

EXECUTIVE SUMMARY

CADANGAN PROJEK PEMBANGUNAN LADANG HUTAN SELUAS 218 HEKTAR DI KOMPARTMEN 208, 212, 213 DAN 214 (SEBAHAGIAN) HUTAN SIMPAN KEKAL SUNGAI BETIS, MUKIM ULU NENGGIRI, DAERAH BERTAM, JAJAHAN GUA MUSANG, KELANTAN DARUL NAIM

PROJECT PROPONENT
DHR KELSTAR PLANTATION SDN BHD

EIA CONSULTANT
ECOLESTARI CONSULT

INTRODUCTION

The project proponent is DHR Kelstar Plantation Sdn Bhd. The project has been approved by DOF Negeri Kelantan to DHR Kelstar Plantation Sdn Bhd as a contractor to perform site clearing and forest plantation development covering an area of about 218 hectares

PROJECT ACTIVITIES

- During Site Clearing**
- Construction of road and drainage system
 - Installation of erosion and sedimentation control tools
 - Construction of base camp
 - Extraction of timber
 - Transport logs onto trucks
 - Transport logs to log yard
 - Transport logs to sawmill
 - Biomass management

- Post Site Clearing**
- Demolition of base camp
 - Removal of machineries, vehicles and waste from concession

- Forest Plantation Development**
- Nursery Establishment and Construction of Quarters and Site Office
 - Site Preparation
 - Maintenance
 - Harvesting

FAUNA STUDY

Mammals
24 species

Avian
93 species

Herpetofauna
18 species



Musang Lamri



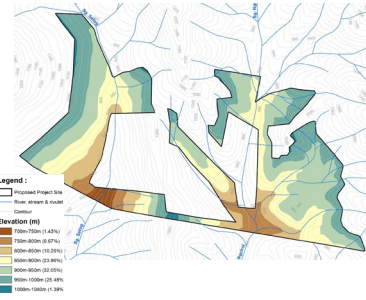
Punai Tanah

LEGAL REQUIREMENT

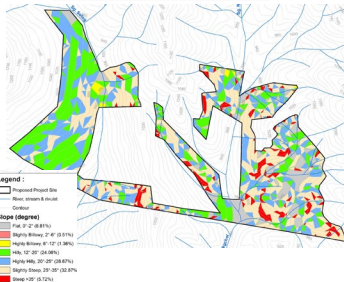
Subject to section 34A (1) of the Environmental Quality Act 1974 [127] and Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015, the project site fall under **First Schedule:**

Activity 5 (e) Forestry: "Development of planted forest covering an area of 100 hectares or more but less than 500 hectares

ELEVATION



SLOPE ANALYSIS



ACCESS ROAD

NEAREST TOWN
Lojing Highlands Town (±35.60 km radius)

ACCESS ROAD
Lojing Highlands Town by using Jalan Gua Musang – Cameron Highlands for about ±21.60

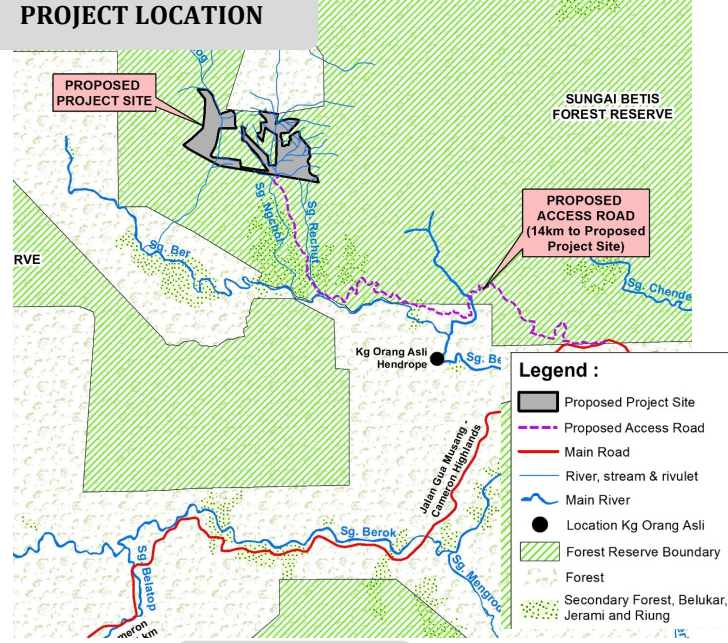
Then turn left via existing road network (site clearing track) for about ±14.0 km

The access road is located on the southeast of the Project site

PROJECT DESCRIPTION

- The Project site is in compartment 208, 212, 213 and 214 (a part of) Sungai Betis Permanent Forest Reserve with an area of 218 Ha, Mukim Ulu Nenggiri, Daerah Bertam, Jajahan Gua Musang, Kelantan Darul Naim.
- The nearest human settlement identified are Kg Orang Asli Ber and Kg Orang Asli Kerbok (±2.5 km radius)

PROJECT LOCATION



PROJECT SITE CONDITION



ACCESS ROAD



METEOROLOGY

Lembaga Kemajuan Kelantan Selatan Station
Avg. Annual Rainfall: 1679.17 mm

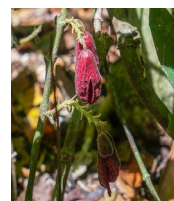
Avg. Monthly Temperature:
Max - 29.2%
Min - 24.7%

Avg. Monthly Humidity:
Highest - 87.87%
Lowest - 70.06%

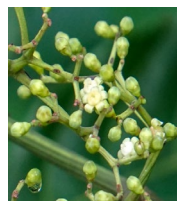
EXISTING ENVIRONMENT

WATER QUALITY INDEX (WQI)			
STATION	WQI	CLASS	STATUS
WQ1	96.91	Class I	Clean
WQ2	96.71	Class I	Clean
WQ3	97.01	Class I	Clean
WQ4	97.45	Class I	Clean
WQ5	96.84	Class I	Clean
WQ6	96.39	Class I	Clean
WQ7	96.24	Class I	Clean
WQ8	98.28	Class I	Clean

FLORA STUDY WITHIN PROJECT SITE



Thottea grandiflora



Leea indica

AIR QUALITY RESULT PM ₁₀ (µg / m ³)	
A1	
11.40	
A2	
10.50	
NOISE LEVEL RESULT L _{Aeq}	
N1	
Day Time	Night Time
51.2 dBA	41.6 dBA
N2	
Day Time	Night Time
53.1 dBA	40.5 dBA

IMPACT MONITORING (IM)

Component	Regulated Parameters	Frequencies
*Air Quality	PM ₁₀	Quarterly
**Noise	L _{day} L _{max} L _{night}	Quarterly
***Water Quality	Total Suspended Solids (TSS) Biochemical Oxygen Demand (BOD) pH Temperature Turbidity Ammoniacal Nitrogen (NH ₃ -N) Dissolved Oxygen (DO) Total Coliform Chemical Oxygen Demand (COD)	Monthly

PERFORMANCE MONITORING (PM)

LD-P2M2 Tools	Performance Monitoring (PM) Parameters	Recommended Limit	Frequencies
Sediment Trap	Silt Marker	2/3 depth from sediment trap	Weekly or after rain event (in-situ)
Perimeter Drain	Performance		
River Buffer			
Cover Crop			
Earth Drain with Check Dam	Sediment Level		Quarterly
Temporary or permanent waterway crossing (culvert/bridge)	Structure and Performance		

COMPLIANCE MONITORING (CM)

Component	Regulated Parameters	Applicable Standards	Frequencies
**Noise	L _{day}	Day: 55 dBA Night: 50 dBA	Quarterly
***Water Quality (Discharged from Sediment Trap)	Total Suspended Solids (TSS)	50 mg/L	After 12.5 mm rainfall (using rain gauge)
	Turbidity	250 NTU	

POTENTIAL IMPACT AND MITIGATION MEASURES

Significant Potential Impacts	Magnitude Of Significant Potential Impacts	P2M2
1) Soil erosion and sedimentation 2) Reduce river depth/drain capacity 3) Declining water quality level	High	<ul style="list-style-type: none"> • Scheduling of the development. • Plant cover crop. • Prepare silt trap, and sediment basin. • Retain buffer zone.
Waste Generation a) Biomass waste b) Solid waste c) Scheduled waste	High	<ul style="list-style-type: none"> • No open burning. • Provide garbage bins. • Composting waste approach. • Proper storage area.
1) Habitat-Fragmentation. 2) Human-Wildlife Conflict	High	<ul style="list-style-type: none"> • Phasing/Directional development. • Wildlife-Human conflict management strategies. • Report incident. • Prohibition of wildlife poaching • Signage on prohibition of wildlife hunting or trapping.
Declining Air Quality Level	Medium	<ul style="list-style-type: none"> • Spraying water on road (water bowser) • Apply crusher run for unsealed road
Noise Pollution	Low	<ul style="list-style-type: none"> • Use quieter and/or silence machineries. • Use proper personal protection equipment (PPE) on site with ear plug. • Regularly servicing and maintaining vehicles and machineries.
Nuisance During Project Abandonment	Medium	<ul style="list-style-type: none"> • Preparing Project Abandonment Plan. • Warning signage to be installed. • Removes vehicles involved in the Project development. • Initiate environmental control measures. • Regular inspections on site.