Environmental Impact Assessment (First Schedule)

“CADANGAN MEMBINA SATU UNIT RUMAH BANGLO 2 TINGKAT DAN 2 TINGKAT ARAS BAWAH (BESMEN) DI ATAS LOT 65986, MUKIM BATU, DAERAH KUALA LUMPUR, WILAYAH PERSEKUTUAN KUALA LUMPUR UNTUK TETUAN TAN SIEW LOON”

PRJECT OVERVIEW

TAN SIEW LOON, proposes to develop a **2-storey bungalow with 2 lower ground (basement) levels on Lot 65986, Mukim Batu, Daerah Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur.** The proposed project covering an area of approximately **987 m² (0.0987 ha / 0.24 ac),** is intended for residential use and aims to provide a comfortable, modern living space within an established urban area**.**

LEGAL REQUIREMENT

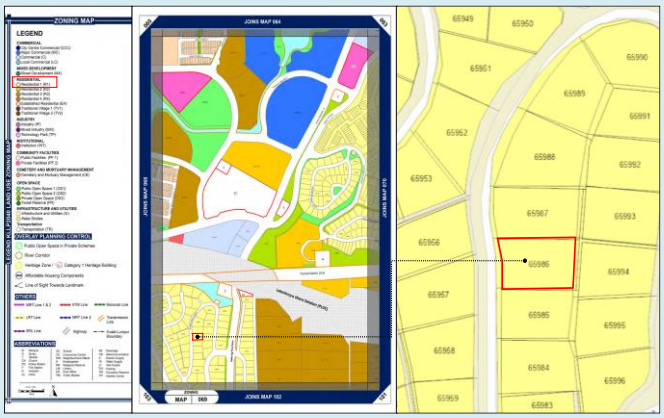
First Schedule

- **Prescribed Activity 13 – Development in Slope Area**
  Development of land clearing less than 50% of an area with slope greater than or equal to 25° but less than 35°

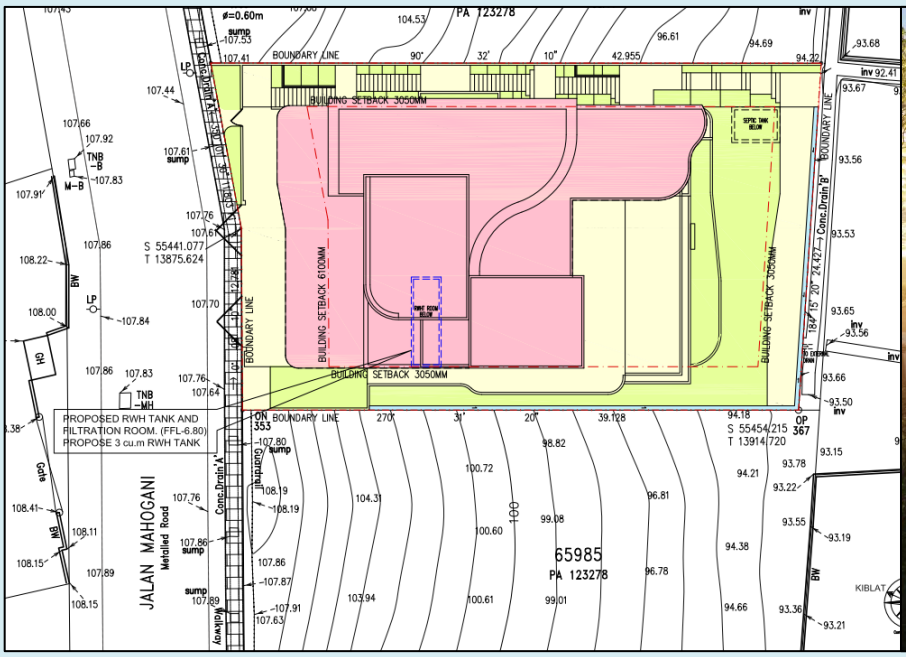
ZONING

Kuala Lumpur Local Plan 2040 (KLLP 2040)

- The project site is designated as a **Residential 1 (R1)**



PROJECT LAYOUT



EXECUTIVE SUMMARY

PHYSICO-CHEMICAL ENVIRONMENT

EXISTING ENVIRONMENT	DESCRIPTION
TOPOGRAPHY	• **Topography** : undulating to hilly terrain. • **Highest elevation**: **RL 107m** is found on the **western** part of the site • **Lowest elevation: RL 94m** is situated at the **eastern** part of the site • **Slope gradients**: **0° - 5° (0.97%), 5° - 15° (25.51%), 15° - 25° (48.70%), 25° - 35° (24.82%)**
SOIL & GEOLOGY	• The project site is underlain by **igneous rock** of the **Main Range Granite Formation** • The subsoil strata of the boreholes consist of **loose to medium silty SAND/GRAVEL. Granite Boulders** are observed at depth of about 6 m while **Granite Bedrock** was detected at depth varies from 10.3 m to 12 m below ground level during the soil investigation works.
HYDROLOGY	• The proposed development **lies within the Sungai Klang catchment**, occupying 0.0987 hectares in the Federal Territory of Kuala Lumpur. • Presently, the site is vegetated with trees and shrubs. This topography implies **that surface runoff proceeds from west to east** • The survey drawing reveals **no natural watercourses traversing the site** • Field observations, supplemented by a thorough drainage inventory survey, indicate that **site runoff is channeled via roadside drains into Sg. Kayu Ara, which flows into Sungai Damansara & ultimately discharges into Sungai Klang south of the project site**. • There is currently **no identifiable water intake point** situated immediately downstream of the project site that would be adversely affected by effluent discharge from the proposed development. • Nevertheless, the **nearest water treatment facility to the project site is the Bukit Nanas Water Treatment Plant,** located approximately 8.5 km away
ENVIRONMENTAL SAMPLING • **Air Quality**	• Air quality sampling works was carried out at **two (2) locations** • Ambient air quality monitoring results show that **PM_{10} & $PM_{2.5}$** levels at all sampling stations **complied** with the **New Malaysia Ambient Air Quality Standards (MAAQS, 2020**). **No detectable concentrations of NO_2, SO_2, CO, or O_3** were recorded during the sampling period.

Sampling Location	Tested Parameter	PM_{10} (µg/m³)	$PM_{2.5}$ (µg/m³)	NO_2 (µg/m³)	SO_2 (µg/m³)	CO (mg/m³)	O_3 (µg/m³)
	Compliance Limit	100	35	70	80	10	100
BASELINE							
A1	Result	51	13	ND	ND	ND	ND
	Compliance	Complied	Complied	Complied	Complied	Complied	Complied
A2	Result	56	14	ND	ND	ND	ND
	Compliance	Complied	Complied	Complied	Complied	Complied	Complied

ENVIRONMENTAL SAMPLING • **Noise Level**	• Noise level sampling works was carried out at **two (2) locations** • The noise level results show that Laeq levels at all sampling stations **complied** with **Guidelines for Environmental Noise Limits and Control, Third Edition 2019 (Reprint 2021)**				

Sampling Location	Landuse Category	Compliance Limit (dBA)	Monitoring Result	Compliance Status	Source of Non-Compliance (if any)
DAY TIME					
N1	Urban Residential (High Density), Mixed Development	65	54.5	Complied	-
N2	Urban Residential (High Density), Mixed Development	65	53.4	Complied	-
NIGHT TIME					
N1	Urban Residential (High Density), Mixed Development	60	43.9	Complied	-
N2	Urban Residential (High Density), Mixed Development	60	45.7	Complied	-

EXECUTIVE SUMMARY

PHYSICO-CHEMICAL ENVIRONMENT

EXISTING ENVIRONMENT	DESCRIPTION
ENVIRONMENTAL SAMPLING • **Vibration**	• Vibration level sampling works was carried out at **two (2) locations.** • The vibration results indicate that the existing ground vibration levels are **complied during day time & night time**

DAY TIME			
Sampling Location		V1	V2
Receiving Land Use Category		Residential	Residential
Recommended Limit		0.8 mm/s to 1.6 mm/s	0.8 mm/s to 1.6 mm/s
BASELINE	Peak Particle Velocity (mm/s)	0.816	0.831
	Compliance Status	**Complied**	**Complied**
	Degree of Perception	**Barely noticeable**	**Barely noticeable**
	Environmental Impact	**Little**	**Little**
	Potential Source of Non-Compliance	-	-
NIGHT TIME			
Sampling Location		V1	V2
Receiving Land Use Category		Residential	Residential
Recommended Limit		0.4 mm/s	0.4 mm/s
BASELINE	Peak Particle Velocity (mm/s)	0.316	0.328
	Compliance Status	**Complied**	**Complied**
	Degree of Perception	**Barely noticeable**	**Barely noticeable**
	Environmental Impact	**Little**	**Little**
	Potential Source of Non-Compliance	-	-

ENVIRONMENTAL SAMPLING
- **Water Quality**

- Water quality sampling works was carried out at **two (2) locations**
- Water quality at **W1 & W2** is classified as **Class III** with WQI status of **slightly polluted**

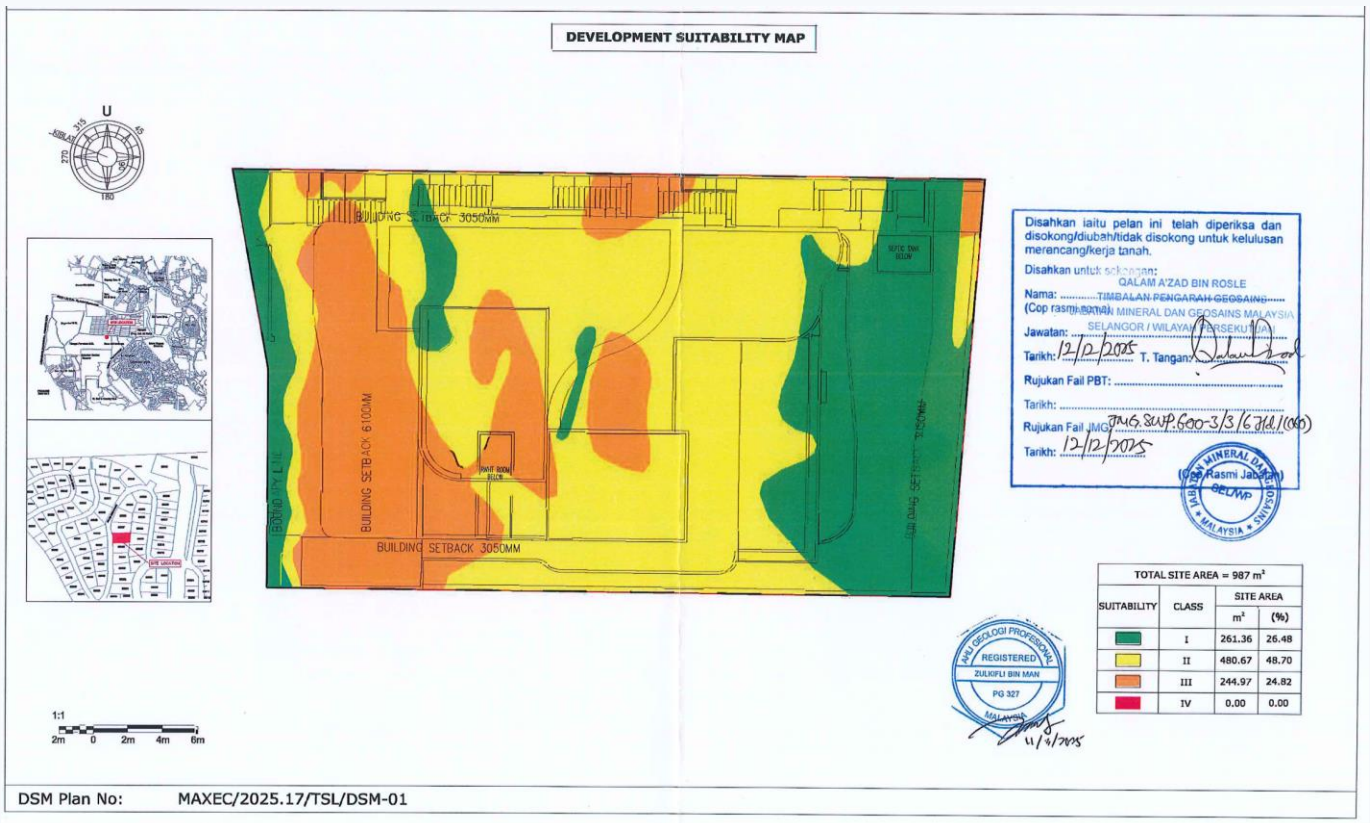
Parameters	Unit	BASELINE Concrete Drain							
		W1				W2			
		Result	Compliance Limit (Class IIB)	Compliance Status	Possible Sources of Non-Compliance	Result	Compliance Limit (Class IIB)	Compliance Status	Possible Sources of Non-Compliance
pH Value @25C	unitless	7.5	6-9	Complied	-	7.5	6-9	Complied	
BOD - 5 days test @ 20°C	mg/L	6.0	3.00	Not Complied	Discharge from adjacent residential	5.0	3	Not Complied	Discharge from adjacent residential
COD	mg/L	53.0	25.00	Not Complied	Discharge from adjacent residential	40.0	25	Not Complied	Discharge from adjacent residential
Total Suspended Solids	mg/L	2.0	50.00	Complied	-	10.0	50	Complied	
Ammonical Nitrogen	mg/L	0.5	0.30	Not Complied	Discharge from adjacent residential	0.4	0.3	Not Complied	Discharge from adjacent residential
Dissolved Oxygen (DO)	mg/L	4.1	5-7	Not Complied	Discharge from adjacent residential	4.4	5-7	Not Complied	Discharge from adjacent residential
Conductivity	µS/cm	95.4	-	Complied	-	94.2	-	Complied	
Temperature	°C	26.6	-	Complied	-	26.5	-	Complied	
Turbidity	NTU	1.85	50	Complied	-	3.1	50	Complied	
Oil&Grease	mg/l	6.0	-	-	-	5.0	-	-	
Fecal Coliform	MPN/100ml	115	400	Complied		112.0	400	Complied	
Total Coliform	MPN/100ml	128	5000	Complied		125.0	5000	Complied	
Escherichia coli	MPN/100ml	96	-	-	-	90.0	-	-	
WATER QUALITY INDEX (WQI)	**SCORE**	**69.37**				**72.21**			
	CLASS	**CLASS III**				**CLASS III**			
	STATUS	**SLIGHTLY POLLUTED**				**SLIGHTLY POLLUTED**			

EXECUTIVE SUMMARY

PROPOSED SAMPLING LOCATIONS

Station	Coordinates	Description
Air Quality (A), Noise Level (N), Vibration (V)		
A1/N1/V1	3°10'43.33"N 101°37'53.95"E	Project boundary
A2/N2/V2	3°10'44.42"N 101°37'55.31"E	Nearby residential area
Water Quality (W)		
W1	3°10'42.79"N, 101°37'55.17"E	Upstream of existing concrete drain
W2	3°10'43.84"N, 101°37'55.26"E	Downstream of existing concrete drain

GEOLOGICAL TERRAIN MAPPING



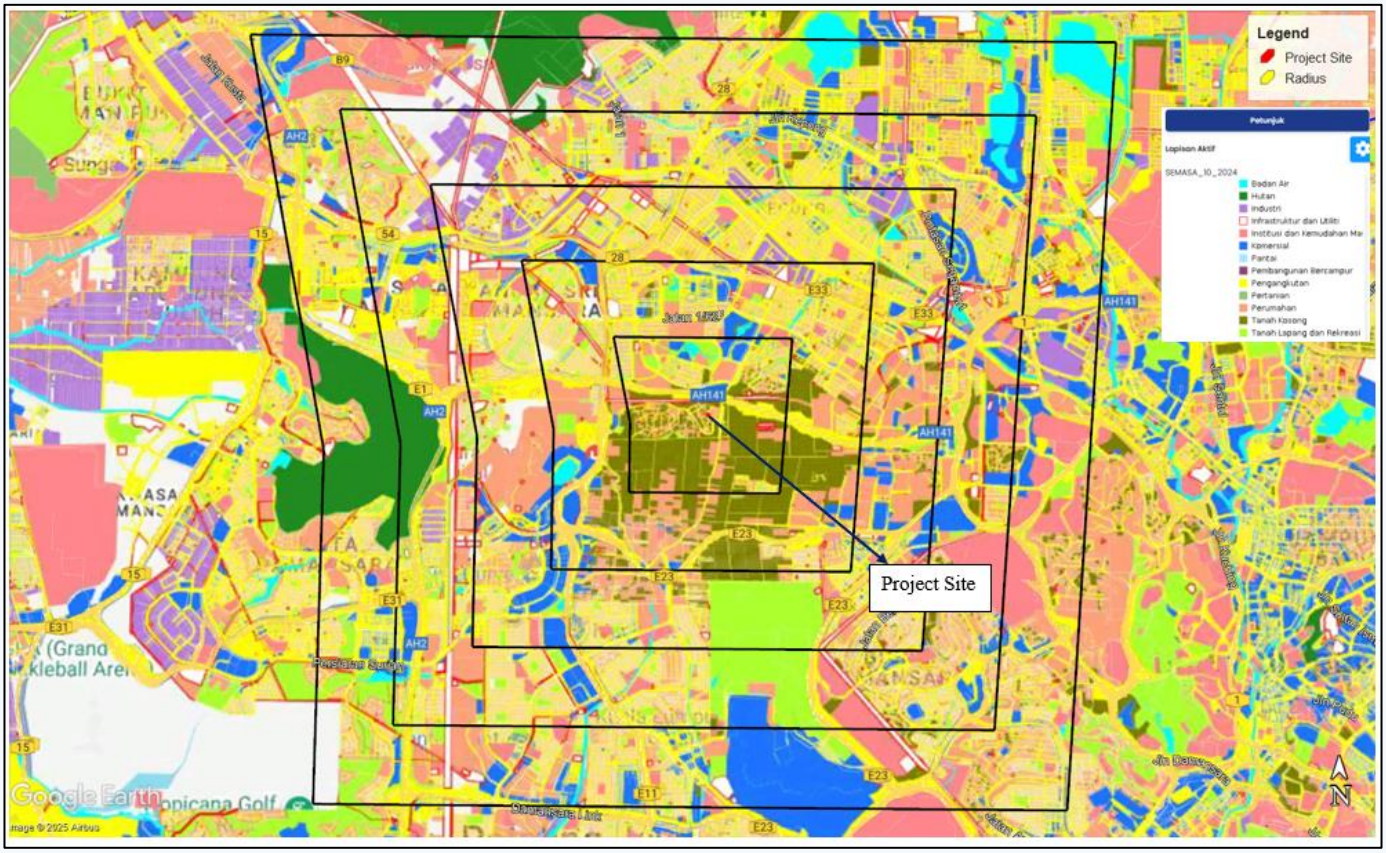
EXECUTIVE SUMMARY

BIOLOGICAL ENVIRONMENT

- The project site is currently covered with **trees, shrubs & dense undergrowth**. It's just a small, pocketed, disturbed, vegetated area with few trees.
- It's surrounded by a housing area, which **does not support any significant fauna to thrive in the area**.
- Fauna recorded or occasionally observed at the proposed site are limited to common species such as **monitor lizards, mynas, squirrels, & similar urban-tolerant fauna**

HUMAN ENVIRONMENT

SURROUNDING LANDUSE



SOCIO- ECONOMY

- Kuala Lumpur had a stable population growth with 1.98 million people in year 2020, a growth rate of 2.2% from year 2010 when the population was 1.59 million (KLSP 2040).
- There were no human settlement observed within the project site.
- The project area is predominantly occupied by **luxury residential developments** within the **Country Heights Damansara** area.

EXECUTIVE SUMMARY

POTENTIAL IMPACT & MITIGATION MEASURES

CONSTRUCTION PHASE

POTENTIAL IMPACTS	MITIGATION MEASURES
AIR QUALITY • Dust from vehicle & equipment use • Dust from exposed area • Dust from earthwork activities	• Ensure access and internal roads are kept smooth, well-graded, and clean. • Air pollution control/ dust control (construct of wash through, provide hoarding, water jet spray,) • Machinery & vehicle regularly service and maintained • Ambient air quality impact monitoring to be conducted on periodical basis to assess & monitor the ambient air quality at the project area
NOISE LEVEL & VIBRATION • Noise from equipment & plants • Noise from vehicle movements • Vibration from piling work	• Construction work scheduling during daytime. No works take place at nighttime & on weekends • Employ noise control measures (install of perimeter hoarding, PPE for workers) • Machinery & vehicle regularly service & maintained • Ambient noise level & vibration limit monitoring to be conducted quarterly
WATER QUALITY • Land clearing and earthworks activities; • Untreated sewage discharge; • Uncontrolled surface runoff	• Implementation of LD-P2M2 tools such as sediment pond, temporary earth drains, check, dam, wash through prior to commencement of earthwork • Any surface water runoff discharge from the project site to the offsite area of the project site during the earthwork & construction work shall contain TSS<50mg/L & turbidity<250NTU • Provide temporary toilet facilities/portable toilets at project site
EROSION & SEDIMENTATION • Soil erosion and sedimentation • Site clearing and earthwork activities • Land disturbing activities on-site;	• Implementation of LD-P2M2 tools such as sediment pond, temporary earth drains, check, dam, wash through prior to commencement of earthwork • Runoff & stormwater management on site • Erosion & sediment control • Temporary covers of exposed areas • Regular site inspection, maintenance and monitoring of BMPs on-site.
WASTE MANAGEMENT • Biomass Waste & Unsuitable Material • Overburden Materials • Solid Waste • Sewage • Scheduled Waste	• Biomass generated during site clearing needs to be properly managed & dispose off. • The handling & deposal of sewage should be in accordance with Environmental Quality (Sewage) Regulations, 2009. • The handling and disposal of scheduled waste should be in accordance with Environmental Quality (Scheduled Wastes) Regulations 2005.
TRAFFIC • Movement of vehicle passing by via the main access road	• Scheduled heavy vehicle transport during off peak hour periods • Vehicles for carrying building materials, debris and excavated materials should be clean, well maintained and in good running condition • Vehicle speeds should be limited within the project site.
SAFETY AND HEALTH • Safety to the construction workers	• Prepare Emergency Response Plan (ERP) in case of emergencies on site • Provide Personal Protective Equipment (PPE) to construction workers
EOCLOGICAL MANAGEMENT • Flora & fauna	• Clearly demarcate site-clearing boundaries and no-go areas • Install fencing in active construction zones
SOCIO-ECONOMIC • Potential job opportunities to the locals • Boosting local economy	• The project proponent should advertise to the surrounding community for encouraging locals to participate in jobs that are suitable to their skill; • The contractor shall make sure the foreign workers recruited have a work permit to enter the construction site
GEOTECHNICAL • Potential geological hazard • Slope stability	• Adhere to all the proposed recommendation by geotechnical engineer based on site condition

EXECUTIVE SUMMARY

POTENTIAL IMPACT & MITIGATION MEASURES

OPERATIONAL PHASE

POTENTIAL IMPACTS	MITIGATION MEASURES
AIR QUALITY • Fugitive emissions from mobile vehicles	• Regularly serviced & maintained the vehicles • Avoid running engines for long periods of time when in a stationary position • Observed vehicle speed limit
NOISE LEVEL & VIBRATION • Noise from vehicle movement & machines	• Landscaping and natural buffers can help soften the noise from human activities; • Regularly serviced & maintained the vehicles • Avoid running engines for long periods of time when in a stationary position • Observed vehicle speed limit
WATER QUALITY • Surface runoff discharge • Sewage discharge	• Permanent drainage system will be provided to controls water runoff • The internal sewerage system will operate using a gravity-flow network that channels wastewater to the proposed septic tank. Regular desludging of the septic tank shall be carried out to ensure proper functioning and prevent system failure.
EROSION & SEDIMENTATION • No significant impact	• Erosion and sedimentation will not be major impacts and no mitigation measures are necessary with the exception of rehabilitation works take place. • Permanent drainage network to be installed at-site to capture runoff from the site
WASTE GENERATION • Solid waste/domestic waste • Sewage	• Store general and food waste in covered bins to prevent pests, odour and animal disturbance. • The internal sewerage system will operate using a gravity-flow network that channels wastewater to the proposed septic tank. Regular desludging of the septic tank shall be carried out to ensure proper functioning and prevent system failure.
TRAFFIC • Additional vehicles trip generated • Movement of vehicle passing by the main access road	• Shall abide by local authorities and JKR requirements for traffic management and transportation requirements.
EOCLOGICAL MANAGEMENT • Flora & fauna	• Proper perimeter fencing is suggested to hinder encroachment of wild animals (example a wild dog) which may cause nuisance to the resident • Provide buffer/green corridors along project boundaries where possible
GEOTECHNICAL • Potential geological hazard • Slope stability	• Adhere to all the proposed recommendation by geotechnical engineer based on site condition