EXECUTIVE SUMMARY

PROPOSED OFF-SITE SCHEDULED WASTE (SW) STORAGE FACILITY AT 86/ BLOCK 37 (PTD 4795), JALAN KEJURUTERAAN 4, KAWASAN PERINDUSTRIAN, 85000 SEGAMAT, JOHOR DARUL TAKZIM

INTRODUCTION

PROJECT PROPONENT

Pentas Flora (Johor Bahru) Sdn Bhd

No. 25, Jalan SiLC 2/7
Kawasan Perindustrian SiLC
79200 Iskandar Puteri
Johor Darul Takzim

EIA CONSULTANT

Alam Dinamik Sdn Bhd

No. 19 & 19A, Jalan Bukit Impian 1
Taman Impian Emas
81300 Skudai
Johor Darul Takzim

LEGAL REQUIREMENT

First Schedule

14.Waste Treatment and Disposal
(a) Scheduled waste
(iii) Construction of storage facility (off-site)

STATEMENT OF NEEDS

- The Project Proponent intends to provide off-site storage facility for scheduled waste to cater for north and west region of Johor and south region of Negeri Sembilan.
- While serving scheduled waste generators, the proposed Project will also create economic opportunities via collection and transportation of scheduled waste.
- Therefore, the proposed Project is deemed as an essential supporting service for industries that generate scheduled wastes.

PROJECT LOCATION

The Project site is located at PLO 37 (PTD 4795), Jalan Kejuruteraan 4, Kawasan Perindustrian Segamat, Mukim Sungai Segamat, Daerah Segamat, Johor Darul Takzim.

ID	Latitude	Longitude
A	2°29'34.20"N	102°51'58.45"E
B	2°29'34.40"N	102°51'59.07"E
C	2°29'32.83"N	102°51'59.56"E
D	2°29'32.62"N	102°51'58.93"E

Legend

Project Boundary | Boundary Coordinates | Commercial | Industrial | Road

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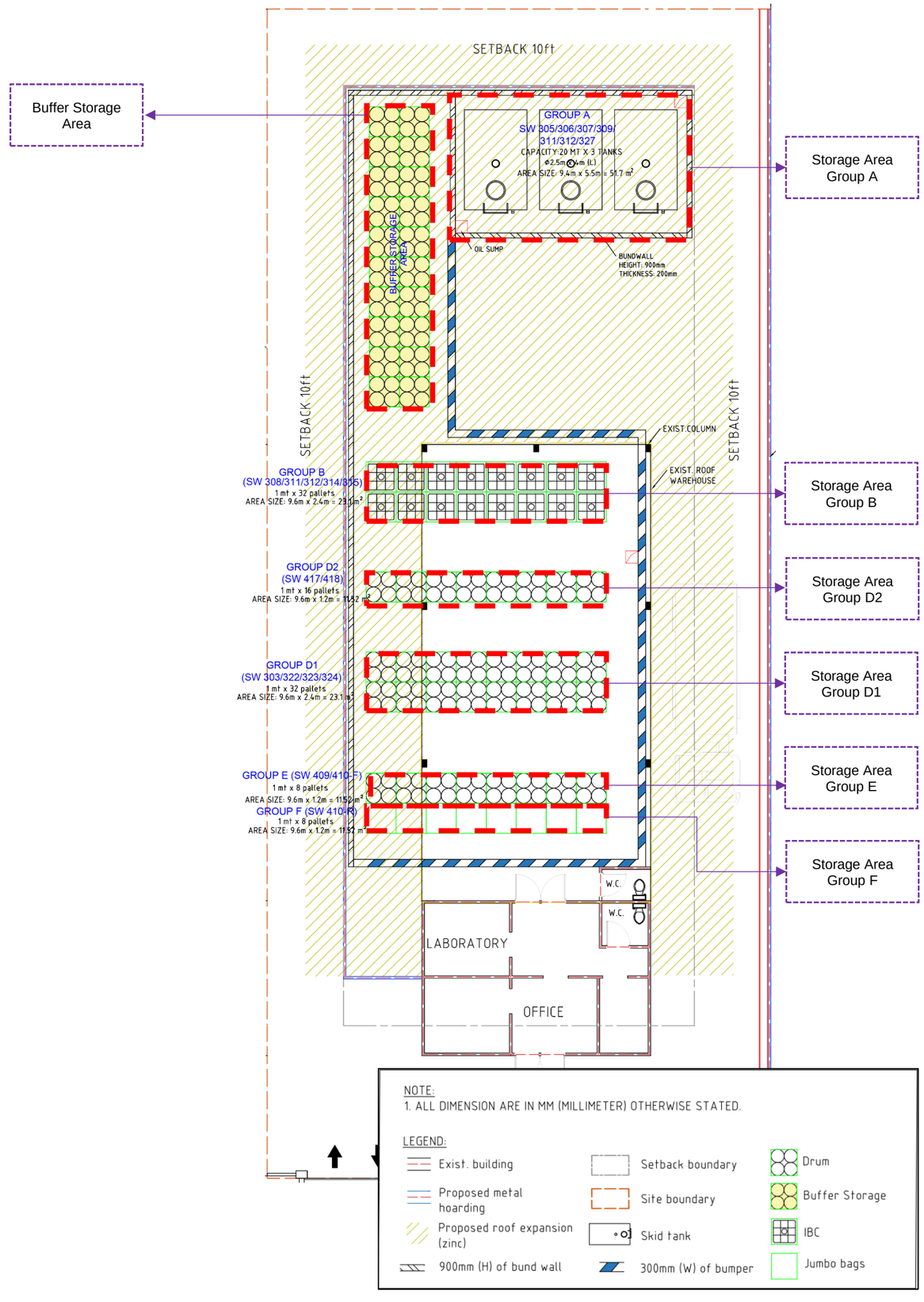
OVERALL BUILDING LAYOUT

Quantity of Scheduled Waste (SW) to be Stored at the Project Site

- The total storage capacity is 156 MT at one time or 780 MT/month with proposed 5 trips per month (1 trip per week to Pentas Flora recovery plant at Banting, Selangor).
- There will be 18 types of scheduled waste that will be stored at the proposed Project site.
- It should be noted that some of the scheduled waste codes are grouped in more than one group because the waste will be recovered using different types of treatment process at Pentas Flora's recovery facility at Banting, Selangor.

Scheduled Waste Group	SW Code	Proposed Amount of Scheduled Waste Collection		Storage Method
		MT at one time	MT / month	
A	SW 305	60 MT	300 MT / month	International Standard Organization (ISO) Tanks
	SW 306			
	SW 307			
	SW 309			
	SW 311*			
	SW 312*			
	SW 327			
B	SW 308	32 MT	160 MT / month	Intermediate Bulk Containers (IBCs)
	SW 311*			
	SW 312*			
	SW 314			
	SW 315			
D1	SW 303	32 MT	160 MT /month	Steel Drums and Plastic Drums
	SW 322			
	SW 323			
	SW 324			
D2	SW 417	16 MT	80 MT /month	Steel Drums and Plastic Drums
	SW 418			
E	SW 409	8 MT	40 MT /month	As it is and Jumbo Bags
	SW 410-F			Jumbo Bags
F	SW 410-R	8 MT	40 MT /month	Jumbo Bags
Total Capacity		**156 MT at one time**	**780 MT / month**	

** Scheduled waste code grouped in more than one group*



GENERAL PROCESS FLOW OF SCHEDULED WASTE COLLECTION PROCESS

SCHEDULED WASTE
COLLECTION PROCESS

PENTAS FLORA

Customer requests for scheduled waste collection.

Scheduled waste is collected at customer’s site.

Scheduled waste code is identified and segregated.

Scheduled waste is transported to local branch store unit.

Scheduled waste is transported to Pentas Flora Banting plant for recovery process.

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PROJECT IMPLEMENTATION SCHEDULE

The proposed Project will take twenty-seven (27) months for EIA approval, licensing application and renovation before the proposed Project is able to commence its operation.

Description	2023			2024				2025			
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Land Identification & Acquisition											
Environmental Impact Assessment											
Other Local Authority Approval											
Site Preparation											
Plant Construction / Renovation											
Installation of equipment, commissioning and operations											

EXISTING ENVIRONMENT

Topography and Land Use

- The Project site lies on a flat land which is about 27 meter above the mean sea level.
- The Project site is mainly surrounded by industrial, commercial, residential area, public facilities and institutional.

Hydrology

- Located in the river basin of Sg Muar.
- Surface runoff from the Project site immediately discharges into the concrete drain at the southeast of the Project site then flows into tributary of Sg Chudan before entering Sg Muar.
- After the confluence, Sg Muar meanders for about 62 km before discharging into Selat Melaka.

Ambient Air

- Ambient air was sampled at five (5) stations.
- The concentrations of all parameters are well below the specified limit except for $PM_{2.5}$ at stations A1 and A2.
- As for VOCs, the results show that only monocyclic aromatics were detected at station A1 (Toluene - 0.003 mg/m^3) and at station A2 (Benzene - 0.011 mg/m^3). Both detected VOCs were well below the limits.

Socio-economic

- Local authority is *Majlis Perbandaran Segamat* (MPS).
- The Project site is located within *Blok Perancangan Kecil (BPK) S1.5: Segamat Baru – Bandar Putra IOI* .

Climate and Meteorology

- Based on Kluang Meteorological data, the dominant wind direction is from north to south.
- The monthly mean rainfall amount at Felda Medoi for year 2013 – 2022 was in the range of 93.8 – 269.3 mm.

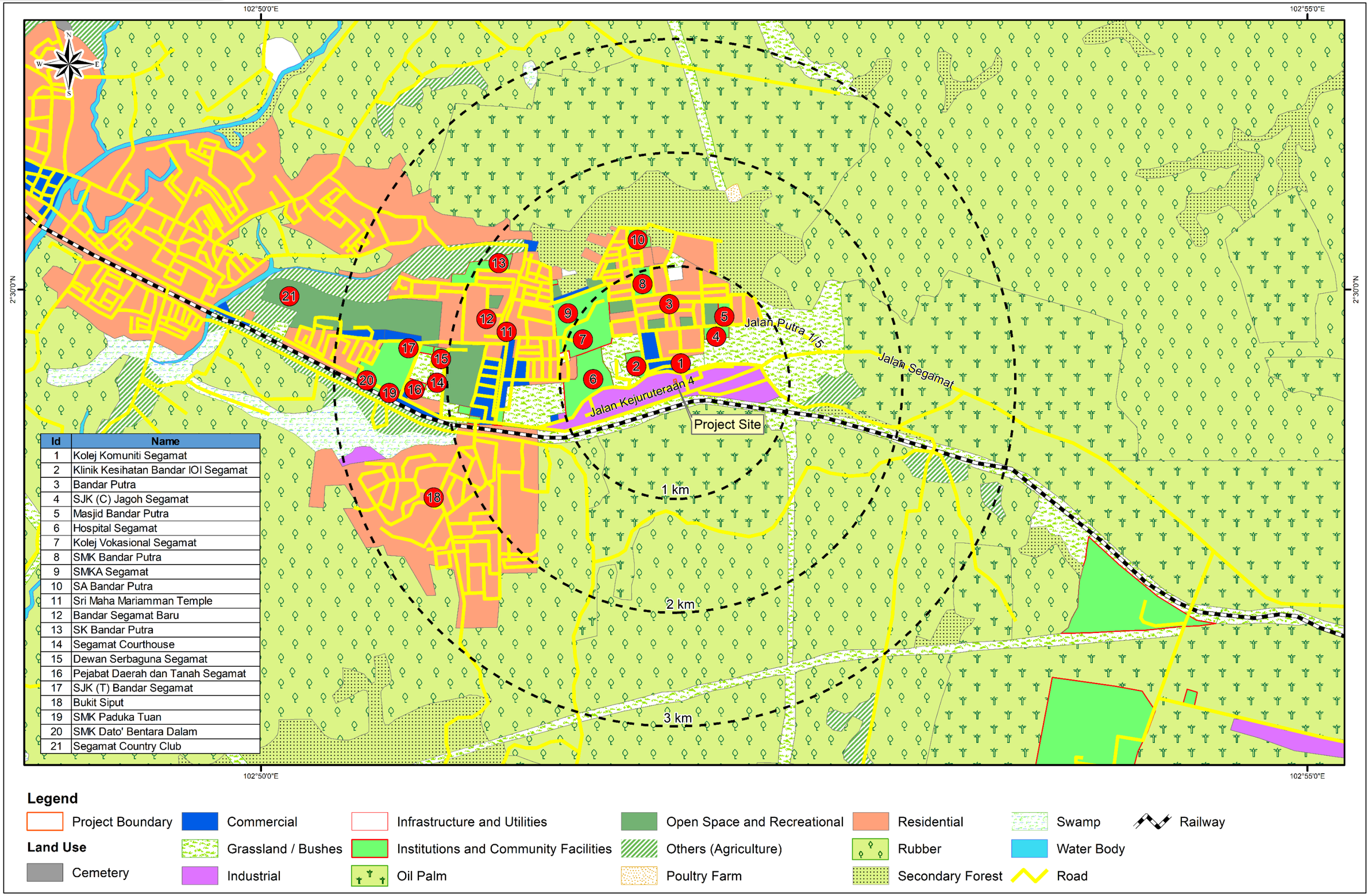
Water Quality

- Water was sampled at four (4) stations.
- Water Quality Index (WQI) for all sampling stations fall between Class IV and Class V.

Noise Level

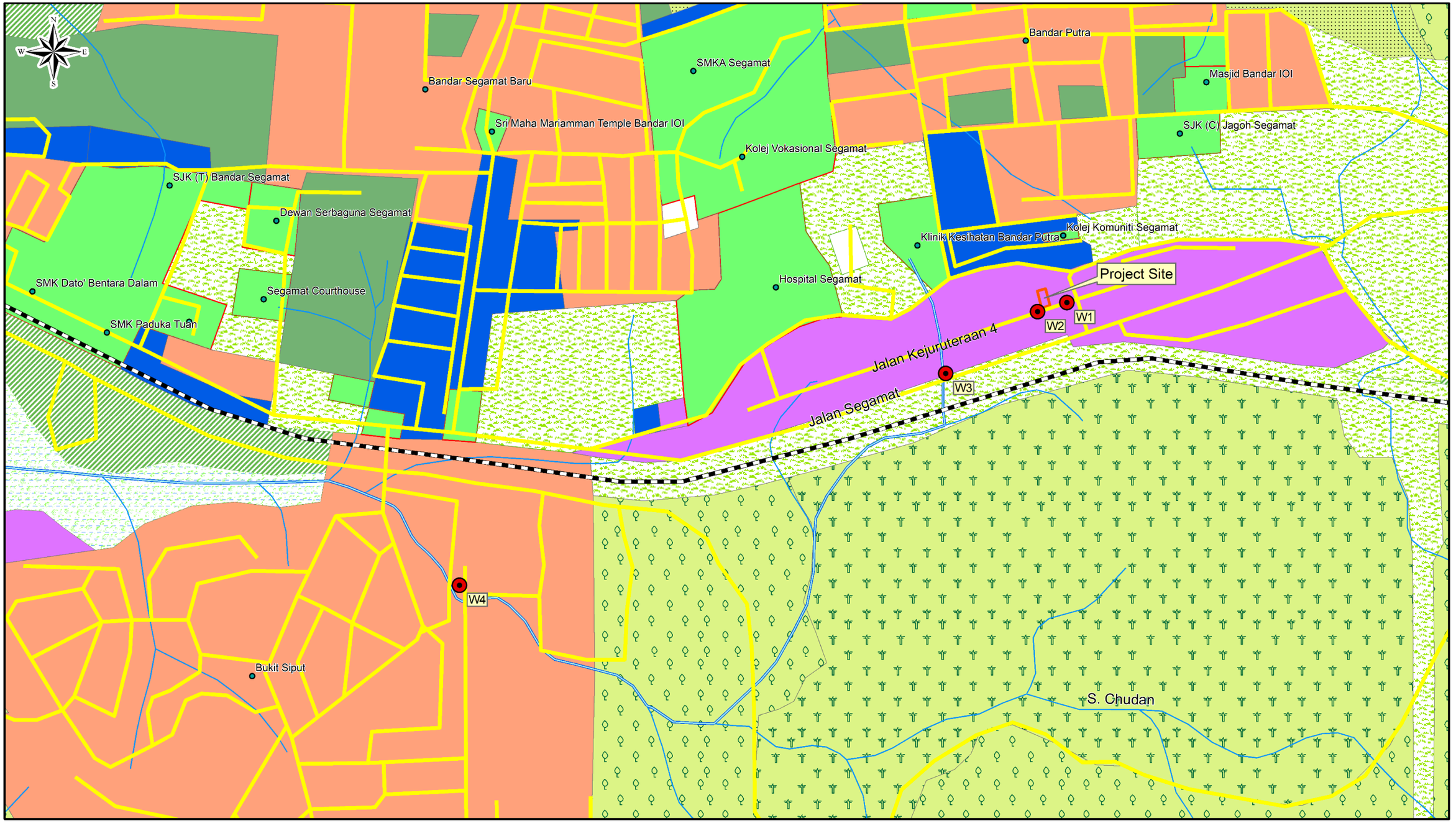
- Noise was measured at three (3) stations.
- Noise levels are below the limits of 60 dBA for day-time and 55 dBA for night-time at N2 while below 75 dBA for day-time and night-time at N1 & N3.

LAND USE 3 KM RADIUS

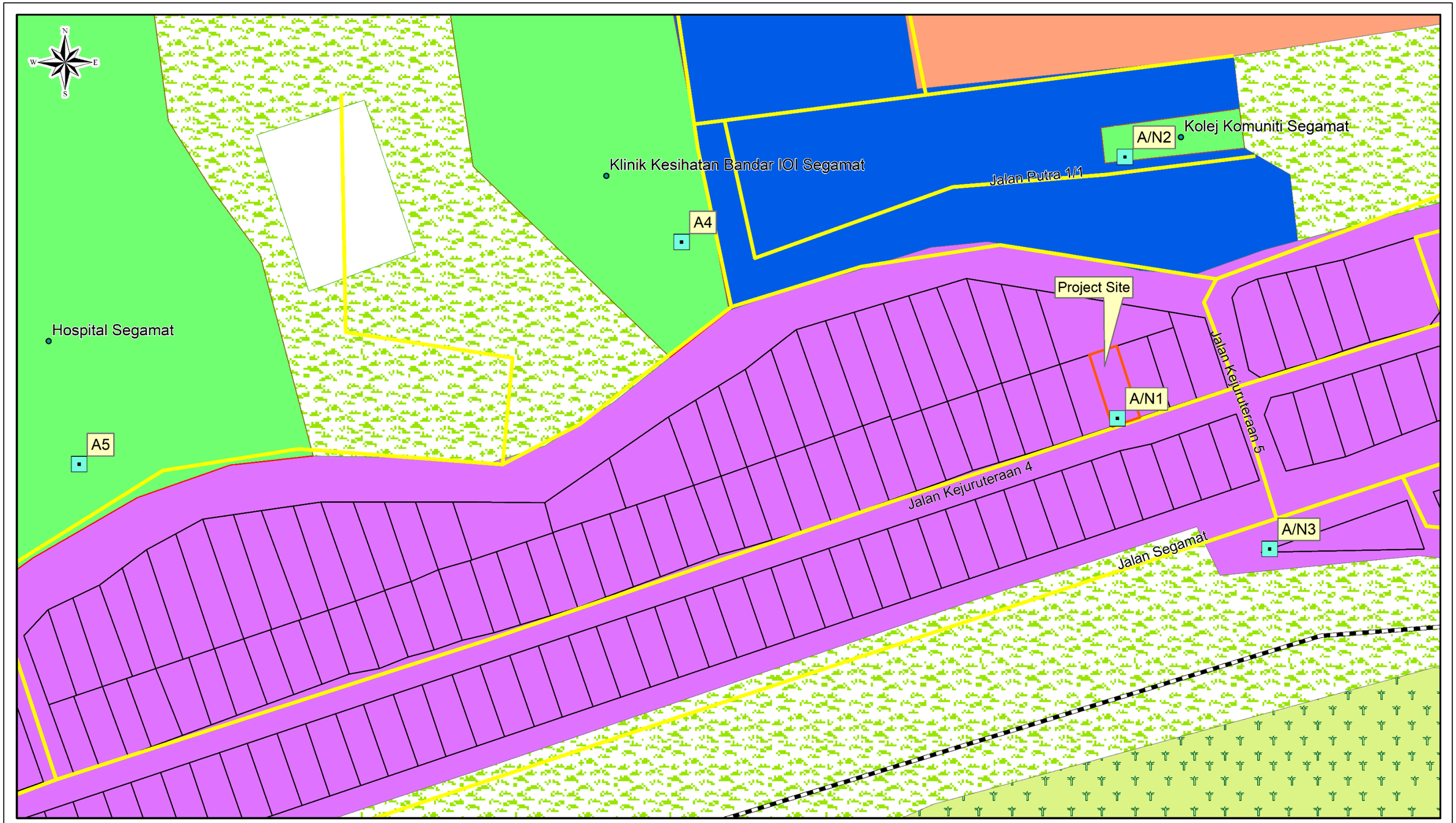


Id	Name
1	Kolej Komuniti Segamat
2	Klinik Kesihatan Bandar IOI Segamat
3	Bandar Putra
4	SJK (C) Jagoh Segamat
5	Masjid Bandar Putra
6	Hospital Segamat
7	Kolej Vokasional Segamat
8	SMK Bandar Putra
9	SMKA Segamat
10	SA Bandar Putra
11	Sri Maha Mariamman Temple
12	Bandar Segamat Baru
13	SK Bandar Putra
14	Segamat Courthouse
15	Dewan Serbaguna Segamat
16	Pejabat Daerah dan Tanah Segamat
17	SJK (T) Bandar Segamat
18	Bukit Siput
19	SMK Paduka Tuan
20	SMK Dato' Bentara Dalam
21	Segamat Country Club

SAMPLING STATIONS FOR WATER QUALITY



SAMPLING STATIONS FOR AMBIENT AIR QUALITY AND NOISE LEVEL



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BASELINE SAMPLING RESULTS

WATER QUALITY

Classification of Water Quality Based on National Water Quality Standards for Malaysia (Sampled on 24th June 2023)

Parameter	Station W1	Class	Station W2	Class	Station W3	Class	Station W4	Class
Dissolved Oxygen (mg/L)	2.68	IV (< 3)	3.39	III (3-5)	0.89	V (<1)	1.99	IV (< 3)
BOD_5 at 20°C (mg/L)	17	V (>12)	150	V (>12)	32	V (>12)	15	V (>12)
COD (mg/L)	51	IV (50-100)	489	V (> 100)	116	V (> 100)	45	III (25-50)
Total Suspended Solids (mg/L)	56	III (50-150)	92	III (50-150)	26	II (25-50)	18	I (<25)
Ammoniacal Nitrogen (mg/L)	19.1	V (>2.7)	22.2	V (>2.7)	14.9	V (>2.7)	8.10	V (>2.7)

Water Quality Index (WQI) of Sampling Stations

Parameter	Sampling Station W1	W2	W3	W4
Water Quality Index (WQI)	45	24	31	46
Class	IV	V	V	IV

NOISE LEVEL

Measured on 24th to 26th June 2023

Sampling Station	Noise Level L_{Aeq}	DOE Recommended Noise Level*	*Second Schedule, Recommended Permissible Sound Level (L_{Aeq}) by Receiving Land Use for Existing Built Up Areas
Day Time			
N1	52.8	75 dBA	Industrial Zones
N2	51.5	60 dBA	Low Density Residential, Noise Sensitive Receptors, Institutional (School, Hospital, Worship)
N3	56.3	75 dBA	Industrial Zones
Night Time			
N1	48.3	75 dBA	Industrial Zones
N2	45.7	55 dBA	Low Density Residential, Noise Sensitive Receptors, Institutional (School, Hospital, Worship)
N3	49.7	75 dBA	Industrial Zones

AMBIENT AIR QUALITY

Sampled on 24th to 26th June 2023

Parameter	Concentration (µg/m³) at sampling station A1	A2	A3	*Limit (µg/m³)
Particulate Matter (PM_{10})	69.0	56.0	42.0	100 (24 hours)
Particulate Matter ($PM_{2.5}$)	**56.0**	**42.0**	14.0	35 (24 hours)
Carbon Monoxide (CO)	ND <0.0001	ND <0.0001	ND <0.0001	30 mg/m³ (1 hour) 10 mg/m³ (8 hours)
Sulphur Dioxide (SO_2)	5	<1	<1	80 (24 hours)
Nitrogen Dioxide (NO_2)	ND <1	ND <1	ND <1	70 (24 hours)

ND – not detected

**Malaysia Ambient Air Quality Standards (MAAQG) (2020)*

Results of Volatile Organic Compounds (VOCs) in Ambient Air

Compound	Unit	Sampling Station A1	A2	*Limit (24 hr) (µg/m³)
VOC: Monocylic Aromatics				
Benzene	µg/m³	-	11.0	44
Toluene	µg/m³	3	-	3,000
Total VOCs	**µg/m³**	**3.0**	**11.0**	**-**

**Arizona Ambient Air Quality Guidelines (1999)*

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POTENTIAL IMPACTS AND MITIGATION

RIVER WATER QUALITY

IMPACT

- Minimal impact from renovation work is anticipated towards water quality.
- The proposed Project site will be used for storage purpose only, there will be no industrial effluent generation at the site.

MITIGATION

- Any disposal of construction waste into public drains shall be prohibited.
- All scheduled waste storage area shall be surrounded by low concrete bumper to prevent spillage flow into public drain.
- The use of absorbent shall prevent generation of wastewater due to floor washing.
- Oil trap provided at the Project site to prevent any spillage of contaminated waste from being directly discharged into the public drain.

AMBIENT AIR QUALITY

IMPACT

- Minimal impact is anticipated towards ambient air during construction phase.
- The only potential sources of impacts are fugitive emissions of volatile organic compounds (VOCs) from storage area and exhaust emissions from vehicles.

MITIGATION

- Dust generation during construction phase is expected to be minimal, hence no mitigation is required.
- Testing of indoor air quality is recommended to be carried out annually at the Project site during operational phase.
- The Project site will be designed as semi-enclosed area with proper ventilation using industrial ventilation fan.

NOISE LEVEL

IMPACT

- Minor renovation works may contribute to moderate increase of noise level.
- Noise will be generated from the vehicles transporting waste and forklift operated in the daily operation of storage facility.

MITIGATION

- Regular maintenance of machinery should be carried out.
- Employer shall ensure that noise exposure to workers comply with Occupational Safety and Health Administration (OSHA) (Noise Exposure) Regulations 2019.

SOLID WASTE MANAGEMENT

IMPACT

- Generation of solid waste from the Project site.

MITIGATION

- Construction and domestic waste generated during this phase shall be disposed of at approved landfill by local authority.

SCHEDULED WASTE (SW) MANAGEMENT

IMPACT

- The storage facility will not generate wastes unless from accidental spillage.
- The potential wastes will be recovered or disposed of at DOE approved premises.

MITIGATION

- Scheduled waste should be managed in accordance with the Environmental Quality (Scheduled Wastes) Regulations 2005.

QUALITATITVE AND QUANTITATIVE RISK ASSESSMENT

IMPACT

- Pool fire is the main hazard from the proposed Project.
- Hazard from toxic dispersion of volatile matters to the surrounding is low since the amount being released is expected to be very small.

MITIGATION

- All personnel to undergo proper fire safety training with Jabatan Bomba dan Penyelamat Malaysia.
- All emergency planning for fire and other incidents need to be compliance with Jabatan Bomba dan Penyelamat Malaysia.
- Regular inspection and maintenance should be exercised.

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PROPOSED ENVIRONMENTAL MONITORING PROGRAM

CONSTRUCTION PHASE

Impact Monitoring

Water quality
- Three (3) monitoring stations.
- Comparison with National Water Quality Standards (NWQS).

Ambient air
- Two (2) ambient air monitoring stations.
- Compliance with Malaysia Ambient Air Quality Standards (MAAQS) 2020.

Noise level
- Two (2) noise monitoring stations.
- Compliance with Second Schedule, (Receiving Land Use for Land Use for Existing Built Up Areas) Planning Guidelines for Environmental Noise Limits and Control 2019.

OPERATIONAL PHASE

Impact Monitoring

Ambient air
- Two (2) ambient air monitoring stations.
- Compliance with Malaysia Ambient Air Quality Standards (MAAQS) 2020.

Indoor air quality
- Monitor air quality inside the building.
- Compliance with Industry Code of Practice on Indoor Air Quality 2010.

Noise level
- Monitor at boundary of the Project site.
- Compliance with Second Schedule, (Receiving Land Use for Land Use for Existing Built Up Areas) Planning Guidelines for Environmental Noise Limits and Control 2019.

Performance Monitoring

Spillage control system
- Monitor low concrete bumper upon spillage.
- Monitor oil trap conditions.

Compliance Monitoring

Ambient air
- Two (2) ambient air monitoring stations.
- Compliance with Malaysia Ambient Air Quality Standards (MAAQS) 2020.

Scheduled waste
- Monitor collection, storage and transport out to recovery facility.
- Compliance with Environmental Quality (Scheduled Wastes) Regulations 2005.

DECOMMISSIONING PHASE

Impact Monitoring

Water quality
- Three (3) monitoring stations.
- Comparison with National Water Quality Standards (NWQS).

Impact Monitoring

Ambient air
- Two (2) air quality monitoring stations.
- Compliance with Malaysia Ambient Air Quality Standards (MAAQS) 2020.

Impact Monitoring

Noise level
- Two (2) noise monitoring stations.
- Compliance with Second Schedule, (Receiving Land Use for Land Use for Existing Built-Up Areas) Planning Guidelines for Environmental Noise Limits and Control 2019.

Compliance Monitoring

Solid waste
- Collection and disposal of waste from dismantling of structures.
- Compliance with Local authority guidelines for disposal upon demolition work.

Compliance Monitoring

Scheduled waste
- Monitor for chemicals (solid and/or liquid).
- Compliance with Environmental Quality (Scheduled Wastes) Regulations 2005.