been collected for non-monsoon season from ***March 2024 – May 2024.*** The EIA study is being carried out for mine lease (core zone) & area within 10 km radius of lease area (buffer

zone).

Baseline Status

Attribute	Baseline Study
Ambient Air quality	• AAQ monitoring was carried out at 8 locations, the maximum value of 75.8 ug/m^3 for PM10 was observed at Project site and the minimum value of 58.1 ug/m^3 is observed at two locations i.e. Hara and Khanni Uparli. • The maximum value of 40.4 ug/m^3 for PM 2.5 was observed at Thora Khas & minimum of 31.8 ug/m^3 at Hara and Khanni Uparli. • In respect of SO_2, the maximum concentration of 7.8 ug/m^3 was observed at Thora Khas & minimum of 5.0 ug/m^3 at Dhar Kalan. • In case of NO_2, the maximum value of 13.8 ug/m^3 was observed at Thora Khas & minimum of 8.7 ug/m^3 at Narainpur station. • CO was not detected at any of the stations.
Noise Levels	• Of the eight-noise monitoring locations (within 2-3 Km), maximum day time noise of 56.4 dB (A) was observed at project site and minimum 43.7 dB (A) at Khanni Uparli. • For night time noise levels, the maximum of 36.9 dB (A) was observed at Chaugan & the minimum of 33.2 dB (A) at Maira Batrah.
Water Quality	***Ground water*** The monitoring was done at 8 locations. • The pH varied from 7.28 – 7.77. • Total hardness ranged from 180 (village Hara) to 263 mg/L (Khani Uparli). • TDS ranged from 222 (Project site) to 288 mg/L (Village Hara). • Fluoride was not detected.

	• Nitrate was not detected. ***Surface water*** Surface water was analyzed at one location for upstream & downstream quality**.** • pH varies from 7.45 to 7.58. • Total hardness ranged from 130 to 140 mg/L. • TDS varied from 160 to 158 mg/L. • Fecal Coliform was observed in the range 30.0 to 40.0 MPN/100 ml. • Total Coliform ranged from 60.0 to 80.0 MPN/100 ml. • COD varied from 8.0 to 12.0 mg/L. • BOD was in the range of 2.4 to 2.8 mg/L.
Soil Quality	Soil was analyzed for 8 locations. • pH varied from 7.18 to 7.54. • EC was observed maximum at 322 µmhos/cm at Baghar and minimum 354 µmhos/cm at two locations i.e Project site & Khani Jhikli . • Organic matter ranged from 0.32 to 0.58 %. • Measured conc. in respect of N, P was moderate while K was low at all the locations.

4.1 BIOLOGICAL ENVIRONMENT:

The biological environment has been studied based on the site observation and secondary data. There are no rare or critically endangered and threatened plant species in the study area as per the IUCN category. The species found in the study area are common and widely distributed.

4.2 SOCIO ECONOMIC ENVIRONMENT:

Study of socio-economic environment refers to the systematic analysis of various social, economic characteristics of human beings living in the given geographical area which in the present case includes the study area and the impact zone. The underlying idea of study is to evaluate the cultural, social & environmental impacts of the proposed development on the social set up of the people of the area.

The demographic profile of the study area is tabulated below:

DEMOGRAPHY & SOCIO-ECONOMY

Name of villages	No. of House holds	Total Population	Male	Female	Child (0-6)	Literacy (%)		Scheduled Caste	Scheduled Tribe	Total workers	Main workers	Marginal workers
						Male	Female					
Maira Batrah	73	327	164	163	37	93.62	81.88	59	0	106	84	22
Khanni Uparli	181	834	437	397	100	93.42	83.05	108	0	222	160	62
Chaugan	40	208	111	97	33	78.26	71.08	80	60	58	23	35
Dhumal Kaila	58	264	134	130	38	80.17	70.00	75	50	138	99	39
Galor Khas	40	206	105	101	35	77.65	73.26	11	69	131	35	96

(Source: Census of India, 2011

5.0 ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES:

Air environment: In river bed open-cast mining, the air quality depends on the nature of pollutant & its concentration and the meteorological conditions of the area.

Anticipated impacts: Loading & unloading operation during manual & semi-mechanized mining results in the generation of dust which depends upon the emission rate of pollutant & its dispersal and the meteorological conditions. The only significant pollutant is generated in open cast river bed mining is PM of different sizes.

Mitigation measures:

- Greenbelt will be developed outside the mining area but within the lease area.
- Masks as PPE will be provided to workers
- Water sprinkling on mining site and on the haul roads will be done as and when required.
- PUC certified and properly maintained vehicles will be engaged in transportation.
- Speed limit will be fixed for transport vehicles.
- Overloading will be strictly prohibited and covered transportation will be enforced.

Water environment: The mining operations in the river bed may impact groundwater hydrogeology and surface water regime and the impacts depend on the nature of material, hydrogeology and groundwater requirements.

Anticipated impacts:

- Groundwater contamination due to water table intersection.
- Surface water contamination due to waste water disposal.
- Excessive mining results in the thickness of natural layer which may reduce the recharge of groundwater.

Mitigation measures:

- Water table will not be intersected and mining will be limited to 1.0 m or the water table whichever comes first.
- Periodic analysis of groundwater quality and the trend.

Land environment: Land environment is generally affected by change in Land use, topography, drainage pattern and the geological features of mine lease area.

Anticipated impacts:

- River bed topography may change by formation of excavated pits.

- Solid waste dumps may be carried to the river.
- Nearby area may experience some topographic changes.

Mitigation measures:

- No pits will be created and the whole block will be mined each year.
- Mining will be done after leaving the stipulated safety zone.
- No solid waste will be generated in the river bed mining.
- Mining will be done as per mining plan and restricted to lease boundary.
- Due to replenishment, topography pre & post mining will not change.

Noise environment: The lease area is away from habitation and surrounded by thick vegetation and represent calm surroundings. There exists no industry and heavy traffic in the area. No blasting is involved in mining**.**

Anticipated impacts: The main source of noise will be vehicular movement & negligible noise is generated by manual mining using hand tools.

Mitigation measures:

- Properly maintained vehicles will be used for transportation.
- Blowing of horns will be prohibited.
- Workers will be educated regarding health hazards of noise, permissible noise levels and PPE's

Ecological & biodiversity:

No effluent will be generated from the process and the air emissions are negligible. These affects are short-lived. Hence, no significant impacts will be there.

Mitigation measures:

- No tree cutting will be done during mining.
- Plantation will be done in the lease area outside the safety zone.

Socio-economic:

Anticipated impacts:

- The project will generate employment opportunities for around 90-92 locals in addition to the indirect employment for many.

- The project will contribute to the social and environmental well-being by way of CSR & CER.
- Ancillary development in the area.

Solid-waste:

There will not be generation of solid waste from the project as all the mined material will be processed at crusher.

Mitigation measures:

- Domestic sewage after septic treatment at nearly crusher site will be disposed on to land for plantation.
- The silt & clay mixture generated during mining will be processed at crusher along with minerals.

Traffic environment:

Anticipated impacts:

- There will be increase in traffic density which will lead to air pollution in terms of particulates & gaseous emissions.
- The vehicular movement results in noise pollution.

Mitigation measures:

- Only PUC certified vehicles will be used for transportation.
- Unnecessary blowing of horns will be prohibited.
- Workers will be periodically examined for health checkups.

6.0 ADDITIONAL STUDIES:

Mining is proposed in government auctioned land in the mild stepping river bed to protect adjoining area from erosions. Replenishment study of the river bed is the propagative of the concerned department of GoHP.

7.0 PROJECT BENEFIT:

The project will bring overall improvement in the surrounding area by way of employment opportunities

and the state by revenue generation. There will be improvement in the economic condition of the people and the enhancement in the quality of life through employment.

8.0 CER ACTIVITIES (CORPORATE ENVIRONMENTAL RESPONSIBILITY):

Requisite amount against the CER activities will be deposited in the account of Directorate of Environment, Science & Technology (DEST), GoHP along with the Environment Clearance of the proposal. The CER activities will be decided and executed by the DEST itself.

9.0 ENVIRONMENTAL MANAGEMENT PLAN:

No major environmental impacts are associated in the river bed mining except the generation of fugitive emissions from handling of minerals. The preventive measures will be in place to keep the pollutants in the prescribed levels. Plantation as proposed will further improve the air quality in the area. A budgetary provision of 9.0 lacs as capital cost and 2.8 lacs as recurring cost has been made for environmental management. In addition, provisions have been made for occupational health & safety of workers. Regular Environmental Monitoring has been instituted in the environmental monitoring program.

10. BUDGET ALLOCATION OF ENVIRONMENT MANAGEMENT PLAN.

Details of expenditure on environment is given in the following table:

Expenditure on environmental measures

S. No.	Title	Capital Cost (Rs. InLacs)	Recurring Cost (Rs. In Lacs)/annum	Time frame to Implement
1.	Air pollution control- Management of haulage road including water sprinkling with the help of tanker through contract supply.	--	1.5	Twice a day & as per requirement
2.	Green belt development. & its maintenance	3.0	0.50	With affect from the first monsoon after the grant of EC & completion within two years.
3.	Waste management.	3.0	0.50	As per mining plan
4.	Testing of air, water and noise parameters as per norms of HP Pollution Control Board.	----	0.25	As per SPCB
5.	Occupational health measures- Provision of PPE, first aid and other miscellaneous.	3.0	0.05	As per mining regulations.
Total		**9.0**	**2.8**	

Conclusion: As the proposed project results in the economic, social & environmental upliftment of the area and the initiative through the CSR & CER, there will be positive impact in the region. The project may therefore be implemented at the earliest.

DRAFT

ENVIRONMENTAL

IMPACT

ASSESSMENT REPORT

CHAPTER-1.0
INTRODUCTION

1.1 PURPOSE OF THE REPORT:

Environmental Impact Assessment (EIA) is the management tool to ensure the sustainable development and it is a process used to identify the environmental, social and economic impacts of a project prior to decision-making. It is a decision-making tool, which guides the decision makers in taking appropriate decisions for undertaking any project. EIA systematically examines both beneficial and adverse consequences of the proposed project on the surrounding environment and ensure that these impacts are taken into account during the project namely **Extraction of Sand, Stone and Bajri by Sh. Vipul Sehgal, Through GPA Holder Ashwani Kumar; Prop: M/s Bhagwati Stone Crusher**. He intended to mine stone, bajri, and sand from the lease area which shall be used in the proposed stone crusher unit the grit and sand shall be sold in market as per demand.

CATEGORY OF THE PROJECT:

As per amended MoEF&CC notification no. S.O 3977 (E) dated 14th August, 2018, the lease area being <100 Ha is categorized as 'Cat. B' project and its 'EC' lies with the state government. The public consultation is to be conducted for the proposed project as four mining lease exists within 500m radius of the project site. Therefore, the project is categorized as ***'Category B1'*** project. Accordingly, the draft EIA report has been prepared for this purpose.

1.2 IDENTIFICATION OF THE PROJECT & PROJECT PROPONENT:

1.2.1 IDENTIFICATION OF THE PROJECT:

The mining lease area is a private land situated in the Chakki Khad, a tributary of the Beas River near village Maira Batrah, Tehsil Nurpur, District Kangra, Himachal Pradesh. The land is classified as Gair Mumkin Khad as per Revenue records.

1.2.2 PROJECT PROPONENT:

Sh. Vipul Sehgal through GPA Holder Sh. Ashwani Kumar in this business considering motive of sustainable and ecofriendly work culture and no harm to surrounding environment from the project activities.

1.3 LEGAL PROVISION:

The proponent has all the legal documents and competent to follow all the rules and regulation and stipulated conditions for those numerous documents which has been granted from the requisite departments such as letter of intent has been issued by the requisite authority.

1.4 BRIEF DESCRIPTION:

1.4.1 NATURE OF THE PROJECT:

The mining lease area is situated in the Chakki Khad, a tributary of the Beas River which contains Boulders, Sand, Bajri and Silt/Clay. The rocks along the bank belong to quaternary formation consisting of boulders. It has also observed that in this type of stream, the replenishment factor is 100% of the material excavated during the year. Additionally, in the lease area there are sufficient chance of deposition of minor minerals that's why mining shall be done every year as the material excavated up to the one-meter depth would be replenished during the rainy seasons.

1.4.2 SIZE OF THE PROJECT:

This is a small river bed project for mining of sand, stone & bajri having an area of about 04-44-12 Ha which is proposed to do mining for five years, accordingly total production of minerals for five years will be around 4,99,500 MT and silt/clay@ 24,975 MT as a mine waste will be produced.

1.4.3 LOCATION OF THE PROJECT:

The site is located at a distance of about 17 kms from Nurpur and can be approached by Nurpur-Pathankot Road i.e. NH-20 upto Nagabari and thereafter by Nagabari- Maira-Batrah- Haddal link road upto Maira and the last spell of about approximately 1.0 km can be approached through an unmetalled road developed on the nallah and Chakki River bed. The details for the same given in table 1.1.

- ***Figure 1.1 & 1.2 shows the location map of the site. Figure 1.3 shows the co-ordinates of the lease area.***

Table 1.1

Revenue Details of the Applied Mining Lease Area

Khasra Number	730
Area in Hectares	04-44-12 Ha (After cluster 18-30-37 Ha)
Mauza & Mohal	Maira Dhoomal/ Maira Batrah
Owner	Private Land
Kism	Gair Mumkin Khad
Name of the Panchayat	Haddal

1.4.4 DETAIL OF ROAD TRANSPORT:

The mining site is located in the river bed of Chakki Khad near the village Maira Bartrah and there is very low to no traffic from the mining lease area to the stone crusher site. However, for the transportation of the loaded vehicles to the nearest approach road. The vehicles may pass through private as well as govt. land. The extracted mineral material will be transported to the stone crusher site located at a distance of 1.5 kms from the mining site.

The Nurpur- Pathankot Road is in good condition and can bear the additional truck/transport load to transport the finished product. As per maximum proposed production, 370 metric tonnes of material shall be transported per day for which an average of ***41-42 Trucks*** @9MT capacity area required. Details for the same is provided below:

Total Production for 5 years including silt and clay	4,99,500 MT
Total Production for 1 year	99900 MT
No. of working days	270
Total production for 1 one day	370 MT
Capacity of trucks/tippers	9 MT
No. of trucks/tippers	41-42

Figure – 1.1

Location Map (From India Map to Local Map)

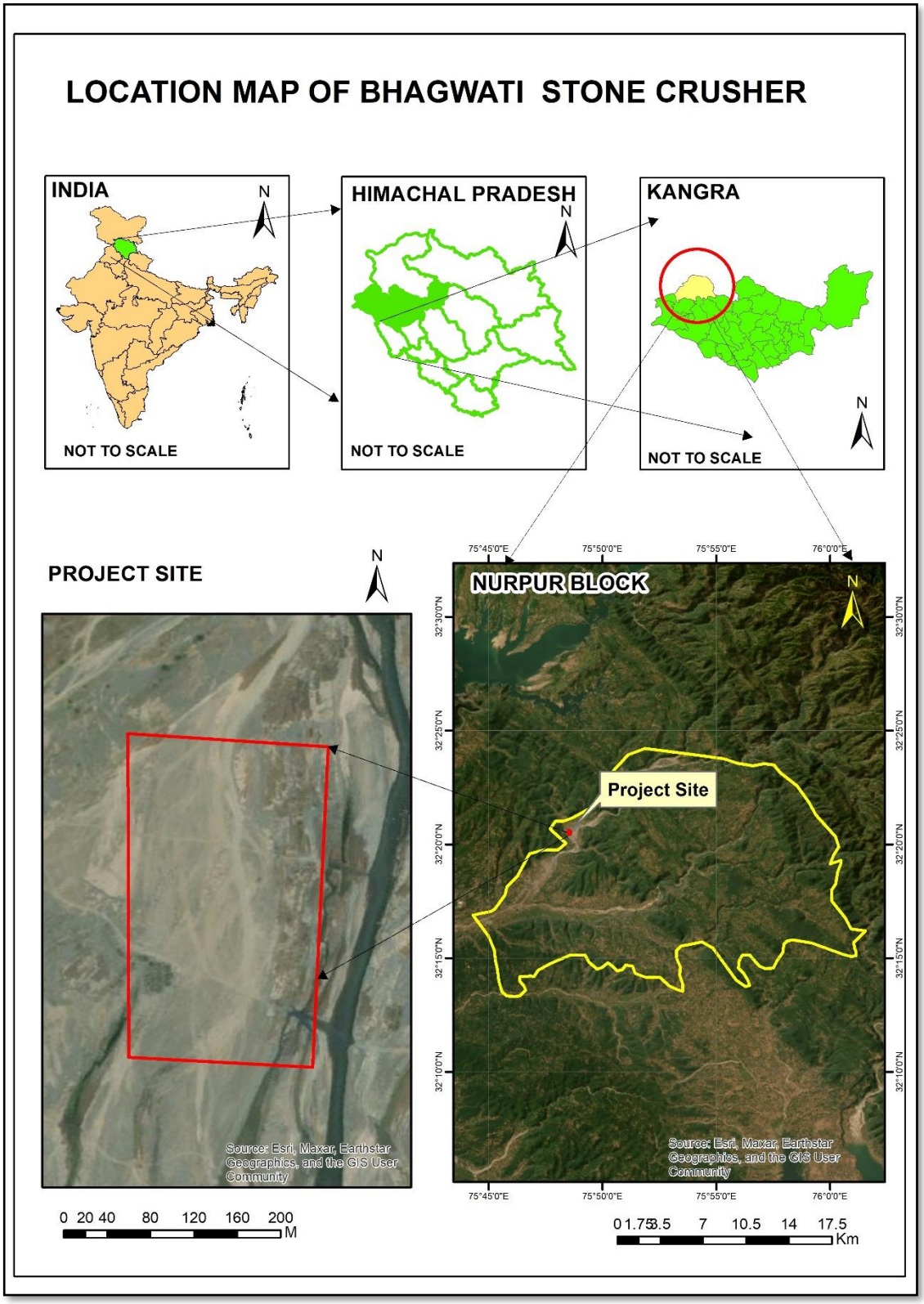


Figure 1.2

Google Earth Map of Mining Area

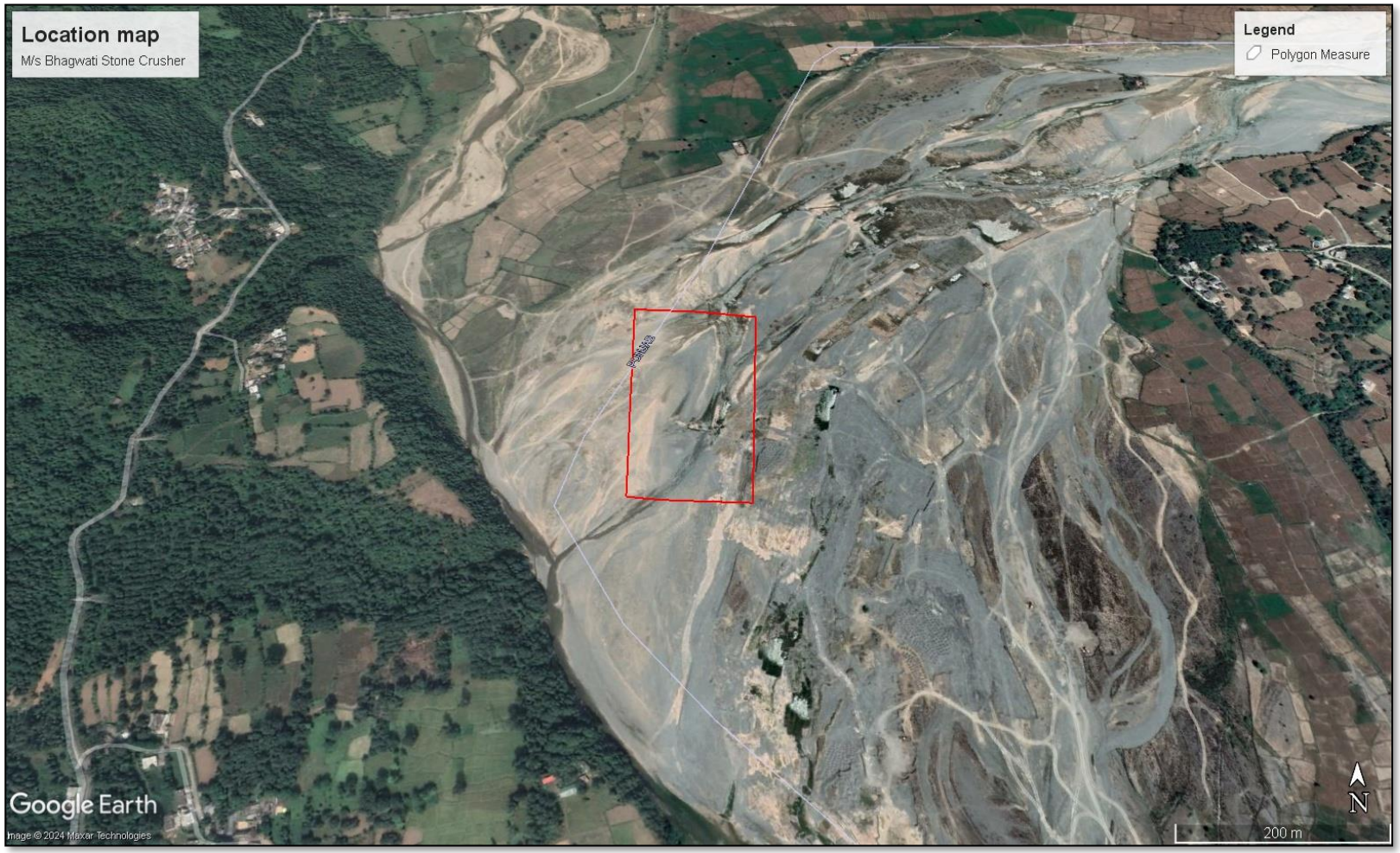
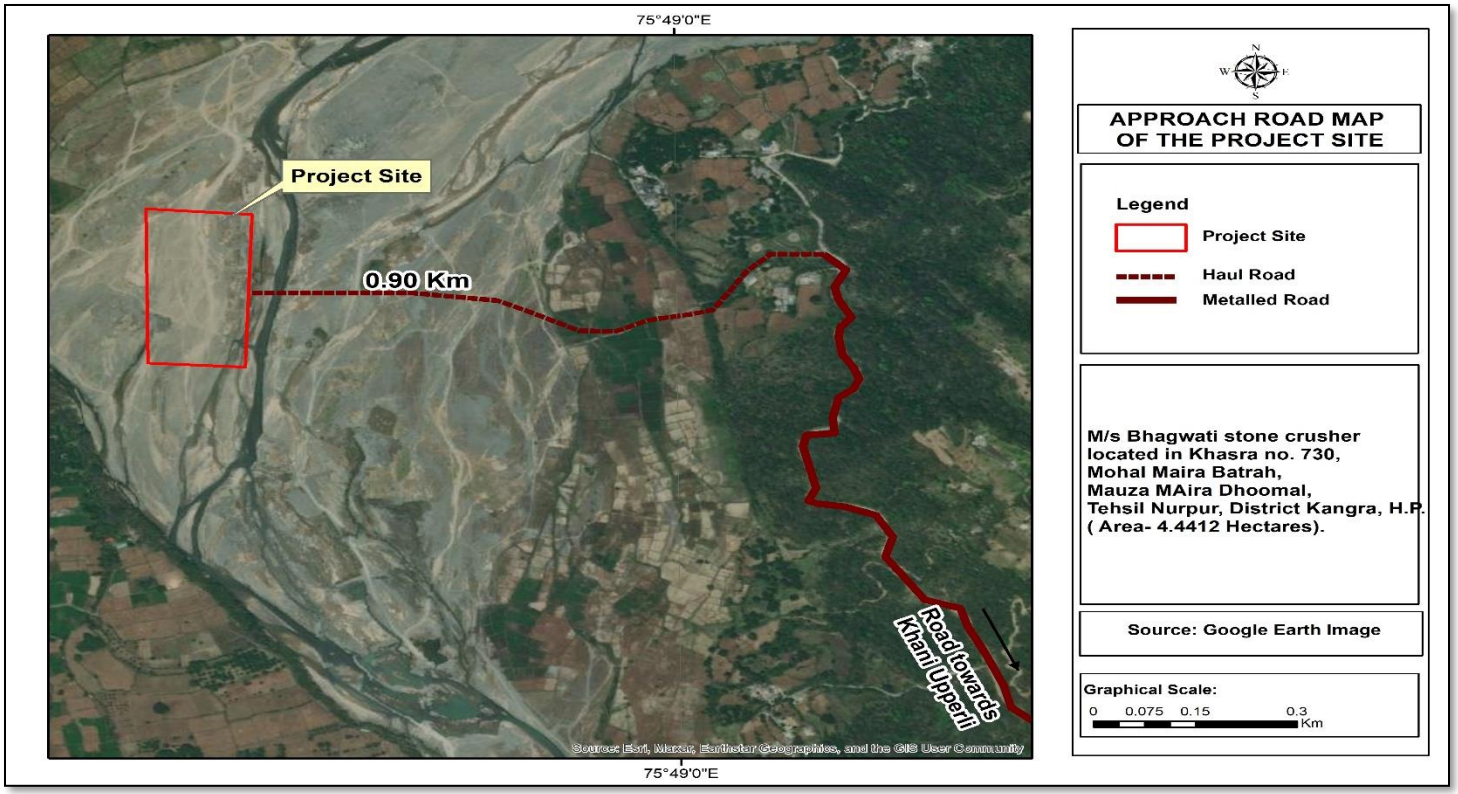


Figure 1.3

Map showing the Approach Road to the Mining Area



The site is located at a distance of about 17 kms from Nurpur and can be approached by Nurpur- Pathankot Road i.e. NH-20 upto Nagabari and thereafter by Nagabari- Maira-Batrah- Haddal link road upto Maira and the last spell of about approximately 1.0 km can be approached through an unmetalled road developed on the nallah and Chakki River bed.

1.5 SCOPE OF THE STUDY:

This study contains various information on the Environmental factors viz-a-viz contribution of pollution by the proposed unit. These factors include air, water, noise, health, socio economic, land use and agricultural pattern, hydrological conditions, geomorphological and physiographical study It discusses the predicted impact of the proposed plant activities on these factors. Broadly under the scope it is envisaged,

- To assess the present status of air, water, land, noise, biological & socio-economic hydrological components of environment.
- To identify, quantify & evaluate positive or negative impacts of various operations on different environmental components.
- To evaluate proposed pollution control measures and to suggest additional control strategies, if any, to mitigate the adverse effects.
- To identify risk factors & suggest their mitigation including occupational health of the workers.
- To prepare Environmental Management Plan for utilization and adoption of safety measures.
- To delineate future Environmental quality monitoring programme.
- To identify the needs of the study area and suggest supportive measures under Corporate Social Responsibility.

1.5.1 METHODOLOGY:

Various steps involved in Environmental Impact Assessment study of the proposed project are divided into the following phases:

- Identification of significant environmental parameters and to study the existing status within the impact zone with respect to air, water, noise, soil and socio-economic and hydrological components of the environment.
- Study of various activities of the proposed project for manufacture of final product and to identify the area's leading to impact/change in environmental quality.
- Identification/prediction of impacts for the identified activities and to study levels of impacts on various environmental components.
- Evaluation of final levels of various parameters after superimposing the predicted impacts over the baseline quality.
- Formulation of Environmental management plan for implementation in the proposed project.

1.6 IMPORTANCE TO THE COUNTRY OR REGION:

The mine lease area is the part of River-bed. Due to rapid infrastructure development in India, the demand of construction material has increased. The operation of project will provide demand & increased employment to the surrounding people, thereby improving the socio-economic status of the area.

- ***Demand and Supply:*** The demand of this basic material is fast growing due to boost in the infrastructure of country. The minerals are used mainly in the construction activities like buildings, bridges etc. The requirement for the mineral is always high in the nearby cities and towns. There is therefore, a good demand of mineral in the domestic market.
- ***Domestic/ Export market:*** The demand of Stone is limited to local domestic market and it has no potential for export.
- ***Export possibility***: There is no proposal for the export of mined minerals as the same will cater to the indigenous demand which is increasing each passing day.

CHAPTER-2.0

PROJECT DESCRIPTION

2.1 GENERAL:

Sh. Vipul Sehgal, through GPA Holder Sh. Ashwani Kumar; Prop: M/s Bhagwati Stone Crusher has proposed a new project of non-coal mining for obtaining E.C from the concerned authority having production capacity of 99900 MTPA. According to EIA notification and subsequent amendments, it is a ***'B2 Category'*** project of serial no. 1(a) 'Mining of Minerals' of EIA notification. However, due to cluster formation (Around 4 mining lease area existing within the 500m radius of the project site) the project is categorized as ***'Cat. B1'***; certificate for the same has been attached as **Annexure IV**. The project proposal is for mining of minor minerals in the river bed measuring 04-44-12 hectares. The mine plan has been prepared by registered H.P.R.Q.P. and approved by Industry Department of Himachal Pradesh. Description of mine development and information associated with this project has been furnished in this chapter.

2.2 YEAR WISE PRODUCTION PROGRAMME:

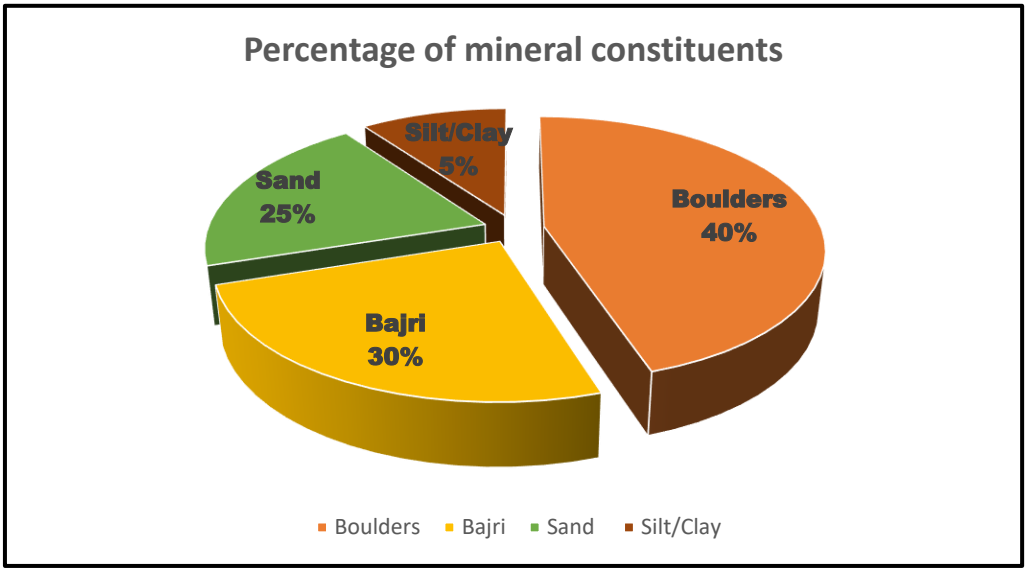
The reserve of all the constituents of river borne material have been calculated for the mineable area of 44400 sqm. The reserves have been calculated year wise for five years mining assuming that the excavated pits during previous year mining will be fully replenished with the new crop of minerals. Details of the production of the sand, stone & bajri from first to fifth year are given in table 2.1 below:

Table: - 2.1

Showing year-wise production programme of mining in mineable area

Period	Proposed area (in sqm)	Boulders (in MT)	Bajri (in MT)	Sand (in MT)	Silt and clay (in MT)	Total Potential (in MT)
1st year	44400	39960	29970	24975	4995	99900
2nd year	44400	39960	29970	24975	4995	99900
3rd year	44400	39960	29970	24975	4995	99900
4th year	44400	39960	29970	24975	4995	99900
5th year	44400	39960	29970	24975	4995	99900
Total						**4,99,500**

Thus, during five-year total production of minerals shall be ***4,99,500 metric tons.***



2.3 DEVELOPMENT AND PRODUCTION:

The mining lease area lies in the riverbed of Chakki River which gets adequately replenished during monsoon as well as during winter rains when the river gets heavy load for a short period. The river levels rise up to 1.5 to 2.0 meters sometimes even during the non-rainy season whenever the gates of Jataun Barrage are opened for de-silting purposes. The mining has been planned in the full block up to a depth of 1.00 meter to give a better chance for replenishment. The worked-out block shall get replenishment during monsoon and winter rains for recharging the worked-out area and the worked-out area shall be fully replenished. Total 44400 square meters of area shall be available for working every year. Geological plan for the same given as **figure 2.1.**

2.3.1 DEVELOPMENT AND PRODUCTION AT THE END OF 1ST YEAR:

- Mining is proposed in 44400 sqm. area in the river bed.
- 39960 metric tons of boulders, 29970 metric tons of bajri and 24975 metric tons of sand will be produced.
- 4995 metric tons of silt & clay will be generated as waste.

Hence, no topsoil is generated.

The production of each mineral constituent is as under: -

Table: 2.2

Production of minerals and mine waste during first year in metric tonnes:

Name of mineral	Quantity in metric tonnes
Boulder	39960
Bajri	29970
Sand	24975
Clay/Silt	4995
Total	**99900**

2.3.2 DEVELOPMENT AND PRODUCTION AT THE END OF 2ND YEAR:

- Mining is proposed in 44400 Sqm area in the river bed.
- 39960 metric tons of boulders, 29970 metric tons of bajri and 24975 metric tons of sand will be produced.
- 4995 metric tons of silt & clay will be generated as waste.

No top soil will be generated.

The production of each mineral constituent is as under: -

Table: 2.3

Production of mineral and mine waste during second year in metric tonnes:

Name of mineral	Quantity in metric tonnes
Boulder	39960
Bajri	29970
Sand	24975
Clay/Silt	4995
Total	**99900**

2.3.3 DEVELOPMENT AND PRODUCTION AT END OF 3rd YEAR:

- Mining is proposed in 44000 sqm area in the river bed.
- 39960 metric tons of boulders, 29970 metric tons of bajri and 24975 metric tons of sand will be produced.
- 4995 metric tons of silt & clay will be generated as waste.

No top soil will be generated.

The production of each mineral constituent is as under: -

Table: 2.4

Production of mineral and mine waste during third year in metric tonnes:

Name of mineral	Quantity in metric tonnes
Boulder	39960
Bajri	29970
Sand	24975
Clay/Silt	4995
Total	**99900**

2.3.4 DEVELOPMENT AND PRODUCTION AT END OF 4th YEAR.

- Mining is proposed in 44400 sqm area in the river bed.
- 39960 metric tonnes of boulders and 29970 metric tonnes of bajri will be produced for manufacturing of grit.
- 24975 metric tonnes of sand will be produced.
- 4995 metric tonnes of silt/clay as mine waste will be generated

No top soil will be generated.

The production of each mineral constituent is shown in table 2.5: -

Table: 2.5

Production of mineral and mine waste during fourth year in metric tonnes

Name of mineral	Quantity in metric tonnes
Boulder	39960
Bajri	29970
Sand	24975
Clay/Silt	4995
Total	**99900**

2.3.5 DEVELOPMENT AND PRODUCTION AT END OF 5th YEAR:

- Mining is proposed in 44400 sqm area in the river bed.
- 39960 metric tonnes of boulders and 29970 metric tonnes of bajri will be produced for manufacturing of grit.
- 24975 metric tonnes of sand will be produced.
- 4995 metric tonnes of silt/clay as mine waste will be generated

No top soil will be generated.

The production of each mineral constituent is as under: -

Table: 2.6

Production of mineral and mine waste during fifth year in metric tonnes

Name of mineral	Quantity in metric tonnes
Boulder	39960
Bajri	29970
Sand	24975
Clay/Silt	4995
Total	**99900**

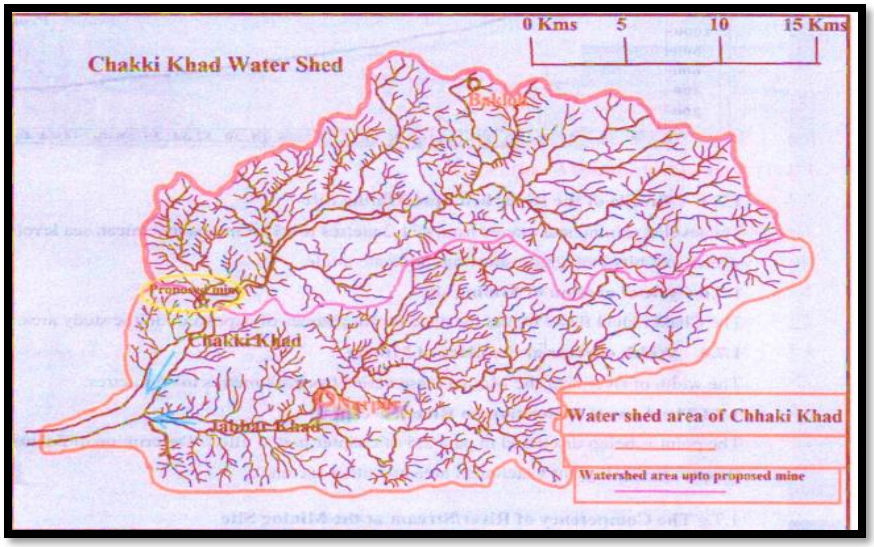
2.4 END USE OF MINERAL:

The stone and bajri shall be used for manufacturing of grit and mineral sand will be sold in the market as per demand.

2.5 GEOLOGY:

The geology of the catchment Area:

The rock of the Chakki Khad catchment comprises the Siwalik Group. The Siwalik Group mainly represents the rocks of the district and also of catchment area. In addition to this at few places the newer alluvium of Quaternary age is also present. In the advent of Neocene, a depression was formed in front of the rising mountains (Prto-Himalaya). This depression becomes a repository of a thick sequence of the molasses sediments of the Siwalik Group comprising conglomerates in general are poorly cemented but at places they are very hard.These consist mainly of pebbles and cobbles of quartzite, the stray pebbles of granite, limestone, sandstone, breccias and lumps of clay stone are also observed at places. Often the size of pebbles is large enough to be called as boulders. The conglomerates not only occur as regular band but also as lenticular bands alternate with micaceous sandstone and clay beds. The sediments were bough down 2 to 25 million years ago by the numerous fast flowing rivers issuing forth from rapidly rising mountain mass of the Himalaya in the north. The Siwalik Group is divisible into threesub-groups respectively the lower, Middle and upper on the basis of the litho-Stratigraphy.



Source- Approved mine plan

Siwalik Group

The Siwalik Group in the Himachal Himalaya forms a parallel foot-hill belt in the Sub- Himalayan zone, extending along the southern margin of the Paleogene Sirmur Group belt from the Ravi to the Yamuna and forms part of the larger Sub- Himalayan mega belt extending from Potwar basinin NW to the Arunachal foot-hill in SE. In the Himachal Himalaya it has maximum width betweenHoshiarpur and Joginder Nagar.

The Siwalik sediments through occurring as an independent structural belt, are also seen to overliethe Muree in the Jammu Sector of the Kashmir Himalayan and the Kasauli in the Himachal Himalayan Pilgrim (1910) recorded a gradual transition from Muree beds to Lower Siwalik in theRawalpindi and Jhelum districts of Pakistan and from Kasauli to Lower siwalik (Nahan) in the Himachal Himalaya. This fact assumes importance because there is a tendency to ignore this normal relationship between the Siwalik and Sirmour Groups at Dharamshala, Sarkaghat and Nalagarh.

At Hari Talyangar near Bilaspur, the Lower Siwalik is seen resting on the Dagshai with an unconformity, which is described as the most striking discordance in the whole sequences of freshwater deposits and evidently representing a period of considerable earth movements (Pascoe, 1964).

The Siwalik Group is divisible into three subgroups respectively the Lower, Middle and Upper on the basis of lithostratigraphy.

Lower Siwalik Subgroup

The lower Siwalik consists essentially of a sandstone-clay alternation. In district Kangra the lower sequence of the lower Siwalik consists of medium grained subgraywacke interbedded with thick red clay, but higher up in sequence, sandstones are coarser and clasts become more frequent while the clays are less developed. The uppermost horizon consists of conglomerate with well-rounded clasts of grey quartzite possible derived from the Shale. The total thickness is about1600 Meters.

Middle Siwalik Subgroup

The Middle Siwalik Sub group comprises of large thickness of coarse micaceous sandstone along with some inter-beds of earthy clay and conglomerate. It normally succeeds the Lower Siwahik along a gradational contact. The sandstone is less sorted than those in Lower Siwalik. Clay bends are dull coloured and silty. The general thickness is 1400 to 2000 Meters.

Upper Siwalik Subgroup

The upper Siwalik subgroup can be easily separated from the underlying Middle Siwalik on the basis of a distinct lithological change.In the Kangra district, where the Middle Siwalik is overlain by massive conglomerats of Upper Siwalik, the conglomerates contain clasts of basic volcanic rocks of the Mandi-Darla volcanic with a very transitional zone between them which may even suggest a local break between Middle and upper Siwalik.The Siwalik sediments were primarily derived from the rising Himalayan front. The stages of elevation in the Himalayan provenance are reflected in the composition of the sediments and the size of the grains. Among the rock fragments in the Siwalik basin, sedimentary rock makes up the bulk.

Lithostratigraphy of Siwalik System in Kangra District.

Group			Lithology	Age
Newer Alluvium			Sand, silt, gravel and Pebbles	Quatenary
Siwalik Group	Upper Siwalik	B	Predominantly massive conglomerate with red and orange clay as matrix and minor sandstone and earthy buff and brown calystone	Neogene
		A	Sandstone, clay and conglomerate alternation	
	Middle Siwalik	B	Massive Sandstone with minor conglomerate and local variegated claystone	
		A	Predominantly medium to coarse-grained sandstone and red clay alternation, soft pebbly with subordinate claystone, locally thick prism of conglomerate	
	Lower Siwalik	B	Alternation of fine to medium-grained sporadically pebbly sandstone, calcareous cement and prominent chocolate and medium maroon claystone in the middle part	
		A	Red and mauve claystone with thin intercalations of medium to fine grained sandstone	

Source- District Survey Report, Kangra

2.6 GEOLOGY OF THE PROJECT SITE:

As the mining site is a part of riverbed of Chakki River near the village Maira Batrah containing channel alluvium comprising of Boulders, Cobbles, Pebbles, River Borne Bajri, Sand and Clay deposits. Siwalik rocks are present in the upstream as well as in and around mining area and sediments of quartzite, granite and sandstone are noticeable which are rounded to sub rounded. The boulders, cobbles and pebbles are hard in nature and suitable for manufacturing of angular grit.

2.6.1. The description of Annual Deposition with respect to geology of catchment area:

As the stream is perennial in nature, it comprises Tertiary and Quaternary age of sandstone, conglomerate, clay, gravels beds, sand with pebbles of sandstone and lenses of clay. The banks also comprise of boulder bed. These rocks are soft in nature, unconsolidated, fractured and jointed due to structural discontinuities prone to erosion. The annual deposition of 5.0 cm to 25.0 is observed in the area depending upon the location and site conditions. The area is fully replenished by sediments transport during periods of higher flows i.e. during the monsoon/rainy seasons. Hence, it has been observed that the replenishment factor is 100% of the material excavated during the year. Therefore, the material excavated up to one-meter depth shall be replenished during the rainy/monsoon season.

2.7 RESERVES ESTIMATE:

2.7.1 Percentage wise Distribution of stone, gravel sand etc.

The different constituents of river borne deposits such as Boulder, Bajri, Sand and silt, clay based on size classification were considered for reserve calculation. Although it is not possible to mark these units separately on the geological map therefore, two pits at different locations of 1x1x1 meter dimensions were got dug in the Mining Area and material so excavated was separated into different size and their percentage was worked out and the percentage was taken in to account during calculation of reserves. The estimated percentage wise distributions of each constituent is given in the table 2.8.

Table 2.7

Showing %age of minor mineral constituents

Table showing %age of minor mineral constituents	
BOULDERS	40%
BAJRI	30%
SAND	25%
SILT & CLAY	5%

2.7.2 ESTIMATE OF GEOLOGICAL RESERVES OF EACH MINERAL:

An average specific gravity i.e., 2.25 is taken into consideration for the calculation of mineral potential in the area mining for mining purpose. As per information gathered on previous and ongoing development works like construction of Bridges and Bore wells by the PWD and I&PH department respectively, the average depth of sediments in and around the Mining Area is less than 2.0 meters. However, for calculation of Geological reserves, the depth has been taken upto 2.0 meters. The geological reserves are shown in table 2.8 below:

Table: 2.8

Showing Geological Reserves in metric tonnes

Area (in sqm)	**Specific gravity**	**Depth (in meters)**	**Availability of Mineral (in MT)**
44412	2.25	2.0	199854 MT

2.7.3 ESTIMATE OF MINEABLE RESERVES OF EACH MINERAL:

Mineable reserves were computed in the lease area up to a depth of one meter in accordance with with the provisions made under Himachal Pradesh Minor Minerals (Concession) and Minerals (Prevention of Illegal mining, Transportation and storage) Rules, 2015. As a safety measure for the nearby area, a buffer zone of 5.0 meters is maintained from the mining lease boundary's edge. Hence, the available mining area is about 44400 sqm. The Mineable reserves are shown in table 2.9:

Table: 2.9

Showing Mineable Reserves in metric tonnes

Area applied for mining lease (in sqm)	Mineable Area (in sqm)	Boulder (in MT)	Bajri (in MT)	Sand (in MT)	Clay/Silt (in MT)	Total Mineral Resource (in MT)
4-44-00	44400	39960	29970	24975	4995	99900

2.8 RECLAMATION PLAN:

The mined area being part of the river course cannot be reclaimed for any other purpose. The mining depth will be up to 2.0 meter or up to water level whichever is less, thus water regime will not be disturbed. The entire quarried area will be replenished and reclaimed by the river during monsoon. Thus, the topography or land use of the river bed will not change.

2.8.1 WASTE GENERATION:

The applicant is intending to install mechanical screener for sorting the different sizes constituent of river borne material for sale in the open market. The silt/clay are likely to be generated as a mine waste because this material does not have a ready to sell market. Since, the mining lease area is a part of river bed, as such, on such land form, there is no possibility of occurrence of any soil cover. The year wise generation of silt/clay is shown in the following table 2.10

Table: - 2.10

Showing Year wise generation of silt and clay

S. No.	Year	Quantity of Silt and clay (MT)
1.	1st year	4995
2.	2nd year	4995
3.	3rd year	4995
4.	4th year	4995
5.	5th year	4995

Total	**24,975**

2.8.2 DISPOSAL OF MINE WASTE:

As the silt and clay are inseparable mine waste it will be stacked at the stone crusher premises after screening and washing. Thereafter, the stacked mine waste will be partly used for filling and leveling of approach road and partly for growing plantation and for other purposes.

2.9 TOP SOIL UTILISATION:

Since the mining lease area is part of river bed, as such there is no possibility of presence of any soil cover on such land form.

2.10 PREVENTIVE RETAINING STRUCTURES:

As the whole of the mining lease area lies within the HFL of Chakki Khad, no retaining structures can be constructed.

2.11 PLANTATION WORK:

As the maximum part of the area lies within the HFL of the river and is flooded during the rainy season, therefore, it is not suitable land for the growth of any plantation or grassing etc. Suitable private land near the area will be identified by the leaseholder for re-grassing and plantation. The estimated year-wise area proposed for plantation along with number of trees to be planted is shown in table 2.11 & species to be planted is shown in table 2.12.

Table: 2.12

Details of Year wise Plantation

Year	Area to be covered (in Sq. meter)	Number of trees to be planted
First	2000	200
Second	2000	200
Third	2000	200
Fourth	2000	200
Fifth	2000	200
Total	**10000**	**1000**

Table: 2.12

Species to be planted

Common name	Botanical name	Family	Habitat
Siris	*Albizia Lebbeck*	Fabaceae	Tree
Sahtoot	*Morus Alba*	Moraceae	Tree
Mango	*Magnifera Indica*	Anacardiaceae	Tree
Tuni	*Toona ciliata*	Meliaceae	Tree
Neem	*Azadirachta indica*	Meliaceae	Tree

The total cost of plantation including its maintenance for five years shall be approx. 3.0 Lakhs. The cost includes cost of plants, mineable and other labor activities. The estimated survival rate proposed to be achieved shall be 80%.

2.12 MANPOWER REQUIREMENT:

Total production for five years = 4,99,500 MT

Total production for one year = 99900 MT

Total production for one day = 370 MT

No. of labours required for mining 370 tons material per day = 92

An estimated 92 persons, mostly locals will be employed for day-to-day operation of the project as per the following details shown in table 2.13

Table: 2.13

Manpower Details

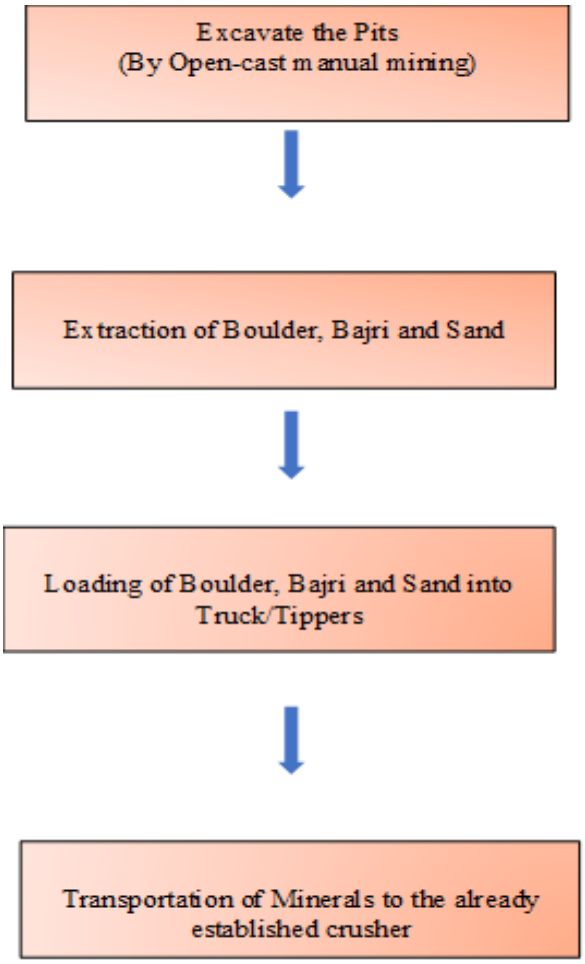
CATEGORY	NUMBERS
Mining Engineer	01
Geologist	01
Foreman	01
Operators/ Drivers	28
Labors	61
Total	**92**

2.13 TYPE OF MINING & MINING METHOD:

The mining method shall be adopted to facilitate the replenishment of the excavated pits during rainy season. The mining is suggested on rotation basis in such a way that pit of previous year mining will act as depository for the post monsoon season. Thus, each block will be mined to a depth of one meter alternately in the alternate year.

The mining method adopted is of open cast mining.

- The depth of mining will be 2.0 meter only.
- No blasting will be involved.
- The method of mining will be manual. No mechanical work/ JCB allowed in the mining lease area.
- Natural course of river shall not be disturbed & especially step shall be taken to control the soil erosion.
- Water sprinkling shall be carried out on approach road and proper covered material during the transport from mining area.
- The mining operations in the lease area are confined to day light hours, from 10 A.M. to 6: 00 P. M.
- The material is sorted manually at mining site and sand is separated from stone and Bajri.
- The sorted stone and Bajri is than loaded into tipper trucks / tractor trolleys by shovels and pans and mechanically and transported to already established crusher.



2.14 WATER REQUIREMENT:

Total amount of water required for the project is 3.13 KLD. Water will be sourced through own borewell at crusher site. A water storage tank of appropriate capacity shall be provided for domestic use. About 2.0 KLD will be required for dust suppression and plantation purpose and about 1.13 KLD for domestic purposes.

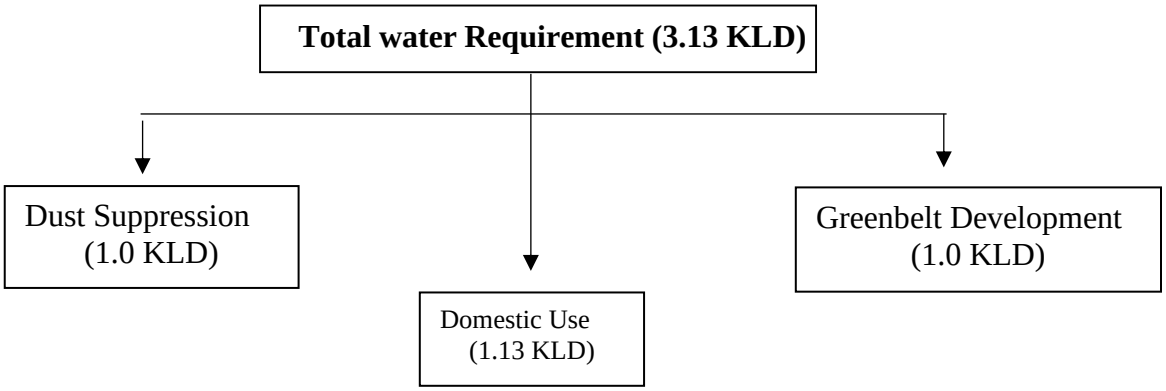

Total water Requirement (3.13 KLD)
Dust Suppression (1.0 KLD)
Domestic Use (1.13 KLD)
Greenbelt Development (1.0 KLD)

Figure-2.1

Geological Plan

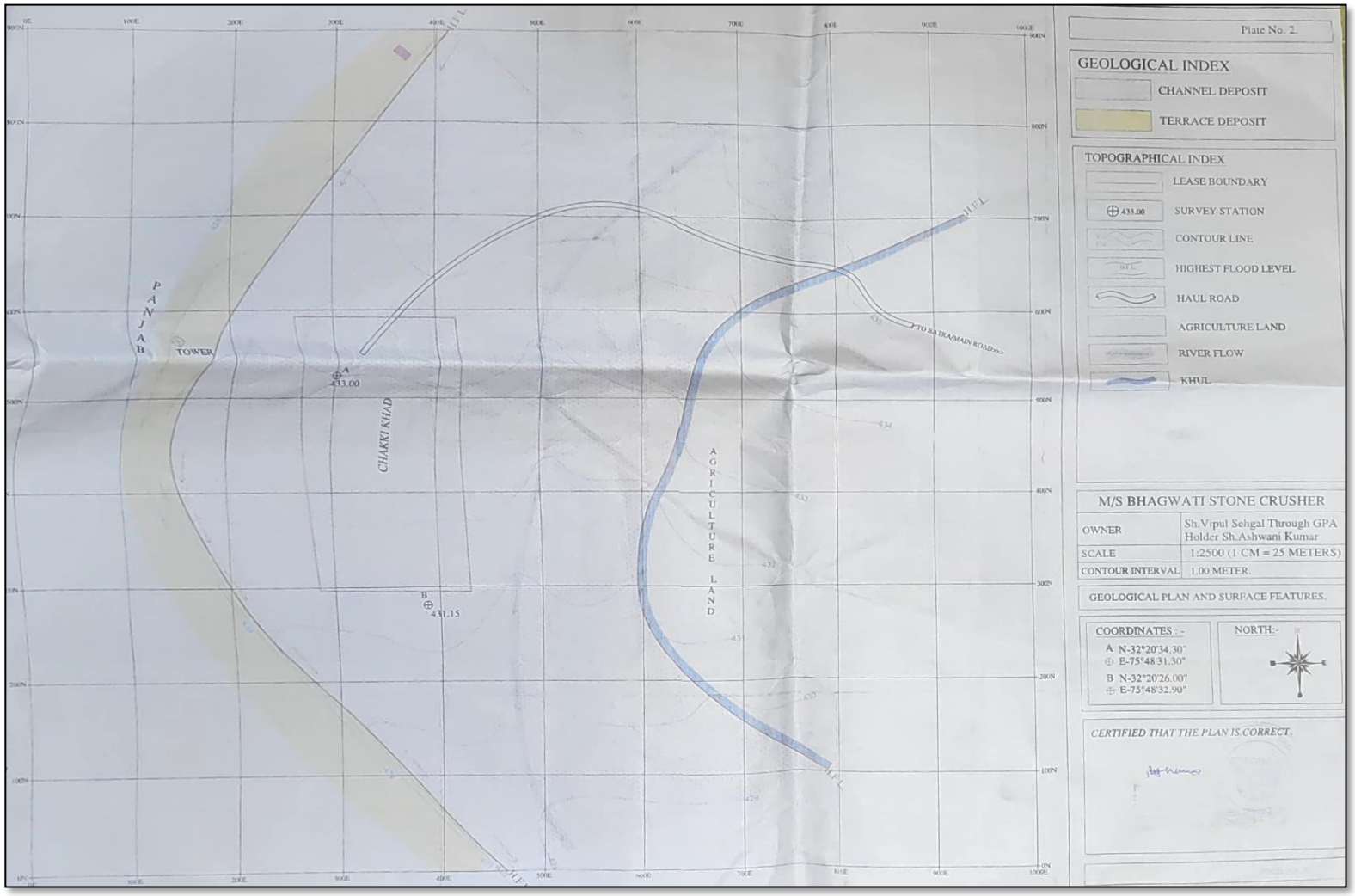


Figure- 2.2

Pit Plan For 1st To 5th Year

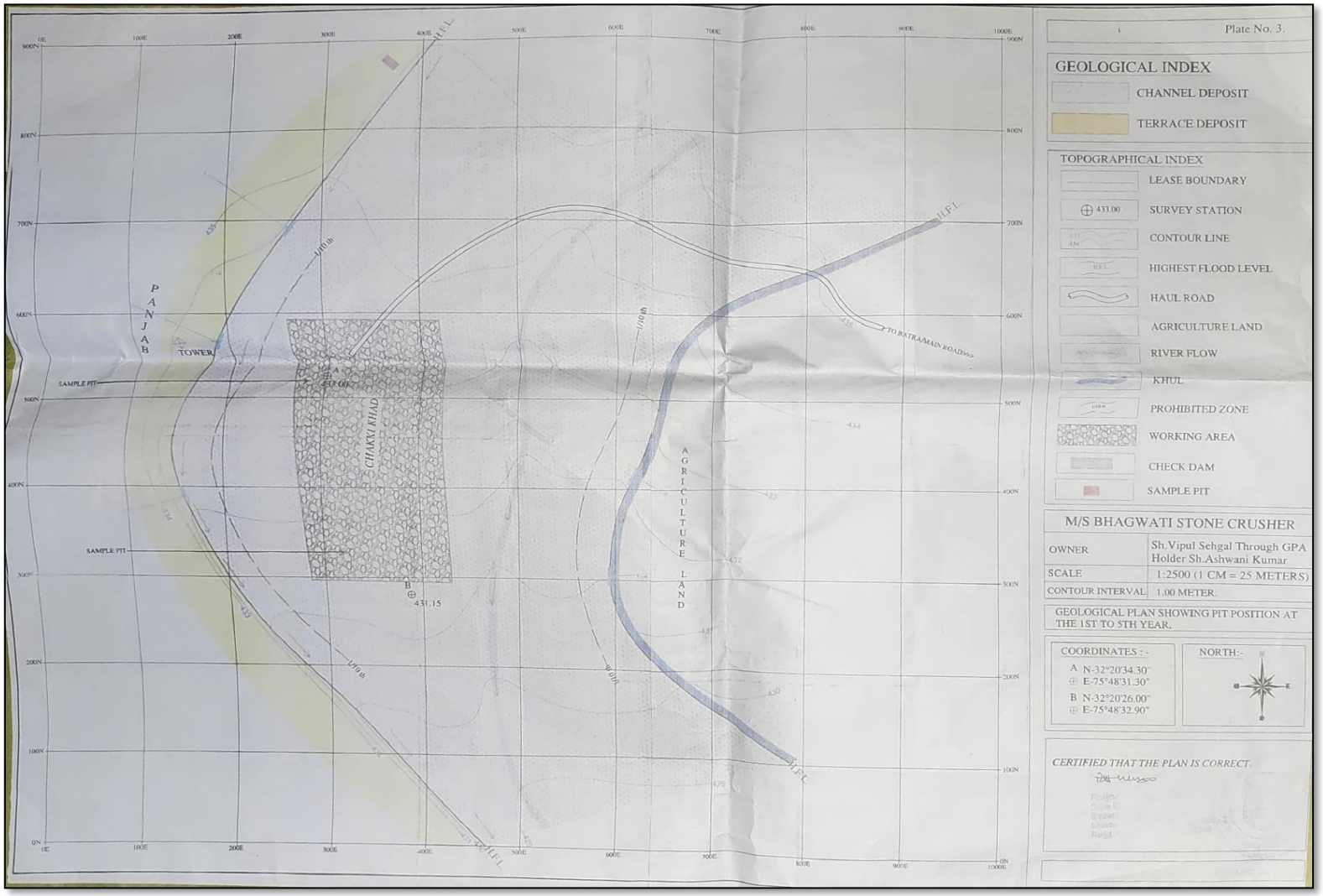


Figure 2.3

Cross section map- Across the mining area

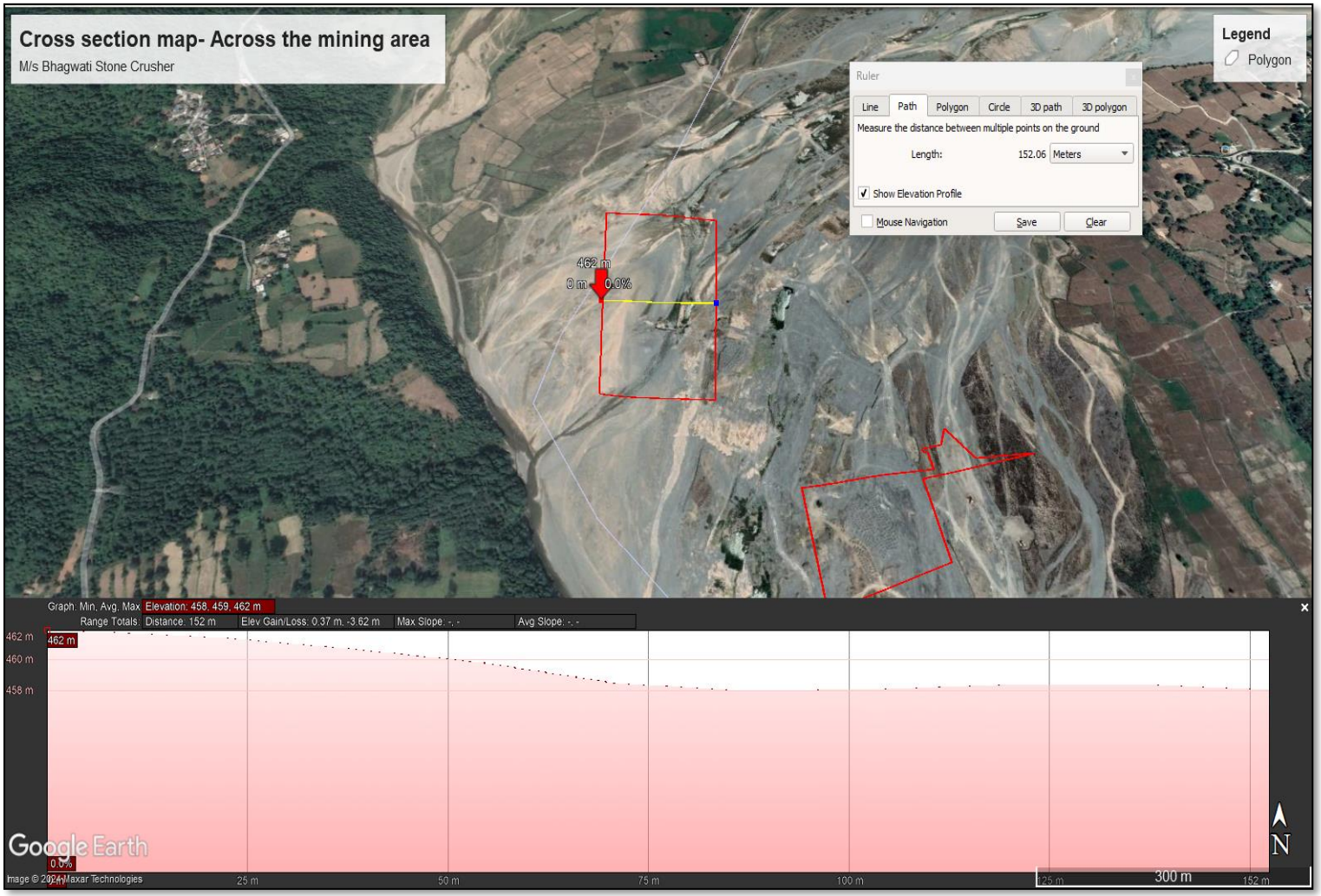
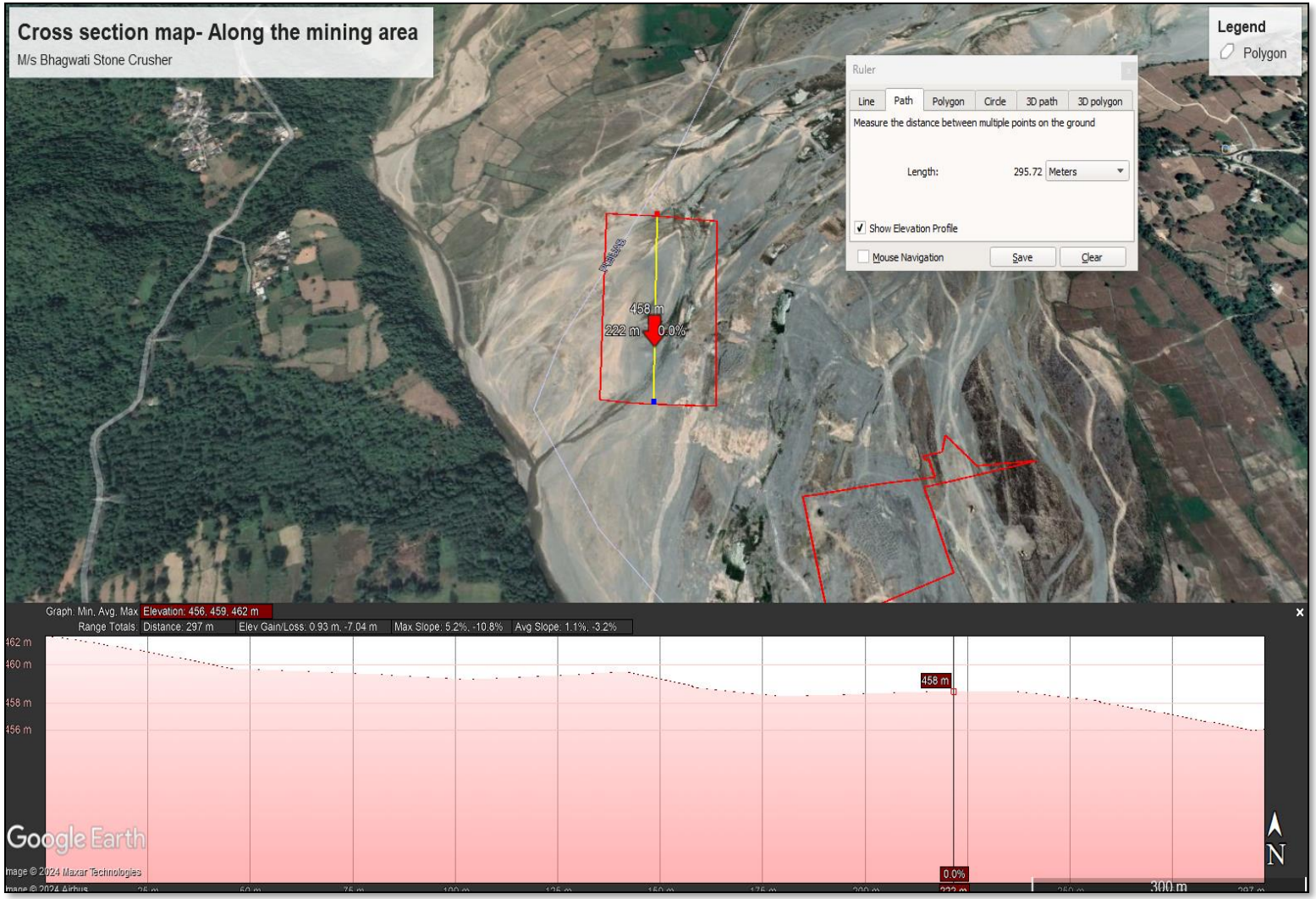


Figure 2.4

Cross Section Map- Along the Mining Area



CHAPTER-3.0

BASELINE SETTINGS

3.1 THE STATE:

Himachal Pradesh having world's mightiest mountain ranges is one of the hilly States situated in the Northernpart of India. It is blessed with some of the most spectacular and beautiful landscapes. It came into being in November, 1966 after the re-organization of States. Earlier, it was part of the combined State of Punjab. The various hill towns in the State not only provide visitors reprieve from the heat of the planes, but offer beautifulscenic sites which are real treat to the eyes. Kullu and Kangra valleys offer natural beauty which is no less than Kashmir Valley.

Earlier the economy of the State mostly depended on tourism and a large number of tourists sites had been developed by the State. However, after the re-organization, the State has made big strides in the field of industrialization also. The State has good deposits of minerals like gypsum, lime stone and slate etc. It has bigreserve of minerals which can be used in various types of industries. Mining of minor minerals is also, therefore, an extensive Industry in the State. Industries like Cement, Electronics, Fertilizers, Pharmaceuticalsand Liquor can be found in good number at different places in the State. Hydel Power in the State has given a big boost to the industries. A number of Industrial areas have been developed in the State, where all facilities are provided to the entrepreneurs. Parwanoo, Barotiwala, Baddi, Paonta Sahib and Raja Ka Bag are some of the important industrial areas developed by the State in the last two decades.

3.2 KANGRA DISTRICT:

Kangra district is one of the twelve districts of the state of Himachal Pradesh, India. The district forms a north-western part of the Himachal Pradesh, bounded in the north by Chamba district, on the north-east it touches Lahul & Spiti district, On the east it is bounded by Kullu district, on the South by Mandi, Hamirpur and Una district and on the West by Punjab state. The district lies between 31°41′0" and 32°28′05" in north latitudes and between 75°35′34" and 77°04′46" in east longitudes. The district has a total area of 5739 sq.kms which covers 10.31 percent area of the state. The district consists of series of parallel mountain ranges divided by longitudinal the general direction of which, from north-west to south-east, has determined the shape of the district. Dhauladhar is the most important mountain range of the district which stretched out beautifully facing the fertile valleys of Palampur

and Kangra. Dhauladhar range starts from the right bank of the river Beas and forms boundary of the district with Kullu district. Therefore, the range passes through Banghal area above Kangra and Palampur valley covering Bara Banghal ridge. The Paprola range shuts out Bara banghal from kangra valley and this range after crossing Binwa at Paprola runs on to Mandi where it acquires the name of Sikandar Dhar. Kangra is also a home to mango trees. Kangra have the "Hilly & Chilly" type of climate found in most of Himachal Pradesh. During winter, the climate is cold but pleasant when woolens are required after August upto end of April. During summer the temperature is hot and cottons are recommended. Temperature does sometimes cross the 31.6°C mark in summers.

3.3 PROJECT SITE:

The site is located at a distance of about 17 kms from Nurpur and can be approached by Nurpur-Pathankot Road i.e. NH-20 upto Nagabari and thereafter by Nagabari- Maira- Batrah- Haddal link road upto Maira and the last spell of about approximately 1.0 km can be approached through an unmetalled road developed on the nallah and Chakki River bed.

approachable through a link road originated from a place known as Naga Bari on the Pathankot-Mandi National Highway 154. The site is located at a distance of 10 kms from the Naga Bari Village. The local town Nurpur/Jassur and Pathankot is about 20 and 30 kms from the site respectively.

- ***Features within 10 km radius are given in Table-3.1.***
- ***Location Map showing 10 km radius is given in Figure 3.1. Pillar coordinates of the Mining lease area showing in Fig. 3.2 and 500-meter radius map given in figure 3.3.***

Table 3.1

Salient Features of the Project

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td>1.</td><td>Location</td><td></td></tr>
<tr><td>a)</td><td>Mohal/Mauza</td><td>Maira Batrah/ Maira Doomal</td></tr>
<tr><td>b)</td><td>Tehsil</td><td>Nurpur</td></tr>
<tr><td>c)</td><td>District</td><td>Kangra</td></tr>
<tr><td>d)</td><td>State</td><td>Himachal Pradesh</td></tr>
<tr><td>2.</td><td>Lease Area Co-ordinates</td><td>
<table>
<tr><th>Pillar No.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>P1</td><td>32°20'34.30"N</td><td>75°48'31.30"E</td></tr>
<tr><td>P2</td><td>32°20'36.59"N</td><td>75°48'30.03"E</td></tr>
<tr><td>P3</td><td>32°20'36.16"N</td><td>75°48'36.02"E</td></tr>
<tr><td>P4</td><td>32°20'26.53"N</td><td>75°48'35.61"E</td></tr>
<tr><td>P5</td><td>32°20'26.94"N</td><td>75°48'30.09"E</td></tr>
</table>
</td></tr>
<tr><td>3.</td><td>Elevation</td><td>The highest point of the project site is 433.8 meters above MSL and the lowest point is 431.2 meters above MSL.</td></tr>
<tr><td>4.</td><td>Climatic Conditions</td><td></td></tr>
<tr><td>i.</td><td>Temperature Min/Max</td><td>
<table>
<tr><td>Winter C°</td><td>Summer C°</td><td>Rainy C°</td></tr>
<tr><td>Min 5.7</td><td>Min 20.7</td><td>Min. 19.2</td></tr>
<tr><td>Max. 15.9</td><td>Max. 30.6</td><td>Max. 28.2</td></tr>
</table>
</td></tr>
<tr><td>ii.</td><td>Rainfall: Average,</td><td>1920.9 mm approx.</td></tr>
<tr><td>iii.</td><td>Relative Humidity, % (average annually)</td><td>Summer 55%, Monsoon 99%.</td></tr>
<tr><td>iv.</td><td>Wind speed, Kms/hour</td><td>0.82- 9 Km (approx.)</td></tr>
<tr><td>5.</td><td>Nearest Highway/ Road</td><td>NH-154A (7.0 Km towards W direction)/ Link Road (500m.)</td></tr>
<tr><td>6.</td><td>Nearest railhead/Railway station</td><td>Nurpur Railway station (7.31 Km towards S Direction)</td></tr>
<tr><td>7.</td><td>Nearest airport</td><td>Gaggal Airport (47.0 km towards SE direction)</td></tr>
<tr><td>8.</td><td>Nearest Major City</td><td>Nurpur (7.0 Km)</td></tr>
</table>

9.	**Nearest Major Settlement.**	Nurpur (7.0 Km)
Features within 5 kms		
i.	**Archaeological important places.**	Nil
ii.	**Wild life/ Elephant & Tiger pl sanctuaries**	Nil
iii.	**Industries**	Nil
iv.	**State boundary**	Punjab
v.	**Mining type**	River bed of Chakki Khad.

Figure- 3.1

Google Map showing 10 km buffer area

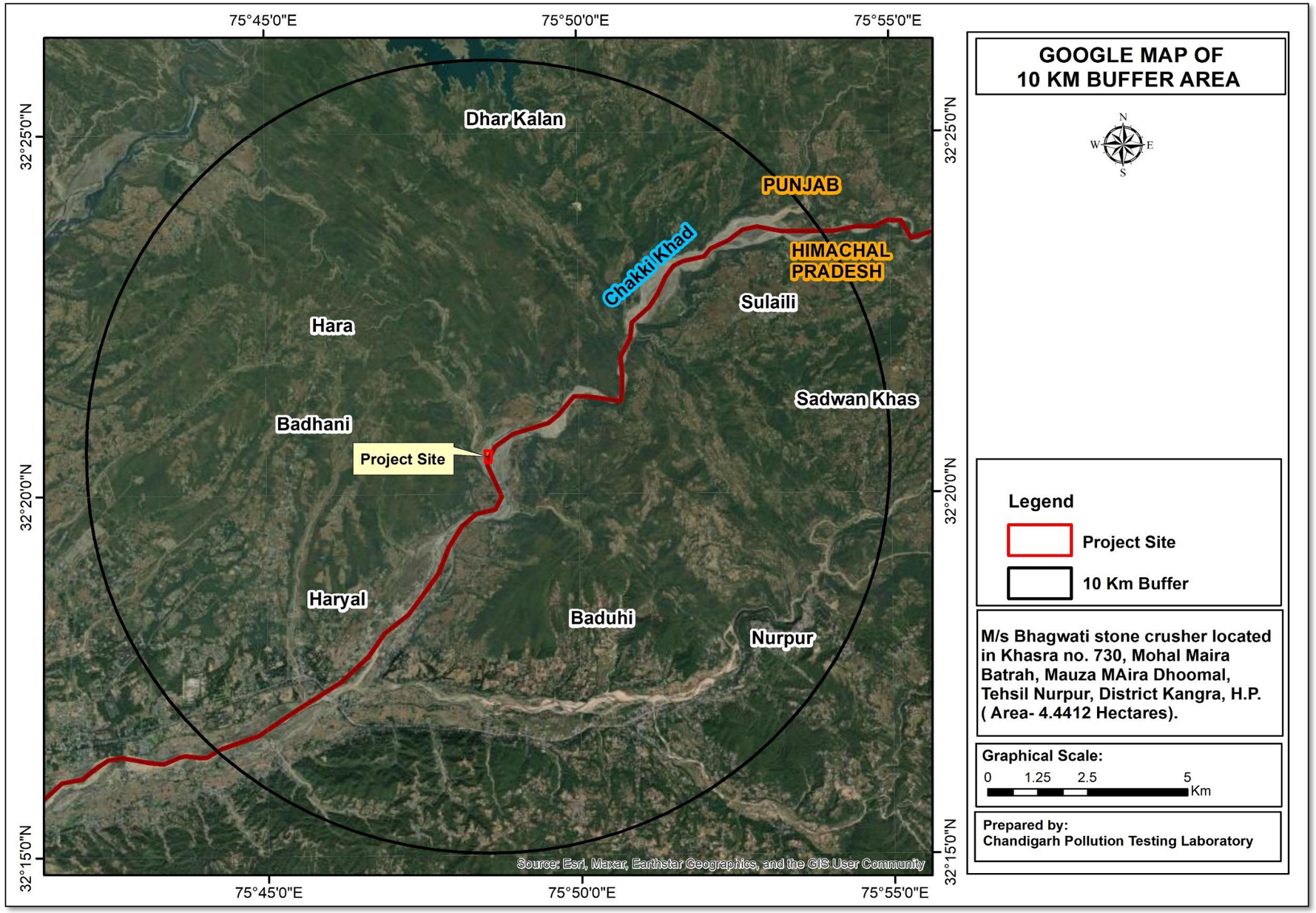


Figure- 3.2

Pillar Co-ordinates Map

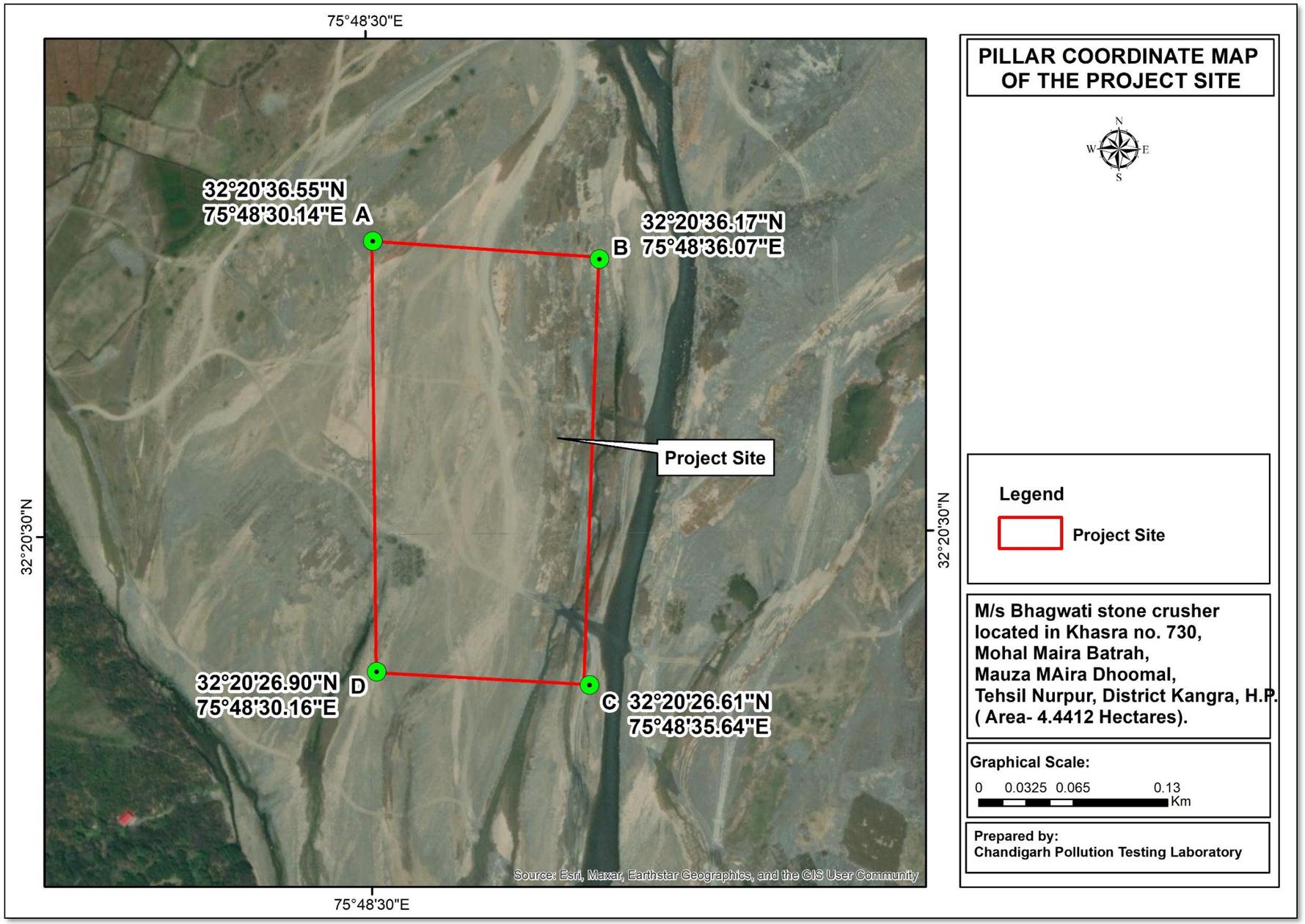
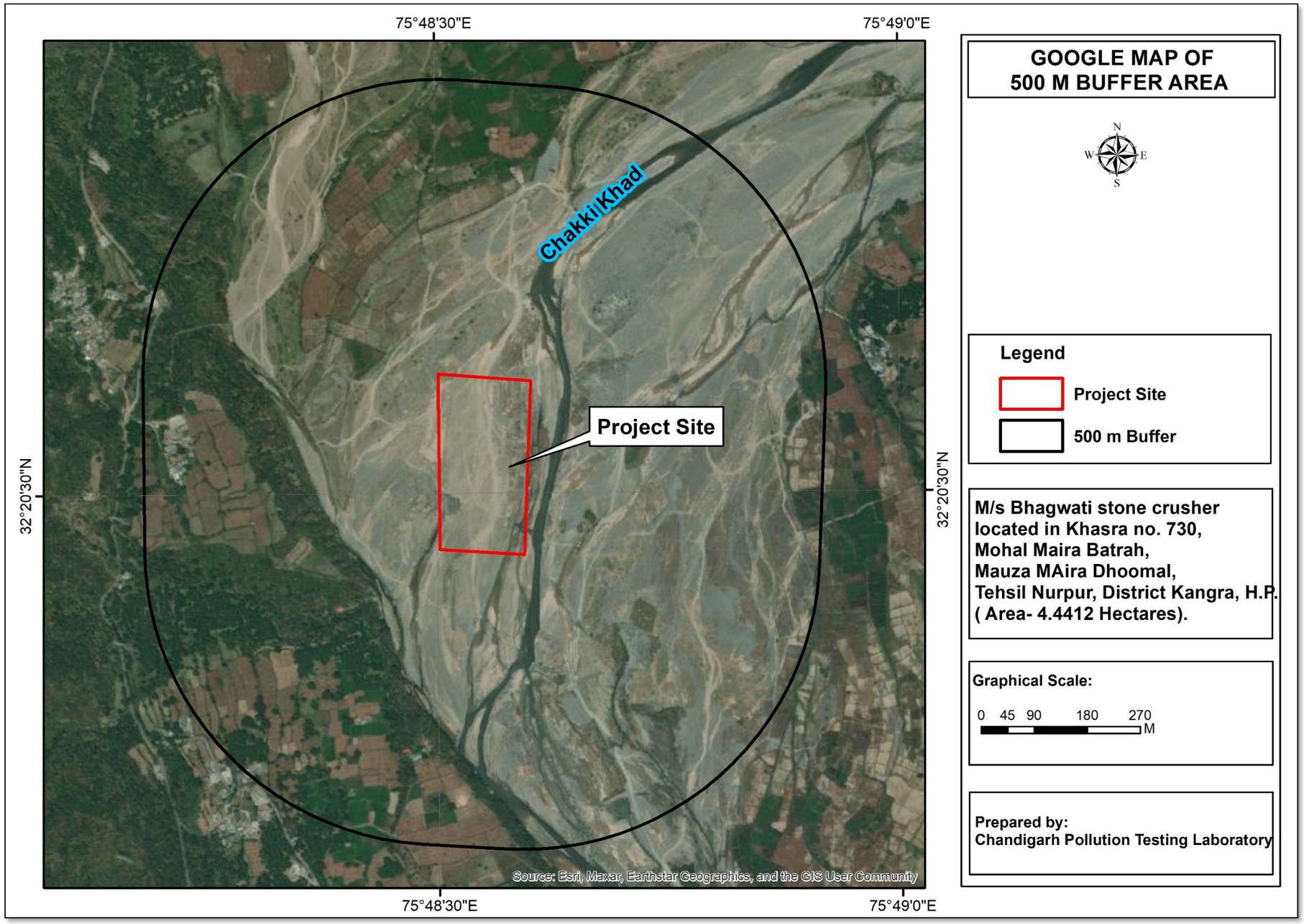


Figure- 3.3

500m Radius Map



3.4 STUDY PERIOD:

The environmental monitoring for the EIA study, for the project has been conducted for the winter season. Initially, a reconnaissance survey of the study area was carried out and then field monitoring for measuring meteorological parameters, ambient air quality, water quality, soil quality and noise levels was carried out following CPTLE/QSPM-06/01–CPTLE/QSPM-06/09 as per the QMS of the organization from ***March 2024 to May 2024.*** In addition, certain aspects like land area, socio-economic status, past meteorological conditions, etc., have been analyzed based on secondary information available from sources like district census reports, district gazetteers, Indian meteorological department, etc. The baseline status of various environmental components is described in the succeeding sections.

3.4.1 COMPONENTS OF STUDY:

This chapter contains information on existing environmental scenario for the following parameters.

1. Land Environment
2. Meteorology
3. Air Environment
4. Noise Environment
5. Water Environment
6. Soil Environment
7. Biological Environment
8. Socio-economic Environment

3.4.2 METHODOLOGY:

For the present study, all the sampling locations are marked with the help of Google maps and site visits. The land use/ land cover map has been generated on 1:50,000 scale using Satellite imagery and ground truth information. The baseline environmental quality has been assessed during the period from ***March 2024 to May 2024***. Samples of Air, Water, Noise and Soil from the site and

nearby areas has been collected and analyzed for the study of existing condition. Primary and secondary data collection has been done by the Ecology and Biodiversity team for the study of flora and fauna in the study area. The baseline data is generated through field study within the impact zone for various components of the environment viz. Air, Noise, Water, Land, Ecology and Socioeconomic. While generating the baseline status of physical and Biological Environment biological environment of the study area, the concept of impact zone has been considered. The impact zone selection is based on preliminary screening and modelling studies. The methodologies forvarious environmental facets is as follow:

I. Ambient Air Quality

The ambient air quality monitoring was done to assess the ambient air quality in one season. Monitoring was carried out from ***March 2024 to May 2024.***

The guidelines for selections ofambient air monitoring stations given in IS – 5182 part 14, 2000 and 'Guidelines for AmbientAir Quality Monitoring' by CPCB were followed.

II. Water Quality

To assess the water quality of the proposed area, sampling was done as per the standard practice. Grab sampling was done for ground and surface water. Water samples were taken as per the standard methods (IS 10500: 2012 & APHA, 23rd Edition). Necessary precautions were taken for preservation of samples. The physical parameters viz. pH, temperature and conductivity were measured at site.

III. Ambient Noise Quality

At each station noise levels were monitored for day and night time once in a season.

IV. Soil Quality

For soil, augur method was used and samples were collected at 15-25 cm depth after removing the upper crust.

V. Land Use

The land use/ land cover map has been generated on 1:50,000 scale using Satellite imagery and ground truth information.

VI. Biological Environment

Primary and secondary data collection has been done by the Ecology and Biodiversity team for the study of flora and fauna in the core and Buffer Zone.

VII. Socio Economic Environment

For demography and socioeconomics, block wise data has been collected and used for the assessment of impacts.

VIII. Micro-Meteorological Data

Meteorological data of the project site has been used for the study. The important parameters considered are temperature, humidity, wind speed, wind direction, and rainfall.

3.4.3 ENVIRONMENTAL BASELINE DATA COLLECTION:

Baseline data for the proposed plant was collected immediately after the monsoon season**.** Primary data has been collected by monitoring & surveying various environmental components/ parameters in the core zone during the study period, details of which are given here.

PRIMARY DATA

S. No.	PARAMETERS	DESCRIPTION
1.	Meteorology	Meteorological parameters on hourly basis at project site. Parameters: Temperature, Relative humidity, Wind Speed & Wind Direction.
2.	Air	Ambient air quality monitoring (24 hourly), twice a week. Parameters are PM_{10}, $PM_{2.5}$, SO_2, NO_2 & CO. No. of Locations: 8 locations in core and buffer zone.
3.	Noise	Noise level monitoring (Day & Night time), once in aseason. No. of Locations: 8 locations in core and buffer zone.
4.	Water	Ground water sampling, once in a season. No. of Locations: 8 locations in core and buffer

		zone.Tested for physical and chemical parameters.
5.	Soil	Soil sampling, once in a season. No. of Locations: 8 locations in core and buffer zone.
6.	Biological Factors	Biodiversity survey, once in a season. Location: Core and buffer zone.
7.	Socio-economic Environment	Socio-economic survey, once in a season. Location: Core and buffer zone.

3.5 METEOROLOGY:

Meteorology plays a vital role in affecting the dispersion of pollutants. Since meteorological factors show wide fluctuations with time, meaningful interpretations can be drawn only from longterm reliable data. The source of such data is the Indian meteorological Department (IMD), which maintains a network of meteorological stations at several important locations. The nearest stations of the study are Kangra.

3.6 CLIMATE:

The region has four distinct seasons. The area experiences severe winter from October to mid - March followed by severe summer season lasting from mid-March to June. The area receives rain fall under the influence of south- west monsoon from July to September followed by post - monsoon season lasting up to November.

3.6.1 TEMPERATURE:

The area is hilly with steep slopes and has Semi-arid climate. December and January are the coldest months whereas in May and June the heat is quite intense. The wettest months of the seasons are July, August and September. The temperature varies from about 2.8^{o} C minimum to about 31.6^{o} C maximum during the year. Monthly average temperatures of the area are given in **Table-3.2**

Table - 3.2

Monthly Average Temperature

Name of Month	Maximum Temperature (℃)	Minimum Temperature (℃)
January	14.9	4.2
February	17.8	6.9
March	21.4	10.5
April	23.6	12.1
May	26.3	15.6
June	28.6	18.5
July	28.6	20.1
August	27.6	19.8
September	26.9	18.8
October	24.9	14.8
November	20.4	10.2
December	16.8	5.0

Source: approved mining plan

3.6.2 RAINFALL:

Rainfall varies significantly with altitude of the area. The catchment area receives rainfall due to western disturbances that pass over the north – western part of the country during winter months. Rainy season generally starts from July and extends up to last week of August. As per IMD Year wise rainfall data for this zone is given in **Table-3.3**

Table - 3.3

Year Wise Average Rainfall (Mm)

Year	2015	2016	2017	2018	2019	2020	2021
Average Rainfall in mm (Kangra District)	1996.5	1602.5	1993.1	2019.8	1920.9	1781.0	1787.7
Average Rainfall in mm (Himachal Pradesh)	1225.4	917.7	1544.5	1182.2	1232.2	1149.5	1031.6

Source: approved mining plan

3.6.3 HUMIDITY:

During summer season, humidity is lowest 36%. During monsoon month, it goes as high as 80-90%. The average humidity during synoptic hours is 53% and 62% respectively. The highest level of humidity is observed in the month of August.

3.6.4 CLOUDINESS:

During monsoon season skies are over cast with moderate to heavy clouds. During rest of the year, the sky is mostly clear. It is lightly clouded occasionally during winter season.

3.6.5 WINDS:

The Wind direction in the area is mostly from South-West to North-East. During January to May the winds are quite strong while July to October is calm months. The general trends of various meteorological data from meteorological observatory are used to draw Wind Rose Diagram as shown in Fig. 3.4.

3.7 *MICRO METEOROLOGY AT SITE:*

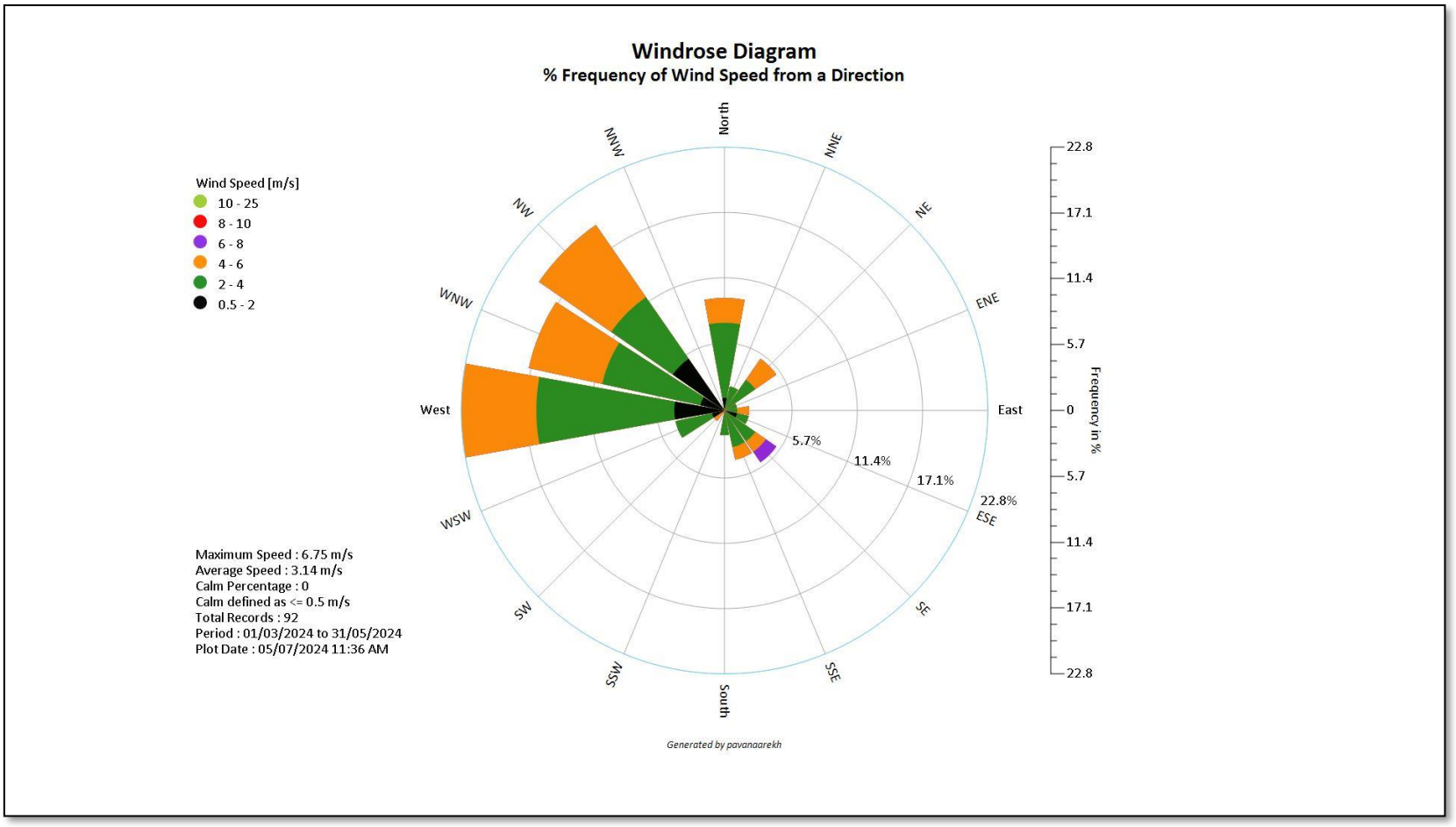
Meteorological station was set-up at site to record surface meteorological parameter during the study period. Summary of the micro-meteorology at site is given table 3.4 below**:**

Table: 3.4 Showing Meteorology at Site

Month	Temperature(ºC)		Relative Humidity (%)	
	Max.	Min.	Max.	Min.
March, 2024	32	6	100	33
April, 2024	39	14	100	22
May, 2024	46	14	94	8

Figure- 3.4

Windrose Diagram for Study Period



3.8 AMBIENT AIR QUALITY:

The ambient air quality monitoring was done to assess the ambient air quality. Monitoring was carried out at eight stations from ***March 2024 to May 2024***. The guidelines for selections of ambient air monitoring stations given in IS – 5182 part 14, 2000 and CPCB guidelineswere followed. These guidelines state that, "when the objective of air sampling is to identify the contribution from specific sources of pollution, the sampling locations should be located in upwindand the downwind direction of such sources".

The location of air quality monitoring stations should satisfy the following conditions:

1. The site should be representative of the area selected;
2. Certain physical requirements should be satisfied at the site.

METHODOLOGY:

The prime objective of the baseline study with respect to ambient air quality is to establish the present air quality and its conformity to National Ambient Air Quality Standards. This data has been further used during impact assessment to predict the final air quality. This section describes the sampling locations, frequency of sampling and methodology adopted for monitoring ambient air quality.

To quantify the impact of the project on the ambient air quality, it is necessary at first to evaluate the existing ambient air quality of the area. The existing ambient air quality, in terms of Particulate Matter- 10(PM10), Particulate Matter-2.5 (PM2.5), Sulphur-dioxide (SO_2), Oxides of Nitrogen (NO_2), and Carbon Monoxide (CO), has been measured through a planned field monitoring.

SAMPLING STATIONS:

To select the air sampling locations, meteorological data with respect to temperature, relative humidity, wind speed and direction plays a vital role. Predominant wind direction plays an important role in determining location of monitoring stations. The monitoring stations were located in areas that were downwind from the source. List of Air sampling stations are given in Table 3.5

and Location Air Sampling Stations are given in Figure 3.5 and Ambient air results are given in table 3.6.

Table 3.5

Ambient Air Monitoring Stations

S. No.	Sample Code	Name of Village/ Location	Distance & Direction (KM)	Upwind/ Downwind	Co-ordinates
1.	AAQ-1	**Project site**	**0**	--	32°20'34.30"N 75°48'31.30"E
2.	AAQ-2	Narainpur	1.69 (towards N)	Upwind	32°21'14.17"N 75°49'19.63"E
3.	AAQ-3	Hara	3.63 (NW)	Crosswind	32°21'29.34"N 75°46'52.20"E
4.	AAQ-4	Dhar Kalan	7.79 (NW)	Crosswind	32°24'17.86"N 75°47'21.14"E
5.	AAQ-5	Khani Jhikli	4.71 (SE)	Crosswind	32°17'51.65"N 75°48'16.85"E
6.	AAQ-6	Thora Khas	4.86 (SE)	Crosswind	32°18'6.66"N 75°50'40.14"E
7.	AAQ-7	Baghar	4.39 (towards S)	Downwind	32°18'37.14"N 75°46'35.76"E
8.	AAQ-8	Khanni Uparli	1.43 (towards S)	Downwind	32°19'30.68"N 75°48'48.67"E

MONITORING SCHEDULE:

Ambient air quality monitoring was carried out twice a week with a frequency of 24 hours for 12 weeks.

METHODS OF SAMPLING AND ANALYSIS:

Sampling was done as per guideline laid down in IS – 5182 part 14, 2000 and respective IS-methods for the analysis of various air pollutants. The instruments/ equipment's used for sampling are calibrated by NABL approved instructions. In addition, collated sampling was undertaken one each for upwind, downwind & crosswind direction to project site, the result of which reveals that the air quality is quite satisfactory both in terms of NAAQ standards and the overall AQI for that period and station.

Fine particulate Sampler APM-550 & RDS APM-460 were used for monitoring of Particulate Matter (PM2.5 and PM10); gaseous pollutants like SO2, and NO2 were collected by Gaseous attachment. The analysis was done as per methods mentioned below:

S. No.	Parameters and units of measurement	Analysis Method
1.	PM10 µg/m^3	IS:5182, (Part-23) 2006, By Gravimetric Method: 2006
2.	PM2.5 µg/m^3	SP-57, Issue Date-01- 05-2019, CPCB Guideline Vol-I: 2011
3.	SO2 µg/m^3	IS 5182 (P-2):2001 1st Rev (RA: 2012): 2001
4.	NOx µg/m^3	IS:5182, (P-6), RA 2012: 2006
5.	CO mg/m^3	IS 5182 (P- 10):RA2014: 1999

Sample Transportation and Sample Preservation:

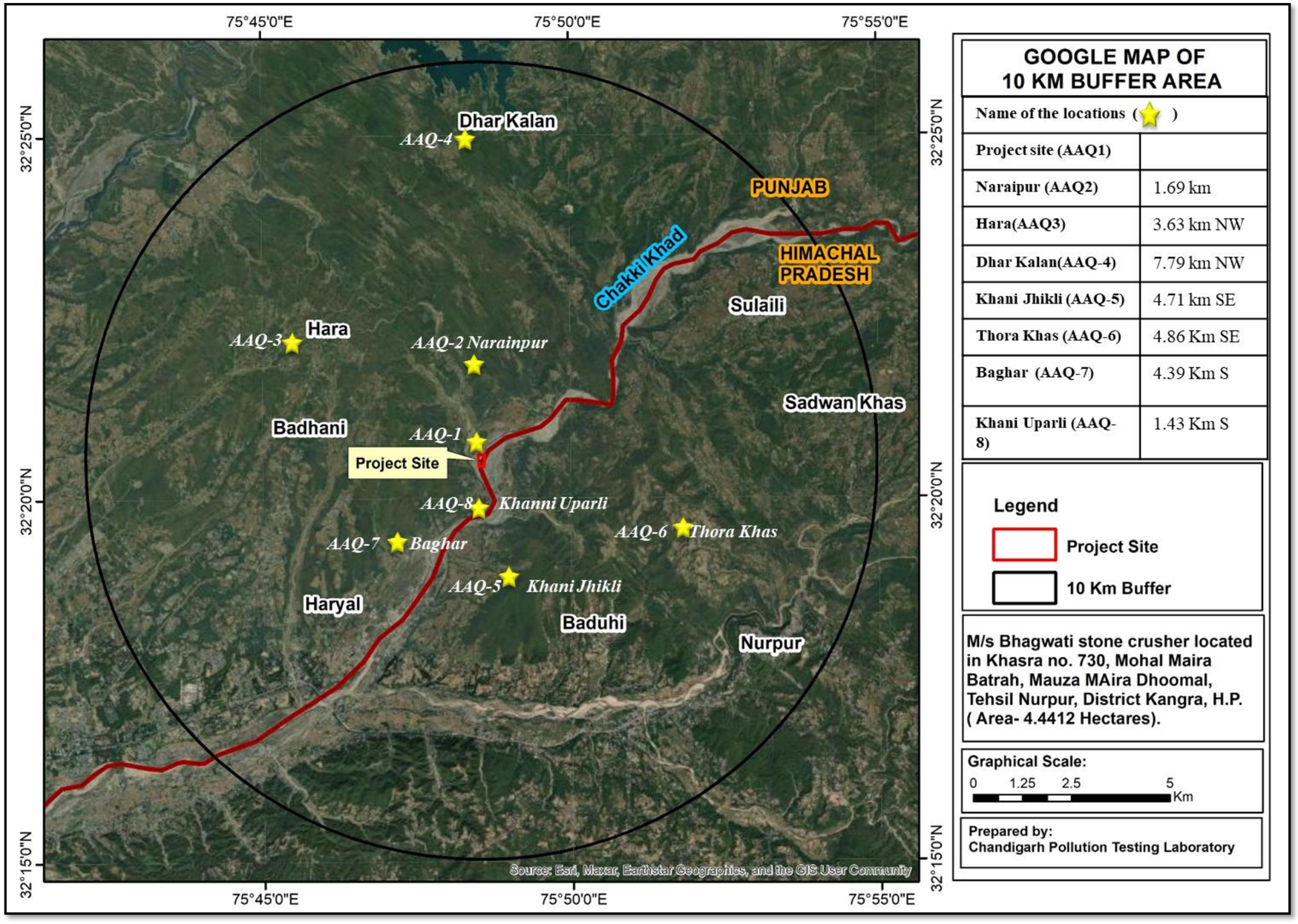
Proper preservation of samples was done after sampling. The Gaseous samples were preserved in an ice box (below 4°C) and transported to the laboratory for analysis. The filter papers were collected using forceps and stored in polythene bags and stored in dry containers during transportation

The results given in Table-3.**6** when compared with National Ambient Air Quality Standards (NAAQS) of Central Pollution Control Board (CPCB) for "Industrial, Residential, Rural and Other

Areas" show that the average values of ambient air quality parameters are well within the stipulated limit.

Figure- 3.5

Locations of Air Monitoring Stations



GOOGLE MAP OF 10 KM BUFFER AREA	
Name of the locations (★)	
Project site (AAQ1)	
Naraipur (AAQ2)	1.69 km
Hara(AAQ3)	3.63 km NW
Dhar Kalan(AAQ-4)	7.79 km NW
Khani Jhikli (AAQ-5)	4.71 km SE
Thora Khas (AAQ-6)	4.86 Km SE
Baghar (AAQ-7)	4.39 Km S
Khani Uparli (AAQ-8)	1.43 Km S

Legend

Project Site

10 Km Buffer

M/s Bhagwati stone crusher located in Khasra no. 730, Mohal Maira Batrah, Mauza MAira Dhoomal, Tehsil Nurpur, District Kangra, H.P. (Area- 4.4412 Hectares).

Graphical Scale:

0 1.25 2.5 5 Km

Prepared by:
Chandigarh Pollution Testing Laboratory

Table- 3.6

Ambient Air Quality Monitoring Results (Average value)

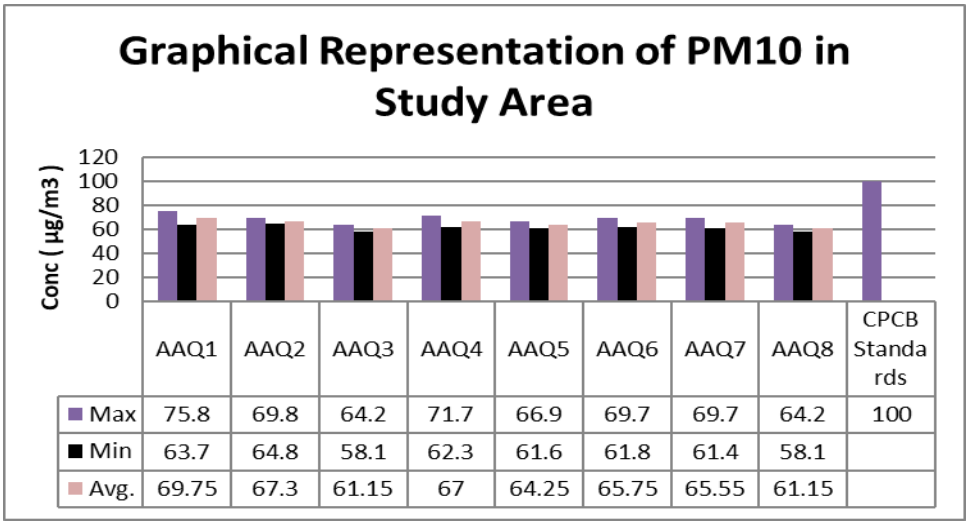
Ambient Air Quality Abstract (March 2024 to May 2024)

Locations	PM10 (µg/m3)			PM2.5 (µg/m3)			SO2 (µg/m3)			NOx (µg/m3)			CO (mg/m3)		
	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.
Project site	75.8	63.7	69.75	40.4	38.6	39.5	7.4	5.1	6.25	10.7	9	9.85	0	0	0
Narainpur	69.8	64.8	67.3	38.5	34.5	36.5	6.6	5.1	5.85	10.7	8.7	9.7	0	0	0
Hara	64.2	58.1	61.15	35.1	31.8	33.45	6.2	5.6	5.9	11.7	9.2	10.45	0	0	0
Dhar Kalan	71.7	62.3	67	39.8	31.2	35.5	6.9	5	5.95	10.9	8.9	9.9	0	0	0
Khani Jhikli	66.9	61.6	64.25	38.6	34.6	36.6	7.4	5.2	6.3	11	9.8	10.4	0	0	0
Thora Khas	69.7	61.8	65.75	40.4	34	37.2	7.8	5.1	6.45	13.8	9.1	11.45	0.56	0.54	0.55
Baghar	69.7	61.4	65.55	39.6	34.4	37	6.9	5	5.95	10.9	8.8	9.85	0	0	0
Khani Uparli	64.2	58.1	61.15	35.1	31.8	33.45	6.2	5.6	5.9	11.6	9.2	10.4	0	0	0
P98	**74.0**			**39.5**			**7.5**			**13.3**			**0.5**		
CPCB Stds.	**100**			**60**			**80**			**80**			**4.0**		

INTERPRETATION:

Respirable Suspended Particulate Matter (PM10)

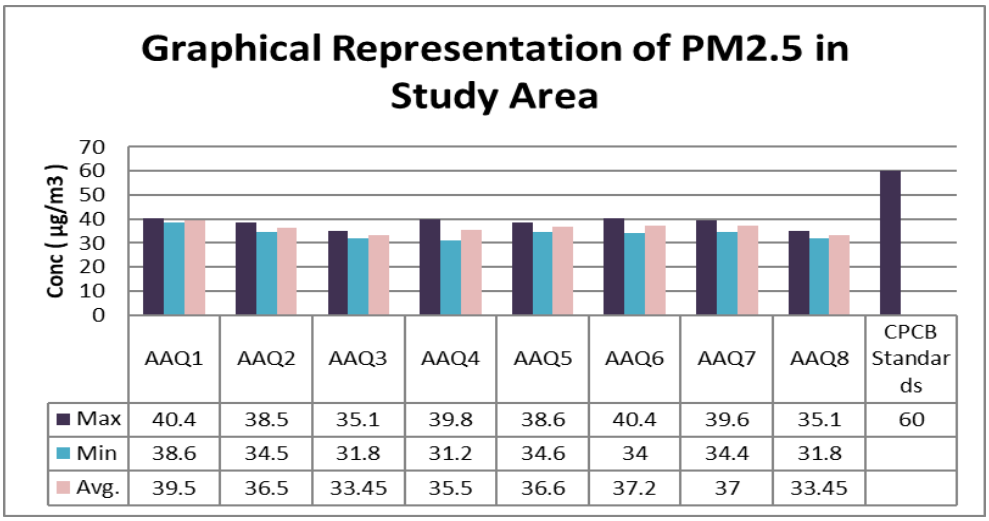
As is evident from the data, PM10 concentration observed in the study area during the study period is minimum at Hara and Khanni Uparli i.e. 58.1 µg/m^3 and maximum at Project site 75.8 µg/m^3. P98 remained as 74.0 µg/m^3 during this period.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	75.8	69.8	64.2	71.7	66.9	69.7	69.7	64.2	100
Min	63.7	64.8	58.1	62.3	61.6	61.8	61.4	58.1	
Avg.	69.75	67.3	61.15	67	64.25	65.75	65.55	61.15	

Respirable Suspended Particulate Matter (PM2.5)

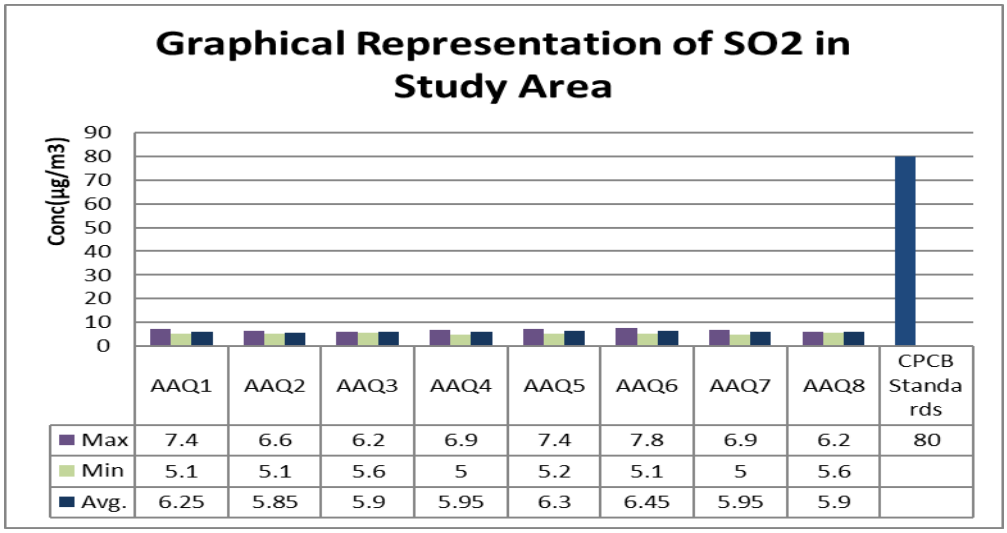
It is minimum of 31.8 µg/m^3 at two locations i.e. Hara and Khanni Uparli and maximum of 40.4 µg/m^3 at Thora Khas. P98 remained as 39.5 µg/m^3 during this period.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	40.4	38.5	35.1	39.8	38.6	40.4	39.6	35.1	60
Min	38.6	34.5	31.8	31.2	34.6	34	34.4	31.8	
Avg.	39.5	36.5	33.45	35.5	36.6	37.2	37	33.45	

Sulphur Dioxide (SO2)

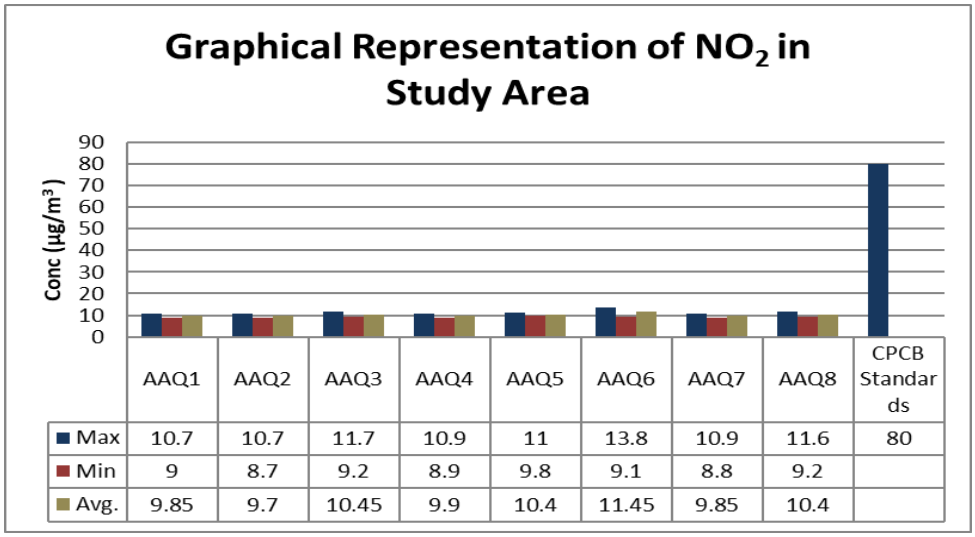
The SO2 level observed during the baseline period were minimum of 5 µg/m^3 at Dhar Kalan and maximum of 7.8 µg/m3 at Thora Khas. The situation in the study area as far as SO2 concentration is concerned is satisfactory. P98 remained as 7.5 µg/m^3 during this period.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	7.4	6.6	6.2	6.9	7.4	7.8	6.9	6.2	80
Min	5.1	5.1	5.6	5	5.2	5.1	5	5.6	
Avg.	6.25	5.85	5.9	5.95	6.3	6.45	5.95	5.9	

Oxides of Nitrogen (NO_X)

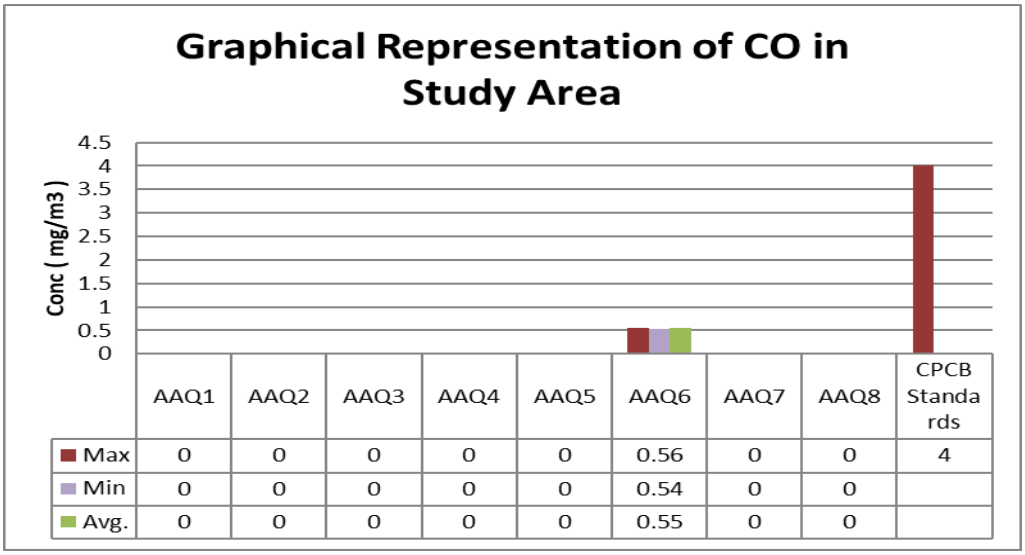
NO_X concentration in the study area varied from minimum of 8.7 µg/m^3 at Narainpur and maximum of 13.8 µg/m^3 at Thora Khas. P98 remained as 13.3 µg/m^3 during this period.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	10.7	10.7	11.7	10.9	11	13.8	10.9	11.6	80
Min	9	8.7	9.2	8.9	9.8	9.1	8.8	9.2	
Avg.	9.85	9.7	10.45	9.9	10.4	11.45	9.85	10.4	

Carbon Monoxide (CO)

CO concentration is found in the range of 0.54 – 0.56 in Village Thora Khas (AAQ6).



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	0	0	0	0	0	0.56	0	0	4
Min	0	0	0	0	0	0.54	0	0	
Avg.	0	0	0	0	0	0.55	0	0	

Conclusion

On the whole the above results show that the ambient air in the mining area is environmentally quite clean and all parameters are within the permissible limits.

3.9 LAND ENVIRONMENT:

The objective of assessing the land use details of the area is to know the existing land use pattern of the area and enable one to know about the land that can be used for the proposed development activities in the study area. It also enables to envisage the scenario emerging due to the increasein demand for land with increase in population and the impacts arising due to the interface with the various project activities.

a) Geographical location of the study area

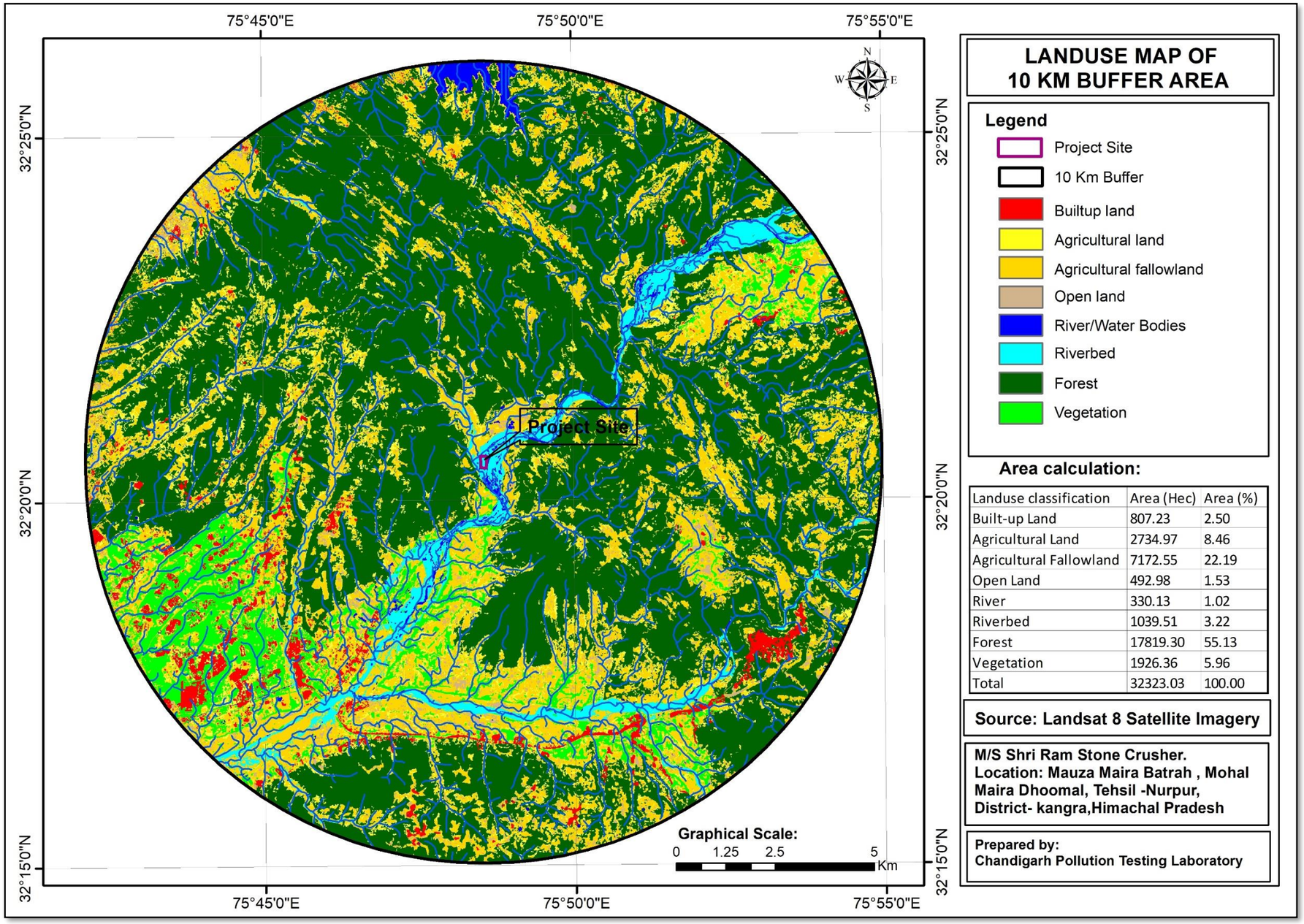
The study area comprises 10km around the project site. The study area is falling under the Survey of India Toposheet/OSM No: 43P/15.

b) DATA COLLECTION AND QUALITY ASSURANCE Satellite data

The Indian Remote Sensing satellite data (Landsat 8 satellite Imagery) is being used for the analysis of Land Use and Land Cover around 10 KM of the study area (superimposed with drainage map) and a 10 Km radius False Color Composite satellite map surrounding the project site is provided in figure 3.6 and figure 3.7 respectively.

Figure 3.6

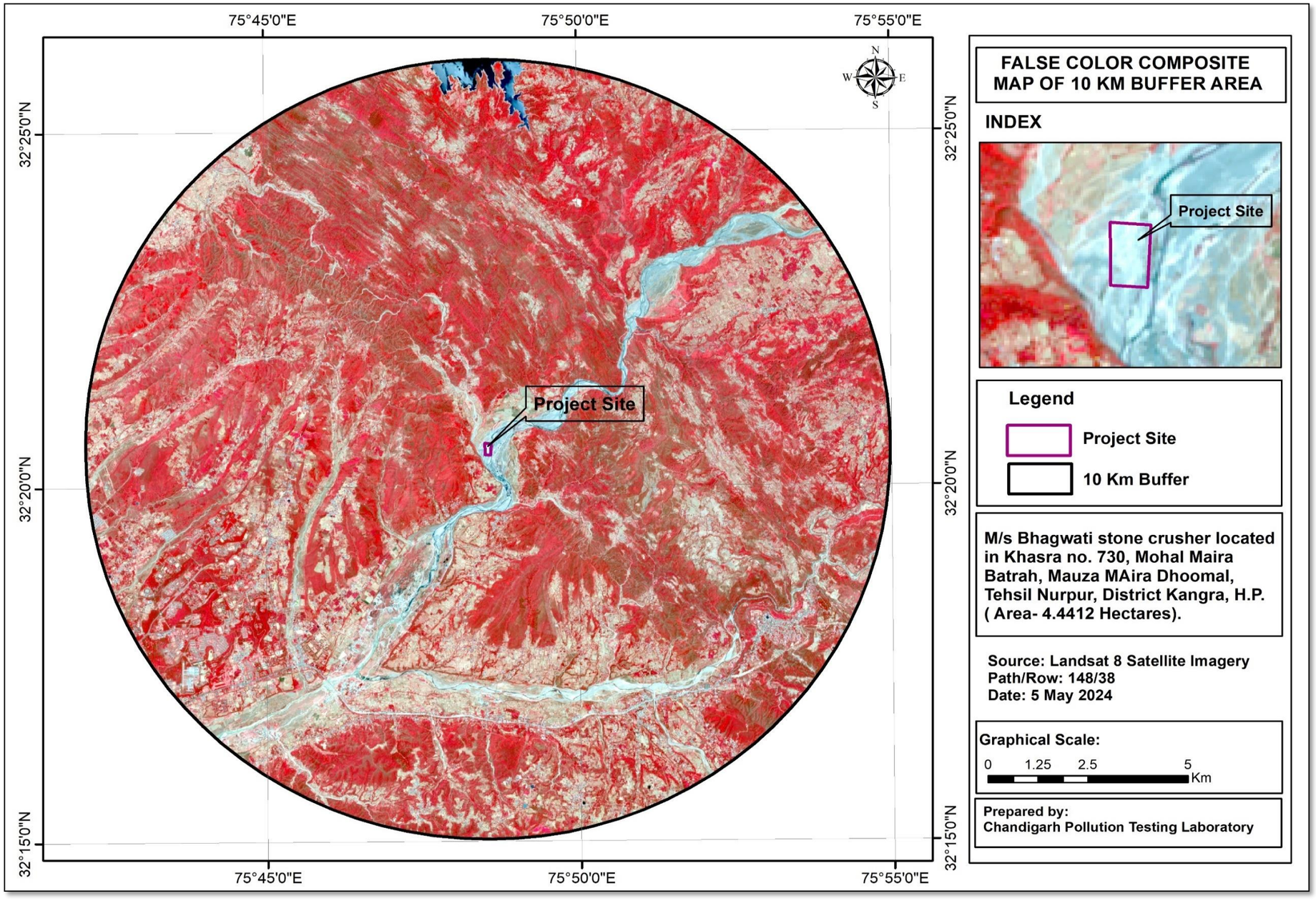
Land Use Land Cover Map Superimposed with Drainage Map



Landuse classification	Area (Hec)	Area (%)
Built-up Land	807.23	2.50
Agricultural Land	2734.97	8.46
Agricultural Fallowland	7172.55	22.19
Open Land	492.98	1.53
River	330.13	1.02
Riverbed	1039.51	3.22
Forest	17819.30	55.13
Vegetation	1926.36	5.96
Total	32323.03	100.00

Figure - 3.7

10 Km Radius False Color Composite Satellite



c) METHODOLOGY

The land use / land cover map is prepared by adopting the interpretation techniques of the image in conjunction with collateral data such as Survey of India topographical maps and census records. Image classification has been done by using visual interpretation techniques and digital classification using ERDAS image processing 10.0 software and ARC/GIS 10.0 software. The various activities for preparation of LULC include preprocessing, rectification, enhancements and classifying the satellite data for assessing the change in land use land cover due to proposed developmental activities.

The imagery is interpreted and ground checked for corrections. The final map is prepared after field check. The different land use/land cover categories in the study area have been carried out based on the NRSC land use / land cover classification system.

Flowchart showing the methodology adopted for land use/land cover mapping is provided as Fig 3.8.

3.9.1 LAND USE / LAND COVER STUDY

The land use land cover study has been done through digital image processing and visual interpretation technique to generate output of Land use / Land cover map of study area on 1:50,000 scale.

- ***Land Use / Land Cover Map of Study Area (10 Km Buffer) is shown in Fig 3.6.***

Fig 3.8: Flowchart showing the methodology adopted for land use/land cover mapping

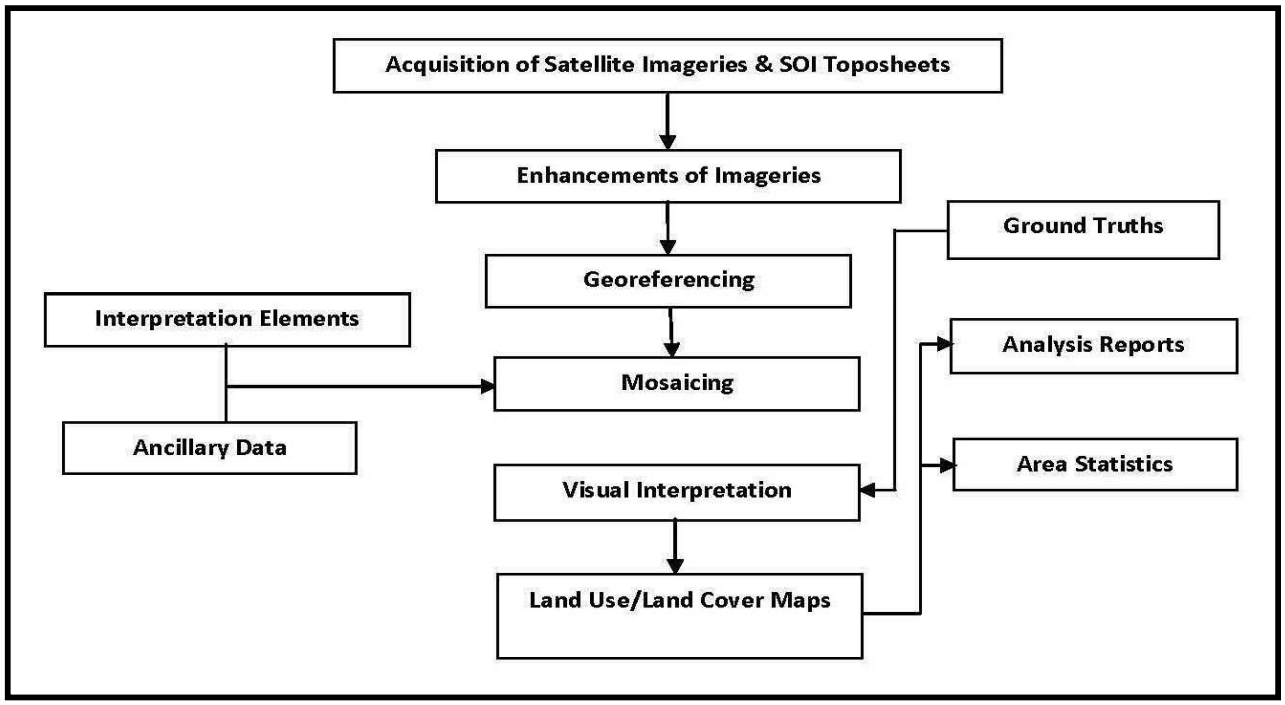


Table 3.7

Land Use/Land Cover Area Statistics

Land Use/Land Cover	Area (Hectare)	Area (Percentage)
Built-up Land	807.23	2.50
Agriculture land	2734.97	8.46
Agriculture Fallow land	7172.55	22.19
Open land	492.98	1.53
River	330.13	1.02
River-bed	1039.51	3.22
Forest	17819.30	55.13
Vegetation	1926.36	5.96
Total	**32323.03**	**100.00**

Source: Land use Land cover map

CONCLUSION & DISCUSSION

Based on the perusal of field visit and interaction with farmers, it is seen that over the period of time variants of fruits, vegetable and fodder have been successfully grown in the study area are indicator of healthy & conducive land environment.

3.10 SOIL QUALITY:

PHYSICAL CHARACTERISTICS:

Soil is generally considered as the upper layer of the earth that is dug or ploughed, especially the loose material in which plants grow. It is generally unconsolidated material composed of soil particles produced by disintegration of rocks. The void spaces between the particles may contain Air, Water or both.

(i) Texture

(ii) Porosity

(iii) Bulk density

(i) Texture

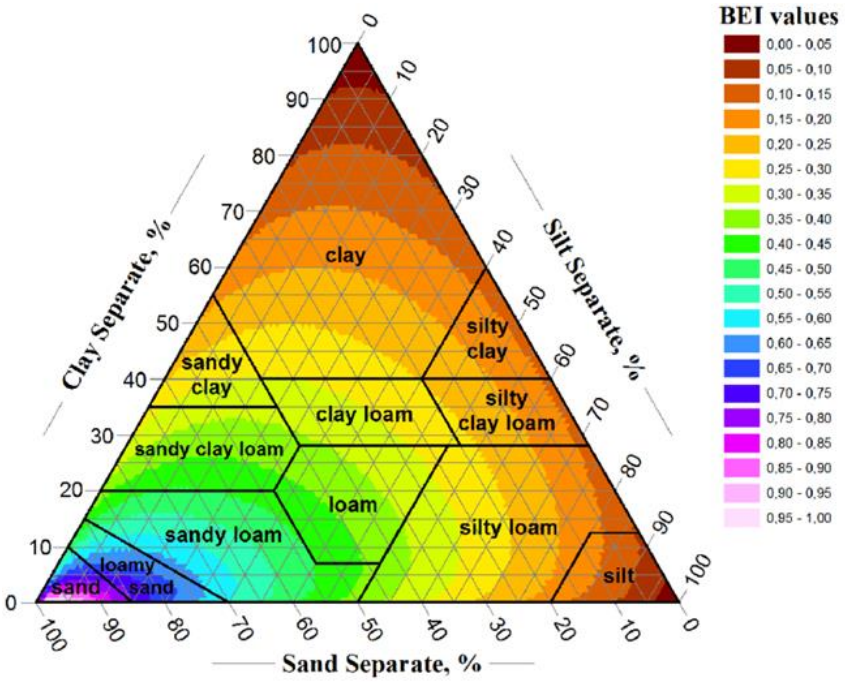
On the basis of texture, the study area may be classified as loamy sand, sandy loam and silty loam.

(ii) Porosity

Volume of soil mass that is not occupied by soil particles and usually occupied by air & water are known as pore space. The plant roots grow & exist in the pore spaces. Porosity, therefore, refers to that percentage of soil volume which is occupied by pore spaces.

(iii) Bulk Density

The bulk density weight of a unit of volume of soil inclusive of pore spaces is called bulk density. Generally, the soil with low bulk density has favorable physical conditions.



CHEMICAL CHARACTERISTICS:

Locations of soil monitoring stations are given in **Figure 3.10.** List of soil monitoring station are given **in Table 3.8.** Chemical characteristics of soil observed in the study area are given in **Table 3.9**

Table 3.8

Soil Quality Monitoring Stations

S. No.	Sample Code	Name of Village/ Location	Distance & Direction (KM)	Co-ordinates
1.	SQ-1	**Project site**	**0**	32°20'34.30"N 75°48'31.30"E
2.	SQ-2	Narainpur	1.69 (towards N)	32°21'14.17"N 75°49'19.63"E
3.	SQ-3	Hara	3.63 (NW)	32°21'29.34"N 75°46'52.20"E
4.	SQ-4	Dhar Kalan	7.79 (NW)	32°24'17.86"N 75°47'21.14"E
5.	SQ-5	Khani Jhikli	4.71 (SE)	32°17'51.65"N 75°48'16.85"E
6.	SQ-6	Thora Khas	4.86 (SE)	32°18'6.66"N 75°50'40.14"E
7.	SQ-7	Baghar	4.39 (towards S)	32°18'37.14"N 75°46'35.76"E
8.	SQ-8	Khanni Uparli	1.43 (towards S)	32°19'30.68"N 75°48'48.67"E

❖ ***Sampling photographs of the same is shown in figure 3.9.***

Figure -3.9

Photographs of soil sampling

Figure -3.10

Location of Soil Monitoring Stations

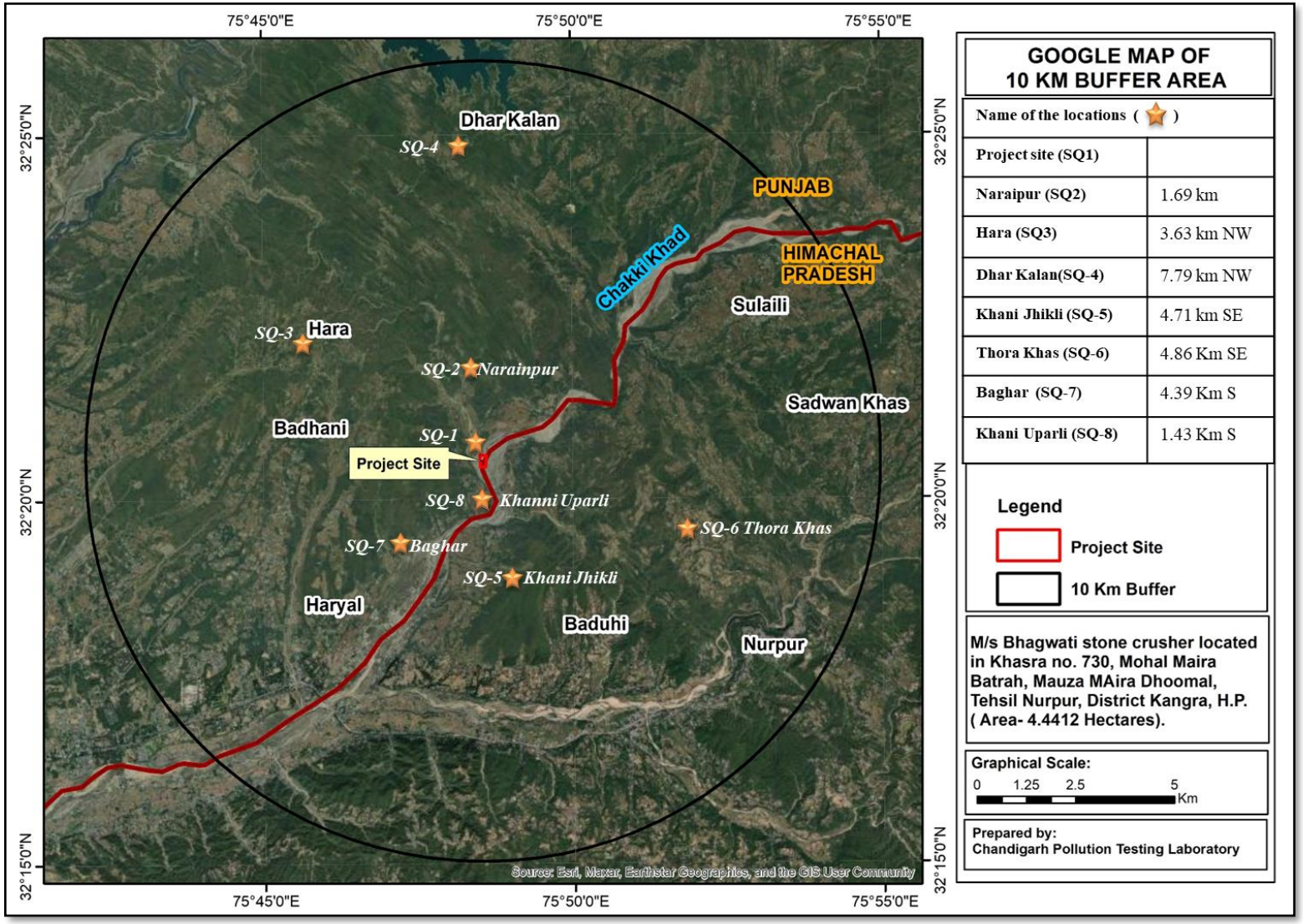


Table –3.9

Result of Soil Samples (% W/W except pH)

S.No.	Parameter	Unit	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	Test Methods	Detection Limit
1.	**pH (1:2.5)**	--	7.54	7.36	7.48	7.28	7.36	7.42	7.33	7.18	IS 2720(P-26),1987	1
2.	**Electrical Conductivity (1:2)**	µmhos/cm	354	340	336	325	354	338	322	336	IS 14767,2000	2µs/cm
3.	**Texture**	--	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	CPTL, Lab SOP No. 58	--
4.	**Bulk Density**	(gm/cm^3)	1.24	1.44	1.25	1.36	1.45	1.58	1.42	1.36	IS 2720(P-3),1983	1g/cc
5.	**Soil Moisture Content**	%	10.4	8.6	12.4	10.4	9.9	10.4	10.2	8.6	IS 2720(P-2,1973	1%
6.	**Color/ Visual Observation**	--	Brown	Brown	Light Brown	Brown	Brown	Brown	Light Brown	Brown	Handbook of Agriculture, ICAR	--
7.	**Available Calcium**	(mg/kg)	38.6	44.2	40.8	46.8	44.5	38.2	38.6	42.4	Handbook of Agriculture ,ICAR	--
8.	**Available Magnesium**	(mg/kg)	22.2	18.6	14.4	16.2	18.6	16.4	10.8	18.4	Handbook of Agriculture,	--

											ICAR	
9.	**Available Sodium**	(mg/hac)	132	124	110	132	145	136	145	148	CPTL, Lab SOP No. 59	--
10.	**Available Potassium**	(kg/hac)	18.6	15.6	20.4	18.4	14.6	18.4	26.6	16.6	CPTL, Lab SOP No.59	1.0 kg/ha
11.	**Available Nitrogen**	(%)	1.38	1.44	1.28	1.42	1.54	1.48	1.36	1.58	CPTL, Lab SOP No. 62	10%
12.	**Organic Matter**	(%)	0.42	0.54	0.43	0.58	0.53	0.38	0.32	0.45	IS 2720(P-22),2001	0.1%
13.	**Available Phosphorus**	Kg/hac	6.8	5.8	4.8	6.2	8.6	4.6	3.8	8.6	CPTL, Lab SOP No. 59	1.0 kg/ha
14.	**Cation Exchange Capacity**	(meq/100gm)	0.55	0.68	0.54	0.56	0.58	0.56	0.48	0.58	CPTL, Lab SOP No. 58	--
15.	**Iron as Fe**	(mg/kg)	1.58	1.44	1.32	1.28	1.36	1.58	1.48	1.52	CPTL, Lab SOP No. 63	--
16.	**Zinc as Zn**	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	CPTL, Lab SOP No. 63	1.0 mg/kg
17.	**Lead as Pb**	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	CPTL, Lab SOP No. 63	1.0 mg/kg
18.	**Manganese as**	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	CPTL, Lab	1.0 mg/kg

	Mn										SOP No. 63	
19.	**Chromium as Cr**	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	CPTL, Lab SOP No. 63	1.0 mg/kg
20.	**Cadmium as Cd**	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	CPTL, Lab SOP No. 63	1.0 mg/kg
21.	**Copper as Cu**	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	CPTL, Lab SOP No. 63	1.0 mg/kg

CONCLUSION:

The analytical results of the soil samples collected during the study period are summarized below.

The pH of the soil is an important property; vegetation cannot grow in low and high pH valuesoils. soils are falling in slightly alkaline to moderately alkaline. Based on the electrical conductivity, the soils are classified into four groups (Normal, Critical forgermination, Critical for growth of the sensitive crops, Injurious to most crops). The electrical conductivity in the study area is varying from 322 to 354 µmhos/cm.

The other important parameters for characterization of soil for irrigation are the primary nutrients

– Nitrogen, Phosphorus and Potassium (N, P, K) and the secondary nutrients—Calcium, Magnesium and Sulphur (Ca, Mg, S). The primary and secondary nutrient elements are known asmajor elements. This classification is based on their relative abundance, and not on their relative importance.

Nitrogen encourages the vegetative development of plants by imparting a healthy green color to the leaves. The available Nitrogen as N in the study area is varying from 1.28to 1.58 %. Phosphorus influences the vigor of plants and improves the quality of crops. In the study area available, Phosphorus was found in varying quantities of 3.8 to 8.6 kg/ha.

Potassium enhances the ability of the plants to resist diseases, insect attacks, cold and other adverse conditions. The available potassium in the study area varies between 15.6 to 26.6 Kg/ hac. This is deficient for crops.

Organic Matter in the study area ranges from 0.32% to 0.54 %. This is average to sufficient for thecrops.

As per physical data, the soils in the study area are coarse to modularity fine texture, having modulated build density and impressively modulate water holding capacity. As per physical characteristics, the soils are rated as moderately to good for agriculture. Based on the observationduring field visit of 10km buffer zone from the boundary of cement plant, the soils are sandy loampredominantly. These soils can be classified as modularity good soil with traces or gentle slopes and is modulate land for sustained agriculture as per USDA.

3.11 WATER ENVIRONMENT

3.11.1 WATER QUALITY

Water quality assessment is one of the essential components of EIA study. Such assessment helps in evaluating the existing health of water body and suggesting appropriate mitigation measures to minimize the potential impact from development projects. Water quality of ground resources in the crusher site area has been studied for assessing the water environment and to evaluate the impact of the project. To assess the water quality of the proposed area, sampling was done as per the standard practice. Grab sampling was done for ground and surface water. Water samples were taken as per the Standard Methods (IS & APHA, 23rd Edition 2012). Necessary precautions were taken for preservation of samples. The physical parameters viz. pH, temperature and conductivity were measured at site.

SAMPLING FREQUENCY AND TECHNIQUE

Parameters for analysis of water quality were selected based on the utility of the particular source of water as per MoEF&CC guidance. Hence quality of ground water was compared with IS: 10500: 2012 for drinking purposes. As per the standard practice, one sample was taken in the study period. Sampling was done by standard sampling technique and analyzed as per the Standard Methods. Necessary precautions were taken for the preservation of samples. Sampling location of surface water & ground water are given in **Figure 3.11** and list of surface & ground water sample is given in **Table 3.10 & 3.12** respectively. The results surface water & ground water are given in **Table 3.11 & 3.13** respectively.

Table 3.10

Surface Water Sampling Stations

Station	Sampling Location
SW-1	Chakki River

Table – 3.11

Results of surface water

S. No.	Parameters	Upstream	Downstream	Test Method
1.	pH	7.45	7.58	IS:3025 (P-11): 1983
2.	Color, HU	<5	<5	IS:3025:P-4:1983
3.	Odour	Agreeable	Agreeable	IS:3025:P-5:1983
4.	Turbidity, NTU	<1	<1	IS:3025 (P-10): 1984
5.	Total Dissolved Solids, mg/l	160	158	IS:3025 (P-16): 1984
6.	Total Suspended Solids, mg/l	8.6	10.4	IS:3025 (P-17): 1984
7.	Total Hardness (as $CaCO_3$), mg/l	130	140	IS:3025 (P-21): 2009
8.	Total Alkalinity (as $CaCO_3$), mg/l	32.0	40.0	IS:3025 (P-23): 1986
9.	Chemical Oxygen Demand,mg/l	8.0	12.0	IS:3025 (P-58): 2006
10.	BOD(at 27°C) for 3 days,mg/l	2.4	2.8	IS:3025(P-44)1993
11.	Dissolved Oxygen,mg/l	6.2	6.6	IS:3025 (P-38): 1989
12.	Calcium(as Ca^{++}),mg/l	38.0	42.0	IS:3025:P-40:1991:RA:2003
13.	Magnesium (as Mg^{++}), mg/l	12.0	13.2	IS:3025:P-46: 1994
14.	Sodium (as Na^{+}), mg/l	18.4	18.8	IS:3025:P-45:1983:RA:2003
15.	Potassium (as K), mg/l	8.8	10.4	IS:3025:P-45:1983
16.	Nitrate (as NO_3),mg/l	2.2	2.4	IS:3025 (P-34) : 1988
17.	Chloride (as Cl), mg/l	6.8	8.8	IS:3025 (P-32): 1988
18.	Sulphate (as SO_4), mg/l	10.4	12.6	IS:3025 P-24 : 1986
19.	Iron (as Fe), mg/l	1.10	1.12	IS:3025(Part-53), 2003 & C/1, 10 Phenanthroline Method.
20.	Total Chromium (as Cr), mg/l	ND	ND	IS:3025 (P-52): 2003
21.	Zinc (as Zn), mg/l	ND	ND	IS:3025 (P-49) : 1994
22.	Fluoride (as F) mg/l	ND	ND	IS:3025 (P-60) : 2008
23.	Mercury (as Hg) mg/l	ND	ND	IS:3025:P-48):1994:RA-2003
24.	Boron (as B),mg/l	ND	ND	IS:3025 (P-57): 2005
25.	Aluminum (as Al) mg/l	ND	ND	IS:3025:(P-55):2003
26.	Cadmium (as Cd), mg/l	ND	ND	IS:3025 (P-41): 1992
27.	Fecal Coliform, MPN/100 ml	30.0	40.0	IS:1622-1981-(RA2009)
28.	Total Coliform, MPN/100 ml	60.0	80.0	IS:1622-1981-(RA2009)

Table – 3.11(a)

CPCB water Quality Criteria for Surface water as per use

S. No.	Parameters	Class A	Class B	Class C	Class D	Class E
1.	pH	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5
2.	Dissolved Oxygen	6	5	4	4	-
3.	BOD, 3days at 27^0C, max	2	3	3	-	-
4.	Total coliform organism, MPN/100ML, max	50	500	5000	-	-
5.	Free Ammonia (as N), mg/l, max	-	-	-	1.2	-
6.	Electrical Conductivity, µmhos/cm, max	-	-	-	-	2250
7.	Sodium absorption ratio, max	-	-	-	-	26
8.	Boron (as B), mg/l, max.	-	-	-	-	2

Class A: Drinking water source without conventional treatment but after disinfection.

Class B: Outdoor bathing (organized).

Class C: Drinking water source after conventional treatment and after disinfection.

Class D: Propagation of wild life fisheries.

Class E: Irrigation, Industrial cooling, controlled waste disposal.

Below E: Not meeting A, B, C, D & E Criteria

Surface water quality results are summarized below:

- pH of the surface water collected ranged from 7.45– 7.58
- TDS was found to be 160-158 mg/l. The tolerance limit is 1,500 mg/l as per IS:2296
- Total hardness was found to be 130-140 mg/l.
- Total Coliform in water was 60.0-80.0 MPN/100ml. The likely source of bacteriological contamination may be due to the proximity to residential area
- All the heavy metals were not detectable.

B) GROUND WATER:

Groundwater has been found as an important source for the local needs of water consumption for various purposes, mainly domestic and agriculture. Keeping in view the importance of groundwater to the local population, samples of ground water were collected from the study area for the monitoring and assessment of groundwater quality.

The Quality of ground water was studied by collecting 8 water samples from representative hand pumps, tube wells. Sampling points were decided using Google imagery and field survey. Standard procedures were followed for the sampling and analysis of physico–chemical parameters of water.

Table 3.12 shows the details of location of water sampling stations and results of different parameters are given in **Table 3.13**

Table- 3.12

Details of Ground Water Monitoring Stations

S. No.	Sample Code	Name of Village/Location	Distance& Direction on (KM)	Observation	Co-ordinates
1.	GW-1	**Project site**	**0**	Borewell	32°20'34.30"N 75°48'31.30"E
2.	GW-2	Narainpur	1.69 (towards N)	Sample was collected from middle school	32°21'14.17"N 75°49'19.63"E
3.	GW-3	Hara	3.63 (NW)	Sample was collected from a house in the village	32°21'29.34"N 75°46'52.20"E
4.	GW-4	Dhar Kalan	7.79 (NW)	Sample was collected from a house in the village	32°24'17.86"N 75°47'21.14"E
5.	GW-5	Khani Jhikli	4.71 (SE)	Sample was collected from a house in the village	32°17'51.65"N 75°48'16.85"E
6.	GW-6	Thora Khas	4.86 (SE)	Sample was collected from a house in the village	32°18'6.66"N 75°50'40.14"E
7.	GW-7	Baghar	4.39 (towards S)	Sample was collected from a house in the village	32°18'37.14"N 75°46'35.76"E
8.	GW-8	Khanni Uparli	1.43 (towards S)	Sample was collected from a house in the village	32°19'30.68"N 75°48'48.67"E

- ***Photographs of water sampling are shown in figure 3.11.***

Figure - 3.11

Photographs of Surface Water & Ground Water Sampling

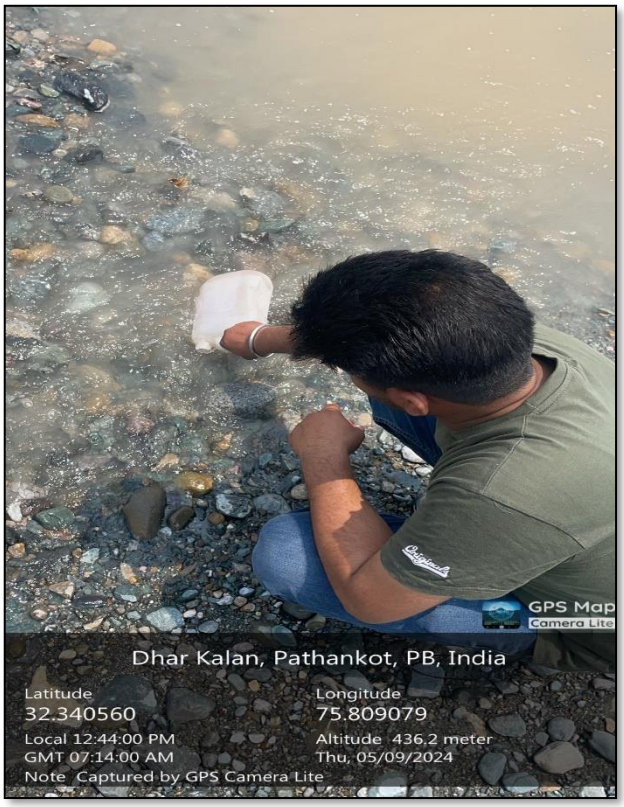


Figure - 3.12

Locations of Surface Water & Ground Water

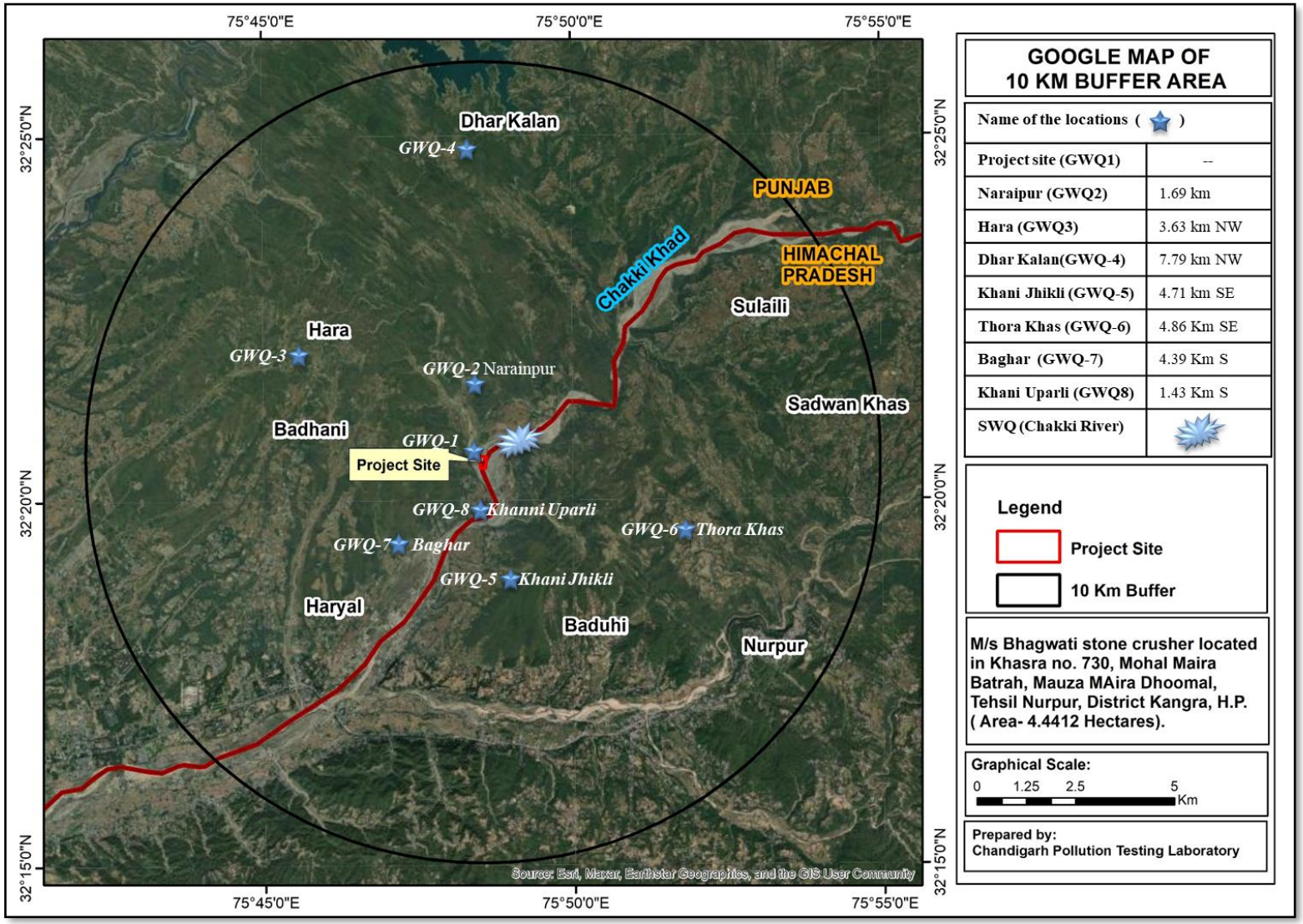


Table – 3.13

Results of Ground Water Samples

Parameters	Unit	GW1	GW2	GW3	GW4	GW5	GW6	GW7	GW8	Acceptable Limits	Permissible Limit
pH	-	7.45	7.65	7.38	7.77	7.66	7.45	7.28	7.36	6.5-8.5	No relaxation
Colour	Hazen	<5	<5	<5	<5	<5	<5	<5	<5	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity	NTU	<1	<1	<1	<1	<1	<1	<1	<1	1 Max.	5
Total Dissolved Solids	mg/l	222	278	288	254	245	252	244	238	500 Max.	2000
Total Hardness as CaCO3	mg/l	184	254	263	230	192	220	190	180	200 Max.	600
Calcium as Ca	mg/l	38.0	42.0	52.0	42.0	38.0	30.0	40.0	38.0	75 Max.	200
Magnesium as Mg	mg/l	18.6	20.4	18.0	16.8	14.6	16.2	22.2	18.2	30 Max.	100
Total Alkalinity (as CaCO3), mg/l	mg/l	210	260	270	240	170	190	150	160	200 Max.	600
Chloride (as Cl), mg/l	mg/l	19.9	17.5	22.4	19.9	14.4	17.5	22.4	19.9	250 Max.	1000

Sulphate (as SO4), mg/l	mg/l	21.8	18.6	26.8	20.6	21.8	14.6	20.8	16.6	200 Max.	400
Iron (as Fe), mg/l	mg/l	0.16	0.12	0.14	0.16	0.11	0.15	0.10	0.12	1.0 Max.	No relaxation
Zinc (as Zn), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	5 Max.	15
Nitrate (as NO3), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	45 Max.	No relaxation
Chromium (as Cr), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.05 Max.	No relaxation
Manganese (as Mn), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.1 Max.	0.3
Mercury (as Hg), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.001	No relaxation
Cadmium (as Cd), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.003	No relaxation
Fluoride (as F), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	1.0	1.5
Residual Chlorine (as Cl2), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

E. coli/100ml	---	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
Total Coliform, MPN/100ml	---	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

CONCLUSION:

All the above parameters at the various locations in the study area are within permissible and tolerable limits for drinking purpose. The underground water in the area is thus potable.

In the study area since the samples have been collected from different sites at isolated places, the level of concentration of different elements vary quite considerably which may be due to small aquifers. However, the levels of the various components are within permissible norms for drinking water.

3.12 NOISE ENVIRONMENT:

Noise is one of the most undesirable and unwanted by-products of our modern life style. It may not seem as insidious or harmful as air and water pollutants but it affects human health and wellbeing and can contribute to deterioration of human well-being in general and cause neurological disturbances and physiological damage to the hearing mechanism in particular. It is therefore, necessary to measure both the quality as well as the quantity of noise in and around the site.

METHODOLOGY:

The intensity of sound energy in the environment is measured in a logarithmic scale and is expressed in a decibel, dB (A) scale. In a sophisticated type of sound level meter, an additional circuit (filters) is provided, which modifies the received signal in such a way that it replicates the sound signal as received by the human ear and the magnitude of sound level in this scale is denoted as dB (A). The sound levels are expressed in dB (A) scale for the purpose of comparison of noise levels, which is universally accepted by the international community.

The day noise levels have been monitored during 6.00 am to 10.00 pm and night noise levels, during 10.00 pm to 6.00 am at all the 8 locations, which covers residential areas, commercial area, industrial area and silence zone within 10 km radius of the study area.

SAMPLING LOCATIONS

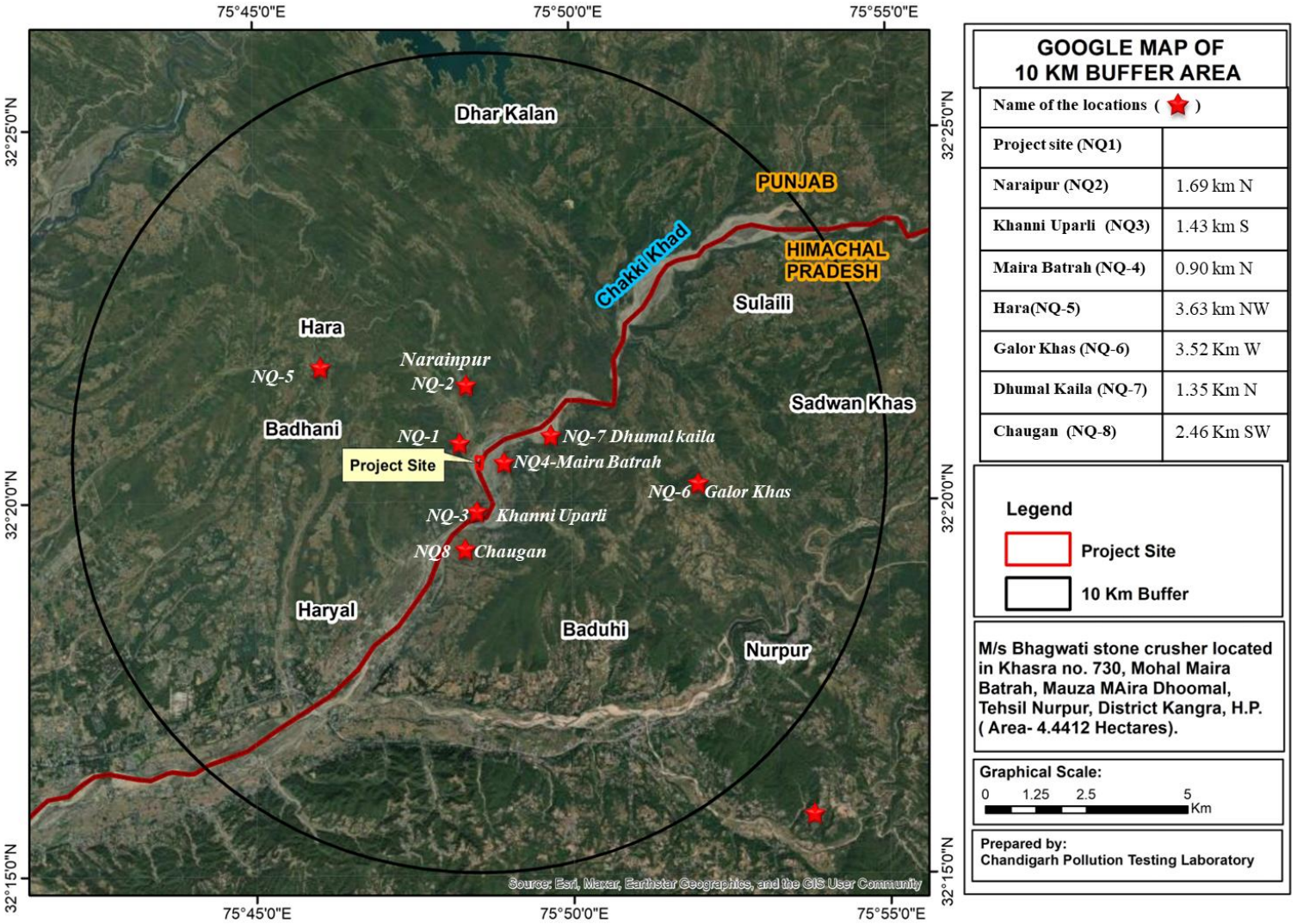
A preliminary survey was undertaken to identify the major noise generating sources in the area. The noise survey was conducted to assess the background noise levels in different zones. Gazettes

Notification {S.O. 123(E)} of MoEF & CC dated February 14, 2000 on ambient air quality standards has different noise levels for different zones viz industrial, commercial, and residential and silencezones. Eight sampling locations were selected for the sampling of noise levels.

Noise levels recorded at each station are computed for equivalent noise levels. Equivalent noise level is a single number descriptor for describing time varying noise levels. Location of noise monitoring station in Topo sheet is given in **Figure 3.13.** Details list of noise monitoring stations are shown in **Table 3.14.**

Figure - 3.13

Locations of Noise Monitoring Stations



GOOGLE MAP OF 10 KM BUFFER AREA	
Name of the locations (★)	
Project site (NQ1)	
Naraipur (NQ2)	1.69 km N
Khanni Uparli (NQ3)	1.43 km S
Maira Batrah (NQ-4)	0.90 km N
Hara(NQ-5)	3.63 km NW
Galor Khas (NQ-6)	3.52 Km W
Dhumal Kaila (NQ-7)	1.35 Km N
Chaugan (NQ-8)	2.46 Km SW

Legend

Project Site

10 Km Buffer

M/s Bhagwati stone crusher located in Khasra no. 730, Mohal Maira Batrah, Mauza MAira Dhoomal, Tehsil Nurpur, District Kangra, H.P. (Area- 4.4412 Hectares).

Graphical Scale:

0 1.25 2.5 5 Km

Prepared by:
Chandigarh Pollution Testing Laboratory

Table 3.14

Details of Noise Monitoring Stations

S. No.	Sample Code	Name of Village/ Location	Distance & Direction (KM)	Observation	Co-ordinates
1.	NQ-1	Project Site	**0**	Industrial	32°20'34.30"N 75°48'31.30"E
2.	NQ-2	Narainpur	1.69 (towards N)	Middle School	32°21'14.17"N 75°49'19.63"E
3.	NQ-3	Khanni Uparli	1.43 (SE)	Residential	32°19'30.68"N 75°48'48.67"E
4.	NQ-4	Maira Batrah	0.90 (N)	Residential	32°20'21.52"N 75°49'17.22"E
5.	NQ-5	Hara	3.63 (NW)	Residential	32°21'29.34"N 75°46'52.20"E
6.	NQ-6	Galor Khas	3.52 (W)	Residential	32°19'15.25"N 75°51'11.94"E
7.	NQ-7	Dhumal Kaila	1.35 (towards N	Residential	32°20'33.69"N 75°49'43.23"E
8.	NQ-8	Chaugan	2.46 (towards SW)	Residential	32°18'58.50"N 75°48'44.55"E

Detailed results of noise levels are shown in **Table 3.15.** Ambient air standards in respect of noise aregiven in **Table 3.16**.

Table 3.15

Noise Level Results Leq. dB (A) in and Around Project Area

S. No.	Locations	Value in dB(A) (Average)		Test Method
		Day Time (1Hour)	Night Time (1 Hour)	
01.	Project Site	56.4	36.2	IS 9989:1981(Rev.2001)
02.	Narainpur	48.5	34.5	IS 9989:1981(Rev.2001)
03.	Khanni Uparli	43.7	35.9	IS 9989:1981(Rev.2001)
04.	Maira Batrah	44.8	33.2	IS 9989:1981(Rev.2001)
05.	Hara	45.5	36.8	IS 9989:1981(Rev.2001)
06.	Galor Khas	46.6	35.8	IS 9989:1981(Rev.2001)
07.	Dhumal Kaila	48.3	35.9	IS 9989:1981(Rev.2001)
08.	Chaugan	47.3	36.9	IS 9989:1981(Rev.2001)

Day time is reckoned as 6.00 A.M. to 10.00 P.M. and night time is reckoned as 10.00 P.M. to 6.00 A.M

Table 3.16

Noise Standards

Area Code	Category of Area	Noise dB(A) Leq	
		Day Time (6.0am-10pm)	Night Time (10.0pm-6.0am)
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

Source- CPCB

CONCLUSION

Ambient noise levels were measured at 08 locations in the study area. Equivalent noise level varies from 43.7 to 56.4 dB (A) during day time and 33.2 to 36.9 dB (A) during night time. Thus, noise levels at all locations were within the prescribed limits.

From the above study and discussions, it can be concluded that noise levels in the study area are well within the prescribed limits as prescribed by the CPCB. Since, there will be no noise generating machinery, the impact on noise level after unit operation shall be insignificant.

3.13 BIOLOGICAL ENVIRONMENT

A natural ecosystem is a structural and functional unit of nature. It has different biological and physical components, which are interrelated to each other and survive by interdependence. An ecosystem has self-sustaining ability and controls the number of organisms at any level by cybernetic rules. The basic purpose to explore the biological environment under Environmental Impact Assessment (EIA) is to assist the decision-making process and to ensure that the project options under consideration are environmental-friendly. An ecological survey of the study area was conducted, particularly with reference to listing of species and assessment of the existing baseline ecological conditions in the study area. The main objectives of the ecological survey were aimed at assessing the existing flora and fauna components in the study area, to understand the possible impacts on the biological environment caused by the proposed project activities, and to

formulate, if necessary, the appropriate mitigation/preventive measures for such impacts. Data has been collected through secondary sources and by site visits.

The present study was carried out in two separate headings for floral and faunal community. The aspects to be covered in the study for the project are given in Table 3.17.

Table-3.17

Aspect to be covered in the study area

Aspect of Environment	Impacts
A. Terrestrial Ecology	Impacts on terrestrial flora and fauna
	Impacts on Rare-Endangered-Threatened (RET) wildlife
	Impacts on socially/ economically/ genetically/ biologically important species
B. Aquatic Ecology	Impacts on aquatic fauna/flora
	Impacts on spawning and breeding grounds for aquatic species

The information presented in this chapter has been collected through field studies, consultation with various government departments and collation of available literature with various institutions and organizations. The summary of data collected from these sources as a part of the EIA study is outlined in **Table 3.18.**

Table-3.18

Summary of Data Collected from various sources

Aspect	Mode of data collection	Parameters Monitored	Frequency	Source(s)
Terrestrial Ecology	Primary field survey and secondary literature survey	Floral and Faunal Diversity and TheirImportance	One Season (Winter)	Field studies, Forest & Wildlife Department and literature review
Aquatic Ecology	Primary field survey and secondary literature survey	Diversity of Species and them Importance	One Season (Winter)	Field studies, Forest/ Wildlife Department and literature review

With the change in environmental conditions, the vegetation cover as well as animals reflects several changes in its structure, density and composition. The present study was carried out separately for flora and faunal community respectively.

3.13.1 FOREST/ WILD LIFE SANCTUARIES

There are no Notified Wild Life Sanctuaries, Protected and Reserved Forests within the 10Km radius of the study area.

Sampling:

For field assessment, i.e., primary data collection, a standard statistical sampling method was followed. The sampling design followed random sampling method. The sampling area was decided based on prior land-use map of the project influence zone (within the 10 km radius around the project area), outlining forest areas and other types of habitats, topographic features and build-up area.

A) FLORA:

Methodology for floral study

1. Secondary literature survey: Published literature, including those from relevant organizations like the Botanical Survey of India (BSI), the Wildlife Institute of India (WII- Dehradun), the respective Forest Department of the State concerned etc., research papers, articles, books and reliable websites, available within and adjacent to the study area were compiled and inventoried as "Secondary Floral Diversity Database".

2. Primary field survey – herbs: Herbaceous plants were studied using the quadrat method as followed during vegetation survey. The size of each quadrat for herb survey was 1m x 1m. Field identification of the species and later identification through photographs were followed. Unidentified herbs were collected following proper procedure and prepared into herbarium sheets for later identification. For mosses, lichens and other plants the plot size was taken as 0.1m x 0.1m.

3. Primary field survey – shrubs: Shrubs were studied using the quadrat method as followed during vegetation survey. The size of each quadrat for shrub survey was 5m x 5m for shrubs of 3m height. Field identification of the species and later identification through photographs

were followed. Unidentified shrubs were collected following proper procedure and prepared into herbarium sheets for later identification.

4. Primary field survey – trees: Trees were studied using the quadrat method as followed during vegetation survey. The size of each quadrat for tree survey was 20m x 20m. Field identification of the species and later identification through photographs were followed. Samples of unidentified trees were collected following proper procedure and prepared into herbarium sheets for later identification.
5. Primary database: Data generated from the field survey within and adjacent to the study area were meticulously compiled and inventoried as "Primary Floral Diversity Database".
6. Field instruments/materials for floral study: Measuring tape/s, herbarium sheets, newspaper, herbarium press, polythene bags (incl. zip-locked pouches), 78 clinometers, and magnifying glass, camera, and GPS unit.

B) FAUNA:

Majority of Kangra district consists of chill forest. Under the second category of the forest the Khair is Predominant species. The third category consists of broad leaves species but have lot of bushygrowth as well.

The forest in the district, have been divided in to three categories:

1. Lower Shivalik Chil Pine Forest
2. Northern dry mixed deciduous scrub forest.
3. Broad Leaved Forest

Table- 3.19 (a)

List of Flora & Fauna (Buffer zone)

FLORA		
S. No.	**Botanical Name**	**Common Name**
1.	*Phoenix sylvestris*	Khajoor
2.	*Calotropis procera*	Aak
3.	*Cryptolepis buchananii*	Jaman khumb
4.	*Ageratum conyzoides*	Gha buti
5.	*Stereospermum chelonoides*	Padal
6.	*Oroxylum indicum*	Tatplanga Simal
7.	*Bombax cieba*	Simbal
8.	*Shorea robust*	Sal
9.	*Diospyros cordifolia*	Kala dhao
10.	*Cordia vestita*	Kumbhi
11.	*Cordia dichotoma*	Lasura
12.	*Ehretia acuminata*	Sakar
13.	*Euphorbia royleana*	Chhun
14.	*Cassia fistula*	Amaltas
15.	*Cassia occidentalis*	Chakunda
16.	*Bauhinia variegata*	Kachnar, Karal
17.	*Urena lobata*	Unga
18	*Melia azedarach*	Drek
19.	*Azadirachta indica*	Neem
20.	*Cayratia trifolia*	Chamar bel

FAUNA

Due to rich forest cover in the buffer zone many fauna is expected to be found in this area and it include mammals, reptiles, birds, etc.

List of Mammals

S. No.	*Zoological Name*	Common English Name
1.	*Boselaphus tragocamelus*	Blue Bull
2.	*Cervas unicolor*	Sambhar
3.	*Herpestes edwardsi*	Common Mongoose
4.	*Macaca mulatta*	Rhesus Monkey
5.	*Lepus nigricollis ruficaudatus*	Rufous tailed hare
6.	*Presbytis entellus*	Langur
7.	*Funambulus pennant*	Five striped Palm Squirrel
8.	*Mus booduga*	Indian Field Mouse
9.	*Rattus rattus*	Common House Rat
10.	*Mus musculus*	House Mouse
11.	*Pteropus giganteus*	Flying Fox
12.	*Rousettus leschenaultia*	Fruit bat

List of Reptiles

S. No.	*Zoological Name*	Common English name
1	*Lacerta vivipara*	Common lizard
2	*Calotes versicolor*	Garden lizard
3	*Bangarus caeruleus*	Common Indian crait
4	*Ancistrodon himalayanus*	Himalayan pit viper

List of Birds

S. No.	Zoological Name	Common English name
1.	*Pycnonotus cafer*	Red vented Bulbul
2.	*Acridotheres ginginianus*	Bank myna

3.	*Dicrurus macrocercus*	Black drango
4.	*Dendrocitta vagabunda*	Indian Treepie
5.	*Corms splendens*	House crow
6.	*Corvus macrorhynchos*	Jungle Crow
7.	*Copsychus saularis*	Oriental Magpie Robin
8.	*Saxicoloides fidicata*	Indian Robin
9.	*Lonchura punctulata*	Spotted munia
10.	*Passer domesticus*	House Sparrow

List of Amphibians

S. No.	***Zoological Name***	**Common English name**
1.	*Amolops sp.*	Cascade frogs
2.	*Rana sp.*	Pond frogs
3.	*Bufo melanastictus*	Common Asian Toad

List of Fishes

S. No.	***Zoological Name***	**Common English name**
1.	*Labeo rohita*	Rohu
2.	*Catla catla*	Catla
3.	*Barbus (tor) putitora*	Mahaseer
4.	*Clarias batrachus*	Mangur

Table- 3.19 (b)

Floral Species in the Study Area (Core Zone)

S.No.	**Common Name**	**English Name**	**Botanical Name**
1.	Bakkar bel	Black creeper	*Ichnocarpus frutescens*
2.	Bans Bainj, Sotha	Male bamboo	*Dendrocalamus strictus*
3.	Kehmal	Indian ash tree	*Lannea coromandelica*
4.	Palakh		*Ficus rumphii*
5.	Rajain, Pardesi	Indian elm, kanju	*Holoptelea integrifolia*
6.	Shisham, Tali	Bombay	*Dalbergia sissoo*

		blackwood, Indian rosewood, sissoo	
7.	Simble	Silk cotton tree	*Bombax ceiba*
8.	Chopar chilla	Velvety Miliusa	*Miliusa velutina*
9.	Jaman	Black-plum	*Syzygium cumini*
10.	Kachnar Karal	Malabar ebony, mountain ebony	*Bauhinia malabarica*
Faunal Species in the Study Area (Core Zone)			
S.No.	**Common Name**	**English Name**	**Scientific Name**
1.	Jangli Soor	Wild Boar	*Sus sacrofa*
2.	Kakkar	Barking Deer	*Muntiacus Muntjak (vaginlis)*
3.	Bandar	Monkey	*Macaca mulatta*
4.	Jangli Murga	Red Jungle Fowl	*Gallus gallus*
5.	Kala Titar	Black Partridge	*Framcolinus francolinus*
6.	Titar	Grey Partridge	*F pondicrianus*
7.	Lomari	Fox	*Vulpie bengalensis*

Source: Himachal Pradesh State Biodiversity Board, 2018

3.14 SOCIO ECONOMIC

Social aspects can be defined as the consequences to people of any proposed action that changes the way they live, work, relate to one another, organize themselves and function as individuals and members of society. This includes social-psychological changes, for example to people's values, attitudes and perceptions of themselves and their community and environment.

Broadly social aspects could be classified as under: -

i) Lifestyle aspects- These are the way people behave and relate to family, friends and cohorts on a day-to-day basis.

ii) Cultural aspects - These are shared customs, obligations, values, language, and religious

belief another element, which make a social or ethnic group distinct.

iii) Community aspects - These are infrastructure, services, voluntary organizations, activity networks and cohesion.

iv) Health aspects - These includes mental, physical and social wellbeing.

v) Rehabilitation and Resettlement- These include displacement of families beyond defined thresholds and the impact on public and community properties, assets. Accordingly, ameliorative measures for addressing the said impact are also required to be taken.

The above aspects have been considered while assessing the social impact of the project.

3.14.1 Demography and Socio-Economic Scenario:

Demography is one of the important pointers of environmental health of an area. It includes description of demography, occupational pattern, available basic amenities like housing, medical care, services, transportation, education, water supply, roads, transport, etc.

Amenities prevalent in the study area have been extracted from the Census of 2011 and site visits and it has been found that:

Almost every village situated within the study area are having Education facility, medical facility, Drinking water and Electricity.

About 90-95% houses are pucca.

Most of the villages are approachable with metalled road.

As per census 2011, the significant demographic and socio-economic statistics of the district are summarized and given in **Table 3.20.**

- ***Man-made sensitive areas within 5 km radius of project site are shown in fig. 3.14***

Table- 3.20

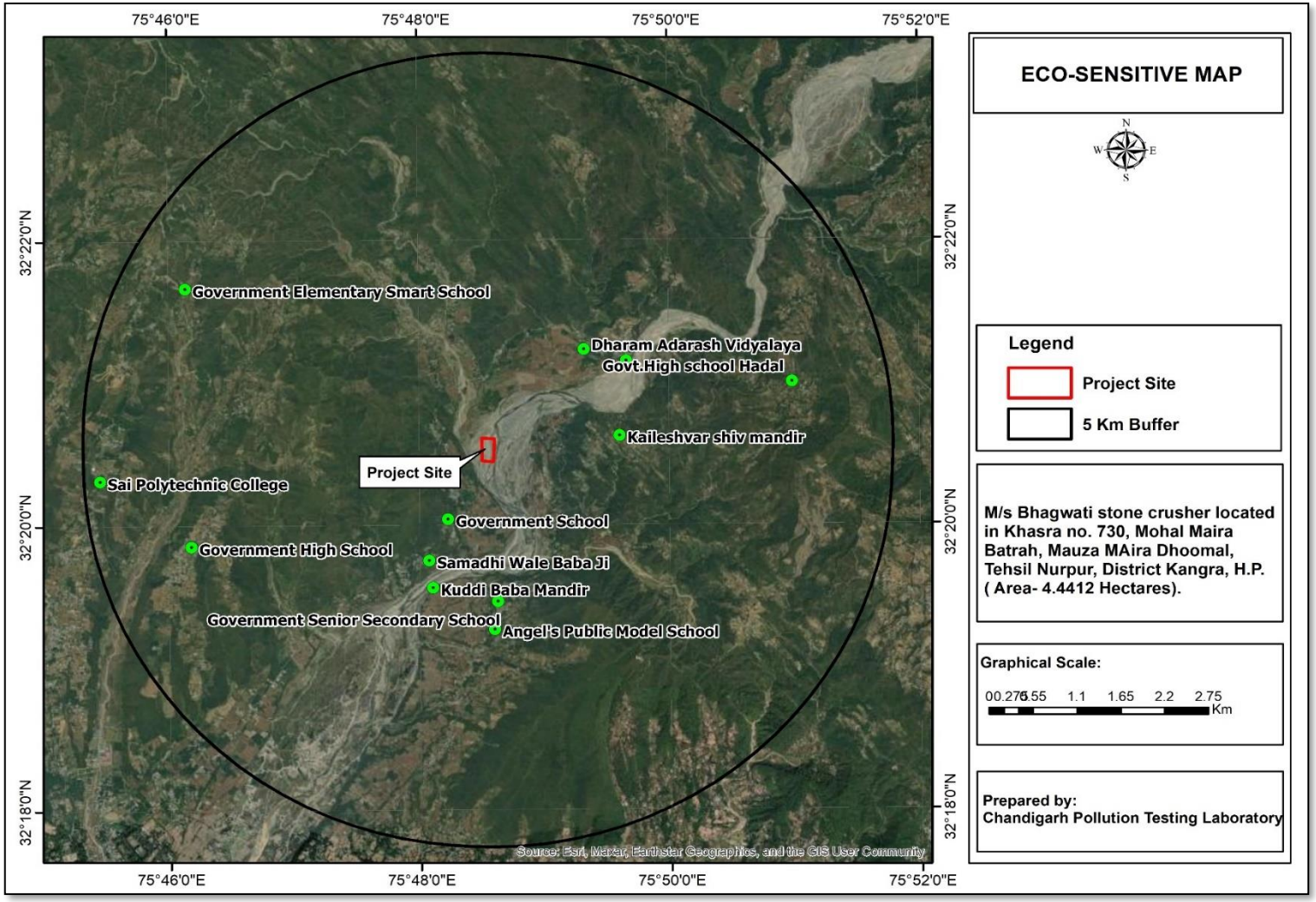
Demography & Socio-Economy

Name of villages	No. of Households	Total Population	Male	Female	Child (0-6)	Literacy (%)		Scheduled Caste	Scheduled Tribe	Total workers	Main workers	Marginal workers
						Male	Female					
Maira Batrah	73	327	164	163	37	93.62	81.88	59	0	106	84	22
Khanni Uparli	181	834	437	397	100	93.42	83.05	108	0	222	160	62
Chaugan	40	208	111	97	33	78.26	71.08	80	60	58	23	35
Dhumal Kaila	58	264	134	130	38	80.17	70.00	75	50	138	99	39
Galor Khas	40	206	105	101	35	77.65	73.26	11	69	131	35	96

Ref: Census of India 2011

Figure - 3.14

Map showing man-made sensitive areas within 5 km radius of project site



3.15 TRAFFIC STUDY:

The applied lease is in the river bed and there is very low to no traffic from the Auctioned Area till the main road. However, for the transportation of the loaded vehicles to the nearest approach road, the vehicles may pass through private as well as govt. land. The project proponent shall made necessary arrangements between landowners (Pvt. & Govt.) and will take care of other issues if any at his own for material transportation to the nearest road.

The site is approached by Nurpur- Pathankot Road i.e. NH-20 upto Nagabari and thereafter by Nagabari- Maira- Batrah- Haddal link road upto Maira and the last spell of about approximately 1.0 km can be approached through an unmetalled road developed on the nallah and Chakki River bed.

The road is in enough good condition to bear the additional truck/ transport created by the mining operations Only 370 metric tonnes of material shall be transported at an average per day (Total working days 270/year) for which average 41-42 trucks with @9 MT capacity are required.

Total Production for 5 years	4,99,500 MT
Total Production for 1 year	99900 MT
No. of working days	270
Total production for 1 one day	370 MT
Capacity of truck/Tipper	9 Ton
No. of required truck/Tipper	41-42

3.15 HYDROLOGY AND DRAINAGE PATTERN:

Table 3.21

Hydrological and drainage details of the project area

Profile of River Bed		
1.1	**Name of the River/ Stream Bed on which the mining lease is situated**	The mining lease area lies in the Chakki Khad which is a tributary of the Beas River.
1.2	**Drainage System**	It forms a part of the Beas drainage system.
1.3	**Type of drainage**	The primary tributaries above 430m R.L. exhibit a dendritic type of drainage pattern and then to its downstream side shows a sub-dendritic type of drainage pattern.
1.4	**Origin of river / stream**	The Chakki Khad originates at a height of about 312 Mts. Near Janera village and joins the Beas River after travelling a distance of about 35 kms. in Kangra and 15 Kms in the Chamba district, it joins the Beas River.
1.5	**Altitude of the origin**	About 3212 M.R.L. above mean sea level in Chamba District. The highest point of the applied mining lease area is 459 meters and the lowest is 458 meters above mean sea level.
1.6	**Geometry of the catchment of the Chakki River impacting the replenishment of deposits.**	Total area of catchment = 2000.00 Sq. Km Area of catchment up to mining site = 860.00 Sq. km
	The following are the different ingredients of the Chakki River	
a.)	**Number of tributaries**	7 (on right bank) and 5 (on left bank)

b.)	**Maximum length of the watershed**	68.57 Km
c.)	**Maximum breadth of the watershed**	26.50 Km
d.)	**Elevation at origin**	3212 M
e.)	**Elevation at lease area**	459 meters to 458 meters above MSL
f.)	**Total length of the river**	89.3 Km
	Width of the river	400- 450 meters.
g.)	**Total length of river up to the mining lease**	45.93 Km
h.)	**Total elevation of Loss up to mining lease**	2783 M
i.)	**Average Slope**	1.74 % i.e about 1.03°
j.)	**Slope angle at mining lease area**	0.35 i.e about 0.20°

- **Cycle of erosion of Mining site:**

The cycle of erosion at the mining site is old.

- *The Annual Deposition on River /Stream:*

The Chakki Khad has sufficient capacity to replenish almost equivalent to the stress on the mining lease area as this stream carries heavy sediment load and deposits it annually on the river bed. Replenishment of the river bed material is very much dependent on rainfall and run-off from the surrounding watershed area. In contrast to surface erosion, mass movements have always been common on steep slopes. Therefore, minerals excavated in a year shall be replenished during the monsoon season and hence, the whole block shall be exploited every year. The tributaries of this stream have carved a wide flood plain as the banks comprised of soft rocks hence, leading to higher deposition in this area. The stream approximately 700-750 meters wide in the mining lease area which gives a better chance of replenishment in this area.

- *The level of H.F.L*

During Monsoon, the flood level raises about 1.50 mts. to 2.00 meters for a short spell of time. The highest flood level is the maximum rise level and the lowest flood level is the river bed level.

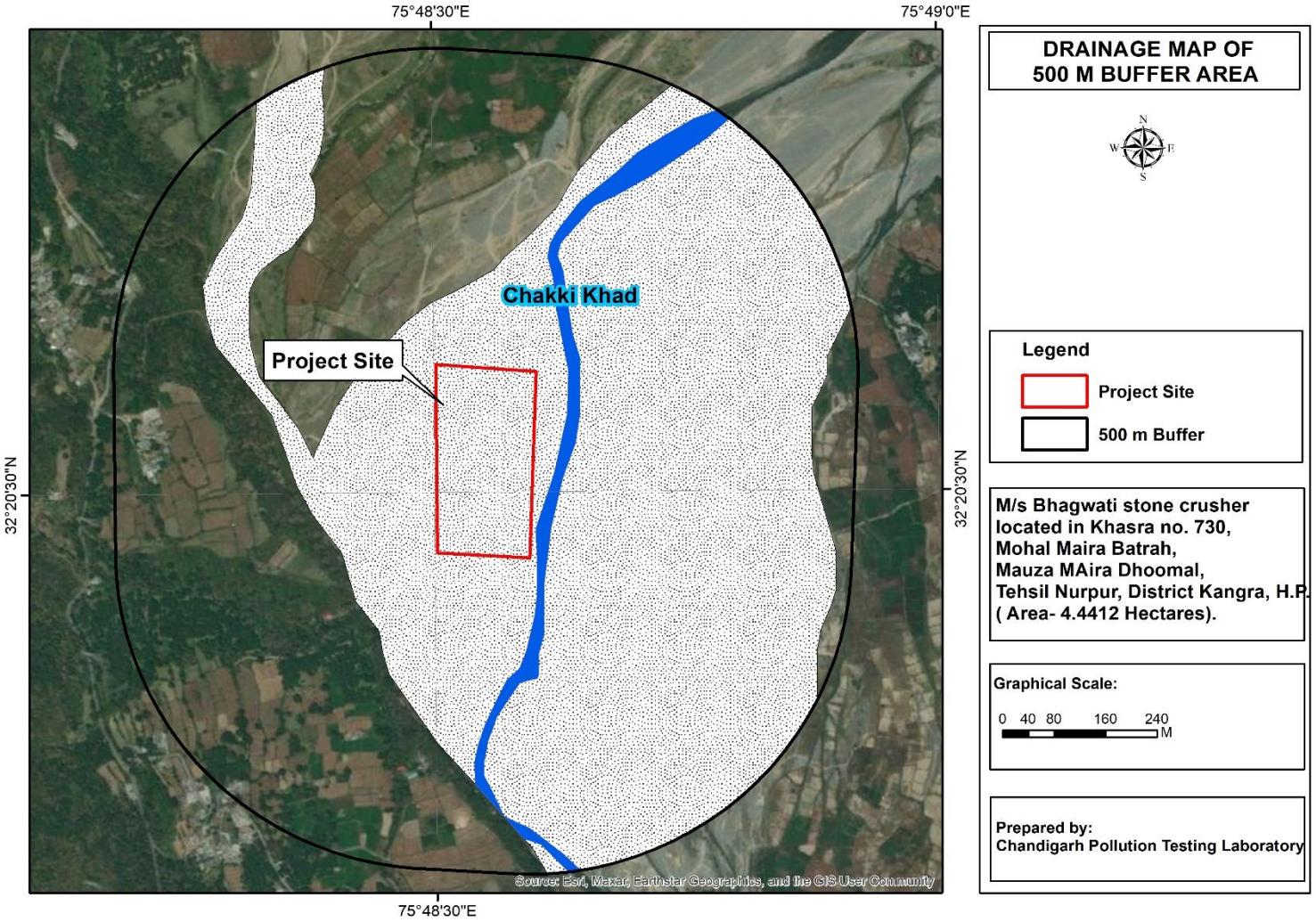
- *Description of Ground Water Table in The Mining area before and Post Monsoon.*

The Chakki River in district Kangra carved a wide valley and khad bed is occupied with river borne deposits comprising boulders, cobbles, pebbles, river borne bajri, sand, silt and clay deposits. These rivers borne deposits act as a good aquifer for ground water occurrence. The area is a hilly terrain as such cannot have any regular water table but the percolated water comes out in the shape of spring at those places where there is non- pervious formation to stop the water from further percolation. After the monsoon period, the springs can be seen functional in a number of places but the intensity of discharge start reducing after September and most of the springs go dry after November and the major source of water remain the course of the stream where the water is available along the course of a river where the wells are developed.

- ***The drainage map of project site (500m buffer area) is shown in fig. 3.15.***

Figure- 3.15

Drainage map of the proposed mining area



CHAPTER 4.0

ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

4.1 GENERAL:

Prediction of impacts is the most important component in the Environmental Impact Assessment studies. Several scientific techniques and methodologies are available to predict impacts of developmental activities on physical, ecological and socio-economic environments. Such predictions are superimposed over the baseline (pre-project) status of environmental quality to derive the ultimate (post-project) scenario of environmental conditions. The prediction of impacts helps to minimize the adverse impacts on environmental quality during pre and post project execution. Generally, the environmental impacts can be categorized as either primary or secondary. Primary impacts are those, which are attributed directly by the project and secondary impacts are those, which are indirectly induced and typically include the associated investment and changed patterns of social and economic activities by the proposed actions.

The primary function of an environmental impact assessment is to ascertain the potential impacts of project on environmental components such as air, water, noise, soil, flora, fauna, land and Socio-economic and their magnitude during construction and operation for adoption of possible mitigation measure.

The Impacts of project are divided into two categories i.e., impacts during construction phase and impacts during operation phase. Major project impacts will occur during operation phase as no construction stage is envisaged in this project.

Environmental parameters considered for impact analysis during operation phase are: -

1. Air Environment
2. Water Environment
3. Noise Environment
4. Landform and Topography
5. Soil Environment
6. Biological Environment

7. Socioeconomic Environment

8. Solid Waste.

9. Risk and Hazards.

4.2 AMBIENT AIR QUALITY

Impacts:

As the mining is proposed in 91,000 sqm area over river bed upto a depth of 1.0 meter by excavating shallow pits manually without any use of blasting. Due to inherent moisture in the minerals, there will be no generation of any dust pollution during mining operation leading to risein suspended particulate matter. However opencast mining operations are generally prone to generation of high levels of PM10 and to a limited extent SO_2, NO_x due to fossil fuel-based vehicles,machines. Air pollution mainly due to PM10, SO_2 and NO_x may result in irritation and inflammation of eyes and congestion of throat and infection in lungs. The respirable dust has serious impact on the health of the workers. Lung functions are impaired due to the both respirableand non-respirable dust particles. Chronic exposure leads to respiratory illness like asthma, emphysema, severe dyspnoea (shortness of breath) and bronchitis in extreme cases pneumoconiosis or the black lung disease of miners. The effect of dust may be harmful to the human health. The major contribution of air pollution is by opencast mining, such as excavation, loading and transportation etc. which will lead to short-term rise in the respirable particulate matter(PM10). The dust liberated in mining and other related operations is injurious to heath if inhaled insufficient quantity.

Mitigation measures

- Emissions inventory for SPM, RSPM, SO_2, NO_x shall be undertaken to satisfy the statuary requirements.
- Dust suppressions shall be done by water sprayers, avoiding overloads of transportedvehicles, water spray on access routes.
- Transportation of material in tarpaulin covered vehicles to crusher site, and shall be carried outin day time only.
- Mining shall be done in a controlled manner.
- Green belt shall be developed in the buffer zone

- The speed of dumpers plying on the haul road should limited to avoid generation of dust.
- Haul road shall be covered with gravels.

Air Pollution Impact Prediction through Modeling:

• Aermod Cloud AERMOD is an air dispersion-modeling package, which seamlessly incorporates the popular USEPA Models, ISCST3, ISC-PRIME and AERMOD into one interface without any modifications to the models. These models are used extensively to assess pollution concentration and deposition from a wide variety of sources.

•Aermod Model The AMS/EPA REGULATORY MODEL (AERMOD) was specially designed to support the Environmental Regulatory Modeling Programs. AERMOD is a regulatory steady – state modeling system with three separate components;

•AERMOD (AERMIC Dispersion Model);

•AERMAP (AERMOD Terrain Preprocessor); and

•AERMET (AERMOD) Meteorological Preprocessor.

The AERMOD model includes a wide range of options for modeling air quality impacts of pollution sources, making it popular choice among the modeling community for a variety of applications.

AERMOD requires two types of meteorological data files, a file containing surface scalar parameters and a file containing vertical profiles. These two files are provided by AERMET meteorological preprocessor program.

PRIME building downwash algorithms based on the ISC – PRIME model have been added to the AERMOD model;

Use of arrays for data storage;

Incorporation of EVENT processing for analyzing short-term source culpability;

Explicit treatment of multiple – year meteorological data files and the annual average; and Options to specify emissions that vary by season, hour-of-day and day-of-week.

Deposition algorithms have been implemented in the AERMOD model – results can be output for concentration, total deposition flux, dry deposition flux, and / or wet deposition flux. The model

contains algorithms for modeling the effects of settling and removal of large articulates and for modeling the effects of precipitation scavenging for gases or particulates.

• ***Aermet***

In order to conduct a refined air dispersion modeling project using the AERMOD short term air quality dispersion model, it is necessary to process the meteorological data representative of the study area being modelled. The collected meteorological data is not always in the format supported by the model; therefore, the meteorological data needs to be pre-processed using AERMET program. The AERMET program is a meteorological preprocessor, which prepares hourly surface data and upper air data for use in the AERMOD air quality dispersion model. AERMET is designed to allow future enhancements to process other types of data and to compute boundary layer parameters with different algorithms. AERMET processes meteorological data in three stages and from this process two files are generated for use with the AERMOD model. A surface file of hourly boundary layer parameters estimates a profile file of multiple-level observations of wind speed, wind direction, temperature and standard deviation of the fluctuating wind components.

•***Application of AERMOD***:

The AERMOD model with the following assumptions has been used to predict the cumulative GLC due to emissions from the proposed activity:

➢The stack tip down wash is not considered.

➢Plume rise is estimated by Brigg's formula but the final rise is limited to that of mixing layer.

➢Buoyancy induced dispersion is used to describe the increase in plume dispersion.

➢Calm processing route is used by default.

➢Complex terrain is used in computation.

➢It is assumed that the pollutants don't undergo any physio-chemical transformation and there is no pollutant removal by dry deposition.

➢Wash out due to rain is not considered.

➢Receptors on that terrain with no flag pole have been considered.

Atmospheric Stability: The stability class has been estimated using the hourly monitored wind velocity along with the other computed data.

Mixing Heights: Due to non-availability of site-specific missing heights "Hourly Mixing Heights & Dissimilative Capacity of Atmosphere in India" published by Environment Monitoring & Research Centre, IMD, New Delhi has been referred for hourly mixing heights.

Meteorological Data: The hourly meteorological data recorded at site is converted to the mean hourly meteorological data as specified by CPCB and the same has been used in the model. Hourly mixing heights are taken from the "Atlas of Hourly Mixing Height and Assimilative Capacity of Atmosphere in India" published by India meteorological department, 2008, New Delhi. The meteorological data recorded during study period continuously on wind speed, wind direction, temperature etc., have been processed to extract the data required for simulation by AERMOD using AERMET.

Dispersion Modeling Results: The 24-hourly average ground level concentration (GLC) values from proposed project have been computed for PM considering topographical featured around the proposed project and applicable stability classes. The predicted 24-hourly short terms Maximum Incremental Concentration values for PM10 from the proposed project are given in Table- 4.1. Isopleth plotted are shown in Figure 4.1.

Table-4.1

Predicted 24 hourly short terms Maximum Incremental Concentrations

Pollutants	Maximum GLC in µg/m3	Baseline concentration in µg/m3	Baseline Concentration after project implementation in µg/m3
PM2.5	0.19	39.5	39.69

Predicted GLC's of the proposed project:

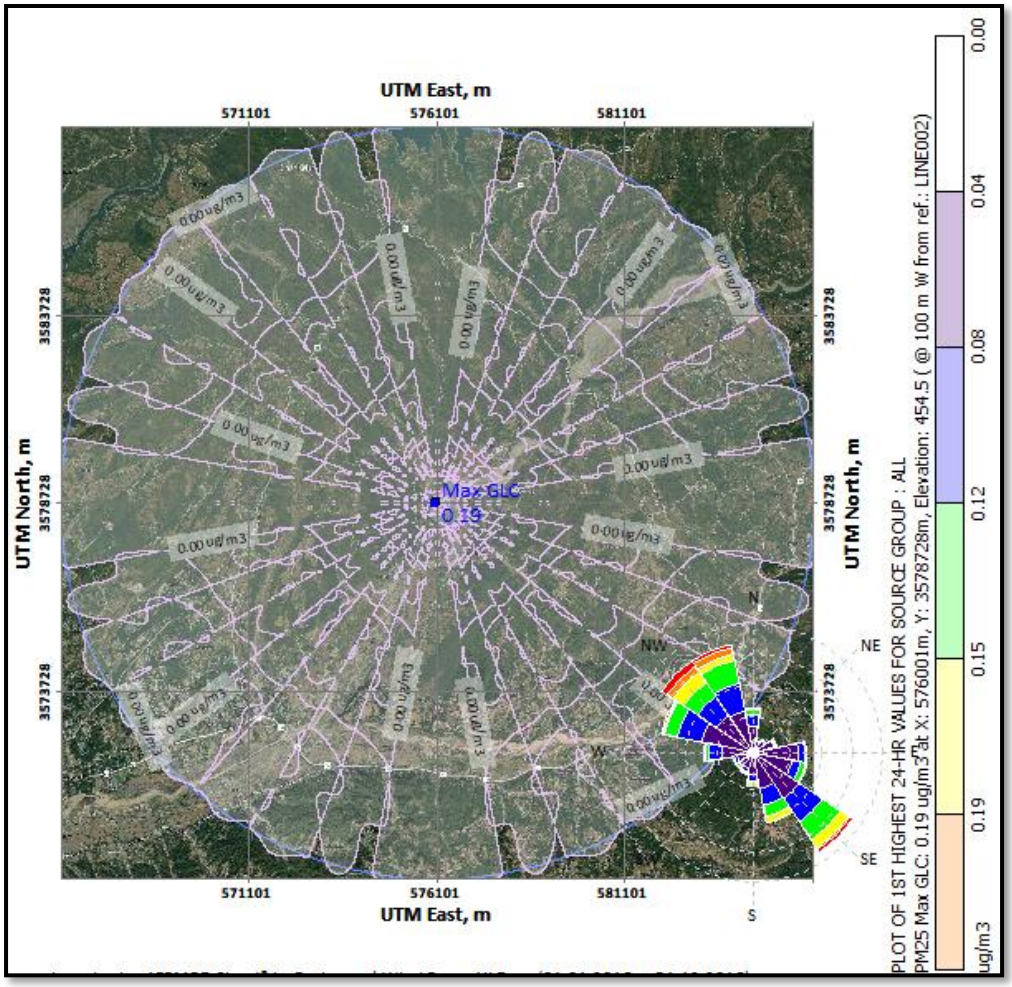
It is predicted that the maximum contribution in GLC's, with unit's operation will be 39.69 µg/m3 for PM2.5 at a particular elevation of 454.5 and distance of 100 m from West direction. Since the mining is manual and no blasting is involved impact of the fugitive emission from the unit will be negligible. SPM level due to movement of vehicles will also be checked. The existing Traffic on

the road is of the order of about 42 vehicles per day both ways. The present max PM10 is 74.0 µg/m^3 and PM2.5 is 39.5 µg/m3 . There will be marginal increase in existing level of ambient air quality (PM10, which will be well within the permissible, limits i.e. 100ug/m^3.

Conclusion:

From the figures available and the studies made, it is concluded that with the mining activity, the ambient air quality in the area is well within the prescribed limits and is not likely to be changed appreciably. With the adoption of the mitigation measures and their strict implementation, the Ambient Air quality is likely to be improved.

Fig 4.1: Isopleths showing 24 hourlies predicted GLC's of PM2.5



4.3 WATER QUALITY

The project site lies in the riverbed of Chakki River which is perennial in nature, and water flows only during rainy season. The mining activity is carried out except rainy season as per the approved mining plan. So, surface water quality of the Khad will not be affected for mining activity.

Since no water will be used in the mining operations, therefore, no waste water will be generated, thereby no impact on groundwater and surface water quality. Small amount of domestic waste water shall be treated in septic tanks and soak pits at crusher site before to put use for plantation. However, the following safeguards shall be adapted: -

- Check dams and gully checks will be raised to reduce the velocity of runoffs, thereby minimizing the flooding & carryover of deposits to the receiving waters
- Mine waste dumps will be stabilized during the course of their retention.
- There would not be any adverse effect on the ground water quality. The proposed mining shall be much above the water table. However, regular monitoring of quality in the existing hand pumps/tube wells in the vicinity would be carried out.

4.4 NOISE LEVEL

The project does not involve any blasting and drilling, therefore there will be negligible impact due to noise & vibrations. However, noise shall be generated due to movement of vehicles for which the following measures shall be implied: -

- "No Horn" sign at prominent places.
- Well maintained vehicles will be used in order to reduce the noise during movement of vehicles. Regular and proper maintenance of vehicles will be ensured.
- Vehicular movements will be restricted to day time only.
- Plantation of trees along the mining area or suitable land will be done to dampen the noise.
- Replacement of old trucks or their retrofitting.

4.5 LAND ENVIRONMENT

The project area does not consist of any forest land. It does not consist of any human habitations. Land use plan of the mining lease area during pre-operational, operational and post operational is incorporated in the Chapter 2. During the course of mining, the land environment is likely to be impacted as under: -

- Topography & drainage
- Soil quantity
- Soil erosion
- Visual impact

Mitigation measures

- A well-planned restoration/reclamation of mined out area shall be in place.
- Soil erosion shall be prevented by constructing gully checks, check dams, water weirs etc. Plantation/afforestation in buffer zone by selecting local species conducive to agro-climatic conditions of the area.
- Proper measure to control runoffs will be taken Landscaping will be done.

4.6 SOIL AND AGRICULTURE

The soil in the study area contains medium level of primary and secondary nutrients. Since no waste is thrown on any agricultural land, agricultural operations will not be affected with the mining. The major crops in the study area are Paddy, Wheat, Maize, Barley and Vegetables. The fugitive emissions from the unit having insignificant pollution load will not be of any threat to the vegetation & soil in this area.

4.7 ECOLOGY & BIODIVERSITY

The area has quite sizable number of forests & local khads having flowing water. These have natural flora & fauna flourishing in the area. The mining activity doesn't involve any blasting & drilling activity; therefore, the project will not disturb habitat of any flora & fauna. Since there is no liquid waste, so the aquatic life in the area is not likely to be affected in any manner. Thus, the

existing ecology & biodiversity of the area shall be maintained & will not be affected. Table 4.2 shows the impact sand mitigation measures for biological environment:

Table 4.2: Anticipated impact and mitigation measures for biological environment

Impact Predicted	Mitigation measures
Disturbance to free movement / living of wild fauna viz. Birds, Reptiles etc.	• Noise produced due to vehicular movement for carrying sand materials will be within permissible noise limit. Higher noise level in the area may lead to restlessness and failure in detection of calls of mates and young ones. • If wild animals/birds are noticed crossing the core zone, they will not be disturbed at all. • Noise level will be maintained within permissible limit (silent zone-50dB (A) during day time or residential zone 55dB (A) as per Noise Pollution (Regulation and Control) Rules 2000, CPCB norms.
Impact on forest resources, economically important plants, medicinal plants and threat to rare, endemic and endangered species	• Regeneration of rare and endangered plants of economic importance including medicinal plants.
Impact on Agriculture	• There will be no impact on the agriculture. Dust generated will be suppressed during mining operation at mining site as well as during transportation will be suppressed by sprinkling.
Impact on land use and vegetation	• No tree cutting will be allowed.

Summary of Overall Impacts

The mining activity doesn't involve any blasting & drilling activity; therefore, the project will not disturb habitat of any flora & fauna. Since there is no liquid waste, so the aquatic life in the area is not likely to be affected in any manner. Thus, the existing ecology & biodiversity of the area shall be maintained & will not be affected.

The main impacts will be during the mining activities with respect to Air, Noise, Land, Biological and Socio-economic. Following is the summary of overall significant impacts related to environmental components.

Environmental Attributes	Major Impacts
Air Environment	Fugitive emission due to excavation & screening vehicular emission due to transportation and operation of machineries, marginal damage of vegetation, health effects.
Noise Environment	Increase in Noise levels due to, excavator and dumpers.
Water Environment	Sewage generation, sedimentation, no waste water generation due to mining activities, however rainwater will be harvested in the mine excavated ponds and will be used for sprinkling & plantation.
Land Environment	Acquisition of land, loss of land use / land cover area, change in soil quality, generation of overburden, however positive impact due to plantation in the mine lease area and green belt around the mine lease area.
Biological Environment	Cutting of trees, loss of vegetation, migration of schedule fauna, disturbance to fauna due to noise generation and trenching positive impact due to

	plantation in and round mine lease area and along the road side.
Socio- economic Environment	Disturbance to the habitations due to mining activities, No R & R, influx of people, however positive impacts due to enhancement of economic benefits through allied industries, improvement in quality of life and employment etc.

CONCLUSION:

Major impacts are described above, there will not be any irreversible damage due to the project. However, assessment of impacts with respect to all the environmental components is made and measures are suggested. **CSR/CER scheme** as per project specific requirement according to the project economic benefit will be implemented and sufficient budgetary provision will be made available and implemented.

4.8 DEMOGRAPHIC AND SOCIO-ECONOMIC GROWTH

Villages around the mining have been considered which are mostly with very small population. The project does not intrude on any residential area nor influx of any large population expected. The project does not involve any uprooting of population resulting in rehabilitation. The strength of workers and staff in the unit is about 75 persons. All workers are drawn mostly from the local population. Thus, there is not any appreciable change in population in the nearby villages/towns. In view of the above individual community, life or health of the person in the area is not affected. However, additional employment potential will be generated not only within the unit but in ancillary activities also which are helpful to the local area. **Ultimately this has some positive effect**.

4.9 HAZARDOUS MATERIALS

No hazardous materials are used in the process nor do the finished goods fall in this category. There is no impact on the environment on this score.

4.10 WASTE DISPOSAL

No liquid waste will be there on the mining site. And solid waste (i.e., silt, clay etc.) will be used in road making, embankment and the balance stabilized for extended use. There will be no effect of waste disposal on the environment in general.

4.11 OCCUPATIONAL HEALTH AND SAFETY

To control and minimize the risks at workplace, lessee will implement Health, Safety and Environment Policy with the following objectives:

- To prevent hazards.
- To provide safe and healthy environment to all the employees.To comply with the prevailing regulations and standards.
- The lessee, therefore, will adopt occupational, safety and health policy for the safe and healthy environment. There are some health and safety hazards, which may affect the persons employed

in the mine. The people may suffer from occupational diseases or may get injured while working inthe mine, if proper measures will not be taken to protect the persons from these hazards.

Occupational health surveillance programme:

Occupational health surveillance Programme will include the following facilities:

A. They will have Occupational Health Centre with emergency handling facilities.

B. The occupational health surveillance of the employee shall be done on a regular basis and records of the same will be maintained as per the Mining Act.

CHAPTER – 5.0

ANALYSIS OF ALTERNATIVES

5.1 GENERAL

This is the river bed mining project, where the material will be lifted manually up to the depth of 2.0 meter as per the State Government mining policy, where: -

- No new technology is involved.
- No forest land is involved.
- The site has easy access through approach road.
- Water Requirement only for drinking purpose.
- Manpower availability from nearby areas.
- No resettlement and rehabilitation issues.
- Absence of areas of archeological and historical importance within 10 km radius.

Based on the above criterion, proposed mining land is conducive to undertake for mining of sand stone and Bajri.

CHAPTER – 6.0

ENVIRONMENTAL MONITORIN G PROGRAM

6.0 PRELUDE

Assessment of environmental and social impacts arising due to implementation of the proposed project activities is at the technical heart of EIA process. An equally essential element of this process is to develop measures to eliminate, offset or reduce impacts to acceptable levels during implementation and operation of projects. The integration of such measures into project implementation and operation is supported by clearly defining the environmental requirements within an Environmental Management Plan (EMP).

6.1 ENVIRONMENT MONITORING PROGRAM

An environmental monitoring program is required for sustenance of the project and maintaining the environment quality of the area. Resultant information shall be used in environmentally responsible management. Such management can be aided by specific data on various environmental parameters such as water, soil and air. Current monitoring consideration is focused on the implementation of mitigation measure.

6.2 OBJECTIVE OF MONITORING PLAN

The basic objective of implementing a monitoring plan on a regular basis is as follows:

- Know the pollution status within the plant and its vicinity. Generate data for corrective action in respect of pollution
- Examine the adequacy of pollution control system.
- Assess the Environmental impacts.

6.3 SCHEDULES FOR ENVIRONMENT MONITORING

As no project can succeed unless it is monitored at regular intervals & results analyzed. Keeping this requirement in view an elaborate Monitoring programme has been developed for this project.

Regular monitoring of all significant environmental parameters will be carried out to check the compliance status vis-à-vis the environmental laws and regulations.

6.4 The objectives of the monitoring will be as follows:

- To verify the results of the Impact Assessment Study with respect to the proposedprojects.
- To study the trend of concentrated values of the parameters, which have been identified as critical and then planning the mitigating measures.
- To check and assess the efficacy of pollution control equipment.
- To ensure that any additional parameters, other than those identified in the impact, donot turn critical after the commissioning of proposed project.

Table: - 6.1 Environmental Monitoring Program

S. No	Item	Parameters to be checked	Frequency
1	Ambient Air	RSPM, SPM, NOX Silica & SO_2	Every six months
2	Vehicles	PUC	Every six months
3	Noise Level	dB (A)	Once in a year
4	Ground water	As per IS 10500	Once in a year

All the above observations will be compiled and documented to serve the following purposes.

- Identification of any environmental problems that are occurring in the area.
- Initiating or providing solution to those problems through designated channels and verification of the implementation status.
- Controlling activities inside the project, until the environmental problem has been corrected.
- Suitably responding to emergency situations.

6.5 ENVIRONMENT MANAGEMENT CELL

The Environment Management Cell shall include:

- Representative of Management (Head of Environment Cell)
- In charge of Maintenance Department

- A representative of Environmental Consultant.

The cell shall be constituted immediately at the start of the project so that appropriate actions to protect the Environment are taken from the very beginning. All actions taken by the cell shall be documented.

CHAPTER – 7.0

ADDITIONAL STUDIES: DISASTER MANAGEMENT

7.1 PUBLIC CONSULTATION:

Present report is for the purpose of public consultation only. The details and proceeding of public hearing will be incorporated in the final report.

- Public hearing proceedings
- Public Hearing Notice Published in prominent newspapers.
- Photographs of Public hearing
- Action plan for the issue raised during public hearing.

7.2 IDENTIFICATION OF RISK & HAZARDS:

The mining of sand, stone and bajri will be done manually so, there will not be any major risk hazard associated with the process. The possible scenarios selected for this project are as below:

- Inundation / Flooding
- Accident during sand loading, transporting and dumping
- Accident due to vehicular movement.

INUNDATION/FLOODING/EROSION:

The consequences of flooding/ inundation/ erosion are catastrophic or fatal. The likelihood of occurrence of flooding is occasionally possible. As per mining plan, the mining work will not be carried out during monsoon season.

ACCIDENT DURING SAND LOADING, TRANSPORTING AND DUMPING:

The consequences of this scenario are minor which may be taken care with first aid care. This will not lead to any day loss. The likelihood of occurrence can be regular due to carelessness of the worker.

ACCIDENT DUE TO VEHICULAR MOVEMENT:

The consequences of this scenario are moderate and may result in hospitalization and day loss. The likelihood of occurrence is occasionally possible

7.3 RECOMMENDATION FOR RISK REDUCTION:

Measures to prevent Inundation/Flooding

Inundation of flooding is expected and beneficial for these mines as during this time only the mineral reserve gets replenished.

1. During monsoon months and heavy rains, the mining operations are ceased.

2. There should be mechanism/warning system of heavy rains and discharges from the upstream dams.

Measures to Prevent Accidents during Loading

- The truck should be brought to a lower level so that the loading operation suits to the ergonomic condition of the workers.
- The loading should be done from one side of the trucker trolley only.
- The workers should be provided with gloves and safety shoes during loading.
- Operations during daylight (9: 00 a.m. to 6: 00 p.m.) only.
- Stockpiling of harvested material on the river bank will be avoided.
- Necessary first aid kit will be always kept in the mine site.

Measures to Prevent Accidents during Transportation

- Vehicles will be periodically checked and maintained in good condition and must not be overloaded
- Overloading will not be permitted;
- To avoid danger of accident, roads and ramp near embankment will be properly maintained.
- The truck will be covered and maintained to prevent any spillage;
- The maximum permissible speed limit will be ensured;

- The truck drivers will have proper driving license.

7.4 DISASTER MANAGEMNT PLAN:

The Disaster Management Plan is aimed to ensure safety of life, protection of environment, protection of installation and restoration of production. For effective implementation of the Disaster Management Plan, it should be widely circulated and personnel training should be given.

Objectives:

- Safeguard other people
- Minimize damage to property and the environment
- Initially contain and ultimately bring the incident under control
- Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency

7.4.1 PREPAREDNESS PLAN:

Natural Disasters:

(a) **Cyclone and Flood:**

- When warning of cyclone or heavy rains is received from Local Administration, the Commander shall alert Staff to be prepared.
- All the equipment should be withdrawn from mine and kept in a higher site.
- The Quarry Manager may advise to leave the staff depending on security of situation.

(b) **Earthquake:**

- When earthquake hits, all persons shall be encouraged to run out in the open areas designated as Assembly Points.
- All the electrical supply should be disconnected by the electrical department.

7.5 SOCIAL IMPACT ASSESSMENT:

7.5.1 INTRODUCTION

Socio-Economic Impact Assessment (SEIA) refers to systematic analysis of various social and economic characteristics of human being living in a given geographical area during a given period. The study area consists of core area where the project is located and a buffer area encircling the project area with a radius of 10 kilometers from the periphery of the core area. The Socio-Economic

Impact Assessment focuses the effect of the project on social and economic well-being of the community. The impact may be direct or indirect. Further, the impact may be positive or negative.

7.5.2 OBJECTIVES OF SEIA:

The prime objective of the current study is to assess the impact of the proposed Mining Project on socio-economic characteristics of people living in the neighborhoods. Further, it is to be established whether the impending impact would be direct or indirect. Furthermore, it is to be examined whether the said impact would be positive or negative.

7.5.3 SCOPE:

The Scope of the study is as follows:

a) To collect baseline data of the study area.

b) To comprehend socio-economic status of the people living in the study area.

c) To assess probable impact of the project on social and economic aspects in the study area.

d) To measure the impact of the project on Quality of life of the people living in the study area.

e) To ensure sustainability of positive impact.

f) To suggest mitigation measures and agency responsible for taking action in case of adverse impact.

7.5.4 SOCIO-ECONOMIC IMPACT OF THE PROJECT

Impact on Demographic Composition

There will not be hardly make any difference in the demographic composition of the study area as the additional employment it envisages to create will be met locally to the maximum extent. Hence, the chances of in-migration of people from outside the study area are remote. Accordingly, there will be no variation in the total population of the study area including that of sex ratio, when the mine starts operating.

Employment Opportunities

The proposed Project will provide employment to the local people. The number of workers to be

deployed in the mining project will depend upon the quantity of minerals to be extracted from the mine by the lease holder. Both the skilled and the unskilled workers will be recruited locally. It has estimated that around 50-54 people will get direct employment for this mining project. It is a positive impact of the project since it is providing employment opportunities to the local people. The project will not affect the vulnerable groups of people.

Increased Supply of minerals in the market

Both Government departments and private developers have taken up construction of roads, bridges and buildings in a big way. Hence, the demand for sand, stone & Bajri is ever increasing with the growth of the infrastructure development in our country. The requirement for the building materials is always high, there is already an acute shortage of sand in the market, and the construction industry is the main sufferer. It is a critical component of concrete mixture. It is also used for filtering waste. With the commencement of the proposed mining project the supply of sand, stone & bajri will increase at least in the local market.

Impact on Road Development

Movement of trucks and other vehicles to and from the mining site is expected to increase, when mining will start. The existing roads connecting the quarry with the national highways are connected by metalled and unmetalled roads. Hence, there is need for road maintenance and repairing regularly in the mining area. Further, there are risks of accidents during loading of extracted minerals into tractors-trolleys and transportation to markets for sells. However, accidents can be avoided by taking due care and precautions.

Impact on Health

There are no chances of occurring diseases, due to manual mining of sand. Sand is nontoxic However, sand-using activities such as sand blasting require precautions since it create respiratory problems among mine workers. Excessive inhalation of sand is a serious health concern. To avoid respiratory problem from sand necessary protection should be taken.

Few safety measures are outlined below:

a) It is ensured that health and safety of all the employees at work will provide. Efforts will be made to provide and maintain a safe work environment and ensure that the machinery and equipment in

use is safe for employees. Further, it will be ensured that working arrangements arenot hazardous to employees.

b) The first aid treatment reflects the hazards associated with the mining of sand, stone & *Bajri*. The first-aiders will be well trained in handling patients working in the above Mining Project.

c) For all mine workers regular health examination will be made compulsory. Treatment for respiratory diseases or asthma, skin diseases, lung function test (pre and post ventolin), Audiograms, Chest X- ray etc., as required will be given.

d) To meet the medical needs of the mine workers tie-up with nearest hospitals will be made. This will ensure timely medical aid to the affected persons.

CONCLUSION

The Project will provide employment to local people who are in search of the same. The grantingof Environment Clearance to the project will make mining of Sand legally valid and it will generate revenue for the state. With the implementation of the project there will be increase in the employment opportunities for the local villagers. The study area is still lacking in health and educational facilities. It is expected that same will improve to a great extent with opening of the project and associated activities. Also, Proposed CSR activity will improve the socio-economic status of the villagers of the study area.

CHAPTER – 8.0

PROJECT BENEFIT

8.1 PRELUDE:

The proposed project is mining of sand, stone and bajri mining from the riverbed, which will have no major impact on surrounding environment. It shall help in channelizing the flow of river and prevent flooding in surrounding areas. The proposed activity shall provide raw material to stone crusher there by boosting production of construction material. This will bring overall improvement in infrastructure development and economic growth of the area.

8.2 EMPLOYMENT POTENTIAL:

The mining activity will provide direct and indirect employment to around 42-43 local people who will be engaged in mining, transportation, trading and other allied activities, which will improve socio- economic status of the area in terms of infrastructure development and improvement in economic status.

8.3 IMPROVEMENTS IN THE PHYSICAL INFRASTRUCTURE:

The proposed sand, stone and Bajri mine will have numerous induced impacts on society such as growth in schools, hospitals, hotels, resorts, transport etc. It will also attract other entrepreneur to establish their venture in the region.

8.4 IMPROVEMENTS IN THE SOCIAL INFRASTRUCTURE:

The social infrastructure like religious places (temple, mosque, church, Gurudwara); marriage homes, bus stations, railway stations, play grounds will be improved.

8.5 OTHER TANGIBLE BENEFITS:

The other tangible benefits include metrics and improvements demonstrating process and system cost savings, compliant inspections and customer audits, faster product approvals and manufacturing throughput, less rejected material, reduced nonconformance issues, and more efficient continuous improvement and project implementation. Intangible benefits include improved staff morale, faster, more accurate transparent decision making, less employee turnover, increased staff accountability and enhanced culture of quality throughout the organization turnover, increased staff accountability.

8.6 LITIGATION AND PENDING CASES:

Unit is not engaged in any litigation and no case pending in the court of law.

8.7 CORPORATE ENVIRONMENT POLICY:

The promoters of the project are well aware of issues and concerns regarding environmental matters pertaining to the project. The proponent will have well established administrative set up to deal with the environmental issues and ensuring the compliance of statutory norms and EC conditions as per following line diagram.

8.8 CORPORATE ENVIRONMENTAL RESPONSIBILITY (CER):

For fulfilling the social responsibility, Items wise detail and time bound action plan shall be chalked out based on the public consultation issues and the representations of surrounding villages. The same shall be submitted along with Final EIA report. In addition to issues which may crop up during public hearing the following social activities have been planned.

- Awareness plan on girl's education.
- Spreading legal awareness amongst people and this advantages section of society about theirrights & remedies available.
- Formation of a task force of volunteers to educate people, regarding judicious use of waterresources.
- Green belt development on village common land in association with concerned village Panchayat.
- Promotion of sports activities in nearby village.
- Development of crematorium in one village of study area.
- Details of activities to be undertaken under Corporate Environmental Responsibility

♦ CORPORATE ENVIRONMENTAL RESPONSIBILITY

Requisite amount against the CER activities will be deposited in the account of Directorate of Environment, Science & Technology (DEST), GoHP along with the Environment Clearance of the proposal. The CER activities will be decided and executed by the DEST itself.

CHAPTER – 9.0

ENVIRONMENTAL COST BENEFIT ANALYSIS

Minor Mineral means building stones, gravel, ordinary clay, ordinary sand other than sand used for prescribed purposes, boulder, shingle, chalcedony pebbles used for ball mill purposes only, lime shell, Kankar and limestone used in kilns for manufacture of lime used as building material, Murom, brick-earth, fuller's earth bentonite, road metal, rehmatti, slate and shale when used for building material, quartzite and sand stone when used for purposes of building or for making road metal and household utensils. Minor minerals are mainly consumed by infrastructure & housing industries and development. Whereas sand and Bajri is directly used for all construction works. Boulders are consumed by stone crushers and manual crushing operations for use in roads construction etc. Virtually there is no construction or infrastructure building work is possible without these minor minerals, hence the same can be assumed as back bone of the infrastructural growth of India.

9.1 ESTIMATED PROJECT COST

Total project cost will be Rs 25,00,000/- or Twenty-Five Lakhs.

9.2 PROMOTION OF SOCIAL & ECONOMIC STATUS:

The project will contribute to the economy and social development of the area. It will provide direct employment to about 41-42 people and indirect employment to many more.The company has shown willingness to provide medical facilities to employees, their families and also to villagers as per scope of their economical means.

CONCLUSION:

The management will recruit the semi-skilled & unskilled workers from the nearby villages. The project activity and the management will definitely support the local Panchayat and provide other form of assistance for the development of public amenities in this region. The company management will contribute to the local schools, dispensaries for the welfare of the villagers. Green

belt development / Plantation will be taken up in the vicinity of river banks, along the approach roads and around Govt. buildings schools.

CHAPTER -10

ENVIRONMENT MANAGEMENTPLAN

10.0 INTRODUCTION:

Environmental management plan (EMP) describes the administrative aspects of ensuring that mitigation measures are implemented and their effectiveness monitored, after grant of EC. It consists of various policies, control measures etc. for abatement of critical environmental impacts arising out of the proposed project. Mitigation measures are proposed on the basis of identified impacts. Further a suitable environment management plan will be introduced in the project to implement and practice measures to protect and enhance the quality of environment. The EMP is only as effective as its implementation. An appropriate environmental management strategy is developed and presented in the form of an EMS.

10.1 Objectives of EMP:

- Overall conservation of environment.
- Minimization of waste generation and pollution.
- Judicious use of natural resources and water.
- Safety, welfare and good health of the work force and populace.
- Ensure effective operation of all control measures.
- Vigilance against probable disasters and accidents.
- Monitoring of cumulative and long-term impacts.
- Ensure effective operation of all control measures

In order to mitigate the impacts due to the proposed project on various environmental components, the following environmental management measures are recommended:

Environment	Anticipated Impacts	Mitigation measures
Air environment	• Opencast mining operations are generally prone to generation of high levels of PM_{10} and to a limited extent SO_2, NO_x due to fossil fuel-based vehicles, machines. • Loading & unloading operation during manual & semi-mechanized mining results in the generation of dust which depends upon the emission rate of pollutant & its dispersal and the meteorological conditions. • Air pollution mainly due to PM_{10}, SO_2 and NO_x may result in irritation and inflammation of eyes and congestion of throat and infection in lungs. • The respirable dust has serious impact on the health of the workers. Lung functions are impaired due to the both respirable and non-respirable dust particles. Chronic exposure leads to respiratory illness like asthma, emphysema, severe dyspnoea (shortness of breath) and bronchitis in	• Emissions inventory for SPM, RSPM, SO_2, NOx shall be undertaken to satisfy the statuary requirements. • Dust suppressions shall be done by water sprayers, avoiding overloads of transported vehicles, water spray on access routes. • Transportation of material in tarpaulin covered vehicles to crusher site, and shall be carried out in day time only. • Mining shall be done in a controlled manner. • Plantation will be carried out on approach roads and in Lease boundary. • Haul road shall be covered with gravels. • Ambient Air Quality Monitoring will be conducted on regularly basis to assess the quality of ambient air.

	extreme cases pneumoconiosis or the black lung disease of miners. • The effect of dust may be harmful to the human health. The major contribution of air pollution is by opencast mining, such as excavation, loading and transportation etc. which will lead to short-term rise in the respirable particulate matter (PM_{10}).	
Water environment	• The mining operations may impact groundwater hydrogeology and surface water regime and the impacts depends on the nature of material, hydrogeology and groundwater requirements. • Groundwater contamination due to water table intersection. • Surface water contaminants due to waste water disposal. • Excessive mining results in the thickness of natural layer which may reduce the recharge of groundwater.	• Mining operation shall be undertaken as per approved mining plan; hence, there shall not be noticeable effect on surrounding ground water resources due to mining. • River bed mining will be done up to depth of 1m from the surface as per approved mining plan. • Necessary arrangement shall be made at the stockpiles to prevent silt and sediment flowing in water. • No In-stream mining will be done. • No effluent will be generated due to mining activities. • Plantation is proposed, which will increase the water holding capacity and help in recharging of

		ground water and promote water conservation. • There would not be any adverse effect on the ground water quality. The proposed mining shall be much above the water table. However, regular monitoring of quality in the existing hand pumps/tube wells in the vicinity would be carried out. • There is no chance of surface water pollution. The mining will be done away from water course on the river bed only. • Mining in the area will be done well above the water table. Therefore, impact on water regime is not anticipated
Noise Environment	• The proposed mining activity is done manually as well as semi mechanized. Hence the only impact is anticipated is due to movement of vehicles deployed for transportation of minerals. The area is away from the habitation and the noise shall be caused only by use of mechanical device which shall be below the permissible limit prescribed. There is no	• Well maintained vehicles will be used in order to reduce the noise during movement of vehicles. Regular and proper maintenance of vehicles will be ensured. • No vehicular movement during night time. • Only trained drivers will be allowed to operate vehicles during mining to reduce any chance of accidents. • Plantation of trees along the mining area will

	blasting involved. The noise level will not exceed the required level.	be done to dampen the noise.
Land Environment	• Deviation from planned mining procedure can lead to bank erosion/cutting and thereby river channel shifting and degradation of land, causing loss of properties • Solid waste generation. • Soil erosion. • Impact on the Agricultural Practice at nearby area due to dust generation.	• A well- planned restoration/reclamation of mined out area shall be in place. • The extraction of sand will be restricted within the 100m distance river bank of the river. • The proposed river bed mining is unlikely to change any characteristic of the river bed as the permitted mining volume is based upon annual replenishment. • There is no environmental pollution due to the proposed mining as it is proposed to be a manual scooping of ordinary sand on the river bed. • The land of the mine lease area is Sand Mining & there will be no change in land use after operation. • Soil erosion shall be prevented by constructing gully checks, check dams, etc. • Agriculture activities practiced nearby areas may impacted because of dust generation but mitigative measures such as regular water sprinkling on active areas for example haul

		roads, excavation sites will be strictly followed so that impact is minimized.
Ecology & Biodiversity	• Disturbance to free movement / living of wild fauna viz. Birds, Reptiles etc. • Impact on Agriculture. • Impact on land use and vegetation.	• Noise produced due to vehicular movement for carrying sand materials will be within permissible noise limit. Higher noise level in the area may lead to restlessness and failure in detection of calls of mates and young ones. • If wild animals/birds are noticed crossing the core zone, they will not be disturbed at all. • Noise level will be maintained within permissible limit (silent zone-50dB (A) during day time or residential zone 55dB (A) as per Noise Pollution (Regulation and Control) Rules 2000, CPCB norms. • There will be no impact on the agriculture. Dust generated will be suppressed during mining operation at mining site as well as during transportation will be suppressed by sprinkling. • No tree cutting will be allowed.
Solid waste	• Generation of solid waste.	• There will not be generation of solid waste from the project as all the mined material will be processed at crusher.

		• Domestic sewage after septic treatment at nearly crusher site will be disposed on to land for plantation. • The silt & clay mixture generated during mining will be processed at crusher along with after minerals.
Soil Environment	• Soil erosion/loss of fertile top soil.	• Proper garland to be constructed around the waste dump to avoid soil erosion. • The areas where topsoil could be utilized for landscape prior to stripping of top soil will be utilized and this topsoil will be later used for reclamation of the mining site as part of mine closure.
Health and Safety	• Fugitive dust emission could have potential impact on human health.	• Persons working in dusty area to be provided with protective gears such as helmets, dust masks, ear muff etc.; • Regular water sprinkling at dust generating areas, haul roads. • Occupational health checkup of all workers working in mine, and Pulmonary function test

		for workers working in dusty areas. • Workers continuously exposed to higher noise levels will be provided ear muffs/ear plugs. • There will be restriction on vehicle speed to avoid accidents. • Regular health checkup of all the workers working in mine will be done.
Socio-economic	• As such no negative impact will be anticipated there.	• The project will generate employment opportunities for around 90-92 locals in addition to the indirect employment for many. • The project will contribute to the social and environmental well-being by way of CSR & CER. • Ancillary development in the area.
Traffic environment	• There will be increase in traffic density which will lead to air pollution in terms of particulates & gaseous emissions. • The vehicular movement results in noise pollution.	• Only PUC certified vehicles will be used for transportation. • Unnecessary blowing of horns will be prohibited. • Workers will be periodically examined for health checkups.

10.2 BUDGET ALLOCATION OF ENVIRONMENT MANAGEMENT PLAN:

Details of expenditure on environment given below.

Table: 10.1

Expenditure on environmental measures

S. No.	Title	Capital Cost (Rs. InLacs)	Recurring Cost (Rs. In Lacs)/annum	Time frame to Implement
1.	Air pollution control- Management of haulage road including water sprinkling with the help of tanker through contract supply.	--	1.5	Twice a day & as per requirement
2.	Green belt development. & its maintenance	3.0	0.50	With affect from the first monsoon after the grant of EC & completion within two years.
3.	Waste management.	3.0	0.50	As per mining plan
4.	Testing of air, water and noise parameters as per norms of HP Pollution Control Board.	----	0.25	As per SPCB
5.	Occupational health measures- Provision of PPE, first aid and other miscellaneous.	3.0	0.05	As per mining regulations.
Total		**9.0**	**2.8**	

CONCLUSION:

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

CHAPTER-11
SUMMARY AND CONCLUSION

11.1 INTRODUCTION:

Sh. Vipul Sehgal, Through GPA Holder Ashwani Kumar; Prop: M/s Bhagwati Stone Crusher, Village & P.O. Kandwal and Tehsil Nurpur, District-Kangra, Himachal Pradesh has been issued a "Letter of Intent "for grant of mining lease vide letter No. Udyog- Bhu (Khani-4)Laghu-196/2022-5887 on dated 20.09.2023 for the grant of mining lease area for the extraction of Stone, Bajri and Sand over an area situated in Khasra no. 730 measuring 04-44-12 Ha, (Pvt land, River bed) falling in Mohal Maira Batrah, Mauza Maira Doomal, Tehsil Nurpur, District Kangra, Himachal Pradesh.

Based on a mining plan prepared by a registered Geologist and subsequently approved by the Industries Department, the project falls in category B2. However, due to cluster formation (Around 4 mining lease area existing within the 500m radius of the project site) the project is categorized as ***'Cat. B1'***.; hence the Environmental Clearance is to be given by SEIAA, Shimla, H.P

11.2 DETAILS OF MINING PROCESS & LOCATION:

Table No. 11.1: Details of Mining Process & Location

1.	**Name of the project**	**Sh. Vipul Sehgal, Through GPA Holder Ashwani Kumar; Prop: M/s Bhagwati Stone Crusher**
2.	**Type of project**	Mining of Minor Minerals i.e. **Sand, Stone and Bajri.**
3.	**Location**	Khasra Nos. 730, Mohal Maira Batrah, Mauza Maira Dhoomal, Tehsil Nurpur, District Kangra, Himachal Pradesh
4.	**Lease Area Co-ordinates**	

Pillar No.	**Latitude**	**Longitude**
P1	32°20'34.30"N	75°48'31.30"E
P2	32°20'36.59"N	75°48'30.03"E
P3	32°20'36.16"N	75°48'36.02"E
P4	32°20'26.53"N	75°48'35.61"E
P5	32°20'26.94"N	75°48'30.09"E

	Elevation (Altitude at origin)	Highest 433.8 meters above MSL. Lowest 431.2 meters above MSL.
5.	**Mining Area**	04-44-12 Hectare
6.	**Products**	Sand, Stone and Bajri
7.	**Production Capacity**	99900 MT for one year or 4,99,500 MT over a period of five years (including silt/clay)
8.	**Cost**	Rs. 25 lakhs.
9.	**Source of Electricity**	Not required
10.	**Alternative source**	Nil
11.	**Power Requirement at mining area**	Not required. All operations are manual.
12.	**Water consumption**	3.13 KLD
13.	**Source of water supply**	Borewell
14.	**Air pollution control at mining site**	Water sprinklers & tree plantations
15.	**Hazardous chemical**	Nil.
16.	**Hazardous waste**	Nil.
17.	**Land Type**	Private Land, Gair Mumkin Khad
18.	**Manpower requirement**	92 persons
19.	**Validity of Lease**	As per grant
20.	**Name of the stream/ River**	The mining lease area lies in the river bed of **Chakki Khad**
21.	**Method of mining**	Manual

11.3 METHOD OF MINING:

Mining will be done manually along the river bed keeping both shores unaffected. Drilling and blasting are not proposed.

- Trucks/tractors/trolleys/tippers will be used for the mineral transportation.
- Maximum depth will be restricted to 1mbgl.
- Bank of the river will be kept untouched.

11.4 ENVIRONMENT MANAGEMENT PLAN:

Degradation of land is not having significant adverse impact of riverbed mining due creation of access roads, mining operations, transportation of mined material. In order to prevent the environmental degradation of leased mine area and its surroundings, the following measures shall be taken.

After leaving 1/10th of the width of the river from both side of the bank as no mining zone, for the stability of the banks, mining only be done in the remaining portion of the lease area and also from the stream. In this activity, the work is proposed to be done manually which will avoid adverse effects associated with heavy machinery and their functioning.

- The mining is planned in non-monsoon seasons only, so that the excavated area gets replenished during the monsoon each year.
- Restoration of bank will be ensured at the end of mine closure every year. Operations during daylight only.
- No foreign material should be allowed to remain/spill in river bed and catchment area, or no pits/pockets will be allowed to be filled with such material.
- There will be minimum numbers of access roads to riverbed, as cutting river banks should be avoided and ramps are to be maintained. Access points to the river bed are to be decided based on the following:
    - Least steepness of river bank;
    - Less damage to riverside vegetation and least human activity;
    - Where steepness cannot be avoided access ramps should be constructed;
    - Haulage roads parallel to the river bank and roads connecting access (ramps) to the river bedshall be away from bank, preferably a minimum of l00m away;
    - Access roads from the public roads and up to the river bank should be aligned in such a way thatit would cause least environmental damage;

- For particular operations approaching river bed from both the banks should be avoided.

11.4.1 AIR ENVIRONMENT

Anticipated Impacts:

- In river bed mining activities, the only source of gaseous emission is the fugitive dust generation during mining and from the engines of vehicles transporting the mined materials.

Mitigation Measures:

- Periodic air quality survey will be carried out to monitor the changes consequent upon mining activities as per the norms of Sate Pollution Control Board.
- To control the emission of harmful gasses regular maintenance of equipment will be carried out on regular basis.
- Proper mitigation measures like water sprinkling on haul roads will be adopted to control fugitive dust emission.
- Plantation will be carried out in nearby vicinity of river bank.
- To control the emissions regular preventive maintenances of vehicles will be done and all transportation vehicles will carry a valid PUC certificate. Over loading of trucks and consequent spillage on the roads will be avoided.

11.4.2 NOISE ENVIRONMENT

Anticipated Impacts:

- Noise will be produced at mining site due to movement of vehicles only.
- The lease area is not inhabited by any wild life, as there is no forest cover. Hence there will not be any effect on migration or extinction of wild life from the lease area as the noise created by the mining operation is insignificant so as to cause any impacts.

Mitigation Measures:

- Periodical monitoring of noise will be done to adopt corrective actions wherever needed.
- Speed of the vehicles in the mining area will be restricted.
- Vehicles with good maintenance will be utilized for material transportation.
- Proper maintenance of all vehicles & equipments will be carried out which will help in reducing generation of noise during operations.

- Plantation will be taken up along the approach roads which will minimize propagation of noise.

11.4.3 WATER ENVIRONMENT

Anticipated Impacts:

- There will be only domestic waste water generation from the sand mining operations.
- There is no chance of surface water pollution. The mining will be done away from water course on the river bed only.
- Mining in the area will be done well above the water table. Therefore, impact on water regime is not anticipated.

Mitigation Measures:

- River bed mining will be done up to depth of 1m from the surface as per approved mining plan.
- Necessary arrangement shall be made at the stockpiles to prevent silt and sediment flowing in water.
- No In-stream mining will be done.
- No effluent will be generated due to mining activities.
- Plantation is proposed, which will increase the water holding capacity and help in recharging of ground water and promote water conservation.

11.4.4 LAND ENVIRONMENT

Anticipated Impacts:

- Deviation from planned mining procedure can lead to bank erosion/cutting and thereby river channel shifting and degradation of land, causing loss of properties.
- There is no environmental pollution due to the proposed mining as it is proposed to be a manual scooping of ordinary sand on the river bed.
- The land of the mine lease area is Sand Mining & there will be no change in land use after operation.

Mitigation Measures:

- A well- planned restoration/reclamation of mined out area shall be in place.
- The extraction of sand will be restricted within the 100m distance river bank of the river.

The proposed river bed mining is unlikely to change any characteristic of the river bed as the permitted mining volume is based upon annual replenishment.

11.4.5 SOLID/HAZARDOUS WASTE MANAGEMENT

Anticipated Impacts:

- No solid waste generation is expected from the mining operation. Waste generation from human activities and vehicles usage can occur.

Mitigation Measures:

- All sand mining machines and trucks should be maintained regularly to prevent oil leakages.
- Maintenance and washing of sand mining machines and trucks should be conducted at a suitable site/facility.

11.4.6 BIOLOGICAL ENVIRONMENT

Anticipated Impacts:

- The mining activity will have insignificant effect on the existing flora and fauna.

Mitigation Measures:

- 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.
- The purpose of the project itself is to save the flora around the project area from river widening, excessive erosion and floods. It was found that the sand mining activity will not have any significant impact on the biological environment of the region.

11.4.7 SOCIO-ECONOMIC ENVIRONMENT

Anticipated Impacts:

- As such no negative impact will be anticipated there.

Mitigation Measures:

- For improving the socio-economic environment, proper CER activities will be taken up in vicinity to uplift the condition of people.

11.4.8 OCCUPATIONAL HEALTH & SAFETY OF WORKERS

Anticipated Impacts:

- The major health hazards in a mining unit are dust & noise.
- Accidental rolling of stones along slopes could also be a hazard in the working area.

Mitigation Measures:

- All workers will be provided Personal Protection Equipment.
- Face masks and side covered glasses will be provided to all workers.
- Frequent check-up of the workers will be done which shall, include chest X-ray, ECG & vision testing. Necessary treatment shall be provided wherever required. All checkups will be documented and reviewed monthly for occupation health and safety of the workers.
- Ear plugs will be provided to all workers in the area.

11.5 PLANTATION WORK:

Table: 11.2

Showing year wise plantation plan

Year	Area to be covered (in Sq. meter)	Number of trees to be planted
First	2000	200
Second	2000	200
Third	2000	200
Fourth	2000	200
Fifth	2000	200
Total	10000	1000

11.6 STRATEGY FOR PROTECTION OF POINT OF PUBLIC UTILITY ETC:

There is no point of public utilities present in and around the proposed area.

11.7 BUDGET ALLOCATION OF ENVIRONMENT MANAGEMENT PLAN

Details of expenditure on environment given below:

Table 11.3

Expenditure on environmental measures

S. No.	Title	Capital Cost (Rs. InLacs)	Recurring Cost (Rs. In Lacs)/annum	Time frame to Implement
1.	Air pollution control- Management of haulage road including water sprinkling with the help of tanker through contract supply.	--	1.5	Twice a day & as per requirement
2.	Green belt development. & its maintenance	3.0	0.50	With affect from the first monsoon after the grant of EC & completion within two years.
3.	Waste management.	3.0	0.50	As per mining plan
4.	Testing of air, water and noise parameters as per norms of HP Pollution Control Board.	----	0.25	As per SPCB
5.	Occupational health measures- Provision of PPE, first aid and other miscellaneous.	3.0	0.05	As per mining regulations.
Total		**9.0**	**2.8**	

11.8 RECLAMATION PLAN:

The mined area being part of the river course cannot be reclaimed for any other purpose. The mining depth will be up to 2.0 meter or upto water level whichever is less, thus water regime will not be disturbed.

- The entire quarried area will be replenished and reclamation by the river during monsoonfloods.
- The lease area is and shall remain river bed.
- Thus, the topography or land use of the river will not be changed.

11.8.1 WASTE DISPOSAL ARRANGEMENT:

Year wise generation of mine waste during five years is given below:

Table-11.4 Year wise generation of mine waste

S. No.	Year	Quantity of Silt and clay (MT)
1.	1st year	4995
2.	2nd year	4995
3.	3rd year	4995
4.	4th year	4995
5.	5th year	4995
Total		**24,975**

11.8.2 TOPSOIL UTILIZATION:

Since the mining lease area is part of river bed, as such there is no possibility of presence of any soil cover on such land form.

11.8.3 PREVENTIVE RETAINING STRUCTURES:

As the whole of the mining lease area lies within the HFL of Chakki Khad, no retaining structures can be constructed.

11.9 MANPOWER DEVELOPMENT:

Around unskilled and skilled people shall be employed to carry on the mining and associated. Activities and preferences shall be given to employ 100% local people.

11.10 USE OF MINERAL:

The boulders shall be used for the manufacturing of grit in the already established stone crusher unit and after screening/washing the stone and bajri shall be used for the manufacturing of grit and M-sand and the sand shall be sold in the open market. The material shall be used for approach road works or plantation work.

11.11 BENEFITS OF MINING:

The proposed activity shall provide raw material to stone crusher there by boosting production of construction material. This will bring overall improvement in infrastructure development and economic growth of the area. Generating useful economic resource for construction. Generating employment and improvement of socio-economic conditions of the study area.

11.12 IMPROVEMENTS IN THE PHYSICAL INFRASTRUCTURE:

The proposed Sand, stone and Bajri mine will have numerous induced impacts on society such as growth in schools, hospitals, hotels & resorts, transport etc. It will also attract other entrepreneur to establish their venture in the region.

11.13 IMPROVEMENTS IN THE SOCIAL INFRASTRUCTURE:

The social infrastructure like religious places (temple, gurudwara, etc.); marriage homes, Bus stations, railway stations, play grounds will be improved.

11.14 CONCLUSION:

This Project will provide several benefits to the near Villagers by a proper planning and management. This project will employ most of the worker from nearby villages. There will not be any increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. During the operation of this project no adverse impact on the surrounding environment is envisaged. It is therefore concluded that project will give a boost in the economic and social upliftment of surrounding area.

CHAPTER – 12.0

DISCLOSURE OF CONSULTANTS ENGAGED

12.1 ORGANIZATIONAL PROFILE:

Chandigarh Pollution Testing Laboratory (C P T L) is incorporated in 1997. The Registered office of CPTL is at Plot no. E-126, Industrial Area, Phase-7, Mohali, Punjab. Its laboratory division has accreditation from NABL, recognition from MoEF & CC & PPCB (Punjab Pollution Control Board) and EIA division (i.e., CPTL-EIA) is accredited by QCI/ NABET as Category-A EIA consultancy organization. In addition, it has certification from ISO 9001: 2015, ISO 14001: 2015 and ISO 45001: 2018. C P T L is a venture of professionally qualified and experienced technical personnel. The main aim of the company is to provide consultancy services and analytical services to those industries which do not have complete in-house testing facilities with them.

12.2 SCOPE OF SERVICES

Laboratory Facilities	Consultancy Services
Surface/ Ground Water testing	Environment Impact Assessment
Drinking Water testing	Environment Audits
Construction Water testing	Environment clearance compliances
Sewage/ Effluent testing	Remote sensing
Soil testing	Sound level modeling
Ambient Air monitoring	Air quality modeling
Stack Emission monitoring	Risk Assessment
Noise level monitoring	Ecology & Biodiversity study
Micro-biological testing	Socio-economic studies
Manufacturing of ETP, STP & APCDs	Consent from Pollution Boards
Design and installation of ETP, STP &APCDs	Climate Change

QUALITY COUNCIL® OF INDIA
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NABET

National Accreditation Board for Education and Training

NABET

Certificate of Accreditation

Chandigarh Pollution Testing Laboratory - EIA Division (CPTL - EIA), Mohali

E - 126, Phase VII, Industrial Area, Mohali, IDSAS Nagar, Punjab, Pin – 160055

*The organization is accredited as **Category-A** under the QCI-NABET Scheme for Accreditation of EIA Consultant Organization, Version 3: for preparing EIA-EMP reports in the following Sectors –*

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals including opencast/ Underground mining	1	1 (a) (i)	A
2	River Valley projects	3	1 (c)	A
3	Metallurgical industries (ferrous only)	8	3 (a)	A
4	Cement plants	9	3 (b)	A
5	Synthetic organic chemicals industry	21	5 (f)	B
6	Distilleries	22	5 (g)	A
7	Sugar Industry	25	5 (j)	B
8	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	31	7 (c)	B
9	Bio-medical waste treatment, storage and disposal facilities	32A	7 (d a)	B
10	Common Effluent Treatment Plants (CETPs)	36	7 (h)	B
11	Building and construction projects	38	8 (a)	B
12	Townships and Area development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators, Functional Area Experts are mentioned in RAAC minutes dated June 17 and Supplementary Minute dated Sept 23, 2022 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACO/22/2544 dated Sept 28, 2022. The accreditation needs to be renewed before the expiry date by Centre for Chandigarh Pollution Testing Laboratory - EIA Division (CPTL - EIA), Mohali following due process of assessment.

NABET

Sr. Director, NABET
Dated: Sept 28, 2022

Certificate No.
NABET/EIA/2225/RA 0250

Valid up to
Feb 12, 2025

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to the QCI-NABET website.

Letter of Intent

No. Udyog-Bhu (Khai-4)Laghu-196/2002
Government of Himachal Pradesh,
Department of Industries,
"Geological Wing"
Dated: Shimla _ 171001, the 2023

LETTER OF INTENT

Sh. Vipul Sehgal through GPA Holder Sh. Ashwani Kumar, Prop:- M/s Bhagwati Stone Crusher, Village & P. O. Kandwal, Tehsil Nurpur, District Kangra, H.P. has applied for renewal of mining lease for area bearing Khasra No. 730 measuring 04-44-12 Hect. (Pvt. land, River bed) falling in Mohal Maira Batrah, Mauza Maira Doomal of Tehsil Nurpur, District Kangra, H. P. for collection/extraction of sand, stone & bajri for use in already established stone crusher in the name & style M/s Bhagwai Stone Crusher, Village & P. O. Kandwal, Tehsil Nurpur, District Kangra, H.P. under the provisions of Himachal Pradesh Minor Minerals (Concession) and Minerals (Prevention of illegal Mining, Transportation and Storage) Rules, 2015. The application was referred to the Joint Inspection Committee for re-inspection of the area & the joint inspection committee recommended the area for renewal of mining lease bearing Khasra No. 730 measuring 04-44-12 Hect. (Pvt. land, River bed) Mohal Maira Batrah, Mauza Maira Doomal of Tehsil Nurpur, District Kangra, H. P. Accordingly the case for the renewal of mining lease was sent to the Govt. for obtaining approval and on the basis of the approval conveyed by the Government vide letter No. Ind-II-(F)6-6/2010 dated 13.9.2023 the "Letter of Intent" over an area measuring 04-44-12 Hect. (Pvt. land, River bed) bearing Kh. No. 730 situated at Mohal Maira Batrah, Mauza Maira Doomal of Tehsil Nurpur, District Kangra, H. P. is hereby issued under the provisions of Himachal Pradesh Minor Minerals (Concession) and Minerals (Prevention of illegal Mining, Transportation and Storage) Rules, 2015 **subject** to the final outcome of decision of Hon'ble High Court **in CWP No. 1451 of 2023-titled as M/s Bhagwati Stone Crusher V/s State of H. P. & Ors. and compliance of all codal formalities/orders** and the following conditions:-

1- The Party shall get the area demarcated from the revenue authorities and shall erect permanent boundary pillars to the satisfaction of the Mining Officer, so as to clearly depict the provisional granted area. A copy of the demarcation report shall also be submitted to the Mining Officer.

2- The Party shall have to submit approved Mining Plan under Rule 35 of Himachal Pradesh Minor Minerals (Concession) and Minerals (Prevention of Illegal Mining Transportation and Storage) Rules, 2015.

Ashwani Kumar GPA

3- The Party shall have to obtain Environment clearance under the provision of Environment Impact Assessment Notification, 2006 and amendment issued time to time in this regard from the Competent Authority and forest clearance in case of forest land.

4- The party shall submit a certifacte from the revenue authority to the effect that Khasra No. 730 is free from all encumbrance and all the co-sharers of above said land have given their consent.

5- The party shall settle the dispute, if arises between him and land owners/co-sharer/right holders at his own level and shall indemnify the Govt. in this behalf.

6- This letter of intent is **subject** to the final outcome of decision of Hon'ble High Court **in CWP No. 1451 of 2023 titled as M/s Bhagwati Stone Crusher V/s State of H. P. & Ors.**

The "Letter of Intent" is further subject to any orders passed by the Hon'ble Supreme Court of India/High Court of Himachal Pradesh or other concerned departments from time to time in this regard. This letter of intent is valid only for obtaining Environment Impact Assessment Clearance from the Competent Authority and the applicant shall not resort any mining activities till final grant order in this behalf.

The grant order imposing all the conditions and stipulations relevant as per the rules shall be issued only after submission of documents as mentioned at serial Nos. 1 to 6 above and after completing codal formalities. This "Letter of Intent" shall be valid for a period of one year. Thereafter, extension of provisional period shall be granted only after reviewing of the progress made for fulfillment of the above said documents. The party shall not resort to any mining activity till getting the final grant order.

Sh. Vipul Sehgal
through GPA Holder Sh. Ashwani Kumar,
Prop:- M/s Bhagwati Stone Crusher,
Village & P. O. Kandwal,
Tehsil Nurpur, District Kangra, H.P.

Geologist (Zone-II)
Himachal Pradesh
Dated: 20/9/ 2023

Endst. No. As above. - 5827

Copy to the following for information and necessary action:-

1. The Mining Officer, Nurpur, Distt. Kangra, H. P.
2. Guard file.

Geologist (Zone-II)
Himachal Pradesh

Ashwani Kumar GPA

Approved Mining Plan Letter

REGISTERED

No. Udyog-Bhu(Khani-4)Laghu-196/2002 -11263
Government of Himachal Pradesh
Department of Industries
"Geological Wing"
Dated; Shimla- 171001, 03-01- 2024

To

Sh. Vipul Sehgal,
through GPA Holder Sh. Ashwani Kumar,
Prop:- M/s Bhagwati Stone Crusher,
Village & P. O. Kandwal,
Tehsil Nurpur, District Kangra, H. P.

Subject:- **Approval of Mining Plan of area applied for renewal of mining lease for collection/extraction of sand, stone & bajri from Khasra No. 730 over an area measuring 04-44-12 Hect.(Pvt. land, River bed) falling in Mohal Maira Batrah, Mauza Maira Doomal of Tehsil Nurpur, District Kangra, H. P. for which Letter of Intent has been issued on 20.9.2023.**

Dear Sir,

In exercise of powers conferred by Rule 36 of Himachal Pradesh Minor Mineral (Concession) and Minerals (Prevention of Illegal Mining, Transportation and Storage) Rules 2015, I hereby approve the above said Mining Plan for the purpose of obtaining Environment Clearance of the area applied for renewal of mining lease for which the letter of intent has been issued on 20.9.2023. The mining plan is approved for a period of five years from the date of execution of mining lease deed. This approval is subject to the following conditions:--

1. That the Mining Plan is approved without prejudice to any other laws applicable to the mine/area from time to time whether made by the Central/State govt. or any other authority.
2. That this approval of the Mining Plan does not in any way imply the approval of Govt. in terms of any other provisions of the H. P. Minor Minerals (Concession) Revised Rules, 1971 now repealed as Himachal Pradesh Minor Mineral (Concession) and Minerals (Prevention of Illegal Mining, Transportation and Storage) Rules 2015 or any other laws including Forest (Conservation) Act, 1980, Environment Protection Act, 1986 and the rules made there under and other relevant statutes, orders and guidelines as may be applicable to lease area from time to time.
3. That the Mining Plan is approved without prejudice to any orders or directions from any Court of competent jurisdiction.
4. That in case State Geologist, Geologist, any other inspecting officer/official of Geological Wing Department of Industries, after field inspection notices that proposals made and workings shown in the mining lease by the RQP need certain corrections/ amendments due to change in conditions either natural or man made, the inspecting officer can recommend necessary amendments in the Mining Plan at any point of time in the interest of environment and mineral conservation.
5. That the lease holder shall procure Environment clearance from the competent authority as per Environmental Impact Assessment notification, 2006 and amendements/notifications issued time to time in this regard.
6. That the approval of proposed mining operations is restricted to the mining lease area only.

Ashwani Kumar
GPA

7. That in case additional conditions are imposed by the Ministry of Environment & Forests Govt. of India while according clearance under EIA notification dated 14.9.2006 and any condition imposed by the State Govt. while granting mining lease the same shall have to be incorporated by making necessary amendments in the Mining Plan by the lessee through R. Q. P.
8. That in case Mining lease is not renewed or is terminated or working is suspended before the expiry of the lease period due to any reason, the approval of Mining Plan shall stand automatically cancelled.
9. That the lease holder shall carry out production of mineral in accordance to the production shown in Mining Plan and Environmental Clearance which ever is less.
10. That no person shall undertake mining operations in any mining lease area, except in accordance with a Mining Plan approved under sub rule (2) of Rule 39 of Himachal Pradesh Minor Mineral (Concession) and Minerals (Prevention of Illegal Mining, Transportation and Storage) Rules 2015.
11. That the lease holder shall carry out working in the mining lease area as per Mining Plan only after obtaining permission to work in the mining lease area from the competent authority.
12. That if the mining operations are not carried out in accordance with the approved Mining Plan the State Geologist, Geologist, Assistant Geologist and the Mining Officer, may order suspension of all or any of the mining operations and permit continuation of only such operations as may be necessary to restore the conditions in the mine as envisaged under the said Mining Plan.
13. That if any thing is found to be concealed as required under various Rules and guidelines pertaining to mining in the context of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.
14. That in case of any violation of terms and conditions of the approved Mining Plan, the financial assurance deposited by the said lessee shall be liable to forfeited.

Enclosed:- Copy of approved Mining Plan.

Yours faithfully,

Geologist (Zone-II)
Himachal Pradesh

Endst. No. As above. Dated; 2023

Copy for kind information to:-

1. The Mining Officer, Nurpur, Distt. Kangra, H. P. alongwith a copy of Mining Plan for further necessary action.
2. Sh. Rajneesh Sharma (Retd. State Geologist), Strawberry Cottage, Strawberry Hill, Chhota Shimla-2, H. P.

Geologist (Zone-II)
Himachal Pradesh

Ishwani Kumar GPA

राजस्व विभाग, हिमाचल प्रदेश - नकल जमाबंदी

एस.सी.ए रसीद संख्या: 4061130222580942

जिला : कांगड़ा
तहसील : नूरपुर
कानूनगोवृत : नूरपुर
पटवार वृत : हडल
हदबस्त न. : 64 मोहाल : मैरा बटराह

नाम : x
पिता/पति : x

साल : 2020-2021 रकबा ईकाई: है-आ-सै

नकल शुल्क : 1.00
सेवा शुल्क : 10
कुल शुल्क : 11

खेवट नं. ..... नाम पत्ती या तरफ मय नाम नम्बरदार ..... मुताबला व शरह मुआमला व हबूब	खतौनी नं. ..... लगान जो मुजारा अदा करता है व तफसील शरह व तदाद	नाम मालिक व एहवाल	नाम काश्तकार व एहवाल	नाम चाह व दीगर वसायल आबपाशी	नम्बर खसरा हाल	रकबा हर खेत व मिजान खाता मय किस्म अराजी	हिस्सा या पैमाना हकीयत व तरीका बाछ	कैफियत
1	2	3	4	5	6	7	8	9
66	126	कुल भाग (2) कुशल सिहं पुत्र	कब्जा स्वंय		730	04-44-12	कब्जा व पडता	378 लीज नामा
60	122	अमर सिहं पुत्र दुनी चन्द				गै.मु.खड्ड	बशरह खेवट न.	नोट: वर्ष ईन्तकाल नम्बर 378
.....	.....	(1) भाग किशोर सिहं,					(1)	पट्टानामा खाता हजा का नम्बर
बशरहा		जतिन्द्र सिहं पुत्र गगन						खसरा 730 रकबा तादादी 04-44-12
खेवट न.		सिहं पुत्र दुनी चन्द भाग						हैक्टेयर सालम मिन जानिब कुशल
(1)		बराबर (1) भाग स्थानिय वासी						सिंह पुत्र अमर सिंह 1/2 भाग व
.....								किशोर सिंह, जतिन्द्र सिंह
खारज बाछ								पुत्र गगन सिंह भाग बराबर 1/2
								भाग वहक अशवनी कुमार पुत्र
								रामसरन दास अरसा 15 साल दिनाक
								29/01/2015 ता 28/01/2030 बदले
								सालाना किराया 10,50,000 रुपये
								वाका दिनांक 29/02/2024 को
								स्वीकार है।

प्रिया
पटवार वृत Hadol
हस्ताक्षर
1/3/24

भारतीय गैर न्यायिक INDIA NON JUDICIAL

एक हजार रुपये

रु.1000

ONE THOUSAND RUPEES

Rs.1000

प्रदेश HIMACHAL PRADESH

-2-

द्वारा मुख्तयारे आम श्री अश्वनी कुमार पु० श्री रामशरनदास साकन —
इन्दिरा कालोनी पठानकोट, तहसील व जिला पठानकोट बजरिया मुख्तयार
नामा आम दस्तावेज नम्बर 238 दिनांक 26.08.2011 रजिस्टर्ड शुदा —
सब रजिस्ट्रार नूरपुर फरीक दोयम, दोनो फरीकैन ने लीज डीड (पट्टा
नामा) निम्नलिखित शर्तों पर तय पाया है:-

1. यह कि फरीक अव्वल अराजी खाता नम्बर 56 खतौनी नम्बर 121 —
खसरानम्बर 730 रकबा तादादी 04-44-12 है०मी० साबम मुन्द्रजा —
जमाबन्दी साल 2010-2011 वाक्या महाल मैरा पट्टा मौजा मैरा हुमल -
तहसील नूरपुर जिला कांगड़ा हि०प्र० के मालिक व काबज है। और फरीक -
अव्वल ने उपरोक्त अराजी फरीक दोयम के पास अरसा पन्द्रह साल —

..3 -

हिमाचल प्रदेश HIMACHAL PRADESH 035126

पट्टा नामा (लीज डीड) मियादी, मियाद

पन्द्रह साल, बसहरा लगान 57, 500/- रुपया

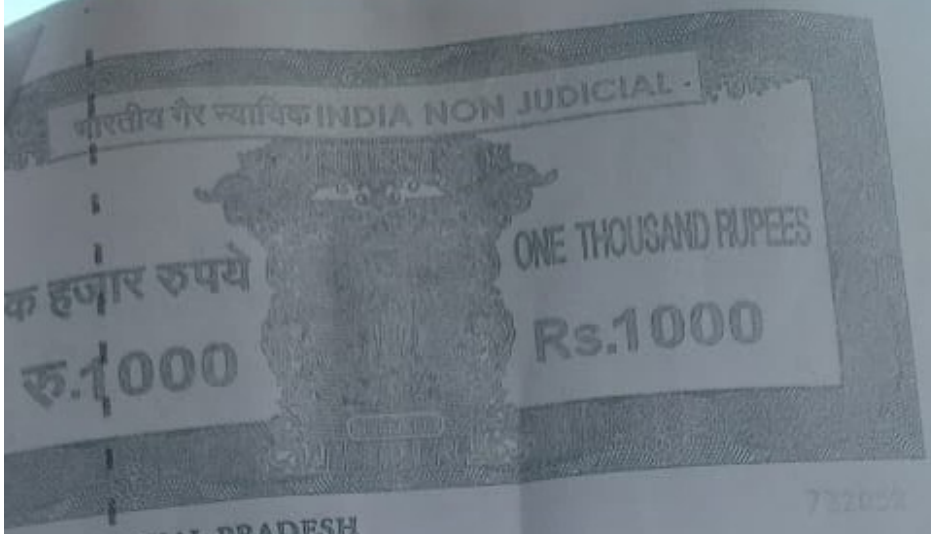
सालाना मियाद 29·01·2015 ता 28·01·2030

रकबा 04-44-12 हैक्टो आकटम = 9500/- रुपया,

23-00 रु प्रति हैक्टो बीज = 10,50,000/-

हम कुशल सिंह आयु 28 साल पुत्र श्री अमर सिंह पुत्र श्री दुनीचन्द 1/2 भाग व विजोर सिंह अयु 29 साल व जीतेन्द्र सिंह आयु 27 साल पुत्रान श्री गगन सिंह पुत्र श्री दुनीचन्द भाग बराबर 1/2 भाग सनातन गाँव नग्गी मौजा खन्नी तहसील नूरपुर जिलाकाँगड़ा हि0प्र0 फकीरा अच्छा व विमल कुमार पुत्र श्री अशोक कुमार पुत्र श्री ज्ञान चन्द साकन चण्डयाल तहसील नूरपुर ——

-2-



देश HIMACHAL PRADESH

के लिए दिनाँक 29.01.2015 से 28.01.2030 तक पट्टा (लीज) पर दी है जिसका सालाना किराया 57, 500/- (सतावन हज़ार पाँच सौ) रुपये तय हुआ है।

2. यह कि पट्टेदार दोयम पिसत कुमार के द्वारा मुख्तियारे आम आश्वनी कुमार उपरोक्त अराजी पर अरसा पन्द्रह साल तक काबज रह कर भगवती स्टोन -- क्रेशर बण्डधार, तहसीलनूरपूर जिलाकाँगड़ा के लिए रेत-बजरी व पत्थर के प्रयोग करे, अपने उपरोक्त क्रेशर में रेत-बजरी पत्थर क्षतेमात करे, -- और जैसे चाहे अरसा दराज तक काबज रह कर लाभ उठाये, ।

3. यहकि पट्टा नामा (लीज डीड) का अरसा पूरा होने के उपरान्त -- या तो जिला उज़र खजना छोड़ देवे, या फिर दोनो पक्षीयन की सहमति से पट्टा नामा की मियाद में बढोतरी करे ।

-5-

भारतीय गैर न्यायिक INDIA NON JUDICIAL

एक हज़ार रुपये ONE THOUSAND RUPEES

रु.1000 Rs.1000

प्रदेश HIMACHAL PRADESH

732051

4. यह कि इस पट्टानामा की शर्तों के दोनों फरीकैन के वारसान भी पाबन्द रहेंगे।

5. यहकि फरीक अव्वल ने पहले साल का किराया वसूल पा लिया है और आईन्दा भी अडवांस तौर पर हर साल का किराया फरीक दोयम से वसूल लेंगे।

6. यहकि इस पट्टा नामा के द्वारा कागजात माल में इन्द्राज किया जावे

अतः यह पट्टानामा दोनों फरीकैन ने अपनी खुशी व ठीक होश हवास से रूबरू गवाहन लिख दिया, ताकि सनद रहे। मुकाम नूरपुर, दिनांक :— 29.01.2015

...........6

भारतीय गैर न्यायिक INDIA NON JUDICIAL

ONE THOUSAND RUPEES

एक हजार रुपये

Rs.1000

रु.1000

732050

प्रदेश HIMACHAL PRADESH

:- -:

नोट:- यह कि पिला कुमार अराजी खाता नम्बर 160 वाक्या महाल पाल राजा मौजा छतरोली तहसील नूरपुर का मालिक व कब्जा कायम है।

गवाह [signature] फरीक अव्वल गवाह [signature]

श्री मति रोशनी देवी, कुशल सिंह श्री हरबन्स सिंह

नम्बरदार हल्का

नम्बरदार हल्का हन्नी किशोर सिंह गेहीलगोड तह नूरपुर।

तहसील नूरपुर जिला कांगड़ा।

जीतेन्द्र सिंह

563758

हिमाचल प्रदेश HIMACHAL PRADESH

फरीकदोयम विमल कुमार
द्वारा मुख्तयारे आम
अश्वनी कुमार

इस मुराद नामा दोनों फरीकैन को उनके अनुसार ड्राफ्ट करके सुनाया व समझाया गया। दुरुस्त मानकर हस्ताक्षर किये।

फरीक अव्वल
कुशल सिंह   किशोरी सिंह   जतिन्द्र सिंह

फरीकदोयम विमल कुमार द्वारा
अश्वनी कुमार

ड्राफ्टकर्ता ई
श्री सुरजीत सिंह ठठवाल,
ऐडवोकेट नूरपुर।

मैंने मद्द की मुख्तयारे के नाम जीवित है
और मुख्तयारे नाम रद्द न हुआ है

Ashwani Kumar

Party Details

Reference No. 257/2015

उपमंडल

सब रजिस्ट्रार : नूरपुर

PhotoGraphs

Party Name and Address | **Finger Prints and Signatures**

Lessee

1. Kushal Singh पुत्र Amar singh पुत्र Duni Chand ,& Kishore & Jatinder singh s/o gagan singh r/o Nakki th,Nurpur Throgh GPA Ashwani Kumar S/o Ram saran Dass

Signatures

Lessor

1. Vipul Kumar पुत्र Ashok Kumar पुत्र Gian Chand ,R/o grandwal Teh, Nurpur

Signatures

Witness

1. devi nambardar danni पुत्र , पुत्र , ,

Signatures

Identifier

1. Harbans Singh Nambardar Lagore पुत्र , पुत्र , ,

Signatures

हस्ताक्षर

(सब-रजिस्ट्रार)

Distance Certificate

No. udyog (Bhu)NPR-Bhagwati SCU- /s 79
Office of the Mining Officer, Nurpur
Distt Kangra (H.P.)
Nurpur

Dated :04-12-2023

To

The Geologist (Zone-II),
Himachal Pradesh,
Shimla-1.

Subject: Issuance of distance certificate regarding mining lease.

Sir,

It is intimated that Sh Ashwani Kumar GPA Holder of M/s Bhagwati stone crusher, village and Post office Kandwal, Tehsil Nurpur, Distt. Kangra (H.P.) has applied for issuance of the distance certificate required for EC, for mining lease applied for collection/extraction of sand, Stone & Bajri for use in stone crusher unit comprising Khasra No. 730 over measuring 04-44-12 Hect. ((Private Land , River Bed) falling in Mauza/ Mohal Maira doomal/ Maira Batrah , Tehsil Nurpur, District Kangra (H.P.) The distance certificate is attached for your countersignature please.

Yours Faithfully,

Encl: Distance certificate &
Copy of report from Halqa Patwari.

Mining Officer,
Nurpur District Kangra(H.P.)
Dated : 04-12-2023

Endst. No. As above
Copy to:

SSh Ashwani Kumar GPA Holder of M/s Bhagwati stone crusher, village and Post office Kandwal, Tehsil Nurpur, Distt. Kangra (H.P.) for information please.

Mining Officer
Nurpur, District Kangra (H.P.)

Ashwani Kumar
GPA

No. Udyog (Bhu)NPR-Bhgwati SCU-
Office of the Mining Officer, Nurpur
Distt Kangra (H.P.)
Nurpur

Dated 04-12-2023

CERTIFICATE

Certified that as per the report of Halqa Patwari 4 mining lease exists/granted within 500 meters from the periphery of the area applied for grant of mining lease in favour of Sh Ashwani Kumar GPA Holder of M/s Bhagwati stone crusher, village and Post office Kandwal, Tehsil Nurpur, Distt. Kangra (H.P.) comprising of Khasra No. 730 measuring 04-44-12 Hect. (Private Land , River Bed) falling in Mauza/ Mohal Maira doomal/ Maira Batrah , Tehsil Nurpur, District Kangra (H.P.) is as under :

Sr. No.	Name and Address	Mahal/ Mauza	Khasra No.	Area	Remarks
1.	M/s New Shiva Stone Crusher, VPO Kandwal, Tehsil Nurpur, Distt. Kangra (HP)	Maira Batrah / Maira Doomal	700, 731/2/2	04-97-93	
2.	M/s New Shiva Stone Crusher, VPO Kandwal, Tehsil Nurpur, Distt. Kangra (HP)	Maira Batrah / Maira Doomal	731/1 and 732	03-87-70	
3.	M/s Mahadev Stone Crusher, VPO Kandwal, Tehsil Nurpur, Distt. Kangra (HP)	Maira Batrah / Maira Doomal	731/3	05-40-07	
4.	M/s Ankur Stone Crushe, Village Pail, PO Lodhwal, Tehsil Indora, Distt. Kangra (HP)	Maira Batrah / Maira Doomal	724	04-04-67	

Mining Officer
Nurpur Distt. Kangra (H.P.)

Ashwani Kumar
GPA

No. udyog (Bhu)NPR-Bhagwati SCU-
Office of the Mining Officer, Nurpur
Distt Kangra (H.P.)
Nurpur

Dated :04-12-2023

To

The Geologist (Zone-II),
Himachal Pradesh,
Shimla-1.

Subject: **Issuance of distance certificate regarding mining lease.**

Sir,

It is intimated that Sh Ashwani Kumar GPA Holder of M/s Bhagwati stone crusher, village and Post office Kandwal, Tehsil Nurpur, Distt. Kangra (H.P.) has applied for issuance of the distance certificate required for EC, for mining lease applied for collection/extraction of sand, Stone & Bajri for use in stone crusher unit comprising Khasra No. 730 over measuring 04-44-12 Hect. ((Private Land , River Bed) falling in Mauza/ Mohal Maira doomal/ Maira Batrah , Tehsil Nurpur, District Kangra (H.P.) The distance certificate is attached for your countersignature please.

Yours Faithfully,

Encl: Distance certificate &
Copy of report from Halqa Patwari.

Mining Officer,
Nurpur District Kangra(H.P.)
Dated : 04-12-2023

Endst. No. As above 1580
Copy to:

SSh Ashwani Kumar GPA Holder of M/s Bhagwati stone crusher, village and Post office Kandwal, Tehsil Nurpur, Distt. Kangra (H.P.) for information please.

Mining Officer
Nurpur, District Kangra (H.P.)

Ashwani Kumar GPA

A

No.: Udyog (Bhu) NPR-M/s Bhagwati SCU- 1644
Office of the Mining Officer, Nurpur
Distt Kangra (H.P.)

Nurpur Dated 17-2-2023

To

The Geologist (Zone-II)
Himachal Pradesh
Shimla-1

Subject: ***Regarding Joint Inspection of the area applied for renewal of Mining Lease.***

Sir,

Kindly refer to your letter no. Udyog-Bhu(Khanni-4)Laghu-196/2002-9195 dated 19.12.2022 on the subject cited above.

In this connection it is informed that the re-Joint Inspection of the area applied for renewal of mining lease for extraction of Stone Boulder, Bajri and Sand over an area comprising of Kh. No. 730 measuring to 4-44-12 Hect. in Mauja /Mohal Mara Batrah/Mara Dourat Teh. Nurpur District Kangra by was conducted in the Sub Divisional Committee constituted under the Chairmanship of SDO (Civil) Nurpur on 11.01.2023.

The PMT of the stone Crusher was valid up to 25.3.2014. PDCO of Stone Crusher unit was made on 1.1.2015 (Certificate enclosed-A) and renewal of lease inspected by joint inspection committee on dated 26.5.2015 was not granted due to want of no dues as penalty notice vide no.Udyog(Bhu)KGR-imp CWP No.2632/2009-520-21 dated 28.4.2016, amounting to Rs. 1,95,44,000/- as per judgement delivered in CWP No. 2632/2009 titled as Harbhajan Singh V/s State of HP & ors.by the Hon'ble High Court HP for a period 4/2007 to 3/2016 whereas, no mineral concession was granted in favour of said stone crusher (copy of notice enclosed-B).

The consent of land owner Sh. Kushal Singh Kishor Singh Jatinder Singh vide lease deed reference no.25/2015 dated 29.1.2015 in Sub Registrar Nurpur is enclosed as Annexure-C.

The crusher site was visited and most of stone crusher are found installed(Photograph attached-D)

Please find enclosed here with Joint Inspection Report along with relevant documents for your kind perusal and further necessary action at your end please.

1. Joint Inspection Report of the area applied for renewal of mining lease (10 Pages).
2. Check List

Encl. As above

Yours faithfully,

Mining Officer
Nurpur, Distt Kangra (H.P.)

Ashwani Kumar
GPA

1.	Name of the applicant and address	*Sh. Ashwani Kumar* *GPA holder of Sh. Vipul Sehgal* *Prop. M/s Bhagwati Stone Crusher VPO Kandwal Nurpur, Kangra (H.P)*			
2.	Details of the area applied for the grant /renewal of mining lease	Mauja/Mohal	Khasra No.	Area (In Hect.)	Classification
		Maira Batrali Maira Daunal	*730*	*4-44-12*	*Gair Mumkin Khad*
3.	Member present in joint inspection	S.D.O (C) Nurpur, A.E.JSV Jassur, AE PWD Sulyali, Range Officer Nurpur, JE Env. HPPCB Nurpur,Mining Officer Nurpur			
4.	Separate consent	No			
5.	Whether the Joint Inspection Committee has recommended whole of the area applied for or part thereof for the grant/renewal of mining lease?	Yes, whole area			
6.	Whether consent/views of concerned Gram Panchayat (s) has/have been obtained?	Yes			
7.	Whether competent authority of the Forest Department has issued NOC?	Yes			
8.	Whether any road/bridge/public utility structure exists near/ with in the area?	No.			
9.	Whether any drinking/irrigation Water Supply Scheme/Kuhal etc exist near/within the area?	No.			
10.	Whether Environment Protection and Pollution Control Board has recommended the area for grant/renewal of mining lease?	Yes.			
11.	Whether applicant has obtained the consent of private land owners (in case of private land)?	N.A			
12.	Whether applicant has No Dues Certificate?	No			
13.	Whether lease is for open sale of mineral or of minerals in the mineral based industries?	For captive use i.e. existing Stone Crusher Unit , *M/s Bhagwati Stone Crusher*			
14.	Whether sufficient mineral deposits are available in the area applied to cater the need of mineral based industry?	Yes.			

Mining Officer,
Nurpur Distt Kangra (H.P)

PERFORMA FOR THE JOINT INSPECTION OF THE AREA APPLIED FOR RENEWAL OF MINING LEASE

1. General

1.1 Name of the applicant		*Sh Ashwani Kumar* *GPA holder of Sh Vipul Sehgal* *Prop. M/s Bhagwati Stone Crusher*
1.2 Address of the applicant	Father's Name	
	Village	*Kandwal*
	P.O	*Kandwal*
	Tehsil	*Nurpur*
	Distriet	*Kangra*
	Pin No	
1.3 Approach and location of the area	*The area applied for renewal of mining lease is located at a distance of approx. 17 Km. from Nurpur and can be approached by Nurpur –Pathankot road i.e. NH 20 up to Nagabari and thereafter, by Nagabari Maira Batrah-Haddal link road up to Maira and the last spell of approx. 1 km can be approached through an unmetled road developed on the Nallah and bed of Chakki Khad*	
1.4 Purpose for which lease is applied e.g. For setting up of stone crusher, Hollow block, Screening unit, free sale etc	*For existing Stone Crusher*	
1.5 Date of Joint Inspection	*11.1.2023*	

1.6 Members present during joint inspection

Sr. No	Name and Designation	Particulars
1	*Sh.Anil Bhardwaj* *S.D.O (Civil) Nurpur*	*Chairman*
2	*Shri Shashi Pal* *RFO, Nurpur*	*Member*
3	*Sh. Anurag sharma* *AE JSV, Jassur*	*Member*
4	*Er. Rahul Sharma* *Asstt. En Environmental Engineer* *HPSPCB, Nurpur*	*Member*
5	*Sh Kuldeep sharma* *AE HPPWD, Saulyali*	*Member*
6	*Shri Jyoti Kumar Puri* *Mining Officer, Nurpur*	*Member Secretary*

Ashwani Kumar
GPA

2. Revenue Department

2.1 Status w.r.t. Demarcation of Applied for area *Conducted on 9.1.2023*

2.2 Detail of area applied

Kh. No	Area (In Hect)	Owner Govt/ private	Kism	Mohal	Mauza	Panchayat	Any other
730	*4-44-12*	*Pvt. Land*	*Gair Mumkin Khad*	*Mera Barah*	*Mera [illegible]*	*Hadal*	
Total	*4-44-12*						

Point of public utility in the area/near by (Village footpath, road, school, residential house, hospital, cattle shed, charitable building, water channel, cemetery/cremation ground, place of worship etc.

The area applied for grant of mining lease was shown physically by concerned Halqa Patwari. Since the area under reference exists in the form of bed of Chakki Khad, primary tributary to river Beas. Hence no above mentioned structure of community interest exists within or near the area applied for grant of mining lease.

2.3 Consent of Gram Panchayat

Gram Panchayat Haddal vide its resolution No. 5 dated 7-1-2023 has issued its consent for proposed mining activities in the area under reference, the photocopy of the same as well as "Karyawahi Register" (proceeding book) was found enclosed along with the application form.

2.4 Whether marked on location plan attached with application If not then please mark

Yes

Any special recommendation with respect to above points|

No

2.5 Any other observation/condition

प्रधान ग्राम पंचायत
हड़ल
14/2/2023

Sub Divisional Magistrate
Nurpur Distt. Kangra (H.P.)

Ashwani Kumar
GPA

3. Forest Department

3.1 Types of land i.e Reserve Forest/Protected Forest/ Demarcated Forest/ Non Forest Government Land/ Private Land etc.	*Private Land*			
3.2 Whether attract FCA,1980	Yes		✓	No
If yes, then specify Kh. Nos, which attract FCA	*N.A.*			

3.3 Whether there is any activity of the forest department in the area such as soil conservation works, nursery plantation, check dams, taming of nallas/stream etc ,if yes please specify and mark on location plan and what precautions are required

No activities such as soil conservation works, nursery plantation, check dams, taming of nallas/stream etc of the forest department exists in the area applied for renewal of mining lease.

3.4 Whether there is any property of Forest Department nearby which may have direct effect if mining is allowed

No.

3.5 Any other observation/condition

Range Forest Officer
Nurpur Forest Range

Parwani Kumar
GPA

4. PWD Department

4.1 Whether any road exist near area ✓ Yes No

If Yes then	Type of road	Distance from area	Marked on location plan as	Minimum safe distance required for mining
	NH	7 Km		100 m
	State highway	8 km		25 m
	Link road	500 mtr		10 m
	Village road	N.A.		10 m

4.2 Whether any road exist within area Yes ✓ No

Type of road	Distance from area	Marked on location plan as	Minimum safe distance required for mining
NH		N.A.	
State highway		N.A.	
Link road		N.A.	
Village road		N.A.	

4.3 Whether there exist any bridge, culvert etc within area/near area ✓ Yes No

If yes, then No. of bridges etc. N.A.

Whether marked on location plan yes **If not, please mark**

Bridge	Minimum distance required U/S	Minimum distance required D/S	Any special precaution required
Bridge No.1	200 mtr	300 - 500 mtrs	*NA*
Bridge No.2			

4.4 Any other structure of PWD importance, if yes (Please mark on location plan) then specify any special precaution

No

4.5 Any other observation/condition

Since no structure of PWD i.e. bridge, road, building etc. exists within or near the area applied for grant of mining lease hence the representative of PWD has no objection w.r.t. proposed mining activities in the area applied for grant of mining lease.

4.6 Is there any objection if intake point from PWD road to the leased area is used in case lease is renewed, if not, whether to allow with conditions

Intake point already exists.

Ashwani Kumar
GRA

Assistant Engineer
Solan Sub Division
H.P.P.W.D. Solan

5. JAL Shakti Department				
5.1 Whether there exist any water supply scheme within/near the area		Yes	✓	No
Type of Scheme	Scheme	Minimum safe distance required		
		U/S		D/S
	Water supply tank	200 mtrs	200 Mtrs	200 mtrs.
	Water supply bore well	200	200	200
	Lift Irrigation Scheme	200	200	200
	Hand Pump		No	
Whether marked on location plan	N/A	If not please mark		

Any special recommendation with respect to above schemes

No

5.2 Any other important point with respect to Jal Shakti department, if yes. Please mark on location plan. Whether any special precaution is required, please specify

Since no gravity irrigation / Lift irrigation scheme (LIS) / Water supply scheme (WSS) exists within or near the area applied for grant of mining lease hence the representative of I&PH has no objection w.r.t. proposed mining activities in the area applied for grant of mining lease.

5.3 Any other observation/condition

N.A.

Assistant Engineer
Jal Shakti Sub Division
Jassur

Ashwani Kumar
GPA

Contd....6

6. Industries Department

6.1 Location of applied for area (nearest village/important features)	*Mauza Bhaurah*
6.2 Purpose of Mining Lease.	*Raw material for existing Stone Crusher unit under the name and style of M/s Bhagwan SCU*
6.3 Overlapping of areas with any other lease/contract	✓ No *(As per the office records)*
If yes please give detail	*N.A*
6.4 Location of the nearest mining area/quarry	*Adjoining to the area*
6.5 Average daily production anticipated in Metric Tonne	*Approx. 100 MT* *By taking 240 working days in a year for carrying out mining activities*
If Yes, please mark on location plan and suggest precaution	*N.A.*
6.6 Suitability of mineral as per the purpose given above (Give detail)	*The minor mineral is suitable for purpose applied for*

6.7 Feasibility of Mining

(i) Name of Mineral : *Stone/bajri/sand*

(ii) Type of mining Hill slope/River Bed: *River Bed*

(A) Hill Slope

(i) Average angle of slope: *N.A*

(ii) Nature of rock:

(iii) Scientific mineability considering the orientation of revenue record:

(iv) Availability of mineral w.r.t anticipated production:

(v) Availability of area for disposal of waste:

(vi) Approach to the Mine area:

(vii) Whether areas is prone to land slide if yes then the protection measures needed thereof:

(B) River Bed

(i) Name of river/ stream: *Chakki Khad*

(ii) Width of river bed: *Approx. 100 Mtrs.*

(iii) Approximate length of applied for area: *Approx.220 mtrs.*

(iv) Availability of mineral w.r.t anticipated Production:

The quantum of minor mineral available in the mining lease area shall not able to cater the total demand of raw material of the proposed of stone crusher unit for full term of mining lease period.

(v) Availability of area for disposal of waste:

No waste is likely to be generated during process of mining

(vi) Approach to Mining Area

The area from Nurpur as well as from village Nagabari, Mairo Basrah and Khanni.

(vii) Location of

(v) Habitation along the banks *Approx. 100 Mtrs.*

(vi) Agriculture field along the banks: *Approx.50 mtrs.*

Any other structure like Transmission Lines, Telephone Lines etc: *No*

(viii) Disposal of waste:

The mining activities shall involve only collection of minor mineral on the river bed as such no waste disposal shall likely to be there during process of mining

(ix) Area proposed for Plantation: *Yes*

(c) Additional information on case of Renewal of Mining Lease

(i) Report under Rule 18(2)of Himachal Pradesh Minor Mineral rule:

(vii)	Investment for developing the area	NA
(viii)	Investment on machinery & equipment	25 Lakhs
(ix)	Labourer Employed	15

(ii) Production of mineral for the last tenure: NA

(iii) Violation of condition mining noticed in the tenure No

(iv) Detailed note on scientific mining w.r.t working cum Environment Management Plan in the last tenure:

During the course of joint inspection no remarkable change was observed in the relief of Khad bed which gives indications about unscientific mining.

6.8 Whether mining can pose threat to existing object of Public Utility or private property? If any, Give detail and precaution required

If the mining activities are confined towards depositional side and the central portion of the chakki khad bed it shall not pose any threat to private/public property

If no, the reason thereof:

N.A

6.9 Any other special point pertaining to Industries Department

The area applied for renewal of mining lease is a part of Chakki Khad passing through in Mohal Maira Bathrah having deposits of loose Stone boulder, Bajri and sand transported as a result of flash beds during the monsoon and the other additional are as under:

1. *The area applied for renewal of mining lease forms a compact block and having gentle slope.*

2. *The area applied for renewal of mining lease the area found suitable by the committee holds sufficient deposits of loose quartzite / stone boulders and bajri in the form of mixed gravel whereas the area applied for renewal of mining lease is a Pvt. land.*

3. *The quantum of stone / boulders of varying size easily available in the area can cater the demand of existing stone crusher of the applicants the based on daily production shown at item no.- 6.5 of the report*

4. As on date four mining lease is in operational within the radius of approx. 1 km and the total potential of minor mineral in Chakki Khad are shown as 27000000 MT with annual replenishment of 810000 MT as per survey document of Kangra Distt.

It is further informed that the area applied for renewal of mining lease fulfills the conditions and the distance criteria mennoned under Rule 19 (8) of Himachal Pradesh Minor Minerals (Concession) and Minerals (Prevention of Illegal Mining, Transportation and Storage) Rules, 2015.

Parwani Kumar
GPA

7. Environment Protection & Pollution control Board Summary of method for Environment Protection

The site of applied mining lease was inspected on dated 11.1.2023. The applied for mining lease for extraction of sand stone bajri by Sh. Ashwani Kumar GPA Holder of Shri Vipul Sehgal Proprieter M/s Bhagwati Stone Crusher, Village & Post Office Kandwal, Tehsil Nurpur,Distt. Kangra for Existing stone crusher M/s Bhagwati Stone Crusher at Kandwal Tehsil Nurpur,Distt. Kangra..The applied mining lease is situated at Chakki Khad,Primary Tributary of River Beas at Mauza Maira Doomal, Mohal Maira Batrah, Panchyat Hadal ,Tehsil Nurpur , Distt.Kangra H.P and area is mention as given below.

Sr. No.	Area (Hect.)	Khasra No.	Owner Govt./Pvt Land	Panchyat
1.	04-44-12	730	Pvt. Land	Hadal
Total Area	04-44-12 Hect.			

The mining lease may be issued to the proponent as per the mining policy of the govt. of (H.P) along with the following term & condition please.

- The Mining shall be carried out as per the practices and policies of mining departments.
- The mining lease area is a river bed and situated mining area in Chakki Khad,Primary Tributary of River Beas , So the sand & Bajri should be picked up manually.
- No blasting shall be carried out.
- Natural course of river shall not be disturbed & especially step shall be taken to control the soil erosion.
- No mechanical work/JCB allowed in the mining lease area.
- Any guidelines issued by state Pollution Control Board Shall be binding.
- The Proponent shall obtain the EIA clearance from the competent authority as per the orders of Hon'ble supreme court dt. 27.02.2012 & Hon'ble high court dt. 15.06.2012 & 14.09.2012. & EIA-clearance obtained from the competent authority.
- Water sprinkling shall be carried out on approach road and proper covered the material during transport from mining area.

Asstt. Environmental Engineer,
Sub. Regional Office,
HP State Pollution Control Board
Nurpur, Distt. Kangra (H.P.)

Ashwani Kumar
GPA

8. Recommendations

8.1 Whether whole of the area is being recommended for mining	✓ yes	No
If no, please specify the Kh. Nos. being recommended	NA	

Any other recommendation in addition to recommendations given at to

The applied for area was inspected on 26.6.2015 by the committee and recommended the same for renewal of mining lease and same has forwarded to your good office vide this office letter no. (1734) dated 24.9.2016. The lease deed was not granted/executed due want of no leasing dues, because as Hon'ble High Court judgement in CWP no. 2632/2009, the penalty notice no (520-21) dated 28.4.2016 amounting to Rs 1,95,44,500/- has been served against M/s Bhagwati stone crusher for carry out illegal mining during the period 4/2007 to 3/2016. Now the GPA holder Sh. Ashwani Kumar M/s Bhagwati Stone Crusher has submitted an affidavit that on recommendation of renewal of mining lease by committee, the 25% amount of penalty notice shall be paid.(enclosed)

Final recommendation of the Committee

Keeping the facts given above, the area applied for renewal of mining lease comprising of Kh. No. 730 measuring to 4-44-12 Hects was found suitable by the committee and is being recommended for renewal subject to stipulation made above, and after obtaining Environmental clearance from competent authority of MoEF

Signatures of Committee

SDO(C)	ACF/R.O.	Repersentative of P.W.D
Sub Divisional Magistrate Nurpur Distt. Kangra (H.P.) Pin - 176202	Ranger Forest Officer Nurpur Forset Range	Assistant Engineer Sulial Sub Division H.P.P.W.D. Sulial
Repersentative of JSV	**Repersentative of H.P.P.C.B.**	**Mining Officer**
Asstt. Engineer, Jal Shakti, Sub-Division Jassur	Asstt. Environmental Engineer, Sub. Regional Office, HP State Pollution Control Board Nurpur, Distt. Kangra (H.P.)	Mining Officer Nurpur, Distt. Kangra (H.P.)

Ashwani Kumar
GPA

Gram Panchayat NOC

कार्यालय ग्राम पंचायत हडल

विकास खंड नूरपुर तहसील नूरपुर जिला काँगड़ा (हि. प्र.)

प्र.स. 05 अध्यक्षता : प्रधान श्री विजय कुमार दिनांक 07/06/2023

विषय : अपनी मलकीत भूमि खसरा न. 730. में मटेरियल माइनिंग बारे ।

अध्यक्ष महोदय द्वारा बैठक में प्रस्ताव रखा गया कि अश्वनी कुमार प्रोप. भगवती स्टोन क्रेशर ने ग्रा . प. हडल में प्रार्थना पत्र दिया है कि इन्होने गैरा बटराह खसरा न. 730 में कुशल सिंह पुत्र अमर सिंह व किशोर सिंह , जितेंदर सिंह की मलकीत भूमि रकबा 4-44-12 का पट्टा नामा लिया है | उसमे मटिरियल जैसे रेत, बजरी, पत्थर आदि उठाना चाहते है इस हेतु अनापति प्रमाण पत्र चाहते हैं इस पर बैठक में चर्चा हुई व् सर्व सहमति से प्रस्ताव पारित हुआ कि इस बारे किसी भी सदस्य को कोई आपति नही है यह मुददा आगामी ग्राम सभा भी में रखा जायेगा | उपरोक्त प्रस्ताव सर्व सहमति से सभी सदस्यों द्वारा पारित किया गया |

प्रधान Vijay Kr
ग्राम पंचायत हडल
वि ख नूरपुर काँगड़ा हि.प्र

Ashwani Kumar
GPA

कारवाई पंचायत

PROCEEDING BOOK

पृष्ठ संख्या : 178

तिथि	हाजर पंचों के नाम	काम जो पूरा किया गया
		इस बारे किसी भी सदस्य को कोई आपत्ति नहीं है यह मुद्दा आगामी ग्राम सभा में रखा जायेगा। उपरोक्त प्रस्ताव सर्वसम्मति से सभी सदस्यों द्वारा पारित किया गया

19(8) अपनी मलकीत भूमि खसरा नं० 730 में मटिरियल भरिंग बारे।

अध्यक्ष महोदय तथा बोर्ड के समक्ष रखा गया कि अश्वनी कुमार जो. भगवती स्टोन क्रेशर कंडाल ने ग्रा.पं. टूटूल में प्रार्थना पत्र दिया है कि उन्होंने मेरा वरसाद खसरा नं० 730 में कुशाल सिंह पुत्र अमर सिंह व किशोर सिंह, सिं सिंह की मलकीत भूमि रकबा 4-44-12 को पट्टा नामा है उसमें वह मटिरियल जैसे रेत, पत्थर, बोल्डर आदि भरना चाहते हैं इस हेतु अनापत्ति प्रमाण पत्र चाहते हैं। इस पर बोर्ड में चर्चा उपरांत सर्व सम्मति से प्रस्ताव...

Ashwani Kumar
GPA

श्रीमानजी,

तस्दीक की जाती है। कि खसरा नं० 730 रकबा तादादी 04-44-12 H.M (गै० मु० खड्ड) वाक्या महाल मैरा बतराहं मौजा मैरा डमल तह० नूरपुर जिला कांगड़ा (हि०प्र०) उक्त खसरा नं० का मालिक कुल भाग (2) कुशाल सिंह पुत्र अमर सिंह (1) भाग किशोर सिंह जतिन्द्र सिंह पुत्र गगन सिंह भाग बराबर (1) भाग खसरा नं० 730 के साथ ही 731 का भी पट्टानामा हुआ। अतः रिपोर्ट सेवा में पेश है।

पटवारी Hadal
मुहाल Mu...
दिनांक 4/12/23

Ashwani Kumar
GPA