
CHAPTER – 1

EXECUTIVE SUMMARY

Building Stone Quarry

CHAPTER 1

EXECUTIVE SUMMARY

1.1 About the Project Proponent

M/s. WIMROCK GRANITE PVT. LTD., was incorporated as Private Limited in 1998 under Company's Act 1956. A copy of the incorporation certificate is enclosed as **Annexure No. 5**. Mr. Raju K. Thomas is the Managing Director and authorized signatory residing in Kalloth River view house, Vadasserikkara village, Ranni Taluk, Pathanamthitta district. Mr. Raju K. Thomas having vast experience in Building Stone Quarry mining and trading, he had applied for the grant of quarry lease at Vadasserikkara village, Ranni Taluk of Pathanamthitta district under Kerala Minor Mineral Concession Rule 1967 for exploitation of building stone for construction and infrastructure purposes. In view of the application, Kerala Government has granted the building stone quarry leases in Vadasserikkara Village, Ranni Taluk, Pathanamthitta District, Kerala State.

Sr. No.	Name of the Village	Survey Nos.	QL No. GO No Date.	Date of Expiry	Area in Ha.
1	Vasasserikkara	391/3, 7, 8, 9, 10, 11, 12, 14, 393/2, 394/2, 3, 4, 9, 10, 11, 12, 13, 395/1, 2, 3, 4, 6, 7, 396/3, 5, 6, 397/4, 9	No.502/2007-08 / 6695 / M3/2007 Dated .09/11/2007	29/11/2016	7.8541

A copy of the Government order and lease deed in form H of the above said lease is enclosed as **Annexure No. 2**. And the lease sketch as enclosed in Approved quarry plan **Plate No. 4**.

M/s. Wimrock Granite Pvt., Ltd., is has having Existing Lease - 7.8541 ha and Quarrying Plan has been approved with the letter of intent issued by the Department of Mining and Geology (DMG) for total extent of 7.8541 ha (private patta / Govt. land) as per KMMCR, 2015. Approved quarry plan with the letter of intent has been enclosed as **Annexure No. 1**

Mining projects of minor minerals with area less than 50 ha of mining lease are categorized as category 'B' as per Notification S.O.2731 (E) dated 9th September 2013. As the quarry falls in ESA and therefore it attracts General Conditions of EIA Notification 2006 Schedule 1 (a) hence the project falls under Category 'A'.

Further, lessee has obtained Consent to Operate for the Building Stone Quarry under The Water (Prevention & Control of Pollution) Act 1974 and The Air (Prevention & Control of Pollution) Act 1981 from the Kerala State Pollution Control Board which is valid till 30.06.2015. A copy of the same is enclosed as **Annexure No. 8**.

1.2 About the Quarry

This quarry is lies between N 09⁰ 18' 51.95" to N 9⁰ 19' 08.84" and E 76⁰ 50' 20.41" to E 76⁰ 50' 33.96" latitude and longitude respectively. The total extent **7.8541 ha** located at Vadasserikkara Village, Ranni Taluk, Pathanamthitta District, Kerala State. The said lease lies towards south of Vadasserikkara village at a distance of 3.00 kms (aerial distance) approximately and also lies towards N of Malayalapuzha village at a distance of 3.00 kms approximately (aerial distance) and nearest road connectivity between Attachakkal – Chengara – Kumbalomoika State highway passes towards west of the quarry area at a distance of 1.00 km. This lease area is approachable by all weather roads up to the lease.

The lease area falls under the Survey of India's Toposheet **No 58 / C / 15** and the topo maps of Kerala are restricted the same are not available. The area is shown on the location plan **Plate No. 3** Thiruvananthapuram is city and state capital which is at a distance of 115.0 kms from the quarry site. The nearest airport is at Thiruvananthapuram which is at a distance of 115.0 kms approximately and the nearest railhead on Broad-gauge is Thiruvalla at a distance of 35.0 kms.

The topography of the said lease occupies the middle part of hillock trending NW-SE, extending from southeast of Edathra of Northwest of Talchira. The highest elevation is about 250 m MSL towards middle of the lease area and the lowest elevation is 180 m MSL towards south of the lease.

A key plan showing the location of the quarry and the details of its 10.0 kms buffer zone is enclosed as **Plate No. 2**, Kerala Map showing the quarry location, Taluka & District head quarters, railways, approachable roads, river, ports, harbor and etc is enclosed as **Plate No. 3**. A certified lease map / sketch issued by the Directorate of Mining and Geology is enclosed as **Plate No. 4** and the lease area marked on the google image is enclosed as **Plate No. 5**.

1.3 Method of Quarrying

The working will be carried out by opencast semi-mechanized method as per the Mines Act 1952, benches has been designed 5 m height and 5 m width, drilling, blasting, breaking, loading the material by excavator and hauling the material through trippers to the end point. The proposed rate of production will be 4.5 lakhs TPA and the life of the quarry has been

estimated about 12 years. The ultimate depth of the mine working is estimated to reach up to 105 mts.

Employment

The quarry has already generated about 50 members and preference has been given to the local community.

1.4 Environmental Management Measures

The quarry will be operated scientific and systematic method with 5 m bench height and 5 m bench width by adopting all the safety norms as per Mines Act 1952. The quarry operations will be supervised by the qualified Mines Manager. Management shall identify the suitable personnel for implementation of Environmental Management Plan (EMP).

Periodic monitoring of Environmental parameters will be carried out by engaging an approved laboratory.

As part of Corporate Social Responsibility, Proponent Proposes to spend 1 % of profit towards community developmental activities around the quarry area.

Project Cost: The estimated project cost is about **Rs. 600 lakhs.**

CHAPTER – 2

INTRODUCTION OF THE PROJECT

Building Stone Quarry

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INTRODUCTION OF THE PROJECT

2.1 About Project Proponent

M/s. **WIMROCK GRANITE PVT. LTD.**, was incorporated as Private Limited in 1998 under Company's Act 1956. **Mr. Raju K. Thomas** is the Managing Director and authorized signatory residing in Kalloth River view house, Vadasserikkara village, Ranni Taluk, Pathanamthitta district. **Mr. Raju K. Thomas** having vast experience in Building Stone Quarry mining and trading, he had applied for the grant of quarry lease at Vadasserikkara village, Ranni Taluk of Pathanamthitta district under Kerala Minor Mineral Concession Rule 1967 for exploitation of building stone for construction and infrastructure purposes. In view of the application, Kerala Government has granted the building stone quarry leases in Vadasserikkara Village, Ranni Taluk, Pathanamthitta District, Kerala State.

2.2 Identification of Project

The quarry site is located in Vadasserikkara Village, Ranni Taluk, Pathanamthitta District, Kerala State over an area of 7.8541 ha and does not involve any forest land. The salient features of the project are given in **Table 2.1**.

Table 2.1: Salient Features of the Project

Longitude	E 76 ⁰ 50' 20.41" to E 76 ⁰ 50' 33.96"
Latitude	N 09 ⁰ 18' 51.95" to N 9 ⁰ 19' 08.84"
Nearest Railway Station	Thiruvalla railway station is at distance which is 35.0
Nearest Airport	Thiruvananthapuram - 115.0 kms
Nearest Road Connectivity	Road connecting between Attachakkal – Chengara – Kumbalomoika State highway passes towards west of the quarry area at a distance of 1.00 km
Nearest Head Quarter	Ranni Taluk & Pathanamthitta District Head Quarters - 10.0 kms
Nearest Forest	Social forest at Thekkumala towards West of the lease at a distance of 700 m (Aerial distance). Chittar Reserve forest towards East at a distance of 4.5 kms (Aerial distance).

2.2.1 Location of the Project

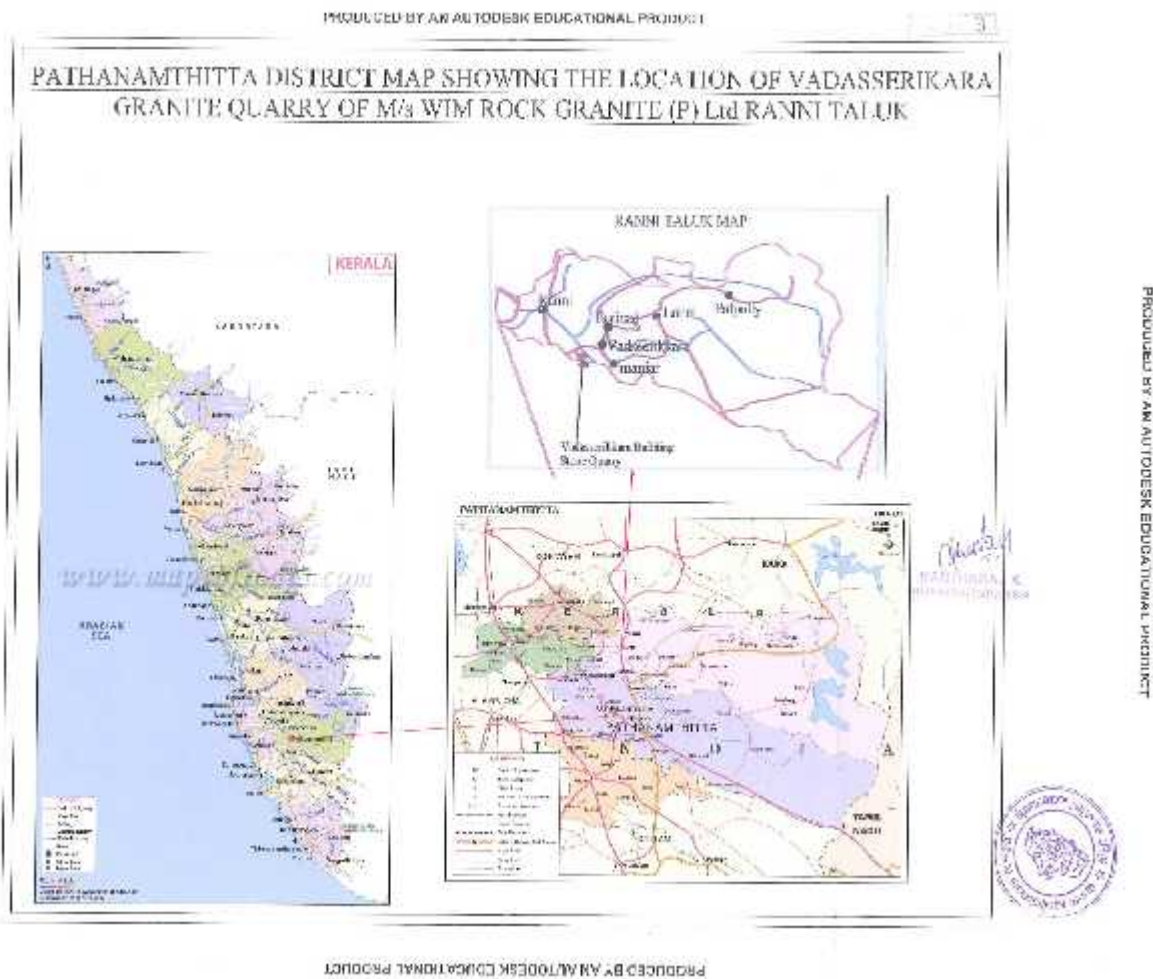


Fig. 2.1: Location of the Project

2.3 Nature and Size of the Project

Size of Operation: The total quarry lease area is 7.8541 ha, to operate the Quarry operations permission is already obtained from Kerala Pollution Control Board (KSPCB). It is proposed to carryout building stone quarry operation with a maximum production of 4.5 lakhs TPA.

2.4 Nature of the Project

Building stones are naturally occurring rocks of igneous, sedimentary or metamorphic origin which are sufficiently consolidated to enable them to be cut or shaped into blocks or slabs for ruse as walling, paving or roofing materials in the construction of buildings and other structures. Stones suitable for building occur throughout the geological column and have a worldwide distribution. Their exploitation is limited where overburden or structural complexities make their production uneconomic or where national or internationally designated conservation or heritage sites preclude active quarrying.

The principal rock types used as building stone are (including Marbles), sandstone, slates and granites.

Building stone is also commonly referred to as 'Dimension Stone' in many Countries.

2.5 Employment Generation

It is proposed to deploy 50 members from nearby villages on a day-today, taking 25 working days in a month with a total of 250 working days in a year. The Table below gives the details of employee hired for the proposed project.

2.6 Cost Estimate

The total Project cost including machineries such as heavy earth moving machineries excavators, dumpers/tippers, drilling machineries, crusher Unit's, Buildings, M sand Plant and compressors, approximate cost towards the same would be about Rs. 1,600 Lakhs.

CHAPTER – 3

PROJECT DESCRIPTION

Building Stone Quarry

CHAPTER 3

PROJECT DESCRIPTION

3.1 Location

- ⊙ Project Proponent : M/s. WIMROCK GRANITE PVT. LTD.,
- ⊙ Mailing Address : Mr. Raju K. Thomas – Managing Director,
Thekkummala, Vadasserikkara (PO),
Pathanamthitta District – Kerala State.

- ⊙ **Proposed Project location:** Sy. No. 391/3, 7, 8, 9, 10, 11, 12,14, 393/2, 394/2, 3, 4,
9, 10, 11, 12, 13, 395/1, 2, 3, 4, 6, 7, 396/3, 5, 6, 397/4, 9 of Vadasserikkara Village,
Ranni Taluk, Pathanamthitta District, Kerala State.
- ⊙ **Total Extent** : 7.8541 ha
- ⊙ **Type of land** : Private Patta Land & Govt. land

3.2 Alternative Sites

No alternative sites are considered as the chosen site founds suitable in all the aspects.

3.3 Process Description

The Quarrying operation is carried out in different stages. A flow chart depicting the operations is shown in **Figure 3.1**.

3.4 Local Geology

The quarry area falls in Survey of India Topo Sheet No. 58/C/15 and the topo maps of Kerala are restricted the same are not available. The general strike direction of the building stone deposit North to South with local variation of $10^0 - 15^0$ on either side dipping towards at an angle of $70^0 - 80^0$ westerly. Entire lease area is more or less exposed by charnokite (commercially known as granite) and at places charnokite is covered by topsoil.



Photographs showing Exposure of Charnockite at quarry

Considering the all technical and practical constraints such as lease boundary as safety barrier all along the lease periphery and estimation of reserves has been calculated as on December 2014 and the same will be given in **Table 3.1**.

Table 3.1: Charnockite/Granite reserves of lease as on July 2015.

Insitu reserves		Unit : in mill, tonnes
Category	R O M	Waste Rock
Mineable reserves	5.285	0.265
Blocked reserves	5.427	0.271
Geological reserves	10.685	0.536

Note: Geological Reserves = Mineable Reserves + Blocked Reserves

3.5 Method of Quarrying

Presently the said quarry is put into operation, it is proposed to work with conventional open cast method with bench system and mode of operation will be mechanized. Based on the mode and method so adopted and taking into the consideration of geological parameters of the ore body the quarry pit is designed such that the height of the bench is kept about 5.00 mts max., and the width is also kept 5.00 mts, maintaining 45° pit slope.

3.5.1 Extent of Mechanism

The proposed maximum handling is 0.526 million tonnes during the first year of the plan period. The adequate total handling capacity of loading units will be deployed. For hauling proposed quantities of ore and waste, the requirement is met with a fleet of 10 nos. of tippers of 10 / 20 tons capacity each.

3.5.2 Loading

Loading will be done with the help of excavators end loaders in to the tippers/trucks.

3.5.3 Transportation

Subsequent to the drilling and blasting, the materials so dislodged / loosen from the rock mass, the big boulders are subjected to secondary blasting with a help of jack hammer. There after the material is loaded into trucks / tippers of 17.0 tonnes capacity with the help of the excavator. The loaded material is transported to the crushing and screening unit for further process. Further the finished products are transported to client / customer by their vehicles.



Figure 3.1: Flow Chart Showing the Quarry operation

3.4 Top Soil

More or less entire area is exposed by Charnockite, only at places topsoil is visualized which is sparsely distributed. The amount of topsoil occurs with the thickness of just 10 - 20 cms. However during the course of quarrying of such area, the topsoil so occurs will be removed separately and stacked. This topsoil will be used exclusively for plantation purpose.

The topsoil generated during quarrying activity, it will be removed separately and stacked within the quarry area earmarked for the same and the same be utilized for plantation.

CHAPTER – 4

SITE ANALYSIS

Building Stone Quarry

CHAPTER 4

SITE ANALYSIS

4.1 Connectivity

The said quarry area is situated in Sy No. 391/3, 7, 8, 9, 10, 11, 12,14, 393/2, 394/2, 3, 4, 9, 10, 11, 12, 13, 395/1, 2, 3, 4, 6, 7, 396/3, 5, 6, 397/4, 9 of Vadasserikkara Village, Ranni Taluk, Pathanamthitta District, Kerala State. Extends over an area of 7.8541 Ha. The said lease lies towards south of Vadasserikkara village at a distance of 3.00 kms (aerial distance) approximately and also lies towards N of Malayalapuzha village at a distance of 3.00 kms approximately. (Distances are aerial distance). This lease area is approachable by all weather road/s up to the lease. And also it falls under the Survey of India's Toposheet **No 58 / C / 15**. Since the topo maps of Kerala are restricted the same are not available. However said quarry lease falls between the geographical co – ordinates i.e

Latitude : N 09⁰ 18' 51.95" to N 9⁰ 19' 08.84" and
Longitude : E 76⁰ 50' 20.41" to E 76⁰ 50' 33.96"

4.2 Criteria for Selection

The parameters that play a major role in site selection are as follows

4.2.1 Land Availability

The nature of land for core plant must satisfy the following major criteria.

The said lease occupies the middle part of a hillock trending NW – SE, extending from southeast of Edathra to Northwest of Talchira. The lease area is generally sloppy from east to west. The slope is moderate to steep

- ⊙ **Stability** Geological, Geotechnical stability for economic foundation.
- ⊙ **Flooding Risk** Magnitude of runoff from surrounding areas and risk of flash flooding to be minimized.
- ⊙ **Type of land** Preferably non-residential, non-irrigated with no forest land
- ⊙ **Habitations** Area with average population should be away from quarry location. Displacement of habitants should be avoided or minimized.

4.2.2 Infrastructure Requirements

Infrastructure like rest shelter, road, equipments, weigh bridge are existing; its details are given in the Mining Plan. These are sufficient for the proposal production schedule.

- ⊙ Availability of land
- ⊙ Road accessibility
- ⊙ Availability of raw materials and proximity to source
- ⊙ Availability of water and proximity to source
- ⊙ Environmental consideration

4.2.3 Transportation Logistics

The plant location has been so chosen that is close to the main road so that transportation to various sites of finished products is easy and economical.

4.4 Location Accessibility

The quarry location has been chosen close to the main road. This quarry is lies between N 09⁰ 18' 51.95" to N 9⁰ 19' 08.84" and E 76⁰ 50' 20.41" to E 76⁰ 50' 33.96" latitude and longitude respectively, located at Vadasserikkara Village, Ranni Taluk, Pathanamthitta District, Kerala State. The said lease lies towards south of Vadasserikkara village at a distance of 3.00 kms (aerial distance) approximately and also lies towards N of Malayalapuzha village at a distance of 3.00 kms approximately (aerial distance) and nearest road connectivity between Attachakkal – Chengara – Kumbalomoika State highway passes towards west of the quarry area at a distance of 1.00 km. This lease area is approachable by all weather roads up to the lease.

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CHAPTER – 5

PLANNING BRIEF

Building Stone Quarry

CHAPTER 5

PLANNING BRIEF

5.1 Infrastructural and Off-Site facilities

The Building Stone Quarry will have the following Infrastructural and Offsite facilities.

5.1.1 Facilities

The major infrastructure facilities required for the proposed Building Stone Quarry as follows;

- ⊙ Water Supply
- ⊙ Power Supply
- ⊙ Transportation Facilities
- ⊙ Other Facilities

5.1.2 Off-Site Facilities

- ⊙ Maintenance Shop
- ⊙ Vehicle Maintenance Shop
- ⊙ Administrative Building
- ⊙ Technical Building
- ⊙ Guest House
- ⊙ Canteen
- ⊙ Water Facilities
- ⊙ First Aid
- ⊙ Fire Fighting systems
- ⊙ Road Weigh Bridge
- ⊙ Car / Scooter Parking
- ⊙ Fire Protection system
- ⊙ Permanent Storm Water System
- ⊙ Sanitary Sewer system

5.1.3 Water Facilities

There is no water required for quarry activities and domestic water requirement will be fulfilled by Bore well within mine lease area.

5.1.3.1 Water Conservation Measures

In this quarry activity there is no utilization of water for the process. The requirement is for drinking and domestic purposes and that shall be met through the bore well within the lease area. Other requirement is for plantation work undertaken and dust suppression.

The domestic effluent will be treated in the CPCB Approved Soak Pit and Septic Tank.

5.1.3.2 Rainwater Drainage

Adequate rainwater drainage system consisting of open drains has been envisaged to keep the entire plant free from water logging. Depending upon the available contours, the number of drainage out fall and extent of open drains etc. will be decided. The surface runoff will be collected in the rainwater harvesting pond.

5.1.3.3 Sanitary Sewage

Wastewater from canteen and Guest house will be treated in CPCB Approve Soak Pit and Septic Tank and waste will be dried and the same will be used as manner for plantation.

5.1.4 Power Supply

Power Supply will be met from State Electricity Board.

5.1.5 Transportation

The quarry is also close to the main road Attachakkal – Chengara – Kumbalomoika State highway passes towards west of the quarry area at a distance of 1.00 km, so that transportation to various sites of finished products is easy and economical.

5.1.5.1 Internal Transportation

The final product is sent through tippers/trucks to product house. Trucks used to dispatch final products.

According to requirement on production, transportation and maintenance & repair, road facilities are arranged that link traffic systems in surrounding area. Access roads shall be available to every main shop and every place for maintenance & repair.

Road vehicles of different types have been envisaged in adequate number to take care of the transport requirement.

5.1.6 Other Facilities

5.1.6.1 Fire Fighting Facilities

Many working premises in the quarry have hazardous and fire prone environment. To protect the working personnel, equipment and machineries, fire-fighting measures have been planned.

5.1.5.2 Fire Protection Facilities

In order to combat any occurrence of fire in quarry lease area the following fire protection facilities have been envisaged for the various units of the plant:

CHAPTER – 6

ORGANISATION AND MANPOWER

Building Stone Quarry

CHAPTER 6

ORGANISATION AND MANPOWER

1.6 Manpower

Efficient management of the unit requires judicious manpower planning, selection of Qualified and experienced personnel and appropriate organizational structure, clearly defining functions and responsibility of managerial and supervisory staff.

The manpower requirement in accordance with the targeted production of plant operation has been estimated on the following consideration:-

- ⊙ The estimated production and productivity level which is achievable in various sections of the plant with the proposed plant and machineries.
- ⊙ The total number of personnel required to perform various duties associated with the different processing steps.

A preliminary estimate of the manpower requirement allowing for leave, absenteeism, sickness and holidays for smooth and efficient operation of various sectors of the plant has been prepared purely on technical and managerial grounds primarily to indicate the order of manpower requirement. It would be emphasized that manpower requirement will have to be reviewed at time of commissioning of the plant. Further, implementation of industrial laws and regulations and location factors of labour employment will also have to be considered. In order to operate and maintain plant facilities, including its technical general administration needs, estimated manpower requirement is estimated to be 50 persons.

Company has already appointed key personnel for the project. The Company has also appointed many middle and junior level staff who will work to complete the project within the schedule time frame. Least difficulty is expected in case of unskilled person as the same is available in plenty in Kerala.

6.2 Training

Selected executives, key operating, technical and maintenance staff will undergo specific training in equipment supplier's associated mines. Other operating & maintenance staff will be trained at site, and will include

- ⊙ Company orientation for all employees
- ⊙ Safety training for all employee
- ⊙ Specific job training for all employees

Trade and basic educational training for selected employee

CHAPTER – 7

ENVIRONMENTAL CONSIDERATIONS

Building Stone Quarry

CHAPTER 7

ENVIRONMENTAL CONSIDERATIONS

7.1 Introduction

There is no sanctuary, national park or archeological monuments within study area of 10 km radius of the proposed site. There is Social forest at Thekkumala towards West of the lease at a distance of 700 m (Aerial distance) and Chittar Reserve forest towards East at a distance of 4.5 kms (Aerial distance). The quarry is adopted fully Semi mechanized, efficient pollution control devices to bring down the emission/discharge of pollutants within the acceptable norms stipulated by the environmental legislations.

7.2 Environmental Issues

This section covers

- ⊙ The genesis of pollution,
- ⊙ Principal sources of pollution,
- ⊙ The nature of pollution
- ⊙ Proposed measures required for meeting the prevailing statutory requirements of gaseous emissions, waste water discharge characteristics, noise level etc.
- ⊙ For environmental management purpose in connection with the mining activities.

Pollution prevention and control measures for each of the section are enumerated below:

7.3 Pollution Control Measures

7.3.1 Air pollution control

The measures to control the air pollution will ensure the ambient air quality standards as laid down by Central Pollution Control Board. The roads inside the lease area will be asphalted to reduce the dust emissions.

7.3.2 Water Pollution Control

The pollutants present in the waste water will be reduced to acceptable levels by adoption of the following schemes:

- There is no water required for quarry activity.
- Treating the domestic sewage will be treated in the CPCB Approve Soak Pit and Septic Tank.

- Storm Water Drainage –

- ◎ Storm water drainage system shall consist of well-designed open surface drains network so that all the storm water is efficiently drained off without any water logging.
- ◎ Based on the rainfall intensity of the proposed area drainage system shall be designed on the basis of the storm water flow and the depth available at the out fall point so as to ensure no back flow.

7.3.3 Noise Pollution Control

Various measures proposed to reduce noise pollution include reduction of noise at source, selection of low noise equipment, isolation of noisy equipment from working personnel. In some areas where due to technological process, it is not feasible to bring down the noise level within acceptable limits, personnel working in these areas will be provided with noise reduction aid such as ear muffler and also the duration of exposure of the personnel will be limited as per the norms.

7.3.4 Waste Material Management

The waste rock is mainly is the rock generated due to mine loss during the course of mine operation which will amounts to 5% of the total production. The waste so generated is non-toxic in nature. The site chosen for disposal of waste rock lies within the mine area. This area is pre determined for its barrenness.

About 39,000 tonnes of waste is going to generate during the mining period. This waste is mainly weathered rock, intercalated waste and the waste generated due to incidental to the mining activities.

The waste material generated at this mine will be partly used for road construction /repair work, filling wherever it is necessary within and nearby mine. While the balance waste will be dumped inside the lease area earmarked for the purpose. Dumping will be carried out in a systematic and scientific way. Sufficient protective measures will be taken up to stabilize the dump.

7.3.5 Green Belt

Adequate green belt is being provided all around the lease area and inside the lease area. Locally available types of trees, which are resistant to pollutants is being planned.

CHAPTER – 8

PROJECT SCHEDULE & COST ANALYSIS

Building Stone Quarry

CHAPTER 8

PROJECT SCHEDULE & COST ESTIMATES

8.1 Project Schedule

Quarrying Plan has been approved by the Department of Mining and Geology (DMG) for total extent of 7.8541 ha as per KMMCR, 2015

8.2 Cost Estimate

Since the project requires heavy earth moving machineries such as excavators, dumpers/tippers, drilling machineries, crusher Unit's, Buildings, M sand Plant and compressors, approximate cost towards the same would be about Rs. 1,600 lakhs

8.3 Economic viability of the project

There is good demand in inland and outside countries for building stone for construction of Houses, Temples, Statues, Roads & Bridges etc. hence project will be viable.

CHAPTER – 9

ANALYSIS OF PROPOSAL

Building Stone Quarry

CHAPTER 9

ANALYSIS OF PROPOSAL

9.1 Recommendations

The occupation of the local villages of the area is rubber plantation & rubber tapping. The quarrying activities in this belt will benefit to the local people both directly and indirectly. The direct beneficiaries will be those who get employed in the mines as skilled and un-skilled workers. The indirect beneficiaries will be those who are open small business to sell goods required by the residents whose “Per Capita” income will be enhances by the quarrying activities and thereby their purchasing power. In the long run a lot of social goods are expected in the comparatively backwards area when the inhabitant will be sent their children to school.

Quarrying activity improves the economics status of the people working in this project. Overall improvement will be expected in local area. Few labors will get employment and the State Government and Village Panchayat will get royalty due to quarrying activities.

As the project proponents commit to protect Environment from pollution in various activity of the quarrying operation can be abated effectively.

Analysis of Proposal can be concluded as follows:

- ⊙ There will be no environmental impact from the project since the scale of operation is very minimum.
- ⊙ There will be no major environmental impact due to proposed ornamental stone quarrying. This operation doesn't need relocation of any habitats.
- ⊙ The project provides employment opportunities to the people of surrounding area, in turn helps in improving the economic status of the present population.
- ⊙ Also there are many similar quarry operations working in the vicinity.
- ⊙ Further, the firm has obtained Consent to operate from Kerala State Pollution Control Board (KSPCB).