

EXECUTIVE SUMMARY

1.0 PROJECT TITLE

The project title is “THE PROPOSED 1567.20 HECTARES (3873.00 ACRES) OF AGROPLANTATION DEVELOPMENT IN PT 9965, MUKIM HULU CHEKA, DISTRICT OF JERANTUT, PAHANG DARUL MAKMUR”.

2.0 PROJECT DESCRIPTION

The project site cover 1567.20 Hectares (3873.00 Acres) is a private land owned by Mentiga Corporation Berhad. With the current world market and opportunity for durian fruits, Mentiga Corporation Berhad decided to plant the area with durian trees.

The whole area will be planted with durian tree and intercrop with banana trees. The nearest human settlement area is located within 5 km radius from the Project site boundary which are as follow:

Table 2.1: List of Human Settlement and Distance from Project Site Boundary

Area	Distance from Study Area (km radius)
KOA Sg Berjuang	1.0
Kg Batu Balai	3.0
-Kg Bukit Kor	
-Kg Anak Gajah	
-Kg Batu 35	
-Kg Joo'o	
-Kg Terlang	
-Kg Sempadan	
-Kg Sg. Berjuang	
-KOA Sg. Berjuang	
-Kg Baru Cina Batu Balai	
Kg. Jeransang	3.0
-Kg Babi	
-Kg Belimbing	
-Kg Betong	
-Kg Bukit	
-Kg Pucuk	
-Kg Pulau Pisang	

Geographically, this project area lies between latitude 3° 54' 0" N to 4° 0' 0" N and longitude of 102° 2' 0" E to 102° 10' 0" E.

The river system involves seven (7) rivers that flow within the project site. The rivers are tributaries of Sg Sepan, Sg Asoh, Sg Kundor, Sg Malik, Sg Kijal, Sg Atong and Sg Teralang. The tributaries form two catchments i.e.: Sg Sepan and Sg Cheka. The catchment of Sg Sepan consists of unnamed tributaries of Sg Sepan, Sg Asoh, Sg Kundor and Sg Malik. While, catchment of Sg Cheka consists of Sg Kijal, Sg Atong and Sg Teralang. All the discharge from Sg Sepan will eventually flow into Sg Cheka

The description of the climate in the project site and its surroundings is based on data obtained from the nearest meteorological stations i.e. at Batu Embun. The data obtain from Batu Embun station are the rainfall, temperature and relative humidity and surface wind. The average annual rainfall at Batu Embun station ranges from 2010-2019 is 151.0 to 238.5 mm. Average annual temperature at Batu Embun station from 2010-2019 shows the temperature ranges from 26.5 °C – 27.8 °C. Average annual relative humidity at Batu Embun station for the year 2010-2019 ranged from 82.2% to 86.6%.

Project site is dominated with flat area (0° -2°) that recorded about 35.39% (554.63208 Ha). For undulating (2° - 6°) and rolling (6° - 12°) class is made up of 1.50% and 7.07% of the Project site, respectively. The remaining area is occupied by hilly (12° - 20°), very hilly (20° - 25°), steep (25° - 35°) and very steep (> 35°) area that covered 25.75%, 13.61%, 13.64% and 3.04% of the total Project site, respectively.

Twenty-three (23) water samples were collected within and outside the project site to obtain the existing conditions of water quality before the development take place. Based on the calculation of the Water Quality Index (WQI) range for all stations is between 83.43 to 97.76 (Status: Clean).

3.0 CONTACT DETAILS OF PROJECT PROPONENT AND EIA CONSULTANT

The information of the Project Proponent and EIA Consultant for the proposed Project site are as follows:

PROJECT PROPONENT:

Address : **MENTIGA CORPORATION BERHAD (MCB)**
No 22 & 26A,
Jalan Putra Square 1, Putra Square,
25200 Kuantan,
Pahang Darul Makmur.



Tel. Number : 09-5173710

Fax Number : 09-5173709

Contact Person :

- 1) Name : Mohd Izuan bin Mohd Kadir
Designation : Senior Manager Plantation
Contact No. : +6 011-33390675

- 2) Name : Syed Ahmad Ibrahim Bin Syed Hasan
Designation : MCB Durian Farm Coordinator
Contact No. : +6 016-9370107

EIA CONSULTANT:

Address : **ECO SYNERGY SOLUTIONS SDN BHD**
No 2-22, Komplek Sentral Point
Jalan TKS 1, Taman Kajang Sentral
43000 Kajang, Selangor Darul Ehsan.

Tel. Number : 03-8740 2781

Fax Number : 03-8741 8048

Contact Person : Shamsol Azhar Bin Ismail
(Managing Director / EIA Team Leader)

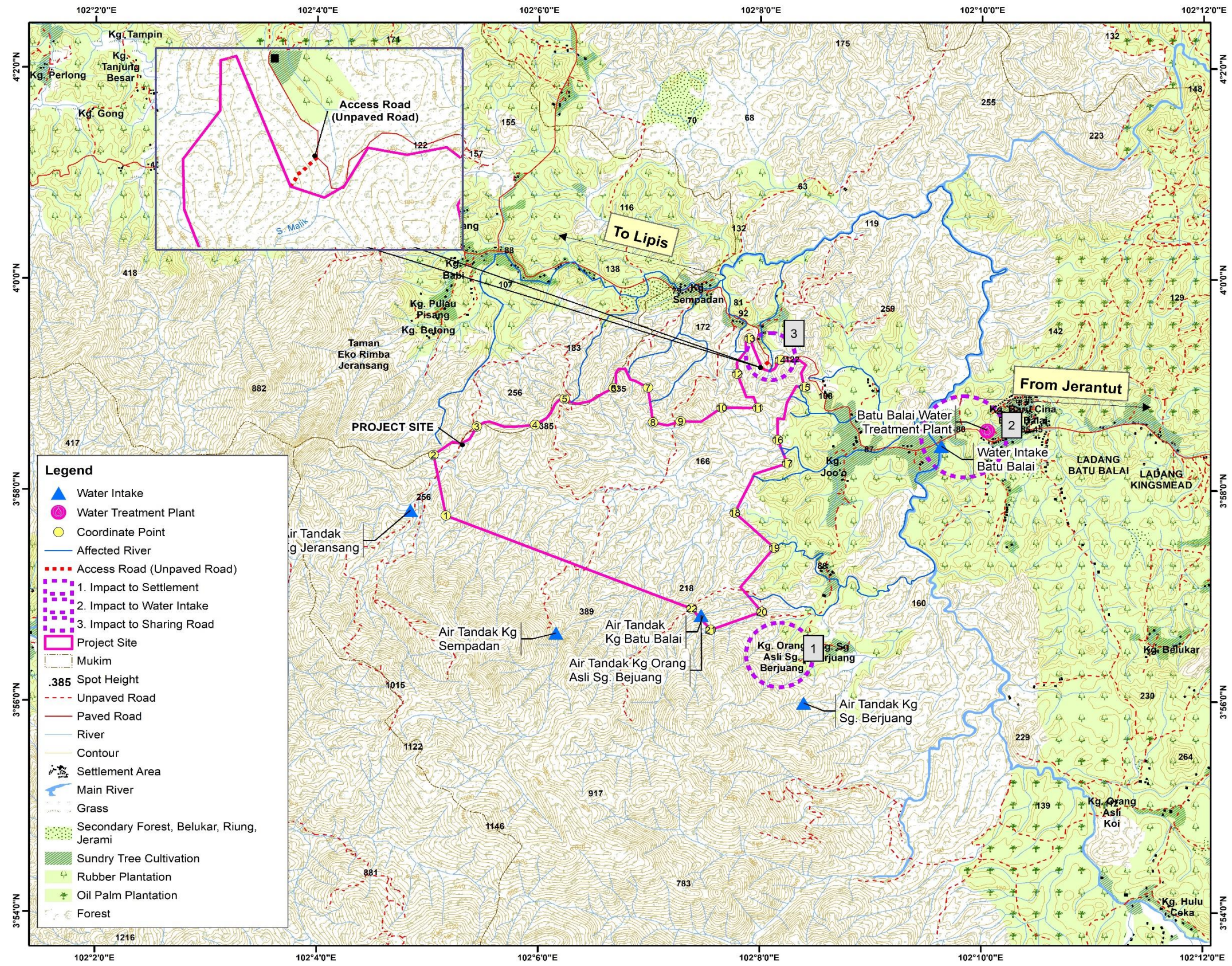


4.0 PROJECT LOCATION

The project site is located approximately within latitude and longitude point as shown in **Table 4.1**. **Figure 4.1** shows the key plan, location plan, access road, coordinate points and sensitive receptors of the Project. The project site is located approximately ± 35.8 km from Jerantut town.

Table 4.1: Coordinate Points of the Project Site Boundary

Points	World Geodetic System (WGS)		Malaysian RSO	
	Latitude (y)	Longitude (x)	x	y
1	3° 57' 45.279" N	102° 5' 9.910" E	454649.0381	438318.4781
2	3° 58' 19.836" N	102° 5' 3.143" E	454442.4686	439380.1165
3	3° 58' 35.987" N	102° 5' 26.622" E	455167.5607	439874.6237
4	3° 58' 37.071" N	102° 5' 58.124" E	456139.1127	439905.9769
5	3° 58' 51.901" N	102° 6' 14.065" E	456631.6355	440360.3997
6	3° 58' 57.939" N	102° 6' 40.586" E	457449.8832	440544.1973
7	3° 58' 58.217" N	102° 6' 59.220" E	458024.5593	440551.6056
8	3° 58' 38.579" N	102° 7' 1.936" E	458107.1095	439948.3544
9	3° 58' 39.177" N	102° 7' 16.966" E	458570.6604	439965.8169
10	3° 58' 46.941" N	102° 7' 39.137" E	459254.8743	440202.8841
11	3° 58' 46.882" N	102° 7' 58.719" E	459858.7605	440199.8678
12	3° 59' 6.090" N	102° 7' 47.563" E	459515.8598	440790.419
13	3° 59' 26.436" N	102° 7' 54.120" E	459719.3248	441414.8369
14	3° 59' 14.286" N	102° 8' 10.793" E	460232.7498	441040.7153
15	3° 58' 58.729" N	102° 8' 24.036" E	460640.2089	440562.1493
16	3° 58' 28.728" N	102° 8' 9.509" E	460190.4164	439641.7282
17	3° 58' 15.282" N	102° 8' 14.693" E	460349.4709	439228.4879
18	3° 57' 47.207" N	102° 7' 46.367" E	459474.2275	438368.0611
19	3° 57' 27.313" N	102° 8' 7.786" E	460133.5705	437755.8141
20	3° 56' 50.855" N	102° 8' 1.079" E	459924.5493	436636.6243
21	3° 56' 40.548" N	102° 7' 33.423" E	459071.0017	436321.7695
22	3° 56' 52.641" N	102° 7' 23.104" E	458753.5011	436693.7745



- Legend**
- ▲ Water Intake
 - Water Treatment Plant
 - Coordinate Point
 - Affected River
 - - - Access Road (Unpaved Road)
 - 1. Impact to Settlement
 - 2. Impact to Water Intake
 - 3. Impact to Sharing Road
 - Project Site
 - Mukim
 - 385 Spot Height
 - - - Unpaved Road
 - Paved Road
 - River
 - Contour
 - Settlement Area
 - Main River
 - Grass
 - Secondary Forest, Belukar, Riung, Jerami
 - Sundry Tree Cultivation
 - Rubber Plantation
 - Oil Palm Plantation
 - Forest



1:60,000
 Daerah Jerantut
 Daerah Hutan Jerantut
 Mukim Hulu Cheka
 Sheet : 3960



Source : Jabatan Ukur dan Pemetaan Malaysia (JUPEM)

Figure 4.1: Key Plan, Location Plan, Access Road, Coordinate Points and Sensitive Receptors of the Project



5.0 SUMMARY OF POTENTIAL IMPACTS, MAGNITUDE AND PROPOSED P2M2

A tabulation of potential impacts, their magnitude and proposed pollution prevention and mitigation measures (P2M2) (**Table 5.1**).

Table 5.1: Potential Impacts and Assessment Methodologies

Environmental Elements	Study Boundaries/ Receptors	Potential Impacts	Impact Assessment/ Models/ Tools	Assessment Standards	Possible Mitigation Measures	Impact Magnitude
Development Phase						
Erosion risk	<ul style="list-style-type: none"> Proposed Project site Sg. Cheka 	<ul style="list-style-type: none"> Earthworks may lead to erosion and subsequently sedimentation of surrounding waters 	<ul style="list-style-type: none"> Soil erosion risk mapping using RUSLE for erosion risk and MUSLE for sediment yield 	<ul style="list-style-type: none"> Soil Erosion Risk Classes, Department of Agriculture 	<ul style="list-style-type: none"> Proper LD-P2M2 to control soil erosion and sedimentation 	High
Water quality	<ul style="list-style-type: none"> Sg Sepan, Sg Asoh, Sg Kundor, Sg Malik, Sg Kijal, Sg Atong and Sg Teralang Drainage to Sg. Cheka 	<ul style="list-style-type: none"> Sedimentation of surrounding waters Oil and grease from machinery Increase in organic matter potential direct discharge of sewage and sullage from workers' camp 	<ul style="list-style-type: none"> Establish baseline conditions through water quality sampling Adopt QUAL2E model to assess potential increase in TSS levels in receiving waters Hydraulic Modelling 	<ul style="list-style-type: none"> National Water Quality Criteria and Standards (NWQS) 	<ul style="list-style-type: none"> Proper sedimentation control (LD-P2M2) 	High

Ecology	<ul style="list-style-type: none"> Land of grant/ <i>Tanah Hak Milik</i> 	<ul style="list-style-type: none"> Minimal impacts within the site Potential human-wildlife conflicts at nearby forests 	<ul style="list-style-type: none"> Secondary data collation from Forestry Department & WWF for flora Literature review and camera trap survey for fauna 	<ul style="list-style-type: none"> IUCN Red List of Threatened Species 	<ul style="list-style-type: none"> Wildlife Management Measures 	High
Flooding	<ul style="list-style-type: none"> Sg Sepan, Sg Asoh, Sg Kundor, Sg Malik, Sg Kijal, Sg Atong and Sg Teralang 	<ul style="list-style-type: none"> Potential flooding risk from blockage of waterways from bad waste management 	<ul style="list-style-type: none"> Identify potential flood prone areas 	<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> Proper LD-P2M2 Proper waste management 	Medium
Solid Waste and Scheduled Waste Management	<ul style="list-style-type: none"> Sg. Cheka Surrounding settlements eg. Kg Orang Asli Sg Berjuang, Kg Batu Balai, Kg Jerangsang 	<ul style="list-style-type: none"> Water pollution Soil contamination Health issues to nearby settlements from pests 	<ul style="list-style-type: none"> Identify types and quantities of waste to be generated according to <i>Perbadanan Pengurusan Sisa Pepejal Dan Pembersihan Awam (SWCorp)</i> guidelines 	<ul style="list-style-type: none"> Environmental Quality (Scheduled Wastes) Regulations 2005 	<ul style="list-style-type: none"> Proper management of solid and scheduled wastes according to relevant regulations 	Medium
Socio-Economic	<ul style="list-style-type: none"> Surrounding settlements eg. Kg Orang Asli Sg Berjuang, Kg Batu Balai, Kg Jerangsang 	<ul style="list-style-type: none"> Temporary impacts: Increased heavy vehicular movement, generation of noise and dust 	<ul style="list-style-type: none"> Information from the social baseline data and DOE secondary data will form the basis for predicting the potential positive and negative social 	<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> Early dissemination of information and support if necessary 	Medium

		<ul style="list-style-type: none"> Influx of foreign workers may pose social problems 	impacts and social changes			
Air quality	<ul style="list-style-type: none"> Residents of Kg Orang Asli Sg Berjuang, Kg Batu Balai, Kg Jerangsang 	<ul style="list-style-type: none"> Generation of dust from site clearing Dust from movement of vehicles 	<ul style="list-style-type: none"> Comparing against baseline conditions and air quality standards 	<ul style="list-style-type: none"> Malaysian Ambient Air Quality Standards (MAAQS) 	<ul style="list-style-type: none"> Control of dust dispersion particularly during earthworks and from vehicular emissions 	Low
Noise Level	<ul style="list-style-type: none"> Residents of Kg Orang Asli Sg Berjuang, Kg Batu Balai, Kg Jerangsang 	<ul style="list-style-type: none"> Elevated noise levels from movement of vehicles and machinery 	<ul style="list-style-type: none"> Quantitative assessment at sensitive receptors Compare baseline conditions with noise guidelines 	<ul style="list-style-type: none"> The Guidelines on Environmental Noise Limits and Control, Third Edition 2019, Department of Environment 	<ul style="list-style-type: none"> Appropriate and suitable noise control measures to ensure the noise level is within DOE acceptable limit 	Low
Traffic	<ul style="list-style-type: none"> Routes and accesses into the site Road users from Kg Orang Asli Sg Berjuang, Kg Batu Balai, Kg Jerangsang 	<ul style="list-style-type: none"> Increase in traffic volume along local roads Safety risks for road users 	<ul style="list-style-type: none"> Identify route of transportation and access points Identify quantity and volume of vehicles during peak hours 	<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> - 	Low

Operational Phase						
Water Quality	<ul style="list-style-type: none"> Sg Sepan, Sg Asoh, Sg Kundor, Sg Malik, Sg Kijal, Sg Atong and Sg Teralang Drainage to Sg. Cheka 	<ul style="list-style-type: none"> Effluent discharge from proposed septic tank 	<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> Environmental Quality (Sewage) Regulation 2009 	<ul style="list-style-type: none"> Proper maintenance of septic tank 	Low
Safety Risks	<ul style="list-style-type: none"> Proposed Project site 	<ul style="list-style-type: none"> The fire risk to the workers 	<ul style="list-style-type: none"> Identification of potential risk Historical review of probability of potential risks 	<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> To determine a comprehensive Emergency Response Plan (ERP) to prevent fire risk to the worker/public 	Low

6.0 PERFORMANCE MONITORING (PM)

This project site will apply the pollution prevention and mitigation measures (P2M2) in order to reduce disturbance on environment at the project area. A performance monitoring (PM) is applied to monitor the effectiveness of the P2M2. **Table 6.1** below summarized the description on PM parameters.

Table 6.1: The Performance Monitoring Components

LD-P2M2 TOOLS	Performance Monitoring (PM) Parameters	Recommended Limits	Monitoring Locations	Frequencies
Sediment Basin/Trap	Silt Marker	2/3 depth from sediment trap	*The location can be referred to the LD-P2M (Attachment 1)	Weekly or after rain event (<i>in-situ</i>)
Perimeter Drain	Performance	-		Quarterly
Earth Drain with Check Dam	Sediment Level			
Temporary or permanent waterway crossing (culvert/bridge)				

7.0 COMPLIANCE MONITORING (CM)

Compliance Monitoring (CM) program is used to monitor the effluent discharge and air emissions. **Table 7.1** below summarized the description on PM parameters.

Table 7.1: The Compliance Monitoring Components

Component	Regulated Parameters	Applicable Standards	Monitoring Locations	Frequencies
*Noise	L _{Aeq}	Day: 55 dBA Night: 50 dBA	Three (3) points (Chapter 6 - Figure 6.3.19)	Quarterly
**Water Quality	Total Suspended Solids (TSS)	50 mg/L	Twenty-three (23) points (Chapter 6 - Figure 6.3.19)	After 12.5 mm rainfall (using rain gauge)
	Turbidity	50 NTU		

Note:

* The Guidelines on Environmental Noise Limits and Control, Third Edition 2019, Department of Environment

** Refer to EIA approval condition

8.0 IMPACT MONITORING (IM)

The descriptions on the monitoring parameters are shown in **Table 8.1** below. The components that involve are air, noise and water quality level.

Table 8.1: The Impact Monitoring Component (IM)

Component	Regulated Parameters	Monitoring Locations	Frequencies
*Air Quality	PM ₁₀	Three (3) points (Chapter 6 - Figure 6.3.19)	Quarterly
**Noise	L _{Aeq}	Three (3) points (Chapter 6 - Figure 6.3.19)	Quarterly
	L _{max}		
	L _{min}		
***Water Quality	Temperature	Twenty-three (23) points (Chapter 6 - Figure 6.3.19)	Monthly
	pH		
	Dissolved Oxygen (DO)		
	Turbidity		
	Ammoniacal Nitrogen (NH ₃ -N)		
	Biochemical Oxygen Demand (BOD)		
	Chemical Oxygen Demand (COD)		
	Total Nitrogen		
	Total Suspended Solids (TSS)		
	Oil and Grease		
	Pesticides & Herbicides		
	<i>E-Coli</i>		
	Heavy metals		

Note:

* New Malaysia Ambient Air Quality Standard, Department of Environment Malaysia (DOE)

** The Guidelines on Environmental Noise Limits and Control, Third Edition 2019, Department of Environment.

*** National Water Quality Standard for Malaysia (NWQS), Department of Environment, Malaysia (DOE).