

**EXECUTIVE SUMMARY**

**PROPOSED 1,287 HA COCONUT PLANTING PROJECT IN TAMBANG ESTATE IN MUKIM GEMAS AND BULOH KASAP, DISTRICT OF SEGAMAT, JOHOR DARUL TAKZIM**

**INTRODUCTION**

This project proposes to convert an existing oil palm plantation area into a coconut plantation covering an area of 1,287 hectares in Tambang Estate.

**PROJECT PROPONENT**

**ENVIRONMENTAL CONSULTANT**



**IOI PLANTATION SDN. BHD.**

IOI City Tower 2,  
Lebuhr IRC, IOI Resort City,  
62502 Putrajaya, Malaysia.



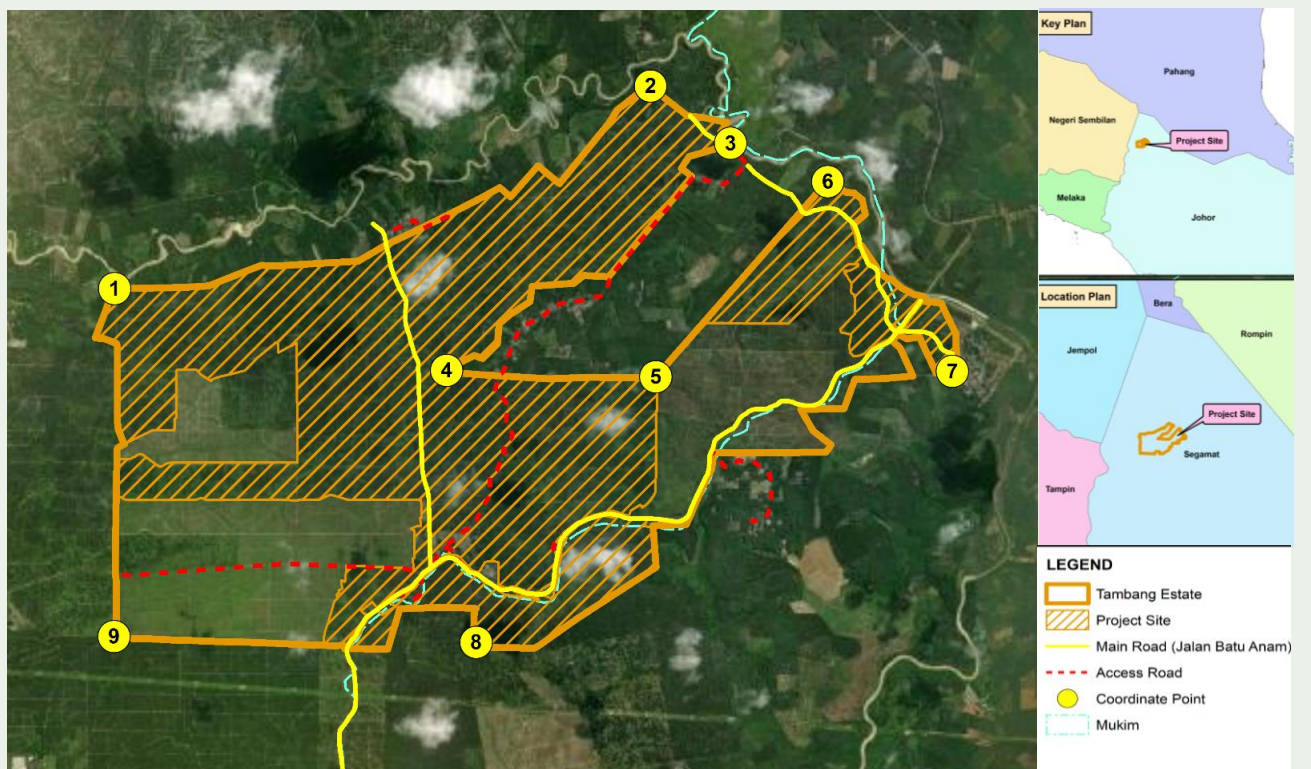
**WIRANDA (M) SDN BHD**

No. 3374, Jalan 18/31,  
Taman Sri Serdang,  
43300 Seri Kembangan,  
Selangor Darul Ehsan.

**LEGAL REQUIREMENT**

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

**PROJECT LOCATION**



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**PROJECT DESCRIPTION**

The project development consists coconut cultivation in Tambang Estate. This project shall involve the planting of two varieties of coconut trees i.e., Dwarf and Tall.

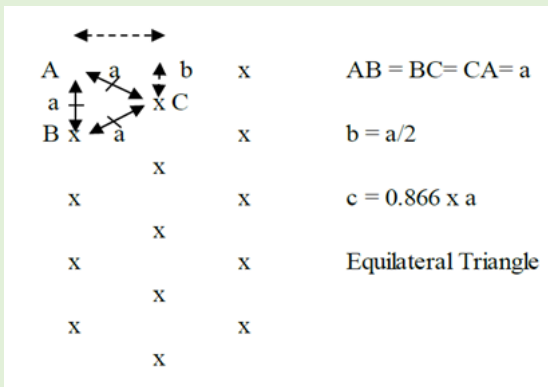
**Planting density**

Planting densities for each cultivar are based on the type namely:

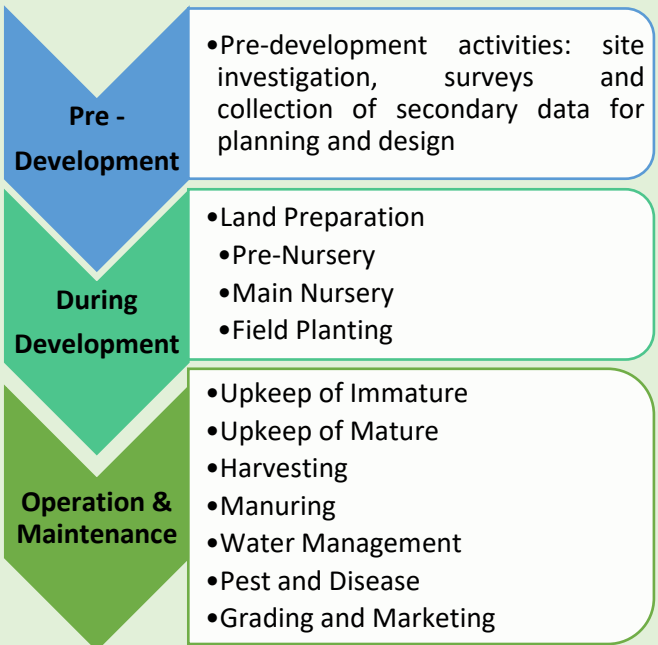
- a) Dwarf x Tall hybrid at 178 palms per hectare
- b) Dwarf at 250 palms per hectare
- c) Tall at 178 palms per hectare

**Planting System**

Equilateral triangular planting



**PROJECT ACTIVITIES**



**Coconut Varieties Planted:**

Malayan Yellow Dwarfs (MYD)

Malayan Red Dwarfs (MRD)

Nias

Tacunan

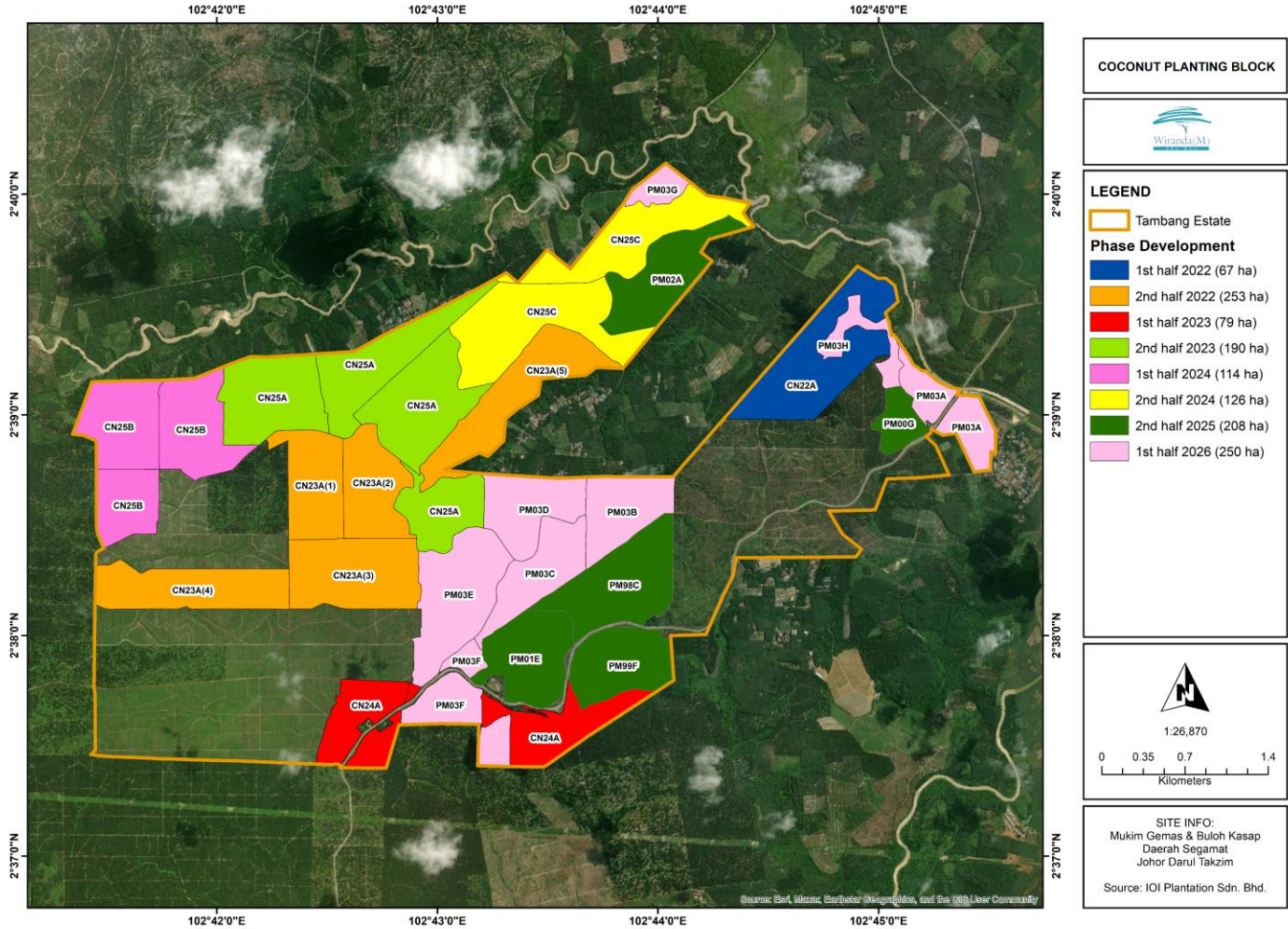
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**COCONUT PLANTING PHASE**



**EXISTING ENVIRONMENT**

**TOPOGRAPHY**



- The slope:
  - Flat: 17.9%.
  - Undulating: 62.3%
  - Rolling: 19.5 %
  - Hilly : 0.4 %
- Elevation : 10 m to 60 m above the Mean Sea Level (MSL).

**HYDROLOGY**



- The project site consist of tributaries of Sg Mutan, Sg. Tatat and Tributaries of Sg Muar. All the contributed river will finally discharge into the main river of Sg. Muar.

**AMBIENT AIR QUALITY & NOISE**

- 5 sampling point
- All sampling points for air quality complied with the limits prescribed in the New Malaysia Ambient Air Quality Standard 2020.
- The average LAeq readings at all locations complied with the Recommended Permissible Sound Level (RPSL) of 60 dBA (daytime) and 55 dBA (night time).

**TERRESTRIAL FLORA & FAUNA**

- Flora
  - 21 families were identified
  - Ground vegetation is dominated by grasses, shrubs and ferns
- Fauna
  - 6 species (5 families) of mammals
  - 35 species (25 families) of birds
  - 15 species (10 families) of herpetofauna



**SOIL CHARACTERISTICS  
(SOIL LOSS & SEDIMENT YIELD)**

Pre-development (natural existing)	Development Stage (Sub-Block)	Soil Loss (Ton/Ha/yr)	Sediment Yield (tonnes)
	A (2021/2022)	0.04	0.1
	B (2022/2023)	0.02	0.2
	C (2023/2024)	0.16	2.7
	D (2024/2025)	0.31	1.98
	E (2025/2026)	0.07	0.61
	F (2026/2027)	0.02	0.20

**METEOROLOGY**

- Nearest meteorological station located at Gomali Estate.
- Average Annual rainfall (10 years) : 1407.8 mm
- Average Temperature (10 years): 25.6 - 27.6 °C
- Average Relative Humidity (10 years): 74.7 - 84.4% .

**WATER QUALITY**

- 14 sampling points were taken from Sg. Muar and its tributaries, Sg Tatat, Sg. Mutan, and Sg. Setanggeng.
- WQI ranged from 70.41 to 85.59.
- All sampling stations are categorized as 'Slightly Polluted' except for TBE3, TBE8, TBE9, TBE11 and TBE13 categorized as Clean.



**SOCIO-ECONOMY**

- 84% of the respondents agree with the Project, 3.8% disagree and 12.2% were unsure.



## IMPACT ASSESSMENT &amp; MITIGATION MEASURES (P2M2)

## Potential Impacts

## Mitigation Measures

**Soil erosion and sedimentation**

- Soil erosion and sedimentation will occur during site clearing activities

- Scheduling of the development.
- Installation of BMPs such as silt trap, sediment basin etc.
- Retain buffer zone.

**Hydrology**

- Decrease in water quality level
- Loose sediment being carried off site in surface runoff

- Installation of BMPs such as silt trap, sediment basin etc.
- Retain buffer zone.

**Waste Management**

- Biomass waste
- Solid waste
- Sewage waste
- Scheduled waste

- No open burning.
- Provide garbage bins.
- Proper storage area.
- Proper waste management according to regulations
- Should be stored, managed, and disposed of at a licensed facility.

**Water Quality**

- Decrease in water quality level
- Accident spillage of oil and grease improper management from machineries.

- Implementation of LD-P2M2 tools (must be inspected and maintained)
- Avoid oil and grease leakage, regular
- maintenance of the vehicles

**Air Quality**

- Movement of vehicles and machinery during estate maintenance.
- Spraying of agrochemicals

- Vehicle speeds shall be limited within the site to reduce the dispersion of dust from unpaved roads.
- Spraying activities used equipped with appropriate protective gear.

**Noise Level**

- Noise generation during development phase

- Servicing and maintaining vehicles & machineries

**Terrestrial Flora and Fauna**

- Flora biodiversity
- Human-wildlife conflict

- No plants species that are endemic to the area and will not be lost and cause destruction of biodiversity.
- Maintaining riparian buffer zone
- The PP and Perhilitian to work together to minimize the HWC conflict

**Socio-Economy**

- An interaction between foreign worker and local resident.
- Access road

- Foster good relationships with the residents by getting feedback, recording local complaints, and taking remedial actions.
- Existing road condition needs to be upgraded by having proper signage and traffic guides.

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**PERFORMANCE MONITORING (PM)**

LD-P2M2 TOOLS	PARAMETERS	RECOMMENDED LIMITS	FREQUENCY
Sediment Basin/Trap	Silt Marker	2/3 depth from sediment trap	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)	Structure and Performance		

**COMPLIANCE MONITORING (CM)**

COMPONENTS	PARAMETERS	COMPLIANCE LIMITS	FREQUENCY
<b>Air Quality</b>	PM <sub>10</sub> , PM <sub>2.5</sub>	100 µg/m <sup>3</sup> , 35 µg/m <sup>3</sup>	Quarterly
<b>Noise</b>	L <sub>Aeq</sub>	Day: 55 dBA Night: 50 dBA	Quarterly
<b>Water Quality</b> (discharged from silt trap/ sediment basin)	Total Suspended Solids (TSS)	50 mg/L	Monthly or after 12.5mm rainfall (using rain gauge)
	Turbidity	50 NTU	

