

North Borneo Environmental Services



NATURAL RESOURCES AND ENVIRONMENT BOARD SARAWAK

[Incorporated under the Natural Resources And Environment Ordinance (Chapter 84 - Laws of Sarawak 1958 Ed.)]

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT APPROVAL

Terms and Conditions of Approval in accordance with the provisions of the Natural Resources & Environment Ordinance (Cap. 84 - Laws of Sarawak) and Natural Resources & Environment (Prescribed Activities) Order, 1994

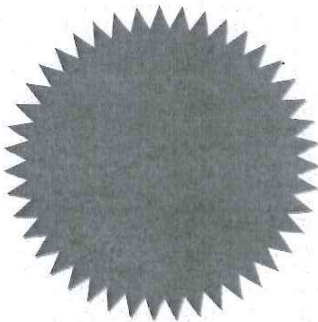
Name of Project : PROPOSED QUARRY B AND QUARRY C
LICENCE TO QUARRY AND REMOVE STONES AT
BATANG BALEH, ULU SUNGAI PUTAI, KAPIT
DIVISION, SARAWAK.

Main Activity : QUARRY ACTIVITIES

Project Proponent : SARAWAK ENERGY BERHAD
NO. 1, THE ITHMUS,
93050 KUCHING, SARAWAK.

Date of Approval : 31 DECEMBER 2019

Reference No. : (0) NREB / 6-6 / 3F / 10



[JUSTINE JÖK JAU EMANG]
Controller of Environmental Quality
Natural Resources and Environment Board
Sarawak

GENERAL TERMS AND CONDITIONS

1. COMPLIANCE

- (a) The Project Proponent shall adhere to the general operation and maintenance procedure that has been planned. If any changes are to be made, the NREB shall be duly informed on the changes.
- (b) The Project Proponent shall sign an undertaking with the NREB to adopt and comply with all the *Terms and Conditions of EIA Report Approval* contained herein for the protection and enhancement of the environment.
- (c) The Project Proponent shall display a copy of the document, i.e. The *Terms and Conditions of EIA Report Approval*, at the site office and shall be made available for inspection by officers of the NREB when they carry out the monitoring.
- (d) If there is no development within 3 years in the Project area after approval been granted, the Proponent must conduct another environmental study and submit the report to this Board.
- (e) The NREB reserves the right to amend, add or delete any of the approval conditions as and when it deems fit.

2. CONTRACT AGREEMENT

- (a) The Project Proponent must ensure that the *Terms and Conditions of EIA Report Approval* for the protection and enhancement of the environment shall be included in all contract agreements with respect to the development and operation activities of the project. The Project Proponent shall also ensure that these Terms and Conditions are observed, complied with and implemented by all contractors, their agents and servants, appointed to carry out the activities.

3. DATA AND REPORTS

- (a) The Project Proponent shall engage an Environmental Consultant to carry out environmental monitoring and provide environmental reports and data on the state of the environment every quarterly upon commencement of the project.
- (b) The report shall be in the form and format as outlined in the **ANNEX II - "Format of Environmental Monitoring Report" (EMR)**.
- (c) The water, air and noise sampling points shall be in the locations as recommended in the **EIA Report**.

4. MONITORING AND SUPERVISION

- (a) The NREB shall monitor the project development to ensure that all conditions herein are complied with.
- (b) The Project Proponent, his contractors, their agents and servants shall give full cooperation and support to the officers of the NREB who shall carry out the monitoring and supervision on the development activities of the project.

5. CONSULTATION

- (a) The Project Proponent, the NREB and other relevant stakeholders as determined by the NREB shall hold consultations as and when required with regard to the protection and enhancement of the environment.

6. SPECIFIC TERMS AND CONDITIONS

The Specific Terms and Conditions for environmental protection at the project site are outlined in **ANNEX I**.

SPECIFIC TERMS AND CONDITIONS

LIST OF ISSUES AND MITIGATING MEASURES RECOMMENDED BY THE ENVIRONMENTAL CONSULTANT AS CONTAINED IN THE EIA REPORT FOR THE PROPOSED QUARRY B AND QUARRY C LICENCE TO QUARRY AND REMOVE STONES AT BATANG, BALEH, ULU SUNGAI PUTAI, KAPIT DIVISION, SARAWAK AND ENDORSED BY THE NATURAL RESOURCES AND ENVIRONMENT BOARD (NREB)

ISSUE	MITIGATING MEASURES RECOMMENDED BY THE ENVIRONMENTAL CONSULTANT	REFERENCE IN THE EIA REPORT	ENDORSED BY NREB	
			IN TOTAL	WITH THE FOLLOWING VARIATION
1. Soil Erosion and Sedimentation	a. Site clearing shall be restricted to only that necessary for road construction to the quarry face. Vegetation in areas of the site where earthworks are not required shall be left untouched.	Page C4-5	√	
	b. Work shall not be carried out during rainy days to minimise ground disturbance and soil erosion.	Page C4-5	√	
	c. Work schedule shall be implemented in such a way that works are to be carried out in phases and site clearing shall be limited to benches associated with its particular phase.	Page C4-5	√	
	d. Protection of all unpaved roads shall be achieved through application of a layer of crusher run or firm soil material.	Page C4-5	√	
	e. Riparian buffer with double the width of the waterway shall be retained to reduce sediment delivery into the waterway.	Page C4-5	√	
	f. Sedimentation ponds or silt traps shall be constructed and maintained at strategic locations (where site conditions permit). Other ponds shall be built depending on the actual site conditions as the project is being developed. The ponds shall be installed before major earthworks commence.	Page C4-5	√	Refer to Figure 4.1 in the EIA Report for the Typical Design of Sedimentation Pond. To include the locations of the silt traps in the EMR.
	g. Drainage system along both sides of access road as well as other cleared areas shall be constructed to channel the water properly and directed into the sedimentation pond area for retention and recycling.	Page C4-5	√	

ISSUE	MITIGATING MEASURES RECOMMENDED BY THE ENVIRONMENTAL CONSULTANT	REFERENCE IN THE EIA REPORT	ENDORSED BY NREB	
			IN TOTAL	WITH THE FOLLOWING VARIATION
2. Slope Stability	h. Drainage installation and the sedimentation ponds shall be regularly de-silted and checked to ensure that they are not clogged and are functioning effectively.	Page C4-5	✓	
	i. All cleared and exposed areas, not meant for further quarry development, shall be rehabilitated with suitable final ground contour and be re-vegetated or turfed with fast growing indigenous vegetation or creeping grass cover. To expedite re-vegetation, areas that are already depleted shall be covered with topsoil from newly opened extraction site.	Page C4-7	✓	
	j. All works shall comply with the Guidelines for Erosion and Sediment Control by the Department of Drainage.	Additional	✓	
	a. Site clearing shall be limited within the road corridor and progress gradually from one end or both ends of the road.	Page C4-7	✓	
	b. Internal road shall be aligned to avoid hill crests and steep slopes.	Page C4-7	✓	
	c. Earthworks shall be planned to avoid the rainy season.	Page C4-8	✓	
	d. As slope cutting generally produces sloped that is steeper than natural slopes, major cut slopes shall be compacted and benched.	Page C4-8	✓	
	e. Slope benches shall be provided with a drainage system consisting of bench drains (usually on cut slope benches), berm drains (usually on fill slopes or embankment), interceptor drains, cascade drains etc.	Page C4-8	✓	
	f. Slopes which are already depleted shall be re-vegetated with fast growing grass or small trees.	Page C4-8	✓	
	g. To reduce large volumes of soil material from slipping downright, the cuttings or excavation works shall be reduced to a maximum of 3 meters depth.	Page C4-8	✓	
h. Constructions on steep slopes shall be avoided. When this is unavoidable, the most suitable safe cut and fill slopes shall be determined on a case to case basis supported by detailed soil investigation. All slopes to be worked on shall be within the limits of steepness to ensure stability. Slope cutting gradient of 1:1.5 (vertical to horizontal) shall be used.	Page C4-8	✓		

ISSUE	MITIGATING MEASURES RECOMMENDED BY THE ENVIRONMENTAL CONSULTANT	REFERENCE IN THE EIA REPORT	ENDORSED BY NREB WITH THE FOLLOWING VARIATION			
			IN TOTAL			
3. Water Quality	<p>i. The dump sites shall be compacted to stabilize and reduce soil erosion.</p> <p>1. Sewage</p> <p>a. Direct discharge of sewage into waterways shall be prohibited. Prefabricated individual septic tank systems shall be provided at the workers' quarters, labour lines and offices for the treatment of sewage. The facilities shall be desludged periodically.</p> <p>b. Canteen and kitchen wastewater shall be channeled through physical screens and oil and grease traps to remove residual oil and solids before draining into the water ways.</p> <p>c. The sewerage systems shall be able to produce effluent with quality that would comply with the Standards.</p> <p>II. Oil and Grease</p> <p>a. Scheduled wastes shall be disposed of and stored properly.</p> <p>b. Scheduled wastes shall be stored in durable containers and label to prevent spillage or leakage of the scheduled wastes into the environment.</p> <p>c. Incompatible scheduled wastes shall be stored in separate containers.</p> <p>d. The generation of any scheduled wastes shall be notified to the Director General of Department of Environment (DOE) in writing.</p> <p>e. Areas for the storage of the containers shall be designed, constructed and maintained to prevent spillage or leakage of scheduled wastes into the environment.</p> <p>f. Temporary scheduled waste (oil and grease wastes) storage area shall be located away from water courses.</p>	Page C4-8	√			
				Page C4-9	√	
				Page C4-9	√	
				Page C4-9	√	Reference shall be made to Appendix G - Environmental Quality (Sewage) Regulations, 2009, in the EIA Report.
				Page C4-10	√	
				Page C4-10	√	
				Page C4-10	√	
				Page C4-10	√	
				Page C4-10	√	
				Page C4-10	√	Reference shall be made to Appendix I - Environmental Quality (Scheduled Wastes) Regulations, 2005 in the EIA Report.

ISSUE	MITIGATING MEASURES RECOMMENDED BY THE ENVIRONMENTAL CONSULTANT	REFERENCE IN THE EIA REPORT	ENDORSED BY NREB	
			IN TOTAL	WITH THE FOLLOWING VARIATION
	<p>g. All above-ground storage tanks (for fuels or chemicals, if any) shall be banded to contain 110% of the maximum storage volume of the biggest tank in the storage area. Place to load and unload containers are designed so that any spill will be contained. There shall be no opening in the dyke that may allow surface water runoff from entering or leaving the site. Close supervision of refuelling (bulldozers, excavators, core drilling machine and lorries) in a designated area shall be carried out.</p> <p>h. Stationery equipment and machineries to be routinely checked for leaks. In case of leakage, immediately stop the leakage by removing the machinery from the Site. Maintenance of vehicles and machinery shall be carried out away from any source of surface water.</p> <p>i. In case of any spillage, immediately contain spillage to prevent from getting into the waterways, using spills kit or sand. The removed spilt material shall be placed in sealed container and keep in a designate temporary storage area with labeling prior disposal.</p> <p>j. Disposal of scheduled waste shall be carried out by DOE-approved contractor and send to licensed disposal site.</p>	Page C4-10	✓	
4. Air Quality	a. Vehicles, equipment and machineries shall be maintained through regular servicing.	Page C4-12	✓	
	b. Spraying of water shall be carried out twice a day or more frequently during dry weather and windy conditions, especially along the road near the office and worker quarters. Internal roads, especially around the site office and living quarters shall be gravelled to reduce dust problem.	Page C4-12	✓	
	c. Stockpile area especially quarry dust stockpiles shall be sprayed with water at least 3 times a day.	Page C4-12	✓	
	d. Crushers shall be provided with water spray nozzles during the crushing operation.	Page C4-12	✓	
	e. Workers shall wear respirator (breathing masks) to avoid inhaling excessive	Page C4-13	✓	

ISSUE	MITIGATING MEASURES RECOMMENDED BY THE ENVIRONMENTAL CONSULTANT	REFERENCE IN THE EIA REPORT	ENDORSED BY NREB WITH THE FOLLOWING VARIATION	
			IN TOTAL	
	particulates containing silicates.			
	f. Drilling machines shall be equipped with dust suction system to reduce the dust emission during the drilling operation.	Page C4-13	✓	
	g. During the materials transportation, the loads shall be covered with tarpaulin sheets/canvas.	Page C4-13	✓	
	h. Speed limit of 20km/hr shall be imposed for vehicles travelling within the quarry sites and whenever they are passing by places such as the worker's quarters and site office. Road signs and speed bumps shall be erected at these locations.	Page C4-13	✓	
	i. Wash troughs shall be provided for heavy vehicles and machineries leaving the Quarry sites.	Page C4-13	✓	
	j. Any installation of fuel-burning equipment that is used for the purpose of generating power (e.g. generator) shall apply for a written permission from the DOE.	Page C4-13	✓	Reference shall be made to the Environmental Quality (Clean Air) Regulations.
	k. Overloading of lorries shall be avoided at all times. Loads shall be covered with canvas sheets and fastened to prevent spillage.	Page C4-32	✓	
5. Noise Pollution	a. Workers exposed to noisy working environment shall be provided with hearing protection device such as ear muffs or ear plugs.	Page C4-17	✓	
	b. No employee shall be exposed to noise level exceeding the equivalent continuous sound of 90 dB(A) or exceeding the limits specified in the First Schedule of the or exceeding the daily noise dose of unity. No employee shall be exposed to impulsive noise exceeding 115 dB(A) at any time.	Page C4-18	✓	Factories and Machinery (Noise Regulations), 1989
	c. Noise impact to the workers shall be minimized by scheduling work shifts to maintain Employee's Exposure Level.	Page C4-18	✓	
	d. Generator house shall be sited far away from the workers' quarters. It shall be well padded to make it as sound-proof as possible, and the generator shall be well maintained to reduce the noise level.	Page C4-18	✓	

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	e. Audiometric testing program for employees exposed to noise shall be establish and maintain. The management shall also establish baseline and Employee's Medical and Occupational Records for every employee within 6 months from the day the employee commences work. Audiometric testing shall be repeated every year for employees exposed to noise level at or above action level of 85 dB(A).	Page C4-18	✓	
	f. Equipment shall be maintained to minimize noise, including lubrication and replacement of worn parts, especially exhaust system.	Page C4-18	✓	
	g. Noise level shall not exceed the limits stipulated in the Planning Guidelines for Environmental Noise Limits and Control.	Page C4-18	✓	Refer to Appendix F in the EIA Report.
	h. Geologic conditions that cause blowouts shall be compensated for. These include mud seams, voids, or open bedding shall be stemmed through and a check of column rise will avoid overcharging.	Page C4-18	✓	
	i. Holes shall be drilled accurately to maintain the designed burden, especially for inclined holes.	Page C4-18	✓	
	j. If there is a high free face in the direction of nearby built-up areas, the face shall be reoriented or reduced in height.	Page C4-19	✓	
	k. Collar priming shall be avoided where airblast is a problem.	Page C4-19	✓	
	l. Early morning, late afternoon, or night firing is prohibited.	Page C4-19	✓	
	m. Use of longer delays between rows than between holes in a row will promote toward rather than upward movement of the burden.	Page C4-19	✓	
	n. Excessively long delays that may cause a hole to become unburdened before it fires shall be avoided.	Page C4-20	✓	
	o. Avoid blasting in adverse weather conditions, especially when the wind is blowing from the blasting site towards sensitive premise or when there is low cloud.	Page C4-20	✓	

ISSUE	MITIGATING MEASURES RECOMMENDED BY THE ENVIRONMENTAL CONSULTANT	REFERENCE IN THE EIA REPORT	ENDORSED BY NREB WITH THE FOLLOWING VARIATION	
			IN TOTAL	
6. Ecological Impact	a. Site clearing shall be properly planned and done in stages as this would allow terrestrial fauna to have sufficient time to escape to adjacent undisturbed area.	Page C4-20	✓	
	b. The existing trees and bushes in the buffer zone shall be utilized as natural buffer and shall not be removed unless it is necessary such as for haulage road construction.	Page C4-21	✓	
	c. Prior to site clearing and earthworks, the project boundary shall be marked clearly to avoid clearing and disturbance of areas outside the work limit. Vegetation's outside the project site shall be left untouched.	Page C4-21	✓	
	d. Site clearing and overburden removal activities shall be carried out during dry period.	Page C4-21	✓	
	e. A comprehensive revegetation or restoration program shall be undertaken particularly for the open and disturbed areas within the Project site.	Page C4-21	✓	
7. Occupational Safety and Health	a. The access roads and the entrances shall be fenced off. Visitors are required to sign in and out at the gate for security as well as for safety reasons. To discourage illegal trespassing into the sites, the local people shall be educated to the dangers within a quarry site. Warning signs shall be placed conspicuously and visibly at places such as at the gates to warn of the dangers inside.	Page C4-22	✓	General safety rules and regulations are presented in Appendix H.
	b. No trespass signs shall be placed at a strategic location.	Page C4-22	✓	
	c. All safety signs for the quarry sites shall be erected at the main entrance or at strategic area with clear visibility. These shall include, but not limited to, safety signs, direction signs, unauthorized personnel trespass signs and emergency escape route/assembly areas.	Page C4-22	✓	
	d. All workers shall be medically screened prior to being employed, as part of their employment contract. There shall also be health inspection at regular intervals for the workers and their families.	Page C4-22	✓	
	e. Safety awareness among workers shall be instilled through regular safety briefing.	Page C4-22	✓	

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			IN TOTAL	WITH THE FOLLOWING VARIATION
	f. The proposed working hour of 6 days per week and two (2) shifts of eight hours per day from 7:00 a.m. to 3:00 p.m. and 3:00 p.m. to 11:00 p.m. shall be adopted. With regards to the drilling operations, work shall be only at maximum of 8 hours per day and shall not go beyond 7:00 p.m.	Page C4-22	✓	
	g. Workers' safety shall be observed at all time. All serious accidents at the site shall be reported to the relevant authority.	Page C4-23	✓	Reference shall be made to the Occupational Safety and Health Act (OSHA), 1994.
	h. Safety gears such as boots, eye protection glasses, helmet, masks, gloves and ear-muffs shall be made available to all workers involved in hazardous jobs.	Page C4-23	✓	
	i. A written report shall be made to the authorities on the detail findings of any incidents that potentially affecting human health and safety and include ways of preventing reoccurrence and improving future response to similar incidents.	Page C4-23	✓	
	j. A person shall be assigned to oversee the health, safety and environmental (HSE) aspects of the workers and take care of the wellbeing of the environment. Training programs shall be established and maintained for that purpose, or hire persons with appropriate training and experience.	Page C4-23	✓	
	k. First-aid facilities and fire extinguishers shall be made available at the site office and quarters.	Page C4-23	✓	
	l. Emergency transport shall be allocated for the transfer of patients on site to major medical centre.	Page C4-23	✓	
	m. All materials shall be properly stacked or stored. Good housekeeping procedures shall be enforced.	Page C4-23	✓	
	n. All fire-preventive measures, fire protection and fire-fighting equipment shall be provided at site.	Page C4-24	✓	
	o. Telecommunication facilities shall be provided for workers particularly for use during emergency.	Page C4-24	✓	

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			IN TOTAL	WITH THE FOLLOWING VARIATION
	<p>p. All stagnant water bodies created by rubbish, ground depression or settlements, materials storage and bunding shall be removed or managed to prevent the proliferation of mosquito larvae.</p> <p>q. Signs shall be erected to show where loading lorries are turning in and out of the Project site.</p> <p>r. Drivers shall maintain road courtesy, e.g. refrain from using their horns unnecessarily and travelling very fast.</p>	<p>Page C4-24</p> <p>Page C4-32</p> <p>Page C4-32</p>	<p>✓</p> <p>✓</p> <p>✓</p>	
8. Blasting, Vibration and Flyrocks	<p>a. Buffer zone shall be established to ensure safe distance for the quarrying activities such as flyrocks. A buffer zone of 50 meters shall be implemented as its distance from the quarry licensed boundary as per design.</p> <p>b. Blasting design shall be followed to control the extent of flyrocks by taking into consideration the characteristics of the rock to be blasted.</p> <p>c. The charge weight of explosives per delay shall be reduced by reducing the number of blast holes fired on each day.</p> <p>d. Overly confined charges such as those having too much burden or too much subdrilling shall be avoided. The primer shall not be placed in sub drilling.</p> <p>e. Each driller shall make careful examination of his working place and remove any loose rocks, stones, earth or other material which might be dangerous, especially after blasting, before commences the quarry works.</p> <p>f. Use blasting netting when in any doubt.</p> <p>g. Use sand bag to put on top of the suspected hole.</p> <p>h. Prior to any blasting operation, warning siren shall be implemented to warn and evacuate the workers from the area or flyrocks target. Sufficient time after the siren warning shall be given to allow the affected people to seek shelters prior each blasting and specific time and day be designated for the blasting operation.</p>	<p>Page C4-29</p> <p>Page C4-29</p> <p>Page C4-29</p> <p>Page C4-29</p> <p>Page C4-29</p> <p>Page C4-29</p> <p>Page C4-30</p> <p>Page C4-30</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	

ISSUE	MITIGATING MEASURES RECOMMENDED BY THE ENVIRONMENTAL CONSULTANT	REFERENCE IN THE EIA REPORT	ENDORSED BY NREB	
			IN TOTAL	WITH THE FOLLOWING VARIATION
9. Handling and Transportation of Explosive	a. All shot firers must know the characteristics, limitation and the recommended usage of the explosives they are using.	Page C4-30	√	
	b. Suitable initiation system shall be used. For non-electric system, make sure exploder rating is appropriate; have the exploder serviced regularly; make sure the shot firing cable is in good condition; connect using series circuits; and use joint insulators. Be attentive to detail such as do not work under pressure; check the rise of explosive column; use primer and choose the position carefully; be meticulous in making up the primers; know the limitation of any system used; do not handle the detonators roughly; check that the circuit resistance is within tolerance and know own limitations.	Page C4-30	√	
	c. Shot-firer shall adhere to safety rules issued by the explosive manufacturer.	Page C4-31	√	
	d. Shot-firer shall be responsible to check and ensure that all circuits, pattern and timing of shock tube and connector prior to the "go ahead" signal.	Page C4-31	√	
	e. After the blast, the Quarry Manager and the Shot-firer shall return to the site to counter check on any possible misfires, after a lapse of about 15 minutes or more.	Page C4-31	√	
	f. Explosives shall only be handled by authorized and competent personnel and only with approved tools and equipment.	Page C4-31	√	
	g. Warning siren to be initiated immediately before and during blasting. Siren shall only be switched off after final inspection.	Page C4-31	√	
	h. Transportation vehicle for the explosive shall be equipped with fire extinguishers.	Page C4-31	√	
	i. Prominent signboards bearing "EXPLOSIVES" and "DANGER" shall be displayed on the vehicle.	Page C4-31	√	
	j. No flammable material and batteries shall be carried together with the explosives.	Page C4-31	√	

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10. Waste Generation and Management	k. Explosives shall be transported with their original packages or boxes and transported during day time only.	Page C4-31	✓	
	l. Detonators shall not be transported together with the explosives. Loose numbers of detonators shall be carried inside a wooden box and be kept away from explosives.	Page C4-31	✓	
	m. Smoking is strictly prohibited on/near the explosive transportation vehicle.	Page C4-31	✓	
	a. Open burning is prohibited unless with written permission from the NREB.	Page C4-33	✓	
	b. Biomass matter shall be used as mulching material for the temporary protection of exposed ground surfaces from erosion.	Page C4-33	✓	
	c. Vegetative and unsuitable earth wastes shall be piled up for natural decomposition within the undeveloped area of the Project site. The stockpiles shall be constructed with the slope no greater than 2:1 (horizontal to vertical) and located at least 20 meters away from any water bodies.	Page C4-33	✓	
	d. Suitable excavated earth material shall be used as fill material for the site.	Page C4-33	✓	
	e. The overburden and inter-burden removed from the Quarry shall be landfilled at the designated dumpsites which are located at the eastern side of the proposed quarry site.	Page C4-33	✓	Refer to Figure 2.2 in the EIA Report.
	f. Spoil area shall be compacted to prevent loose soil from runoff into nearby water bodies.	Page C4-33	✓	
	g. Turfing and/or re-vegetation with suitable cover plants shall be carried out immediately at completed areas which are not involved in further activities.	Page C4-33	✓	
	h. Perimeter earth drain shall be constructed to contain and channel the runoff to the nearest sedimentation pond for treatment before direct discharge into existing water bodies.	Page C4-33	✓	
i. A landfill at a suitable location shall be set up to cater for the worker's population at the site.	Page C4-34	✓		

ISSUE	MITIGATING MEASURES RECOMMENDED BY THE ENVIRONMENTAL CONSULTANT	REFERENCE IN THE EIA REPORT	ENDORSED BY NREB WITH THE FOLLOWING VARIATION	
			IN TOTAL	
	<p>j. The perimeter earth drain system shall be maintained and inspected regularly to ensure that they are not blocked and is sufficient to cater for the expected maximum storm or detain the storm water runoff on-site.</p> <p>k. Waste management commitment from contractors shall be included in the contractual agreement.</p> <p>l. Good housekeeping practices shall be enforced and waste materials shall not be left where they can be easily blown or washed away.</p>	Page C4-33	✓	
	<p>a. Project Proponent shall prioritize hiring local manpower for the quarry jobs.</p> <p>b. Where skills are lacking, specific training shall be given.</p> <p>c. Workers shall be screened for malaria parasite and sexually transmitted disease (STD) carrier upon employment and consequently every yearly. Suspected persons shall not be employed and shall be directed to the relevant health authorities for further action.</p> <p>d. Accommodation with proper sanitary facilities for the construction workforce shall be provided and care shall be taken to minimize the potential for social tensions to develop with the existing population of the area.</p> <p>e. Repatriation program shall be instituted at the end of the contract to ensure smooth and legal departure.</p> <p>f. Any complaints related to the environmental matters shall be immediately investigated and necessary action shall be taken.</p>	Page C4-34 Page C4-35 Page C4-35 Page C4-35	✓ ✓ ✓ ✓	
11. Social Impact				
Economic				
	<p>a. Systematic re-vegetation of exposed slopes and provision of proper drainage shall be adopted to minimize erosion and flooding.</p> <p>b. Structures that cannot be made safe or cannot be assured to remain safe with time shall be dismantle or demolish.</p> <p>c. All machineries and equipment shall be removed from the Project site.</p> <p>d. All concrete slabs shall be broken and removed or buried.</p>	Page C4-38 Page C4-38 Page C4-38 Page C4-38	✓ ✓ ✓ ✓	
12. Abandonment Plan				

ISSUE	MITIGATING MEASURES RECOMMENDED BY THE ENVIRONMENTAL CONSULTANT	REFERENCE IN THE EIA REPORT	ENDORSED BY NREB	
			IN TOTAL	WITH THE FOLLOWING VARIATION
	e. Transmission poles, cement and concrete mixing plants, gates and fences, fuel or water storage tanks, water pipelines, and septic systems shall be removed.	Page C4-38	✓	
	f. All pits and burrow areas shall be filled with sand or earth.	Page C4-38	✓	
	g. Early notification and report shall be submitted to NREB and relevant authorities at least 3 months before abandonment to ensure proper handover or abandonment plan.	Additional	✓	
	h. Environmental Compliance Audit (ECA) shall be conducted prior to the project abandonment.	Additional	✓	

FORMAT OF ENVIRONMENTAL MONITORING REPORT (EMR)

1. INTRODUCTION

- PROJECT TITLE
- DATE OF COMMENCEMENT
- PROGRESS OF QUARRY ACTIVITIES
- DATE OF PREVIOUS MONITORING
- PERIOD COVERED BY THE REPORT

2. WATER QUALITY SAMPLING AND ENVIRONMENTAL MONITORING

2.1 PERIOD COVERED BY THE REPORT

- WATER QUALITY PARAMETERS: *Temperature, pH, Dissolved Oxygen, Turbidity, Biochemical Oxygen Demand, Chemical Oxygen Demand, Total Suspended Solids, Oil And Grease, Total Coliform Count and Faecal Coliform Count.*
- FREQUENCY: MONTHLY OR ONCE IN THREE (3) MONTHS
- DATE AND WEATHER CONDITION DURING AND PRIOR TO SAMPLING
- RIVER WATER CONDITION
- WATER SAMPLING POINTS' COORDINATES

3. RESULTS AND DISCUSSION

3.1 WATER QUALITY DATA

- COLLATION AND EVALUATION OF DATA (ATTACH LAB. ANALYSIS REPORT)
- INTERPRETATION OF DATA (comparison should be made with the baseline and the latest data)
- RECOMMENDATION
- DISCUSSION
- CONCLUSION

3.2 OTHER ENVIRONMENTAL PARAMETERS

- VARIOUS ENVIRONMENTAL COMPONENTS:
 - ASPECTS OF WATER TABLE MANAGEMENT AND DRAINAGE
 - ASPECTS OF BIODIVERSITY CONSERVATION
 - BUFFER ZONES
 - WASTE MANAGEMENT
 - SOCIO-ECONOMIC ASPECTS (EG. NUMERATION OF FOREIGN WORKERS AND LOCALS FOR RESPECTIVE JOBS)
 - ASPECTS ON WORKERS' HEALTH AND SAFETY

4. PROGRESS OF THE PRESCRIBED MITIGATING MEASURES

5. COMMENTS OR RECOMMENDATION/AMENDMENT TO THE PRESCRIBED MITIGATING MEASURES

- IMMEDIATE REMEDIAL ACTIONS TO BE TAKEN
- ADDITIONAL MITIGATING MEASURES REQUIRED

APPENDICES

- RELEVANT MAPS (e.g. to show the location of the water sampling points, progress area of the quarry activities, layout plan of the quarry site, etc.) and PLATES/PHOTOS to be attached