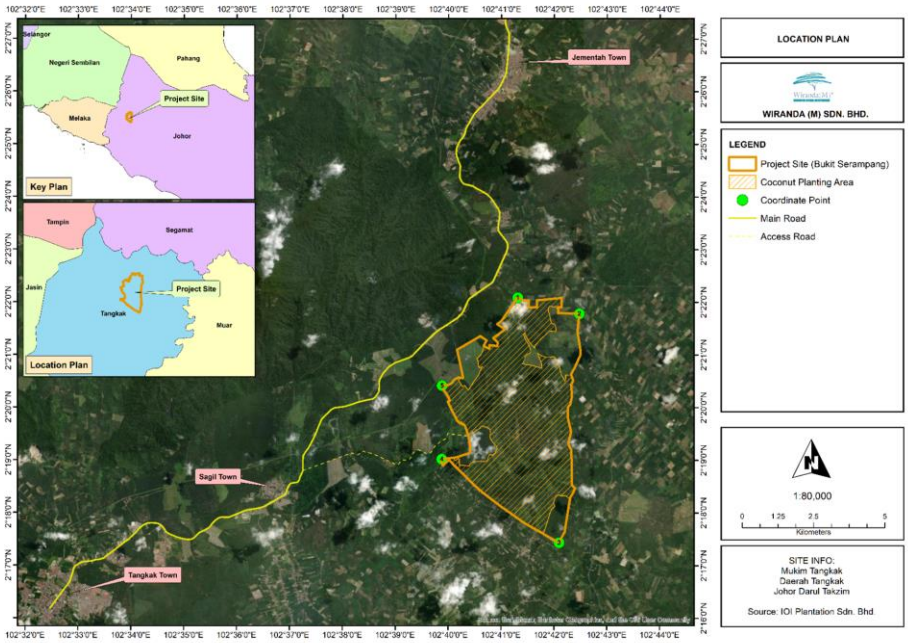
EXECUTIVE SUMMARY

THE PROPOSED 2,032 HA OF COCONUT PLANTING PROJECT IN BUKIT SERAMPANG ESTATE IN MUKIM TANGKAK, DISTRICT OF TANGKAK, JOHOR DARUL TAKZIM

INTRODUCTION

- Cultivation of coconut as conversion of the existing oil palm plantation
- The proposed planting area is 2032 hectares
- Located at Bukit Serampang Estate, Mukim Tangkak, Johor



STATEMENT OF NEED

Subscribe towards fulfilling national policies aimed under the Twelfth Malaysian Plan

→ To support agro-food operations and other related downstream industries

→ Stimulate socio economy growth as well as promote the development of supporting amenities and facilities in the district

→ Increase in economic growth due to the possible development of related agricultural and agro-based industries

LEGISLATIVE REQUIREMENT

First Schedule Activity 1(b): Agriculture
Development of agriculture estates covering an area of 500 hectares or more involving changes in types of agriculture use

PROJECT PROPONENT	EIA CONSULTANT
IOI GROUP **IOI PLANTATION SDN. BHD.** IOI City Tower 2, Lebuh IRC, IOI Resort, 62502 Putrajaya.	Wiranda(M)® Sdn Bhd **WIRANDA (M) SDN. BHD.** No. 3374, Jalan 18/31, Taman Sri Serdang, 43300 Seri Kembangan, Selangor Darul Ehsan.

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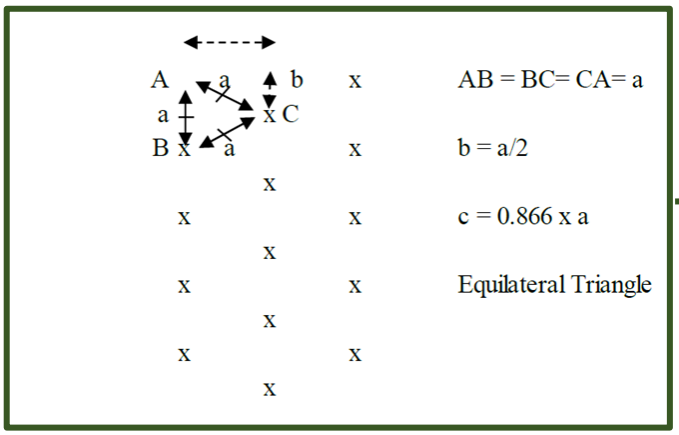
PROJECT CONCEPT



Involving a variety of coconut species; tall, dwarf & hybrid

Involve planting the coconut in an equilateral triangular system.

Project Component

- **Coconut Cultivation**
- **Main Supporting Structures**

PROJECT ACTIVITIES

Pre-development

- Pre-construction activities mainly preliminary site investigation, surveys and collection of secondary data for planning and design

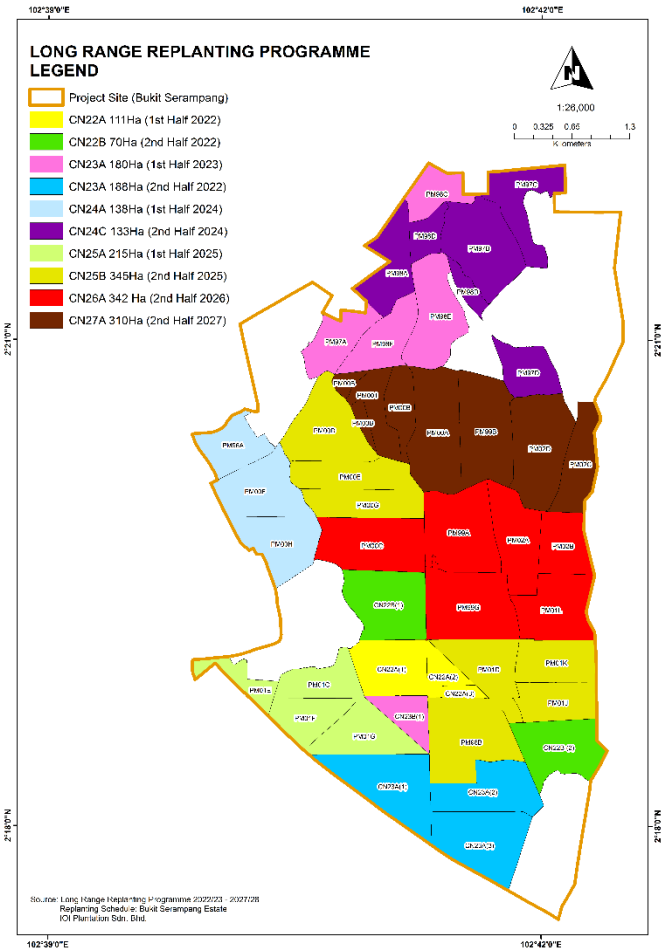
During Development

- Land Preparation
- Field Planting

Operation & Maintenance

- Upkeep of immature
- Upkeep of Mature
- Manuring
- Road Maintenance
- Harvesting
- Water management
- Pest and Disease Management
- Grading and Marketing

PROJECT PHASES & BLOCKS



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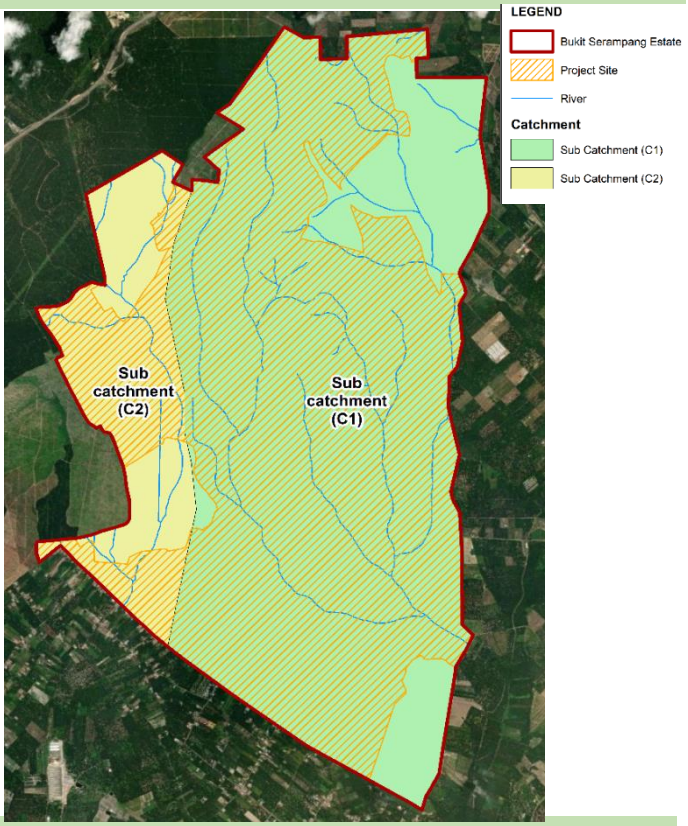
EXISTING ENVIRONMENT

TOPOGRAPHY

- Generally flat, undulating and rolling
- Elevation: 10m to 69m a.s.l.
- Slope:

Degree	(%)	Hectares
0˚ -2˚	27.3	554.74
2˚ - 6˚	57.6	1170.43
6˚ - 12˚	14.6	296.67
12˚ - 20˚	0.5	10.16
20˚ - 25˚	0.0	0.00
25˚ - 35˚	0.0	0.00
> 35˚	0.0	0.00

HYDROLOGY



GEOLOGY

- Categorized under argillaceous facies, mudstone and pelitic
- The geologic period is mainly Triassic.

METEOROLOGY

- Nearest station = Hospital Tangkak.
- 2017 shows the highest annual rainfall (2857.8 mm)
- 2016 shows the highest annual mean temperature (27.4°C).

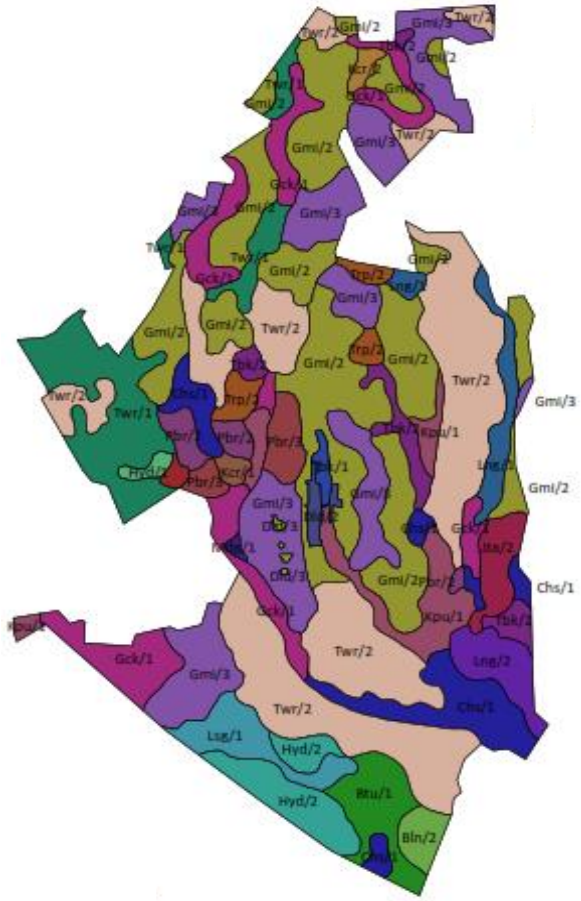
SURROUNDING LAND USE

Agriculture

Human Settlements

Taman Negara Gunung Ledang

SOIL SERIES



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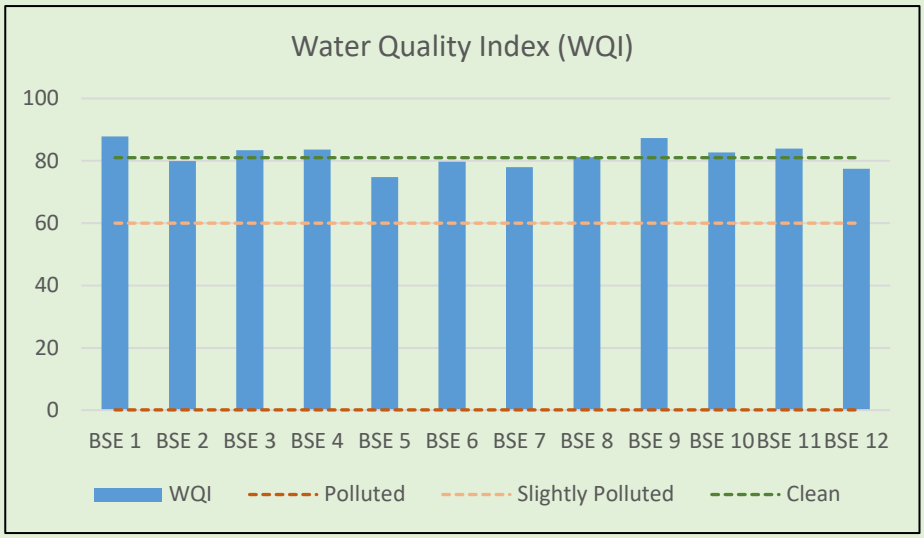
EXISTING ENVIRONMENT

WATER QUALITY



- 12 water sampling points
- WQI ranged between 74.74 to 87.81

- BSE1, BSE3, BSE4, BSE8, BSE9, BSE10(Clean)
- BSE2, BSE5, BSE6, BSE7, BSE12 (Slightly Polluted)

AMBIENT AIR QUALITY

- 3 sampling stations
- All complied with the limits prescribed in the New Malaysia Ambient Air Quality Standard 2020

PARAMETER	*STANDARD (2020)/µg/m³	MONITORING POINT		
		ABS 1	ABS 2	ABS 3
PM10 (µg/m³)	100 (24 hours)	35	16	33
PM2.5 (µg/m³)	35 (24 hours)	15	7	22

NOISE LEVEL

- 3 sampling stations

POINT	RESULT (dBA)		*LIMIT
	DAY	NIGHT	
NBS 1	53.6	54.2	D:60 N:55
NBS 2	55.3	54.4	
NBS 3	55.9	52.8	

TERRESTRIAL ECOLOGY (FLORA)

- Nineteen (19) families of ferns are identified
- Aspleniaceae, Arecaceae, Asteraceae, Blechnaceae, Commelinaceae, Convolvulaceae, Cyperaceae, Davalliaceae, Dilleniaceae, Euphorbiaceae, Fabaceae, Leguminosae, Gramineae, Melastomaceae, Musaceae, Pandanaceae, Passifloraceae, Poaceae.
- Mainly the common epiphytic species found on oil palm trunks

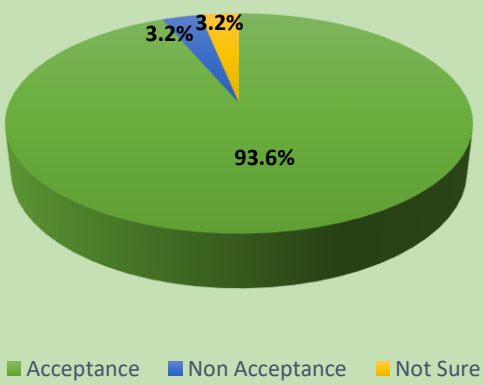
TERRESTRIAL ECOLOGY (FAUNA)

- A total of 5 **mammal** species from 4 families were identified
- 37 **bird** species spanning 28 families were successfully identified
- A total of 16 **herpetofauna** species from 11 different families were successfully identified

SOCIO-ECONOMY

- 125 respondents participated in the socio-economic survey

PERCENTAGE OF ACCEPTANCE



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POTENTIAL IMPACT & MITIGATION MEASURES

POTENTIAL IMPACTS	MITIGATION MEASURES
Soil Erosion and Sedimentation • Mainly caused by machineries used for alteration of landform, uprooting and removal of vegetation and development for the project site. • Exposure of bare soil to intense rainfall resulting in dislocation of soil particles. • The surface runoff will lead to sedimentation in the water bodies and rivers.	• Scheduling of the development. • Installation of BMPs such as silt trap, crusher run, temporary earth drain, etc. • Retain buffer zone.
Water Quality • Erosion and runoff create land discharges to the nearest drains and rivers will increase the turbidity and suspended solids in the water. • Improper management of other solid wastes and/or scheduled wastes will pollute water bodies.	• Installation of BMPs such as silt trap, crusher run, temporary earth drain, etc. • Provide temporary and portable toilet • Provide containment bund for skid tank • Regular maintenance for machineries
Air Quality • Dispersed dust from unsealed road surfaces. • Vehicles and machineries operating in the Project site would be the major contributors to air pollution.	• Wash trough must be constructed at the access/exit points of the Project site • Temporary unpaved road should be laid with aggregates or crusher run • Frequent servicing of construction vehicles and machineries
Noise • Vehicles and machineries operating in the Project site would be the major contributors to noise pollution.	• Provide noise barriers • Schedule loud or noisy activities during the day time and avoid night time works • Equipment or machineries to be equipped with silencers
Waste Generation • Biomass • Sewage and solid wastes • Scheduled wastes	• Apply zero burning method (use stacking method) • "No Burning" signage must be installed • Garbage bins must be provided • Composting technique for food wastes • Must follow DOE guidelines on SW management
Socio-economy • Foreign Workers • Noise Nuisance and Air Pollution • Traffic Disruption	• Provide sufficient instructions, training and advice and information of good work procedures and work ethics • Provide proper signages and traffic guides on sharing access road

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ENVIRONMENTAL MONITORING

PERFORMANCE MONITORING (PM)

LD-P2M2 TOOLS	PARAMETERS	RECOMMENDED LIMITS	FREQUENCY
Sediment trap	Silt marker	2/3 depth from sediment trap	Weekly or after rain event (in- situ)
Perimeter drain	Performance	-	Quarterly
Earth drain with check dam	Sediment level		
Waterway crossing (culvert/bridge)	Structure and performance		

COMPLIANCE MONITORING (CM)

COMPONENTS	PARAMETERS	COMPLIANCE LIMITS	FREQUENCY
Water quality (Discharged from Sediment Trap)	Total suspended solids (TSS)	50 mg/l	After 12.5mm rainfall (using rain gauge)
	Turbidity	250 NTU	

IMPACT MONITORING (IM)

COMPONENTS	PARAMETERS	COMPLIANCE LIMITS	FREQUENCY
Air quality	PM_{10}	100 µg/m^3	Quarterly
	$PM_{2.5}$	35 µg/m^3	
Noise level	L_{Aeq}	Day 60 dBA Night 55 dBA	Quarterly
Water quality	TSS	50 mg/l	Monthly
	Turbidity	50 NTU	
	DO	5-7 mg/l	
	BOD	3 mg/l	
	COD	25 mg/l	
	NH_3-N	0.3 mg/l	
	pH	6-9	