

EXECUTIVE SUMMARY

Executive Summary

PROPOSED INCREASE OF PRODUCTION CAPACITY FOR EXISTING RECYCLED PAPER MILL ON LOT 1, KAWASAN PERINDUSTRIAN BENTONG IIB, MUKIM SABAI, 28600 KARAK, PAHANG, MALAYSIA



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Legislative Requirements

This Existing Recycled Paper Mill has an EIA Approval issued by the Department of Environment on 2 November 2007 for a production capacity of 80,000 tonnes/year.

The proposed increase of production capacity to 900,000 tonnes/year, falls under the prescribed activity of:

Second Schedule – Activity No. 6: Industry

Sub-activities (f): Recycle paper industry: Production capacity of 50 tonnes or more per day

LOCATION

Lot 1, Kawasan Perindustrian Bentong IIB, Mukim Sabai, 28600 Karak, Pahang

RAW MATERIAL

1,020,000 tonnes/year of OCC (90% from USA, Europe, Japan & Australia, 10% local supply)

Overview

ZONING

Industrial

PRODUCTION OUTPUT

Phase 1

80,000 t/yr core board, 380,000 t/yr recycled pulp

Phase 2

120,000 t/yr core board, 780,000 t/yr recycled pulp

OTHER COMPONENTS

Waste paper and finished goods warehouse, raw water sump pump, RWTP, upgrading of IETS, new boiler

Statement of Need



Project Location



Coordinates:

No.	Lat.	Lon.
1	3° 28' 31.26"	101° 58' 20.38"
2	3° 28' 25.85"	101° 58' 28.65"
3	3° 28' 15.67"	101° 58' 19.16"
4	3° 28' 22.01"	101° 58' 15.24"
A	3° 28' 29.39"	101° 58' 29.49"
B	3° 28' 29.26"	101° 58' 30.07"
C	3° 28' 29.05"	101° 58' 30.38"
D	3° 28' 28.83"	101° 58' 30.15"
E	3° 28' 29.30"	101° 58' 29.37"

LEGEND:

- PROJECT SITE
- RAW WATER SUMP PUMP
- FUTURE DEVELOPMENT (Not covered in this EIA)
- ROUTE OF TREATED EFFLUENT TO RIVER



PRODUCTION CAPACITY

Production	HS Code	Under this EIA Study		Future Expansion (Not under this EIA Study)	
		Phase 1 (tonnes/year)	Phase 2 (tonnes/year)	Phase 3 (tonnes/year)	Phase 4 (tonnes/year)
Coated duplex board	4810.92.900	0	0	0	600,000 ^[2]
Core board	4706.20.000	80,000	120,000	120,000	120,000
Recycled pulp		380,000	780,000	1,200,000 ^[1]	1,200,000
Total		460,000	900,000	1,320,000	1,920,000

Note:

[1] Recycled pulp line (PM4) will be built on the adjacent new land during Phase 3.

[2] Coated duplex board line is located at the existing plant.



RAW WATER SUMP PUMP

Located opposite existing plant

Proposed abstraction rate: 5,000 m³/day



INDUSTRIAL EFFLUENT TREATMENT SYSTEM

Existing capacity: 4,500 m³/day

Proposed upgrade: 4,000 m³/day

Designed to meet Standard A limits of the Environmental Quality (Industrial Effluent) Regulations 2009



RIVER WATER TREATMENT PLANT

Designed capacity: 5,250 m³/day (or 218.75 m³/hour)



WASTE MANAGEMENT

Rejects and domestic waste will be disposed at Padang Sertik Landfill

Recyclable wastes will be sent for recycling offsite

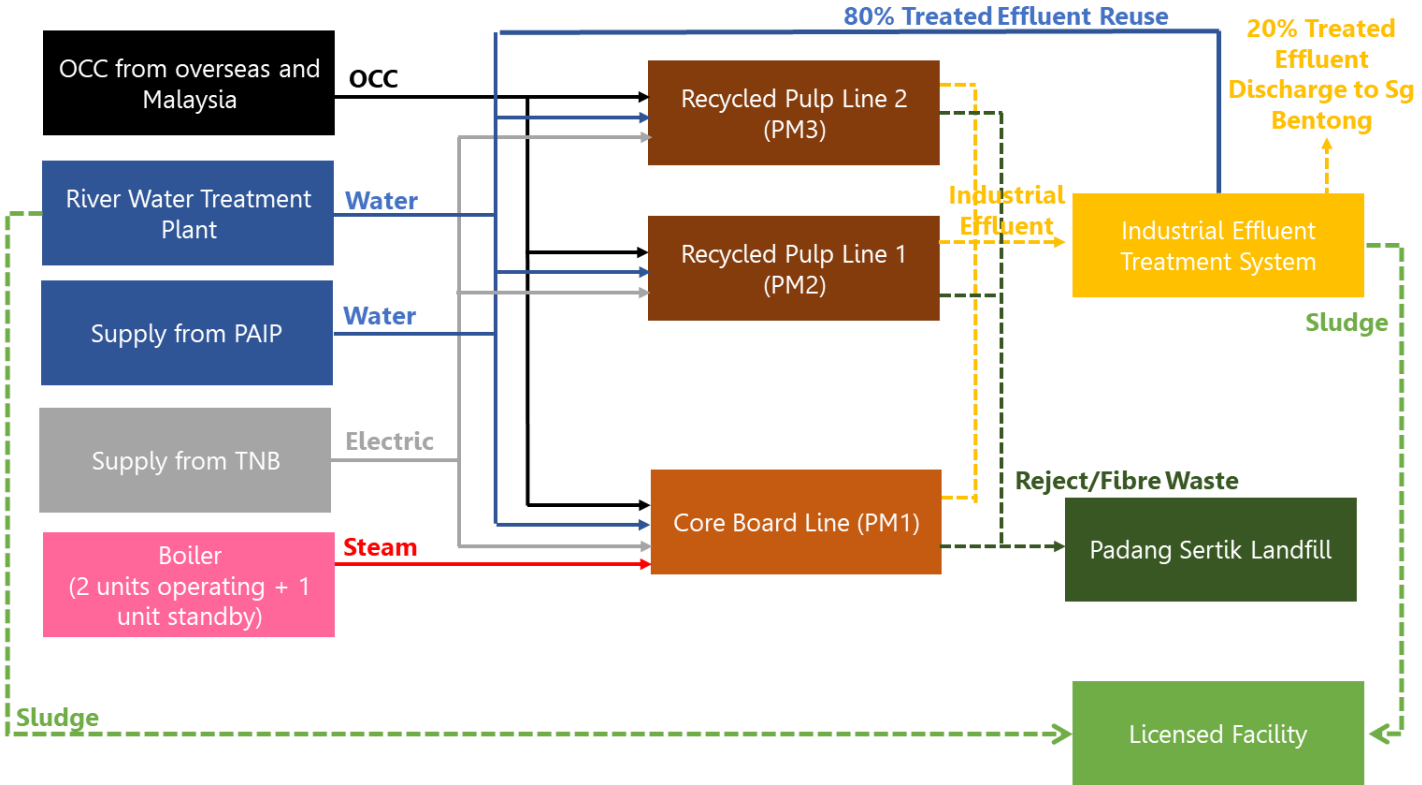
Scheduled waste will be managed in accordance to Environmental Quality (Scheduled Wastes) Regulations 2005



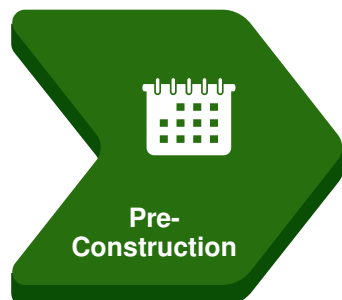
BOILER

Capacity of new standby boiler: 12 tonnes/hour (1 unit)

Fuel: Recovered light fuel oil (LFO)



Project Activities



- Project planning
- Design works
- Site surveys and investigations studies
- Baseline monitoring



- Mobilisation of workers
- Transportation of construction material and equipment
- Civil and structural works
- Mechanical and electrical works
- Testing and commissioning
- Demobilisation of workers



- Logistics of raw materials and products
- Production activities
- Operation and maintenance of pollution control systems
- Largely automated with process control system
- Waste management
- Estimated employees (for expansion): additional 70

TOPOGRAPHY

Located on an undulating land

GEOLOGY

Underlain by Devonian formation

SOIL

Northern part on riverine flood plains of Telemong-Akob-Tanah Lanar Tempatan
Southern part is steepland

TERRESTRIAL ECOLOGY

Surrounding floral are mostly disturbed and consists of secondary vegetation
Fauna that are common to disturbed habitat are expected

AQUATIC ECOLOGY

Kolam Pancing D'Karak uses mountain water
Types of fish: ikan Mekong, Patin, ikan Tongsan, ikan Karak, ikan Chaophraya, Siakap and ikan Kaci

SOCIO-ECONOMIC

Located within BPK 2.2: Sg Dua – Jambu Rias, District of Bentong
Survey from 11 to 12 November 2020 (143 households)

Existing Environment

HYDROLOGY

Located within Sg Bentong catchment
3 water treatment plants in Sg Bentong catchment
Pahang – Selangor Raw Water Transfer Intake is located 27.7 km downstream of Project site
4 major industrial water abstraction users at upstream and downstream of proposed ND intake

METEOROLOGY & CLIMATE

High annual rainfall with relatively uniform high humidity and temperature








PUBLIC HEALTH

Most households have proper flush toilet
Some aborigines still use mountain and river water (from Sg Dua Hulu) for potable usage
Locals do opt to burn or throw rubbish in open area
19 respondents mentioned either themselves or their family members were diagnosed with diseases such as asthma, joint pain, hypertension and diabetes, and one breast cancer survivor

Baseline Monitoring Locations



LEGEND:

-  PROJECT SITE
-  RAW WATER SUMP PUMP
-  RIVER / STREAM
-  AIR (A1 - A2)
-  NOISE (N1 - N4)
-  WATER (W1 - W7)
-  ODOUR (OB1 - OB5, O6)



Most parameters were within Class II except COD, TSS, Mn, Fe, faecal coliform count and total coliform count



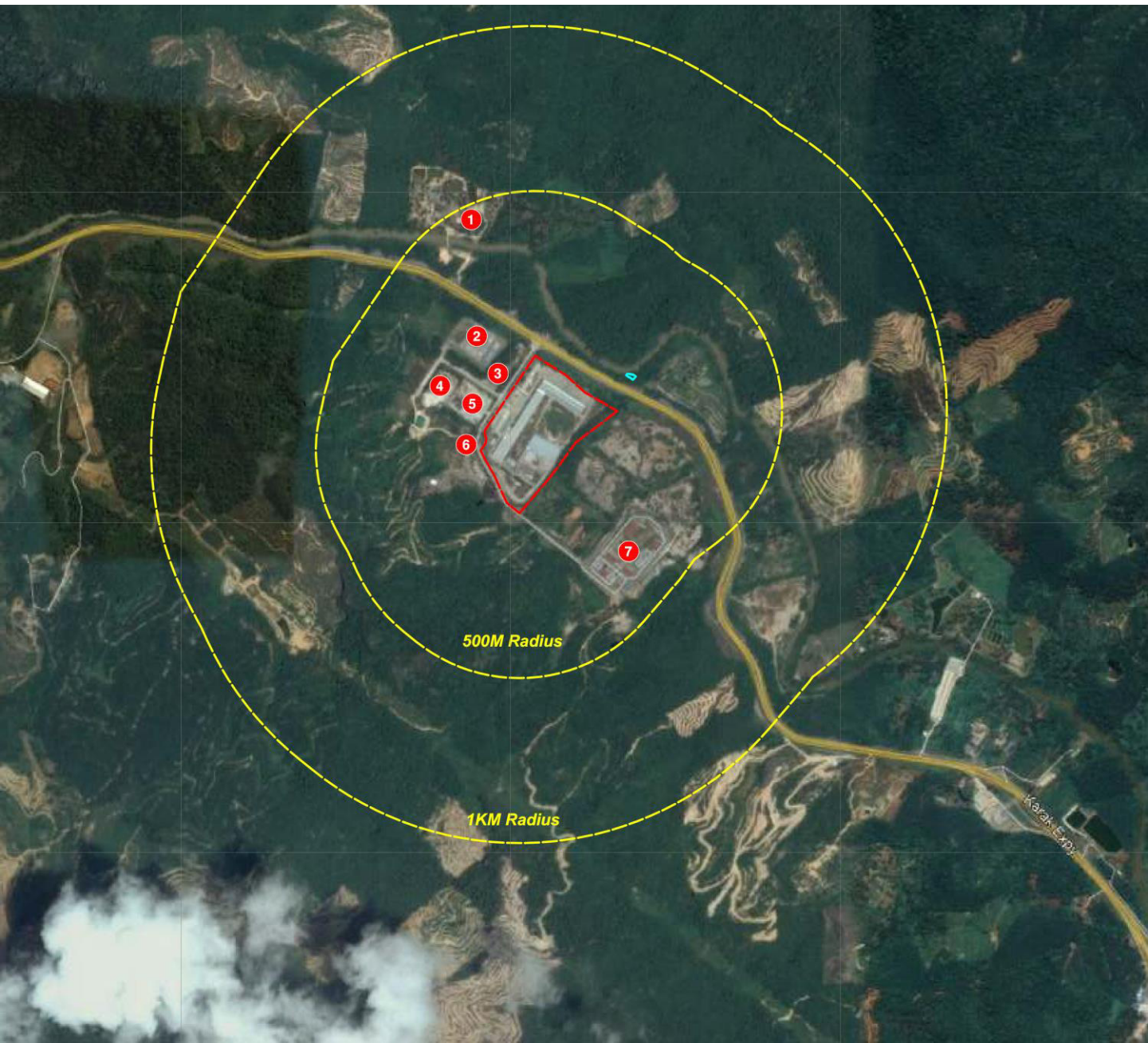
Only N2 could compile with the 65 dB(A) day time and 55 dB(A) night time limits prescribed in the EIA approval for existing operation



Ambient air quality at all sampling locations complied with MAAQS



Highest Dilution to Threshold (D/T) perceived for unpleasant and neutral smell along the boundaries of Project site was 7 D/T [Objectionable]



LEGEND:



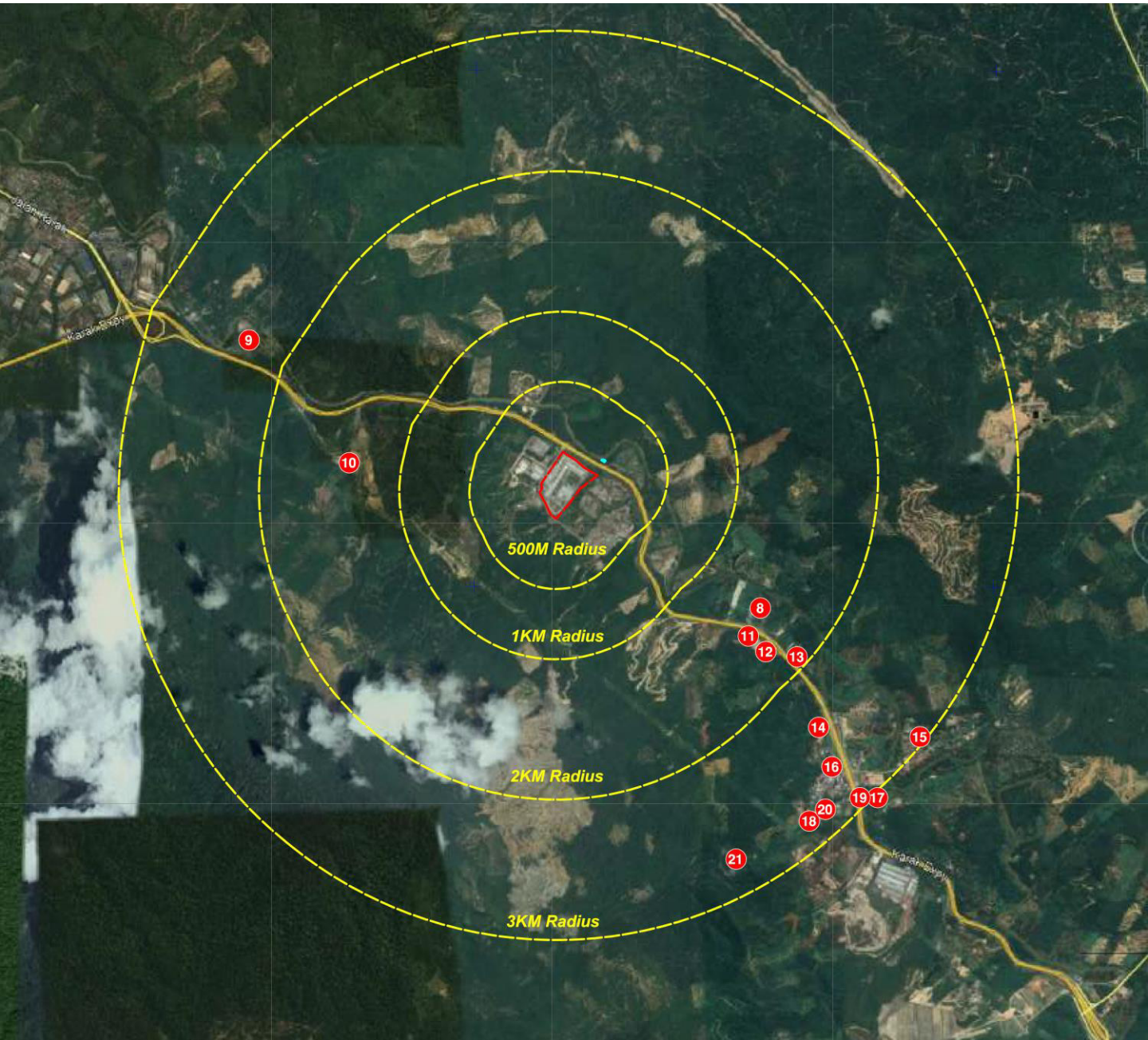
PROJECT SITE



RAW WATER SUMP PUMP

- 1) THE ACACIA RETREAT
- 2) PMU KARAK
- 3) SHOP LOTS
- 4) LCS MIX SDN BHD
- 5) BITUMAX INDUSTRIES SDN BHD
- 6) JBA PAHANG WATER TANK
- 7) PYROTECHNICAL ORDNANCE MALAYSIA SDN BHD

Land Use within 3 km Radius



LEGEND:

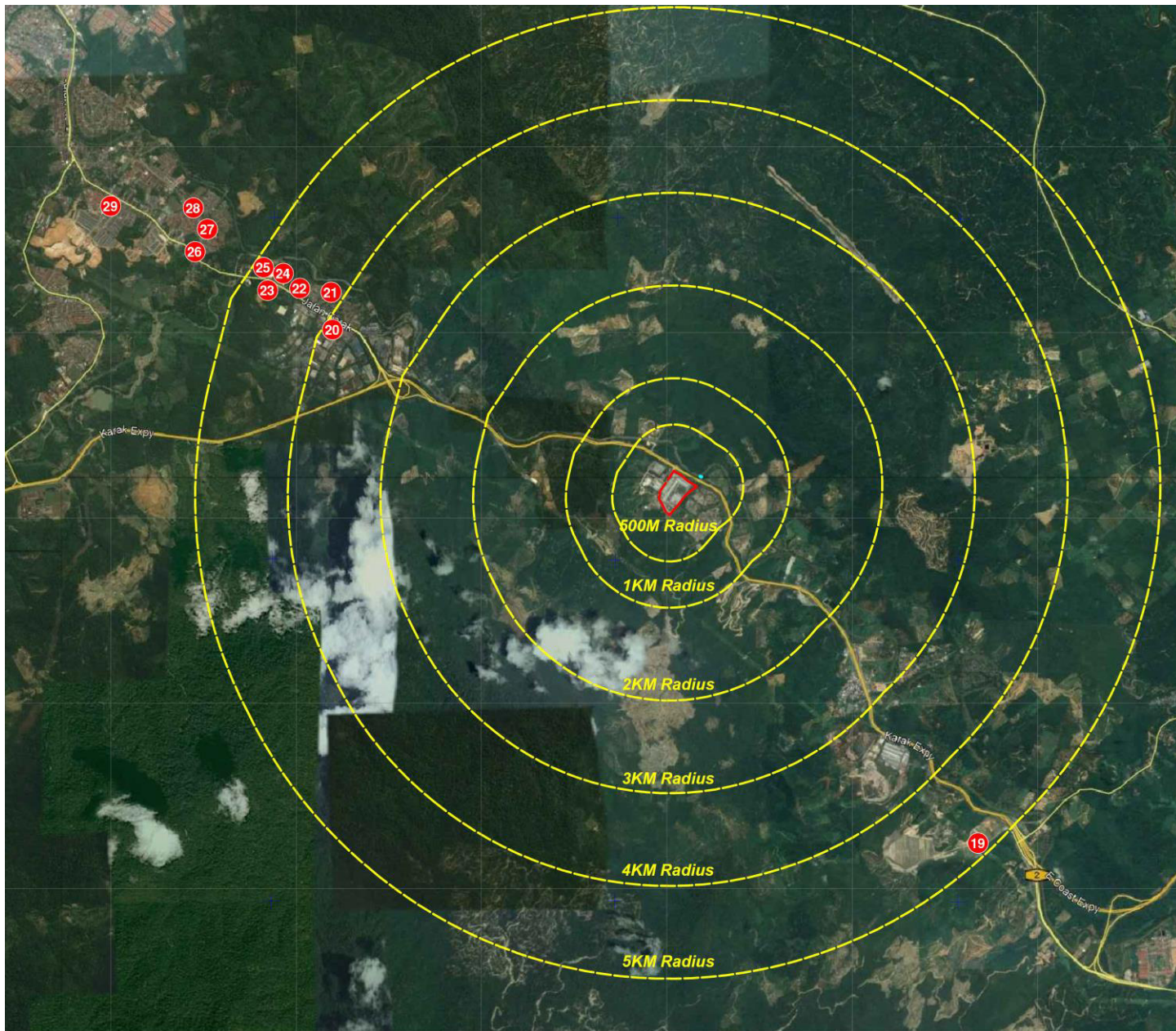


PROJECT SITE





RAW WATER SUMP PUMP

- 8) J ROBERT FARMS SDN BHD
- 9) TAMAN BENUS JAYA
- 10) SASA WAJA GROUP FACTORY
- 11) PETRON
- 12) PETRONAS
- 13) KOLAM PANCING D'KARAK
- 14) SIM KEE HARDWARE & TIMBER SDN BHD
- 15) SJK (C) SUNGAI DUA
- 16) KAMPUNG SUNGAI DUA
- 17) KLINIK DESA SUNGAI DUA
- 18) SK SUNGAI DUA
- 19) PAK TAY TEMPLE
- 20) SURAU SUNGAI DUA
- 21) KAMPUNG ORANG ASLI SUNGAI DUA HULU



LEGEND:

-  PROJECT SITE
-  RAW WATER SUMP PUMP

- 19) FULLBOW (KARAK) MEMORIAL PARK
- 20) KAWASAN PERINDUSTRIAN BENTONG
- 21) TAMAN CHEGAR MEDANG
- 22) KAMPUNG BENUS
- 23) TOYOTA SERVICE CENTRE BENTONG
- 24) KAMPUNG CHEGAR MEDANG
- 25) PERODUA SERVICE CENTRE
- 26) KLINIK DESA BENUS
- 27) KAMPUNG MUHIBBAH
- 28) TAMAN MUHIBBAH
- 29) TAMAN ANGGERIK

Sensitive Receptors



LEGEND:

- PROJECT SITE
- RAW WATER SUMP PUMP
- ~ RIVER / STREAM

- 1) THE ACACIA RETREAT
- 2) KOLAM PANCING D' KARAK
- 3) TAMAN BENUS JAYA
- 4) KAMPUNG SUNGAI DUA
- 5) SJK (C) SUNGAI DUA

- 6) KLINIK DESA SUNGAI DUA
- 7) SK SUNGAI DUA
- 8) TAMAN CHEGAR MEDANG
- 9) KAMPUNG BENUS
- 10) KAMPUNG CHEGAR MEDANG

- 11) PAK TAY TEMPLE
- 12) SURAU SUNGAI DUA
- 13) KAMPUNG ORANG ASLI SUNGAI DUA HULU
- 14) KAMPUNG MUHIBBAH
- 15) TAMAN MUHIBBAH

- 16) TAMAN ANGGERIK

Impact Assessment & Mitigation Measures



HYDROLOGY

Impact

Construction Stage

- No significant impact to Sg Bentong due to small land area to be cleared.

Operation Stage

- Reduction of water level is very small. No significant impact to Sg Bentong and the existing water users.
- Increase in storm runoff from the Project site is small when compared with the flow of Sg Bentong.

- Provision of protection works for the river banks, inlet and outlet structures to prevent scouring along the river banks and structures.
- Installation of flow meters to record the river water abstraction and effluent discharge rates.
- Periodical inspection and maintenance of all water pipelines to ensure no leakage.
- Standby pump to ensure no interruption of river water abstraction and supply to the production plant.



HYDROLOGY

Mitigation Measures



WATER QUALITY

Impact

Construction Stage

- No significant impact to Sg Bentong due to small land area to be cleared.

Operation Stage

- No change of water quality class for all parameters modelled for both 7Q10 low flow and normal flow during normal operation.
- In the event of IETS failure, BOD and COD would show sharp increase at the discharge point and gradually decrease downstream for both 7Q10 low flow and normal flow. Other parameters show marginal deterioration.

Construction Stage

- BMPs (e.g. check dam, silt fence) are recommended to be implemented at the impacted work areas.

Operation Stage

- Effluent discharged from IETS shall comply to Standard A. Should the IETS fail to meet Standard A quality, the wastewater shall be reused back in the production.
- Should the repair of IETS be prolonged and wastewater quality is not acceptable for reuse in production, the production lines shall shut down until the IETS is repaired.



WATER QUALITY

Mitigation Measures



AIR QUALITY

Impact

Construction Stage

- Dust pollution due to the construction activities is temporary.

Operation Stage

- During normal operation, the contribution of air pollutants from the plant to Acacia Retreat is minimal.

Construction Stage

- Proper control of fugitive dust.

Operation Stage

- Restrict acceptance of raw material known to be strongly malodorous/unpleasant/objectionable.
- Regular inspections, monitoring and maintenance of raw material handling areas.
- Use of odour neutralising sprays and additives to be considered where odours cannot be prevented.



AIR QUALITY

Mitigation Measures



NOISE

Impact

Construction Stage

- The Acacia Retreat may experience noise level of about 70 dB(A) while the nearest existing residential areas of about 3 km away may experience noise level between 55 and 60 dB(A) during piling works at site. Piling work is expected to be short-term in nature and will be completed at early stage of construction works.

Operation Stage

- The Project will not have any noise impact on the existing noise sensitive receptors between 500 m and 3 km from the Project boundaries.

- No piling works at night time.
- Establish periodical maintenance schedule for all motorised machineries and equipment.
- Provision of temporary noise barrier when necessary during construction.
- Acoustic design within building with various sources of noise.
- Enclosure or other type of acoustic measures shall be applied on equipment which contribute to noise levels higher than 85 dB(A).
- Safety signage shall be installed to inform workers of areas with high noise level.
- Adequate protective devices for workers who work in high noise level areas.



NOISE

Mitigation Measures

Impact Assessment & Mitigation Measures



WASTE MANAGEMENT

Impact

Construction Stage

- Generation of construction waste, domestic waste and scheduled waste.

Operation Stage

- Wastes generated during the operation stage can be categorised as process related wastes (hazardous and non-hazardous) and domestic wastes.

- Construction wastes shall be stockpiled at designated area and away from waterways and sensitive receptors.
- Procedures for waste reduction, recycling and recovery should be considered.
- Rejects shall be sent to the press machine to remove water and packed into bales prior disposal at Padang Sertik Landfill. Water removed from reject drying shall be diverted to IETS or to be reused in the production.
- Disposal docket record shall be kept as reference.
- Scheduled wastes shall be managed and handled in accordance with the Environmental Quality (Scheduled Waste) Regulation 2005.



WASTE MANAGEMENT

Mitigation Measures



PUBLIC HEALTH

Impact

Construction Stage

- With proper management of wastes and good housekeeping at site by the contractors, impact towards the health of the construction workers and existing employees is expected to be insignificant.

Operation Stage

- No health impact due to inhalation for air pollutants or intake of water pollutants from the proposed Project is expected.

Construction Stage

- Construction workers shall undergo medical check-ups.
- The Project Proponent shall not permit a suspected infected worker to continue with his work and shall temporarily remove him from the site.
- The Concept of 5S to be practiced at the construction site.

Operation Stage

- All P2M2 proposed for water quality and air quality are applicable.



PUBLIC HEALTH

Mitigation Measures



SOCIAL

Impact

- About 63% of the respondents felt that this Project would pose an impact to them and their neighbourhood.
- A total of 90 respondents viewed that changes to the water quality as a major concern.
- This is followed by odour problems (78 responses), changes to air quality (71 responses) and increase of foreign workers (67 responses).
- The respondents also felt that the Project would create more job opportunities (65 responses) and business opportunities (61 responses).



SOCIAL

Mitigation Measures

- Provide employment and business opportunities to local community.
- Employment of foreign workers shall be through proper agents with proper documentation in compliance with the immigration and labour rules and regulations of Malaysia. A repatriation programme shall be instituted at the end of the contract period to ensure smooth and legal departure of foreign workers.
- Foreign workers are to be briefed and familiarised with Malaysian laws and regulations, local customs, social etiquettes, etc.
- Provision of effective communication mechanism to enable the public to give feedback or to submit complaints related to the Project.



ABANDONMENT

Impact

- Impaired aesthetic due to abandoned structures.
- Contamination of soil, water and air from hazardous materials and wastes.
- Breeding of pests and disease vectors, such as mosquitoes, rats etc.
- Safety to workers and other passer-by due to falling materials or structures.



ABANDONMENT

Mitigation Measures







- Notification to the relevant authority(s).
- Removal of machineries, equipment and materials.
- Shut down any source of ignition or switches.
- Proper waste management.
- Clean-up of work area, especially grounds contaminated with chemicals or oils.
- Rehabilitation and restoration (e.g. re-vegetation of exposed areas).
- Post-abandonment inspection until the Project site is stabilised.

Proposed Environmental Monitoring Programme



Note: Impact monitoring for construction and operation are the same.

LEGEND:

-  PROJECT SITE
-  RIVER WATER SUMP PUMP
-  RIVER / STREAM
-  AIR (A1 - A2)
-  NOISE (N1 - N5)
-  WATER (RW1 - RW2)



- Temperature, pH, DO, BOD, COD, TSS, ammoniacal nitrogen, nitrate nitrogen, oil and grease, total coliform count, faecal coliform count, total phosphorus, TOC, chloride
- Monthly
- Class IIB of NWQS



- Weekly – Standard A of Environmental Quality (Industrial Effluent) Regulations
- Quarterly – PFOA & PFOS
- Online – Flow rate, pH, COD, ammoniacal nitrogen



- PM₁₀, PM_{2.5}, SO₂, NO₂, CO
- Quarterly
- MAAQS 2020
- L_{eq}, L_{max}, L_{min}, L₉₀, L₁₀
- Quarterly
- Recommended compliance limit:

Gas Boiler Stack Emission

- Total PM
- Every six months
- Compliance limit: Total PM = 50 mg/m³



Boundary	Period	Noise Limit, dB(A)
West	Day Time	65
	Night Time	65
North	Day Time	70
	Night Time	70
East	Day Time	70
	Night Time	70
South	Day Time	70
	Night Time	70



Bio-scrubber Stack Emission

- H₂S, NH₃
- Every six months
- Compliance limit: H₂S = 5 mg/m³, NH₃ = 30 mg/m³