EXECUTIVE SUMMARY

KenEp Consultancy & Services

PROPOSED GRANITE QUARRY OPERATION ON LOT PT 23066 AND LOT PT 23741 WITH AN AREA OF 13.4862 HECTARES (33.325 ACRES) IN MUKIM KUALA PAKA, DISTRICT OF DUNGUN, TERENGGANU DARUL IMAN

Project Proponent

Hexatrend Quarry Sdn. Bhd.
(Company No. : 384597-D)

Lot 14019, Kampung Bukit Berapit, Jalan Kelantan,
21060 Kuala Terengganu,
Terengganu Darul Iman

Qualified Person

CERTIFIED TO ISO 9001: 2015
CERT. NO.: QMS 03181

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CERT. NO.: QMS 03181

KenEp Consultancy & Services
(Company No. : IP 0436751-T)
ECP REG : 314 P/N

5-9. Jalan Jelapang Bayu 1,
Puncak Jelapang Bayu,
30020 Ipoh, Perak Darul Ridzuan

Legislative Requirement

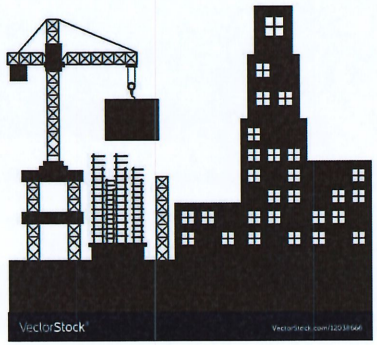
Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015

FIRST SCHEDULE,
PRESCRIBED ACTIVITY 19: "Quarrying of Rock Material"

Statement of Need

Resources
- Granite

Products
-Aggregate



Demand
- Construction Industries

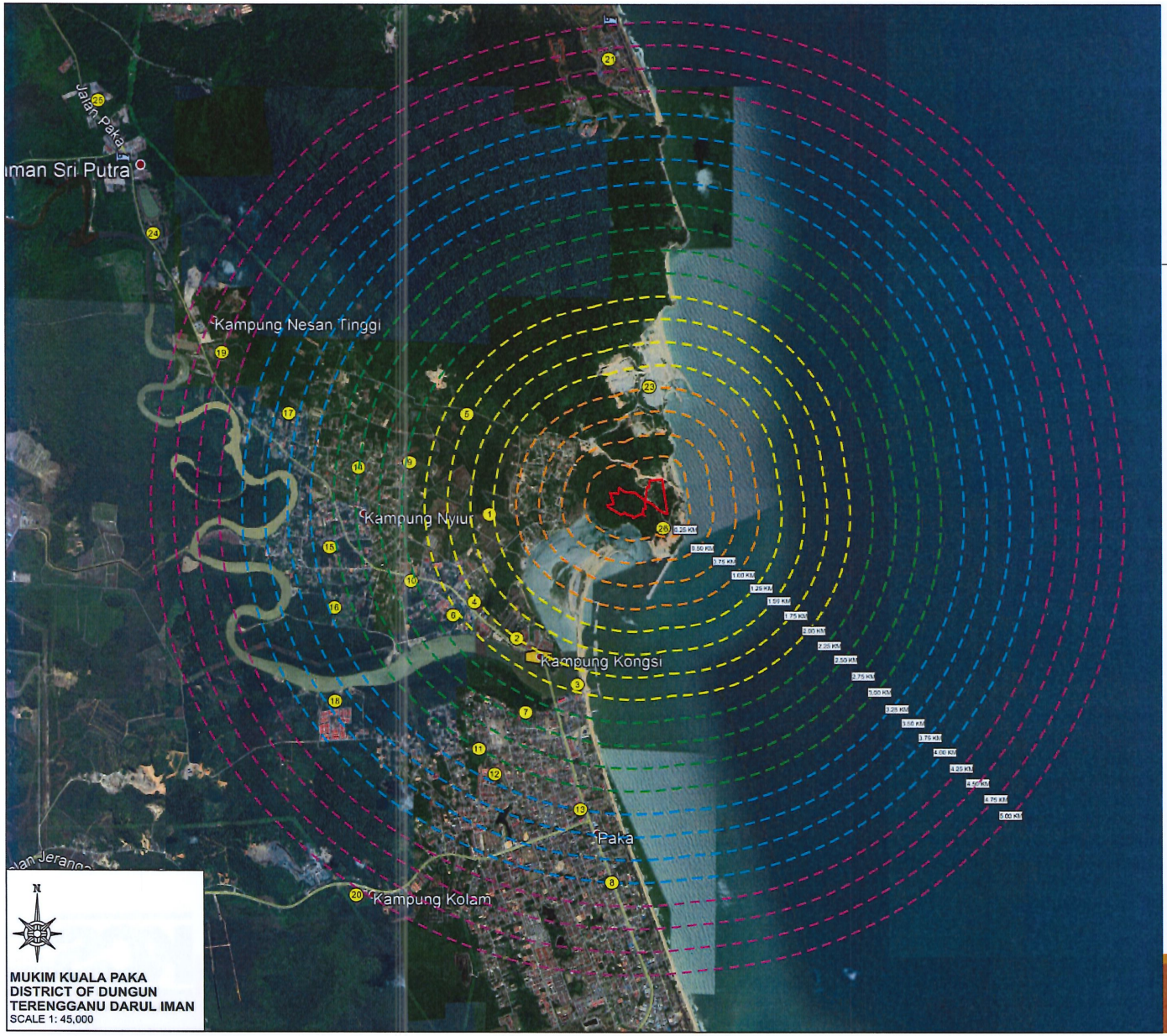
500M RADIUS OF THE PROPOSED PROJECT SITE AND SENSITIVE RECEPTORS

LEGEND

- PROPOSED PROJECT AREA
- EXISTING ACCESS ROAD
- EXISTING MAIN ROAD

No.	Location
1	Hardy Builder Sdn Bhd
2	Kampung Tebing Tembah
3	Paka Kuari Sdn Bhd

KCS



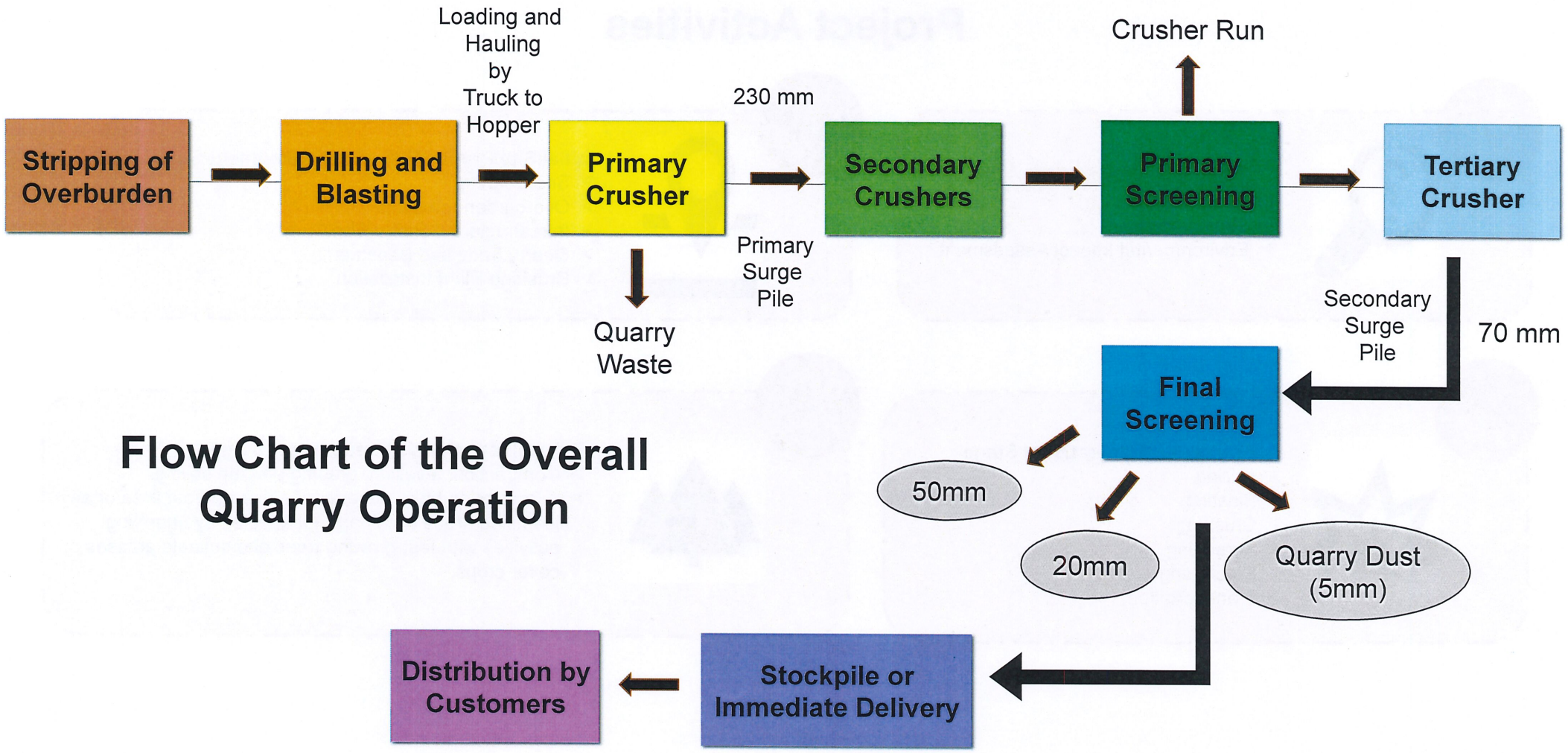
5KM RADIUS OF THE PROPOSED PROJECT SITE AND SENSITIVE RECEPTORS

LEGEND

PROPOSED PROJECT AREA

No.	Location
1	Kampung Tebing Tembah
2	Kampung Kongsi
3	Kampung Pantai
4	Kampung Baharu
5	Kampung Nik
6	Kampung Cerung Melintang
7	Kampung Limbung
8	Kampung Baharu
9	Kampung Baharu Darat Kubur
10	Kmapung Gong Samak
11	Kampung Lot Tanah
12	Kampung Gong Gemia
13	Kampung Cacar
14	Kampung Nyiur
15	Kampung Gong Paku
16	Kampung Pinang Merah
17	Kampung Gong Gemuruh
18	Kampung Beril
19	Kampung Nesan Tinggi
20	Kampung Kolam
21	Institut Teknologi Mara
22	Kampung Dusun Besar
23	Hardy Builder Sdn. Bhd.
24	Loji Air Bukit Bauk (Jabatan Bekalan Air Dungun)
25	ECRL Terowong Dungun
26	Paka Kuari Sdn Bhd

KCS



Flow Chart of the Overall Quarry Operation

Project Activities

1

Investigation
- Exploration
- Environmental Impact Assessment

2

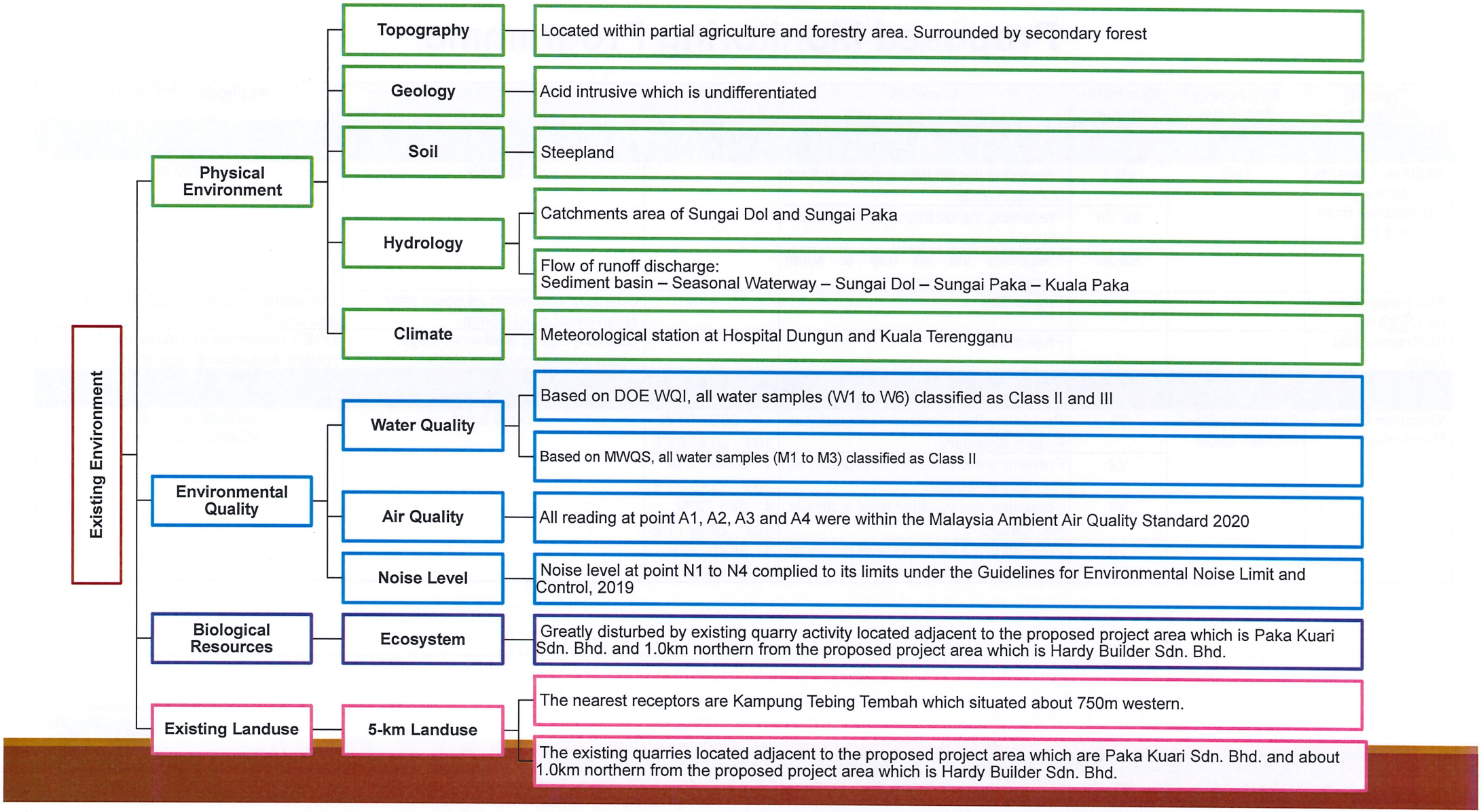
Initial Site Preparation and Development Stage
- Site clearing.
- Overburden removal.
- Infrastructure Construction.
- Quarry Face and Benches
- Crushing Plant Installation

3

Quarrying And Operational Stage
- Drilling
- Blasting
- Crushing
- Screening
- Stockpiling
- Transportation

4

Rehabilitation and Abandonment Stage
- Compaction, levelling, grading and top soiling.
- A forestation by re-vegetate the quarried out area or any identified areas which are not affected by quarrying activities with fast-growing trees and suitable grasses or cover crops.


Existing Environment
Physical Environment
Topography
Located within partial agriculture and forestry area. Surrounded by secondary forest
Geology
Acid intrusive which is undifferentiated
Soil
Steepland
Hydrology
Catchments area of Sungai Dol and Sungai Paka
Flow of runoff discharge:
Sediment basin – Seasonal Waterway – Sungai Dol – Sungai Paka – Kuala Paka
Climate
Meteorological station at Hospital Dungun and Kuala Terengganu
Environmental Quality
Water Quality
Based on DOE WQI, all water samples (W1 to W6) classified as Class II and III
Based on MWQS, all water samples (M1 to M3) classified as Class II
Air Quality
All reading at point A1, A2, A3 and A4 were within the Malaysia Ambient Air Quality Standard 2020
Noise Level
Noise level at point N1 to N4 complied to its limits under the Guidelines for Environmental Noise Limit and Control, 2019
Biological Resources
Ecosystem
Greatly disturbed by existing quarry activity located adjacent to the proposed project area which is Paka Kuari Sdn. Bhd. and 1.0km northern from the proposed project area which is Hardy Builder Sdn. Bhd.
Existing Landuse
5-km Landuse
The nearest receptors are Kampung Tebing Tembah which situated about 750m western.
The existing quarries located adjacent to the proposed project area which are Paka Kuari Sdn. Bhd. and about 1.0km northern from the proposed project area which is Hardy Builder Sdn. Bhd.

Proposed Monitoring Programme

Type of Monitoring	Monitoring Parameter	Monitoring Station	Location	Coordinate	Monitoring Frequency	Applicable Standard
Compliance Monitoring (CM)						
Sediment Basins Discharge -Discharge from slit trap	TSS	SB 1	Presenting the silt trap at north eastern of Project area	-	Monthly	TSS ≤50 mg/l
		SB 2a	Presenting the silt trap at north western of Project area			
		SB 2b	Presenting the silt trap at south western of Project area			
Site Inspection by CESSWI	-	-	Project Site	-	Quarterly, and within 24 hours after storm event of ≥12.5mm	EIA approval condition, LD P2M2, EMP and ESCP
Environmental Audit	-	-	Project Site	-	Quarterly during earthwork stage, Yearly during operation stage	DOE's conditions of EIA approval, related legislation & regulations
Impact Monitoring (IM)						
Vibration Level Monitoring	Production Blast (Nonel), dB(L)	V1	Presenting the vibration level quality at Project Boundary	4° 39'37.01"N 103° 26'43.07"E	Every blast	Airblast: ≤125 dBL Vibration: ≤ 5 mm/s
		V2	Presenting the vibration level quality at Kg. Tebing Tembah	4° 39'47.12"N 103° 25'49.93"E		
		V3	Presenting the vibration level quality at Kg. Baharu	4° 39'1.72"N 103° 25'39.71"E		
		V4	Presenting the vibration level quality at Kg. Kongsi	4° 38'40.58"N 103° 26'3.49"E		

Proposed Monitoring Programme

Type of Monitoring	Monitoring Parameter	Monitoring Station	Location	Coordinate	Monitoring Frequency	Applicable Standard
Impact Monitoring (IM)						
Water Quality Monitoring	pH, COD, BOD, DO, TSS, Oil and Grease, Ammoniacal Nitrogen, Temperature, Salinity	W1	Representing water quality level at upstream tributary of Sungai Dol	4° 39'59.07"N 103° 26'9.81"E	Once every three months	Complied to NWQS Class II and III
		W2	Representing water quality level at upstream tributary of Sungai Dol	4° 39'58.32"N 103° 26'23.9"E		
		W3	Representing water quality level at midstream tributary of Sungai Dol (discharge from proposed Project site)	4° 39'48.95"N 103° 26'24.7"E		
		W4	Representing water quality level at downstream of Sungai Dol	4° 39'33.23"N 103° 26'21.0"E		
		W5	Representing water quality level at downstream of Sungai Paka	4° 39'28.22"N 103° 26'35.8"E		
		W6	Representing water quality level at downstream of Sungai Paka	4° 38'48.51"N 103° 26'6.07"E		
Marine Water Quality Monitoring	Temperature, Total Suspended Solids, Mercury (Hg), Cadmium (Cd), Chromium (VI), Arsenic (III), Cyanide, Lead (Pb), Copper (Cu), Zinc, Phenol, Dissolved Oxygen, Faecal Coliform, Oil and Grease, Ammonia (unionized), Nitrite (NO2), Nitrate (NO3), Phosphate, Salinity	M1	Representing water quality level at coastal area of South China Sea	4° 39'30.54"N 103° 26'56.39"E	Once every three months	Complied to MWQS Class II
		M2	Representing water quality level at coastal area of South China Sea	4° 39'35.21"N 103° 26'56.21"E		
		M3	Representing water quality level at coastal area of South China Sea	4° 39'45.23"N 103° 26'53.21"E		

Proposed Monitoring Programme

Type of Monitoring	Monitoring Parameter	Monitoring Station	Location	Coordinate	Monitoring Frequency	Applicable Standard
Impact Monitoring (IM)						
Ambient Air Quality Monitoring	TSP, PM_{10}, $PM_{2.5}$, NO_2, SO_2, CO, O_3	A1	Presenting the ambient air quality at Project Boundary	4° 39'37.01"N 103° 26'43.07"E	Once in every three months	PM_{10} ≤100 µg/m³ $PM_{2.5}$ ≤35 µg/m³ NO_2 ≤280 µg/m³ SO_2 ≤250 µg/m³ CO ≤30 µg/m³ O_3 ≤180 µg/m³
		A2	Presenting the ambient air quality at Kg. Tebing Tembah	4° 39'47.12"N 103° 25'49.93"E		
		A3	Presenting the ambient air quality at Kg. Baharu	4° 39'1.72"N 103° 25'39.71"E		
		A4	Presenting the ambient air quality at Kg. Kongsi	4° 38'40.58"N 103° 26'3.49"E		
Boundary Noise Monitoring	L_{10}, L_{50}, L_{90}, Total Leq dB(A)	N1	Presenting the ambient noise monitoring at Project Boundary	4° 39'37.01"N 103° 26'43.07"E	Once in every three months	Total Leq(Daytime) (Project Boundary) ≤65 Total Leq (Night time) (Project Boundary) ≤55
		N2	Presenting the ambient noise monitoring at Kg. Tebing Tembah	4° 39'47.12"N 103° 25'49.93"E		
		N3	Presenting the ambient noise monitoring at Kg. Baharu	4° 39'1.72"N 103° 25'39.71"E		Total Leq (Daytime) ≤55 Total Leq (Night time) ≤45
		N4	Presenting the ambient noise monitoring at Kg. Kongsi	4° 38'40.58"N 103° 26'3.49"E		

Proposed Pollution Prevention and Mitigation Measures

BLASTING

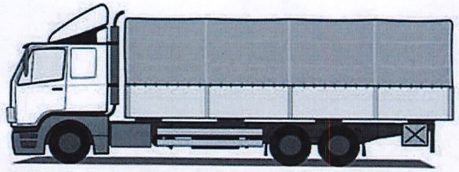
Handling by certified shotfirer

No smoking signboard

Ear muffler

No entry signboard during blasting in progress

AIR POLLUTION



Vehicles that carried materials out from project site need to be covered up

Regular Monitoring Programme

Water Browser

Landscaping at the project boundary

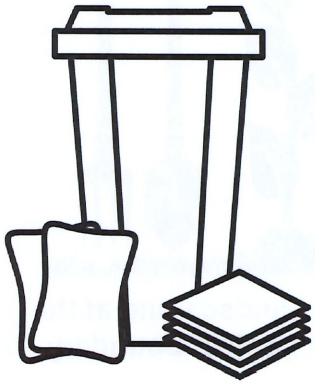
Proposed Pollution Prevention and Mitigation Measures

EROSION AND WATER POLLUTION

Sediment Basin

Earth Drain

CERTIFIED INSPECTOR
SEDIMENT AND EROSION CONTROL
CISEC



Spillage Kits

Check Dam

Cover Crop

SOLID AND HAZARDOUS WASTE POLLUTION

KCS

Proposed Pollution Prevention and Mitigation Measures

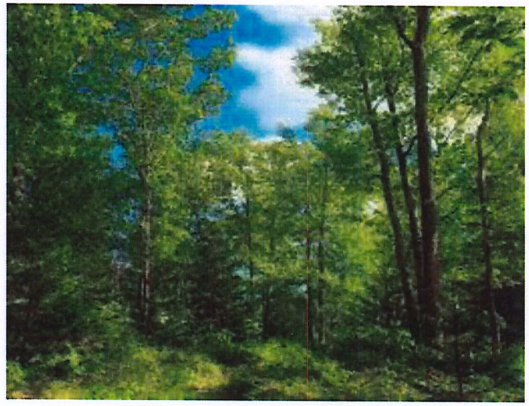
NOISE AND VIBRATION POLLUTION

Ear muffler

Ear Plug

Audiometric Test

Regular Monitoring



Natural Buffer Zone