

**Executive Summary of  
Draft EIA Report**

*for*

**Environmental Public Hearing**

*for*

**Expansion of Limestone Mining  
from 50, 000 TPA to 3,00,000 TPA  
(Mining Lease Area – 11.898 HaR)**

*at*

**Prop. Avinash N. Warwatkar  
(Wanjri Limestone Mine-11.898 HaR),  
Khasra No. 105, 107, 108 & 111, Village - Wanjri,  
Taluka- Wani, Dist. Yavatmal, Maharashtra.**

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***NABET Consultant Organization  
(NABET/EIA/2023/RA 0188 valid up to 02-05-2023 )***

**M/s. Earthcare Labs Private Limited  
C-11, Amar Enclave Commercial Wing,  
Jog Layout, Prashant Nagar, Near Ajni Square,  
Nagpur - 440015**

**September - 2021**

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# *Executive Summary*

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## **1.0 Project Description**

Prop. A. N. Warwatkar (Wanjri Limestone Mine) is operating limestone mine of capacity 50,000 TPA on private, non forest land having lease area 11.898 HaR at Sr. No. 105, 107, 108 & 111, Village -Wanjri, Taluka-Wani, District-Yavatmal, State-Maharashtra. The Environment Clearance is granted vide No.SEAC-2010/CR-669/TC-2 and revalidated vide letter No. SIA/MH/MIN/147998/2020 for the period valid up to 19.03.2023. The Mining Lease is valid up to 16.10.2026.

Since 2013 after grant of environmental clearance, lessee has mined out only 49754 Tonnes of limestone due to low demand of limestone in open market. Recently, the lessee has identified a prospective buyer for purchase of limestone in bulk quantity. Prospective buyer has also agreed to finance the expansion project for increasing the existing limestone mining from @ 50,000 TPA to proposed limestone mining @ 3,00,000 TPA within the existing lease area.

SEIAA, Govt of Maharashtra has granted Terms of References (TOR) for expansion project under category B1 for carrying out EIA study and public consultation.

The Wanjri Limestone Mining Lease area lies between latitude 20°06'06.5" N to 20°06'34.0" N and longitude 78°55'56.8" E & 78°56'12.4" E. Topography of the mine area is flat and altitude of the site is 207 m above MSL.

Wanjri, the nearest village is located at a crow fly distance of about 0.5 km in East direction of the mine site. Wani town is about 4.14 km in S-SE direction as crow flies from the mine site.

The general drainage pattern is towards South-East direction in the lease area. Wardha River is present dominantly in the North-East quadrant of the study area which has a flow in South-East direction. The nearest stretch of Wardha River is at a crow fly distance of about 4.0 km. Nirguda Nalla is at a crow fly distance of about 3.6 km towards South direction from mine site.

Based on the geological occurrences of limestone in the entire lease area and depth consideration, the expected life of mine at a production rate of 3,00,000 tonnes per annum works out to be  $(49,19,690 / 3,00,000 = 16.39$  or say 16) 16 years.

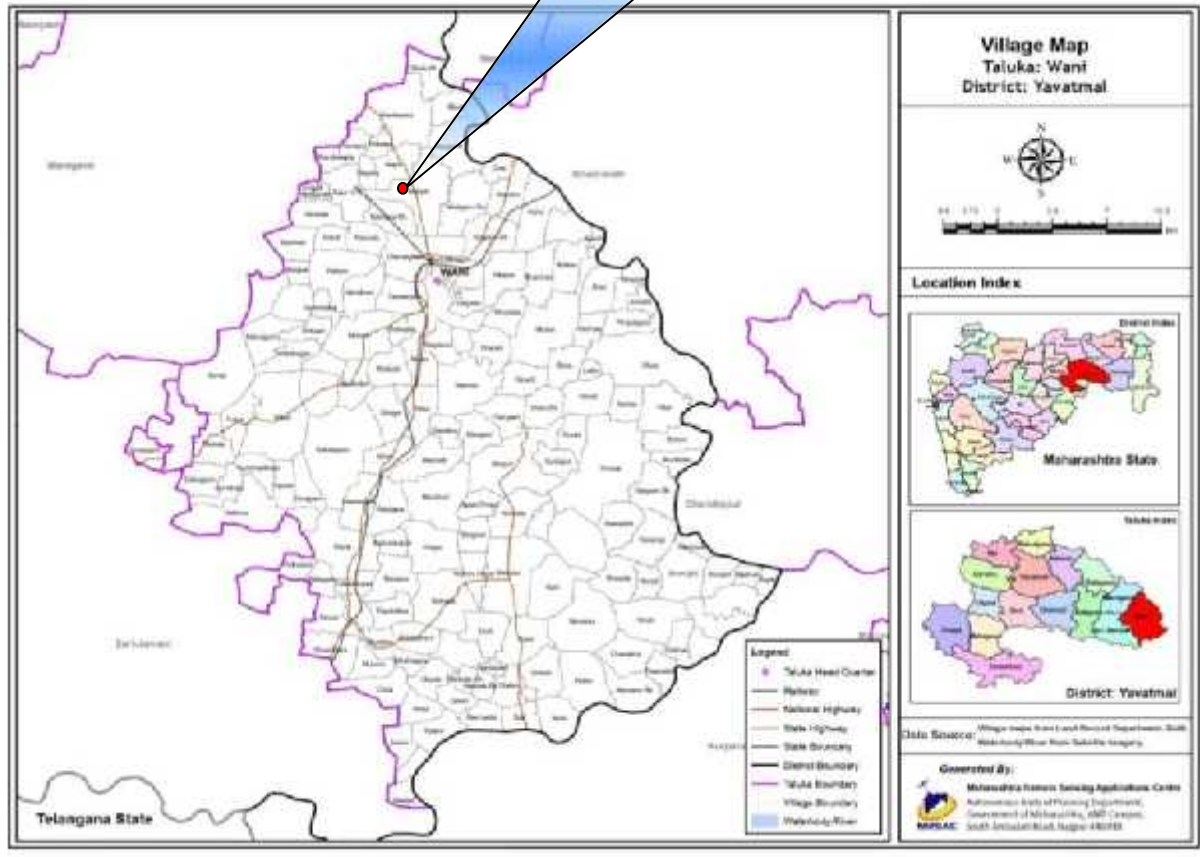
The mining method will be Fully Mechanized Opencast Mining by deploying wagon drill and compressor combination. The loading will be carried out by mechanical means by deploying excavator & JCB and transportation using tippers. The mining operations will be carried out on a single shift basis. Drilling and blasting operations will be carried out through experienced & licensed contractors.

In the mining process of proposed expansion project, the unit operations as Site clearing, Drilling, Blasting, Removal & Sorting, Loading and Transport will be carried out. Initially topsoil and over burden will be removed by using shovel-dumper combination and stacked separately in non-mineralised area for reuse and sale. The drilling will be carried out by Wagon drill machine with compressor. Diameter of hole will be 100 mm. Proposed drilling pattern will be Spacing – 3.0 m x Burden-1.2 m x Depth- 6.0 m. Yield per hole will be 54 Tonnes/Hole. In addition, existing jack hammer drill machine will be used as and when required. It is proposed to carry out blasting through the licensed contractors having their

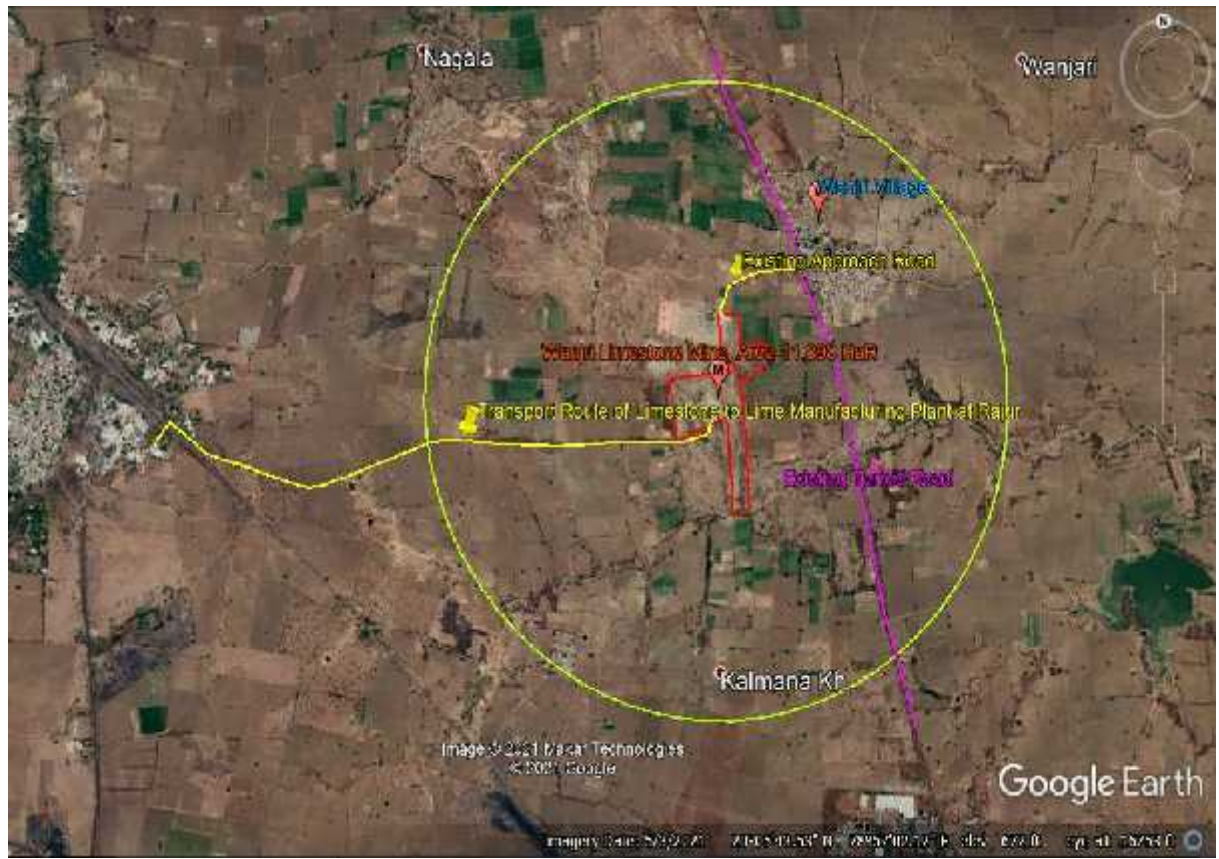
own license granted under Rule 22 of Explosive Rule 1983 under the supervision of the mines mate employed by the lessee. The blasted ROM will be removed and sorted out by JCB. Limestone will be loaded by JCB to Trucks/Tippers (about 10 to 30 Tonnes capacity). The limestone will be transported to Cement Industries and Limekilns by covered trucks, mostly without stacking in lease area.

Overburden dump of 7.5 m width will be developed by using unsuitable reject material such that it can act as barrier wall along part of the the lease boundary. The dump will be stabilized by plantation. All along the boundary of lease area, 7.5 m width green belt will be developed. At the closure of mine, about 9.00 HaR area will be converted to water storage ponds, 2.00 HaR area will be developed as green belt and 0.898 HaR will be utilized as facilities for security & approach roads to ponds.

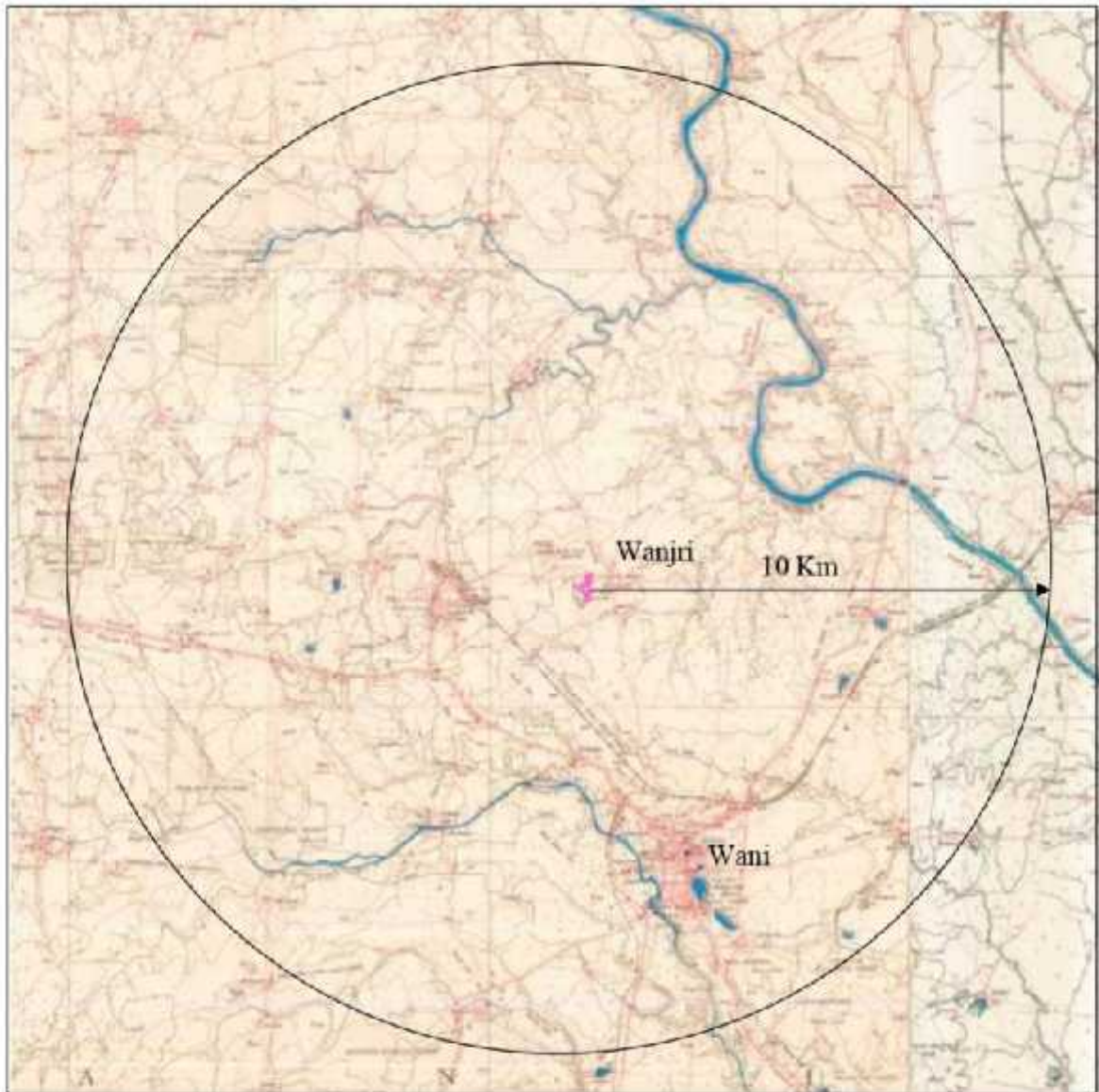
Wanjri Limestone Mine, of M/s  
Avinash N. Warwatkar  
Area-11.898 HaR.



MAP OF WANI TEHSIL SHOWING LOCATION OF MINE





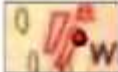




**MAP SHOWING LOCATION OF WANJARI LIMESTONE MINE WITH 1.0 KM SURROUNDING AREA**



**Legend :**

**Toposheet No. (From Left Top, Clockwise): 55-I/16 and 55-P/4**

	<b>Mine Site</b>		<b>River</b>		<b>Road</b>		<b>Forest</b>
	<b>Village</b>		<b>Contour</b>		<b>Railway Line</b>		

**TOPOSHEET MAP OF BUFFER ZONE (10 KM RADIUS) SHOWING VARIOUS FEATURES**



**FULL VIEW OF LIMESTONE MINE**



**WORKING PIT IN WESTERN PART OF MINE LEASE AREA**



**WORKING PIT IN CENTRAL PART OF MINE LEASE AREA**

## **2.0 Baseline Environmental Scenario**

The baseline environmental status of the study area covering 10 km radius around the mine site with reference to the prominent environmental attributes has been carried out in the Summer 2021. The salient features of various environmental components are given hereunder.

## **2.1 Land Environment**

Topography of the 10 km study area is mostly plain and no hills or valley are existing in the vicinity of the mine. There are no Mountains, National parks, Wildlife Sanctuary, Historical Monuments, and Defense Installation etc. in the study area. Non-notified Phiski Reserved Forest is at a crow fly distance of about 8.0 Km in NW direction and non-notified Maregaon Ramna Reserved Forest is at a crow fly distance of about 9.68 Km in West direction from the mine site.

Study area comes under Zone II of the Bureau of Indian Standards (BIS) 2000 Seismic Zone Map for India. Zone II is defined to be seismologically least to moderately active, thus, study area is seismologically safe.

The site specific geology of lease area includes rocks comprising only the limestone of Penganga Beds. However, these rocks are covered with 1.0 m to 1.2 m thick soil mantle. Limestone exposures are seen in the existing pits and surrounding mines.

Land use pattern study showed in the total study area of 32488.0 HaR, the breakup of various facets are: Forest Land (8.26%), Irrigated land (2.89%), Unirrigated land (70.26%), Land Under Miscellaneous Tree Crops etc (0.51%), Land under non agriculture uses (8.31%), Barren & Un-cultivable Land Area(1.90%),Permanent Pastures and Other Grazing Land Area (0.88%), Culturable Waste Land (3.71%), Fallows Land other than Current Fallows Area (1.32%),Current Fallows Area (1.96%).

The soil texture in the study area predominantly is sandy clay loam. The area, in particular, is mostly plain. The cultivable soils are spread over in the study area.

From the analysed soil samples collected from villages it is observed that Organic Matter is found in the range of 0.96 – 2.07 %. Available nitrogen is found in the range of 812.2 – 1157.1 kg/ha and it is sufficient . Available Potassium is found in the range of 655.2 – 946.4 kg/ha of soil indicating more than sufficient of this nutrient. Overall, it can be inferred that the soil in the study area is adequate .

## **2.2 Biological Environment**

The dominant trees observed & reported in the study area were Babhul, Kaduneem, Charoli, Palas, Shivan, Subabhul, Chinch, Vilayti Chinch, Shewga, Karanj, Sagwan, Bor, Sitaphal, Piwla Gulmohor, Selvat, Mohu, Amba , Katumbar etc.

The local population is dependant on agriculture for livelihood. Majority of family owns land and engaged in agriculture, horticulture and animal husbandry. Crops are grown in both Kharif & Rabi seasons. Major kharif crops are cotton & tur. Major rabi crops are jawar, tur, soyabean & chana.

The mine site surroundings do not support any habitat for any group of wild animal. The dominant mammals observed and reported in the study area were mongoose, common mouse, common languor, common house rat , fruit bat etc.

No mammals, reptiles and birds are found to be endangered as per as Z.S.I. Red Data Book of India.



### **2.3 Air Environment**

Air environment baseline status of the study area has been monitored & micrometeorological data has been collected using automatic weather station. Minimum and maximum temperatures recorded during the summer season ranged between 19.8° C and 43.9° C. Relative Humidity ranged from 5.8 % to 97.0 % . Predominant Wind Direction was observed to be NE .

The maximum concentration of PM<sub>10</sub> at all stations ranged between 59.1-72.8 µg/m<sup>3</sup> in summer season. The maximum concentrations of PM<sub>2.5</sub> have been observed to be varying in the range of 32.4-39.6 µg/m<sup>3</sup> in summer season. The maximum values of SO<sub>2</sub> were observed to be in the range of 16.1-24.1 µg/m<sup>3</sup> in summer season respectively. The maximum concentration of NO<sub>2</sub> varied between 25.4-32.5 µg/m<sup>3</sup> during the summer season.

The maximum concentration of Ozone were less than 20.0 µg/m<sup>3</sup> , Lead ranged between 0.01-0.02 µg/m<sup>3</sup> , Carbon Monoxide were less than 1.0 mg/m<sup>3</sup> , Ammonia were less than 20.0 µg/m<sup>3</sup> , Benzene less than 3.20 µg/m<sup>3</sup> , Benzo(a) Pyrene were less than 1.0 ng/m<sup>3</sup> , Arsenic were less than 2.0 ng/m<sup>3</sup> , Nickel were less than 3.5 ng/m<sup>3</sup> and Free Silica were less than 1.0 µg/m<sup>3</sup> during the study period.

Traffic Density Survey was carried out and it was observed that the 2/3 wheelers, cars/jeeps and trucks forms the major volume of the traffic.

### **2.4 Noise Environment**

During Summer 2021, background noise levels (Leq) has been monitored in the human settlements within the study area of 10 km radius.

The noise levels at mine site during day and night time are 54.2 dB(A) and 41.6 dB(A) respectively . The noise levels in the human settlements of the study area during day and night time varied in between 47.1 dB(A) to 54.2 dB(A) and 40.8 dB(A) to 42.8 dB(A) respectively.

Ambient noise levels in the study area are found to be within prescribed CPCB norms.

### **2.5 Water Environment**

In the study area, normally ground water is used for domestic and agricultural purposes. The ground water in this region is extracted through dugwells and borewells.

Drainage pattern in study area and mine lease area is towards SE direction. No stream and nallas is flowing through the mine lease area. Local nala is existing in the south direction of mine lease area and it flows towards SE.

The static water level below ground level at borewell existing within the mine lease area is found to be 28.0 m during summer season.

After expansion, total water requirement is estimated to be @ 7.0 KLD mainly for domestic, mining activities such as wet drilling & water sprinkling, green belt development purposes. Additional water will be met from existing borewell and harvested rain water .

For assessing the water quality in the study area , surface & ground water samples have been collected & analysed.

In surface water samples, pH values of the surface water samples are found as 8.12 and 8.22 which indicate their neutral nature. Dissolved oxygen contents are 5.10 and 5.30 mg/l, indicating that the water sources are fit for drinking purposes. The metals analyzed are found to be below the permissible limits. Total Coliform Bacteria and E. coli are found in both samples. It indicates that both water samples are not suitable for drinking purposes and requires disinfection treatment before use.

In ground water samples, pH of the water samples is found in the range of 7.87-8.25, indicating desirable range required for potability. Total dissolved solids are in the range of 703.0 – 1261.0 mg/l showing that water sources are found within the permissible limit. Total hardness is found in the range of 325.0 – 380.0 mg/l showing that water sources are found within the permissible limit. Fluorides in the water samples are found in the range of 0.98 - 1.40 mg/l. Fluoride content is found slightly higher than the desirable limit but is within the permissible limit in absence of alternative sources. The heavy metals analyzed are also found below the permissible limit.

Overall, surface and ground water quality in the study area is meeting the norms for domestic and agriculture purposes.

## **2.6 Socio-economic Environment**

Baseline data such as demographic pattern, occupational status, educational, health and other amenities as existing in the study area have been studied.

The study area includes 10 km radial area which covers Dist.- Chandrapur & Dist.- Yavatmal. Villages covering the study area fall under Bhadravati Tahsil (Dist.- Chandrapur), Warora, Tahsil (Dist.- Chandrapur), Wani Tahsil (Dist.- Yavatmal), and Maregaon Tahsil (Dist.- Yavatmal). However, major part of the study area falls under Wani Tahsil of district Yavatmal.

Total population of the study area is 1,21,770 out of which 62,668 are male and 59,102 are female largest concentration is from urban area. From the rural and urban portion total population is 56,362 & 65,408 out of which 29,138 & 33,530 are male and 27,224 & 31878 are female.

Total male and female workers in the study area are 67.68 % and 32.31% of the total male and female population respectively.

## **3.0 Anticipated Environmental Impacts and Mitigation Measures**

Based on pollution load to be discharged, the environmental impacts are predicted using various mathematical models as well technical interpretation. The details of major impacts and mitigation measures are given herewith

### **3.1 Land Environment**

- The mining may lead to permanent changes in topography and after mine closure, mining pit will be a accident site for locals and animals. One single pit of an area of 9.00 HaR will be formed at the end of life of mine. This mine pit will be converted to natural water reservoir and proper fencing will be carried out to avoid accidents of falling of humans/animals. The water storage pond will be utilized as water source for agricultural & fishing purposes.
- Land use pattern in the area will change. In proposed expansion, additional area will not be acquired. The existing mine lease area is already under mining activity.

- Land use pattern of the study area will change due to increase in ancillary activities. No ancillary activity related to proposed expansion will be carried out except mine lease area.
- There may be increase in soil erosion. During rainy season soil erosion will be avoided by carrying out rainwater harvesting, provision of diversion trenches, check bunds etc.
- The expansion of mining may generate large quantity of overburden and top soil. Mining operation will be carried out by deepening the existing pits. Hence, top soil will not be generated. Maximum 10% of ROM will be generated as mineral reject. It will be scientifically stacked and disposed by sale as low quality limestone.
- Generation and unscientific disposal used oil of mine machineries. Mining machineries repair & maintenance work will not be carried out at mine site.

Thus, land environment would not be adversely affected.

### **3.2 Biological Environment**

- The vegetation may be affected and green cover may be reduced in the existing mine lease area. The mine site is barren and vegetation/trees planted by the lessee are existing. In the proposed expansion project, well planned green belt as per the guidelines of CPCB will be developed which will ensure the increase in the green cover in the mine lease area.
- The mine lease area vegetation photosynthesis rate may be reduced due to deposition of fugitive dust causing yellowing of the leaves and defoliation of the trees. To prevent this adverse impact on the vegetation to be developed in the mine lease, regular water sprinkling will be implemented to arrest the fugitive dust.
- Animals, aquatic fauna, humans in the vicinity of the mine may have effect on their eardrums if uncontrolled blasting operations are carried out in the mine. In case of proposed expansion of mining activities, controlled blasting without overcharging will be carried out as per DGMS rules. Green belt will also provide the acoustic enclosure.
- About 3000 trees of species as Neem, Karanj, Shisam, Behda, Bel, Hiwar, Palas, Gulmohar etc will be maintained in the mine lease area till life of mine. From both side of approach road of 400 m, about 800 saplings will be planted and maintained.

Thus with implementation of the planned mitigation measures, the biological environment will not be affected due to expansion in mining activities.

### **3.3 Air Environment**

During mine development, operation and material transportation, there will be increase in air pollution due to fugitive dust. Impacts may be short-term or long term in nature, its quantification and mitigation is necessary.

The quality of ambient air depends upon number of emission sources, pollutants emitted and meteorological conditions. There will be insignificant addition of fugitive dust (PM<sub>10</sub>) rising during controlled blasting, drilling, loading & unloading, vehicular traffic etc.

Increase in the baseline dust levels of PM<sub>10</sub> in the downwind direction of the mine may affect the air quality. Being the open cast mine and medium scale of operation, only insignificant dust (PM<sub>10</sub>) will be released rising during controlled blasting, drilling loading, unloading & other vehicular movement activities. The impact are predicted using latest AERMOD model. Maximum concentration of PM<sub>10</sub> monitored at nearest village Wanjari (0.5 km in E direction) was 63.3 µg/m<sup>3</sup> which may increase to 63.8 µg/m<sup>3</sup> in worst condition during operational phase of proposed expansion of mining activity.

Poorly designed or poorly controlled blasts may cause rocks to be projected long distances from the blast site. Controlled blasting techniques by using advanced non- electric detonator will be used for proposed mining. The non electric type blasting has about 70 % less effect on environment than conventional electric type blasting and there will be minimum ground vibration, noise pollution, fly rock generation, dust generation etc. Controlled blasting will be carried out only by experienced and licensed personnel which will only loosen the limestone material at site itself. Thus, the rock projections will be avoided.

The present level of traffic on state highway No. 237 passing at a distance of 400 m of the mine lease ( Wanjari to Wani Road) has been converted to Passenger Car Units (PCU) per the conversion factors stipulated by Indian Road Congress (IRC) and it is found to be 2900 PCU. The traffic contribution from existing mine after the proposed expansion to the road network considering to and fro movement will be 112 vehicles per day ( 56 trucks material of 15 tonnes carrying capacity of each truck ) , which is equivalent to 336 PCU per day (taking a PCU factor of 3 per vehicle). The total traffic load after implementation of the mine expansion project will be well within the IRC stipulated maximum load of 15,000 PCU/day for a two lane highway.

Health of workers and locals working in the mine may be deteriorated. The workers continuously exposed to dust will be provided with dust mask to prevent respiratory disorders. The personal protective equipments (PPEs) will be provided to the employees.

Thus, the expansion in limestone mining operations will not have adverse impact on air environment.

### **3.4 Noise Environment**

Baseline ambient noise levels in the nearby villages may increase due to expansion mining project activities

Blasting operations may lead to increase noise and vibrations levels in the area. Controlled blasting has been proposed to minimize noise generation. Free face will be sufficiently cleared of any loose material before blasting Preparation of charge, proper charging and stemming of holes will be done by a qualified blaster. Proper inspection after shot firing will be done by the blaster. Blasting will be avoided during foggy weather and high wind velocity. Delay detonators will be used between holes or group of holes and rows of blasting as per the face configuration and advance planning. Short delay in blasting of successive blast holes will effectively reduce the vibration problem. The maximum charge per delay will be kept within limit to minimize ground vibration.

From the DHWANI PRO (version 9.1.282) modeling it is observed that the predicted noise level at nearest village Wanjari ( 0.5 km towards East ) is 49.3 dB(A). The mines are operated in single shift during day time. The maximum baseline ambient noise level measured during day time in summer season was 50.2 dB(A) . The resultant ambient noise level after the operation various noise sources of all eight mines will be 52.8 dB(A). From the noise modeling, it can be stated that the impact on the present noise levels after the proposed mining capacity of all eight mines will be within the standards of ambient noise .

Noise levels may be transmitted directly in the village area during mining operation. For noise attenuation in transmission path, planting of bushy trees of rich canopy and trees of different heights to intercept noise transmission will be carried out.

The expansion in limestone mining operations will not have adverse impact on noise environment.

### **3.5 Water Environment**

After the proposed expansion, water requirement for drinking and for mining activity purposes will be @ 7.0 KLD and it will be met from the borewell existing within the mine lease area. The Mine comes under MSME category and has ground water withdrawal of less than 10 KLD. Based on this information, Certificate of Exemption for Groundwater Withdrawal is issued by CGWA.

At present the maximum depth of the existing six mining pits is about 6.0 m. After expansion, groundwater table will be intercepted in the last years of conceptual period of mining. Mine discharge water will be pumped out and after passing through the settling tanks it will be used for green belt development and agricultural purposes in the surrounding area.

Surface drainage might lead to contamination of surface water bodies and agricultural fields in the nearby area. Settling tank/sump of size 10 m x 5.0 m x 2.5 m depth will be constructed at the low lying area to capture any residual clay or limestone particles which may wash down during rain. The clear water will be used for various purposes of mine.

Three rain water recharge percolation wells will be constructed within mine lease area. Channeling of surface run-offs will be carried out by constructing small check dams in natural drainage slopes. Rain water runoff will be arrested by construction of small check dams. Water stored in depressions created by such constructions will induce groundwater recharge.

Thus, there will be no negative impacts on water environment due to proposed expansion in mining activity.

### **3.6 Socio-Economic Environment**

Any development activities would cause certain impact on the socio-economic environment of the study area

- There may be no income, employment & revenue generation benefit to the locals. Proposed expansion will generate marginal direct as well as indirect employment. In the existing mine, about 38 personnel are involved in the existing mining operation and in expansion of limestone mining, about 18 personnel will be employed. There will be opportunity for increase in indirect employment as daily wage worker will be employed in operation and transportation activities, supply of raw material, auxiliary and ancillary works etc. For ensuring this socio economic benefit, project proponent is committed to recruit local manpower as far as possible.

There is likely to be growth in the revenue generation to the local gram panchayats. Continuous mining activity will be a source of regular income to local inhabitants and royalty to exchequer, which will improve the standard of living of local population and local and regional economy.

- There may be no collaboration between project proponent and local bodies. Whenever necessary, collaboration between project authority and local bodies will be done on regular basis with an objective to build and maintain a good relationship which is necessary for smooth functioning of the expansion project as well as progress and

welfare of the people in the study area.

Awareness programs will be taken to make people aware about the environmental protection, need of water conservation etc.

Thus, there will be positive impacts on socio-economic environment due to proposed expansion mining project.

#### **4.0 Environmental Monitoring Programme**

In order to have regular check on the effectiveness of control measures adopted at the mining site, it is necessary to monitor various environmental parameters. Soil quality analysis in the mining area and nearby villages for select parameters will be carried out on annual basis. Periodical monitoring and estimation of flora & fauna to assess their diversity in the adjacent area and effect of air emissions, if any, on adjacent vegetation will be monitored annually.

Ambient air quality monitoring will be carried out for PM<sub>10</sub>, PM<sub>2.5</sub>, Sulphur Dioxide, Oxides of Nitrogen at identified locations. Ground water quality will be checked periodically. CER expenditure will be monitored for its maximum benefits to the needy masses.

Environmental monitoring is carried out through MoEF&CC approved laboratory and it will be continued after proposed expansion.

The recurring budgetary expenditure for regular environmental monitoring at present is Rs. 0.57 lakhs/annum. After the proposed expansion recurring budgetary expenditure for regular environmental monitoring will be Rs.1.23 lakhs/annum.

#### **5.0 Additional Studies**

The additional studies as public consultation, risk assessment, social impact assessment and rehabilitation and resettlement are discussed below

##### **5.1 Public Consultation**

At present , draft EIA is prepared and it will be submitted for Environmental Public Hearing/Consultation to MPCB as per procedure laid down by MoEF&CC, Govt. of India. As per EIA notification, 2006, public hearing compliance will incorporated in the final EIA report.

##### **5.2 Risk Assessment**

In the proposed expansion, there will not have any major risk factors which can affect public at large . Chances of disaster occurrence in existing opencast mine are very less.

Most of the accidents during operation of dumpers, excavators and other heavy vehicles are often attributable to mechanical failures and human errors. All mining machinery will be maintained in good repairs and checked thoroughly at least once a week by a competent person authorized for this purpose. Broad signs will be provided at each and every turning point specially for the guidance of the drivers.

The overburden dumps may cause landslides. Heavy rainfall may cause material erosion/runoff from the over-burden dumps. To prevent the failure of overburden slopes, especially during the rainy season, the precautions will be taken such as Proper terracing of the dump slopes and in flat areas where the dumping operations have come to an end, the slope angle will be flattened by about lower than the angle of repose which varies from site to site but not more than 28°. Planting vegetation as early as possible over the over-burden dump slopes .

The blasting operations in the proposed expansion will be carried out by deep hole drilling and blasting using delay detonators, which are bound to reduce the ground vibrations. . Over charging will be avoided. The maximum charge per delay will be kept within limit to minimize ground vibration. Drilling parameters like spacing, burden, depth and diameter of hole will be properly designed and spacing/burden ratio will be always be more than one. Holes will be drilled at 10 degree inclination from vertical so more explosive energy is utilized in productive way as in vertical hole only 50% of energy is utilized in productive way.

Water from the surface water bodies will not be allowed to enter in the mine. Draining of mine water by suitable capacity pumps will be carried out. Checking and regular maintenance of garland drains will be carried out to avoid any inflow of surface water into mine pits.

Mines Manager is overall in charge for all operational and administrative functions in case of any major disaster affecting mine. Supervisor will inform all persons working in the mines at different locations; Ensure facilities like vehicles and ambulance; and try to rescue, maintain order, salvage and contain.

Anyone noticing a fire or explosion or any other kind of emergency must raise a verbal alarm to attract attention of other persons. Attempt to isolate/extinguish the fire or isolate the incident with available men and equipment on site. Assist further emergency control activities. Mines Manager will control the incident from Emergency Control Centre.

### **5.3 Social Impact Assessment**

Social impacts are anticipated in few key areas such as displacement, occupational background, traffic congestion, socio- economic development etc. There will be no displacement of souls, community facilities , assets etc. During expansion 18 persons will be employed and preference will be given to local population. Thus there will not be any major changes in the occupation structure of the area. No traffic congestion due to proposed expansion in mining capacity is envisaged. - It is anticipated that the expansion project would bring benefits to the people of the surrounding villages such as generation of direct and indirect employment and improved standard of living.

**5.4 Rehabilitation and Resettlement :** There will be no Rehabilitation and Resettlement as the mine is existing and there will be no additional land acquisition.

### **6.0 Project Benefits**

The project benefits includes improvements in physical infrastructure, improvements in social infrastructure, increase in employment potential, contribution to the exchequer, prevention of illegal mining, post-mining enhancement of green cover etc.

The approach road will be further improved and maintained to minimize the problems faced by the villagers and cattle during commute.

The mining activity will help to improve the standard of living of the people in the nearby areas through increase in employment opportunity. The royalty collection against the mineral produced as per schedule is beneficial to the exchequer of the government.

The planned developmental activities will be executed under CER in the study area villages by carrying the capital expenditure of Rs. 7.0 lakhs and recurring expenditure of Rs. 0.65 lakhs per annum. The details of CER plan are given below:

- Community Health Improvement by maintaining hygiene and sanitation by disinfectants spraying in the village residential areas. Provision of sanitation facilities,

- bio toilets, drinking water facilities etc in nearby ZP school. Arranging health awareness camps on health in villages.
- Community Water Conservation Facilities by decreasing water scarcity problem to the possible extent during scarcity period by arranging drinking water tankers and constructing rain water harvesting pits . arranging water conservation programs in the villages.
  - Community Infrastructure Development by improving village road with the help of concerned officials and adjacent mine owners and other infrastructural developmental activities such as temple beautification etc. Solar panel electrification of nearby ZP school.
  - Community Education by distribution of educational books & aids to needy students of villages.
  - Community Capacity Building by vocational training for technical skills, self employment training for women as stitching, embroidery tailoring, handicrafts etc to the villagers.
  - Community Welfare by distributing seeds and saplings in the nearby villages.

## **7.0 Environmental Management Plan**

The mitigation measures detailed in the EIA are needed to be properly implemented & monitored on regular basis. Similarly, environmental non-compliances are to be satisfactorily addressed. The details are discussed below .

### **7.1 Administrative Aspects of ensuring Implementation and Monitoring of Mitigation Measures**

Mines Manager is responsible for ensuring implementation and monitoring of mitigation measures. The focus of administrative aspects for effective environmental management will be mainly on i) reuse of top soil , reject material , natural resources like water , and minimization of waste material generation, iii) achieving the zero accidents by implementing measures related safety, welfare and occupational health of the workers , iii) conservation of environment including preservation of existing greenbelt, regular maintenance of mining machinery for efficient operation etc.

## **7.2 Environmental Policy**



Prop. A. N. Warwatkar (Wanjri Limestone Mine -11.898 HaR) is committed to sustainable development and the protection of the environment. All applicable environmental laws, regulations and requirements will be complied by the company. Company is committed to establishing and maintaining environmental management system to identify, monitor and control the environmental aspects of limestone mining. Company ensures that employees and contractors will carry out their responsibilities in accordance with Environmental Policy. Company will conduct audits to monitor, measure and evaluate the effectiveness of environmental management system and non-compliances will be addressed satisfactorily. Company will work to continually improve the environmental performance on time.

### **7.3 Organization Structure of Environmental Management Cell**

The Cell will be headed by the Mine Lessee and he will be assisted by the personnel from different levels. Mines Manager will be overall responsible for environmental protection in the mine. He shall take effective steps to curb the pollution during mining operations. Supervisor will be responsible for supervising the environmental protection measures in addition to his regular duties. Environmental Consultant (On contract basis) will be responsible for suggesting the measures related to environmental protection during mining operations. Plantation and Watering Staff will implement plantation to be carried out in and around the mine lease area as also development & maintenance of green belt. They will be responsible for dust suppression by water sprinkling.

### **7.4 SOP for Reporting and Closure of Environmental Non-Compliances (NCs)**

The environmental work which do not conform to specific requirements will be raised as NCs. The show cause notice, proposed directions, direction issued by MPCB, MoEF&CC, SEIAA etc. will be considered as NCs. The Mines Manager will take the feedback from the concerned for corrective & preventive action taken for closure of NC. The Mines Manager will evaluate the significance of the non conforming work and take corrective action immediately. Corrective & Preventive Action Reports for major NCs will be referred & discussed in Emergency Review Meeting. Mines Manager will ensure the completion of the action on taken corrective & preventive action report.

### **8.0 Overall Justification of Implementation of project**

Limestone is the raw material required for manufacture of cement. In the light of demand from nearby cement industry and subsequent agreement for bulk supply, extraction of limestone from this deposit has gained significance. Availability of limestone within economic distance from the lease to the existing cement industry at Chandrapur will be beneficial. Hence this proposal is viable. The requirement of Limestone by Cement industry is very high and proposed expansion of this mine will fulfill maximum 10% of the demand of one cement plant and too for next 16 years.

### **9.0 Explanation of how, adverse effect can be mitigated**

The proposed expansion of opencast limestone mine project will have certain environmental impacts on within mine lease area and surrounding area of 500 m radius. The effective implementation of the mitigation measures as suggested in the Chapter 4 of EIA report will minimize the adverse effect to a great extent.