



CONSTRUCTION RESEARCH INSTITUTE OF MALAYSIA

**CONSULTANCY SERVICES FOR STUDY ON THE
POTENTIAL INCENTIVES FOR INFRASTRUCTURE
PROJECTS TO ADOPT SUSTAINABILITY RATING TOOL
FOR CONSTRUCTION RESEARCH INSTITUTE OF
MALAYSIA (CREAM)**

TECHNICAL AND FINANCIAL PROPOSAL

Submitted by



ERE Consulting Group Sdn Bhd
July 2019

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SECTION 1: INTRODUCTION

1.1 INTRODUCTION

The Construction Industry Transformation Programme (CITP) 2016 – 2020 is a comprehensive plan launched by the Government of Malaysia through the Kementerian Kerja Raya (KKR) and the Construction Industry Development Board (CIDB) Malaysia. Its main goal is to transform the construction industry into a modern, highly productive and sustainable sector through four strategic thrusts as illustrated in **Chart 1-1**.

Chart 1-1 CITP's Four Strategic Thrusts



Under **Strategic Thrust 2: Environmental Sustainability**, one of the output Key Performance Indicators (KPIs) is:

ET-01 – “50% of new infrastructure projects more than RM100 million to be certified in Sustainable INFRASTAR or any acceptable sustainable infrastructure tool from December 2020 onwards.”

Sustainable INFRASTAR is a sustainable infrastructure rating tool developed by CIDB. Launched in March 2019, it applies an objective and evidence-based rating system to assess the sustainability measures adopted by infrastructure projects, primarily at both design and construction stages.

In view of the strategic thrust output KPI's impending target deadline, Construction Research Institute of Malaysia (CREAM), a subsidiary to CIDB Malaysia, desires to carry out a study related to potential incentive for infrastructure projects to adopt sustainability rating tool.

ERE Consulting Group Sdn Bhd was invited by CREAM to submit a technical and financial proposal for the Project. This proposal has been prepared based on the Terms of Reference provided by CREAM received on 1st July 2019.

1.2 ERE CONSULTING GROUP SDN BHD

ERE Consulting Group, established since 1992, is a multi-disciplinary environmental consultancy providing sensible solutions to governments, industries and organizations across Asia. ERE assists clients to improve environmental performance, comply with regulations and reduce negative environmental impacts while achieving business and organizational targets. The increasingly challenging and complex interactions between environmental, economic and societal spheres require innovative thinking and pragmatic problem solving to arrive at mutually beneficial outcomes. The company has been **ISO9001 certified since year 2000**.

ERE Consulting Group consists of a core team of qualified and competent personnel, who are ably complemented by a pool of specialists and experts in all relevant disciplines. The multi-disciplinary nature of the consulting team ensures that all aspects of a problem are addressed, while the specific issues of specialized fields are dealt with in greater detail. Thus, ERE is well poised to partner government, private sector and civil society organizations in the quest to improve the quality of life and integrity of the environment for all.

ERE Consulting Group is registered with:

Ministry of Finance Malaysia	(Reg. Number 465-02008539)
Department of Environment Malaysia	(Reg. Number F0035)
Environmental Protection Department Sabah	(Reg. Number F017)
SIRIM QAS - MS ISO9001	(Reg. Number AR1932)

ERE Consulting Group operates out of its office in Subang Jaya and has completed over 500 projects throughout Malaysia, Indonesia, Brunei, Bangladesh, Myanmar and United Arab Emirates.

Some of the most relevant past projects include environmental sustainability governance/policy and infrastructure developments, as follows:

Environmental Sustainability Governance/Policy

- **Study to determine the feasibility of establishing an Environmental Academy / Board in Sabah (2018)**

This study was to examine the feasibility of establishing an environmental board or other similar mechanism that would improve environmental governance in Sabah.

➤ **Scoping Study for National Mitigation and Adaptation Action Plans (2017)**

This study was to determine the potential key climate change impacted areas, identification of mitigation potential as well as adaptation needs to be pursued, further strengthen the implementation via strategically planned climate change mitigation and adaptation measures.

➤ **Dasar Kelestarian Negeri Johor (2016)**

This study was commissioned by the Johor Economic Planning Unit (UPEN) to develop an environmental sustainability policy for Johor.

➤ **Kajian dan Program Pemantapan Keberkesanan EIA (2015)**

This study was commissioned by Department of Environment (DOE) to strengthen the effectiveness of the EIA system in Malaysia.

➤ **Malaysia RAMSAR Sites Sustainable Financing Study (2011)**

This study was commissioned by Ministry of Natural Resources and Environment to formulate financing mechanisms to support the effective management for RAMSAR (wetland) and MAB (man and biosphere) sites in Malaysia.

Infrastructure Developments

➤ **Large Scale Solar Photovoltaic Plant Scheme – Round 3 (LSS3) (2019)**

This study was to undertake an Initial Environmental Evaluation (IEE) for the proposed development of Large Scale Solar Photovoltaic Plan (in Bukit Selambau, Ladang Bikam, Tronoh and Sg. Petani) for various parties for tender submission to Suruhanjaya Tenaga (ST).

➤ **Environmental Assessment for Seri Iskandar Airport (2017)**

This study was a high-level airport feasibility study in Seri Iskandar Perak for the Seri Iskandar Development Corporation (SIDEK)

➤ **East Coast Rail Link (ECRL) (2017)**

This project involved various study including Initial Environmental Evaluation (IEE), Environmental Impact Assessment (EIA), Social Impact Assessment (SIA) and Wildlife Management Plan (WMP) for East Coast Rail Link (ECRL) project.

➤ **Setiawangsa – Pantai Expressway (DUKE 3) (2015)**

This study included the Environmental and Social Screening, Public Opinion Survey, EIA, SIA and EMP for SPE in Klang Valley.

➤ **Proposed Upgrading of Bekok Dam (2014)**

This project was commissioned by Jabatan Pengairan dan Saliran (JPS) to conduct preliminary site assessment and EIA of proposed upgrading of Bekok Dam in Batu Pahat, Johor.

➤ **Construction and Operations of Bukit Tagar Sanitary Landfill – Phase 2**

This project encompassed the site inspection and monitoring of construction and operations of Bukit Tagar Sanitary Landfill – Phase 2 at Sg. Tinggi, Hulu Selangor.

➤ **Stormwater Management & Road Tunnel (SMART) (2003)**

This study involved EIA of flood mitigation works for Kuala Lumpur Stormwater Management and Road Tunnel Project (SMART Tunnel).

1.3 FORMAT OF THE PROPOSAL

This proposal has been prepared in accordance with the objectives and scope of work as stated in the Terms of Reference. This proposal is divided into four sections addressing the various aspects of the proposed Project.

In addition to the introductory material in this section, the proposal contains:

Section 2 Approach & Methodology – in which the general approach, scope of work, methodology, outputs and the work programme are presented.

Section 3 Project Team – in which the Project team and organization set-up for carrying out the Project are presented.

Section 4 Financial Proposal

SECTION 2: APPROACH & METHODOLOGY

2.1 OBJECTIVE

The objective of the Project is to identify potential incentives to encourage infrastructure projects to adopt sustainability rating tool.

2.2 SCOPE OF WORK

The main scope of work for the study are:

1. Identify incentives to encourage adoption of sustainability rating tools or related material that are readily available in Malaysia and other countries
2. Assess feasibility of the identified incentives for infrastructure projects in Malaysia
3. Develop suitable incentive model with relevant industry feedback for infrastructure projects in Malaysia
4. Establish paper for approval of new incentive to relevant authorities.

2.3 APPROACH AND METHODOLOGY

An overview of the approach and methodology for this Project is shown in **Table 2-1** below:

Table 2-1 Methodology and Approach for Work Scope

Scope of Work	Methodology and Approach
1. Identify the incentive models to encourage adoption of sustainability rating tools or related material that are readily available in Malaysia and other countries	<ul style="list-style-type: none"> • Desktop study
2. Assess feasibility of the identified incentive models for infrastructure projects in Malaysia	<ul style="list-style-type: none"> • Analytical comparison
3. Develop suitable incentive model with relevant industry feedback for infrastructure projects in Malaysia	<ul style="list-style-type: none"> • Interview/Focus group discussion (FGD)
4. Establish paper for approval of new incentive to relevant authority	<ul style="list-style-type: none"> • Proposal and paper preparation

2.3.1 WORK SCOPE 1

Identify the incentive models to encourage adoption of sustainability rating tools or related material that are readily available in Malaysia and other countries

a. Incentive for Sustainable Development

Incentives have been used by governments and non-governmental organizations throughout the world to encourage adoption of sustainability practices among industry players, such as construction, energy and plantation industries. As the adoption of sustainability measures would likely to incur cost (time and money) to the companies, the use of incentive is crucial to alleviate the burden of implementing new initiatives and ensure the success of sustainable development.

There are various incentive schemes that have been carried out in Malaysia and other countries to spur the participation of industry players into sustainability programs (including sustainability rating tool) as tabulated in **Table 2-2** below.

Table 2-2 Incentive Schemes in Malaysia and Other Countries

Country	Program	Incentive Scheme
Malaysia	Green Industry	<ul style="list-style-type: none"> • Green Investment Tax Allowance (GITA) • Green Income Tax Exemption (GITE) • Green Technology Financing Scheme (GTFS)
	Malaysian Sustainable Palm Oil (MSPO)	<ul style="list-style-type: none"> • Soft loan • MSPO grant (for certification and audit)
Singapore	Green Mark	<ul style="list-style-type: none"> • Green Mark Incentive Scheme (GMIS) for: <ul style="list-style-type: none"> ◦ Existing Buildings ◦ New Buildings • Green Mark Gross Floor Area (GM-GFA)
Japan	Comprehensive Assessment System for Built Environment Efficiency (CASBEE)	<ul style="list-style-type: none"> • Gross Floor Area Incentive • Performance based Tax Incentive
United Kingdom	Green Energy	<ul style="list-style-type: none"> • Feed-In Tariffs (FITs) • Renewable Heat Incentive (RHI) • Green Deal • Local Energy Assessment Fund
United States	All-Electric and Plug-in Hybrid Vehicles	<ul style="list-style-type: none"> • Federal Tax Credit

b. Approach and Methods

The incentives related to material will be identified through desktop study of:

- Relevant project documentations
- National and international reports
- Scientific publications and journal articles
- Other relevant and reliable resources

Once identified, the incentive schemes will be assessed to determine their components, as follows:

- Type (e.g. Monetary, non-monetary, etc.)
- Structure (e.g. staggered, handhold, qualifying criteria, etc.)
- Mechanism (e.g. weightage, timeframe, rewarded output, etc.)
- Other relevant components

2.3.2 WORK SCOPE 2 & 3

Assess feasibility of identified incentive for infrastructure projects and develop suitable incentive model with industry feedback in Malaysia

a. Incentive Feasibility and Model

Not all incentive schemes can spur the uptake in sustainability measures. Whereas, some other programs may have increased participation due to good incentive model, but failed to realize the intended objective of sustainable development. Hence, it is important to gauge the feasibility of an incentive model in terms of its economic viability to the stakeholders (incentive-provider and industry players) and industrial readiness (i.e. technical capability).

As part of this Project, a study will be conducted to assess the feasibility of an incentive model for sustainable rating tool for the infrastructure development. Specifically, the outcomes from work scope 1 will be used to determine incentive feasibility in the context of Malaysian construction industry. From the feasibility study, an incentive model will be developed with feedback from stakeholders.

b. Method and Approach

i. Analytical comparison

Practical and systematic analytical comparison tools will be used to assess the feasibility of identified incentives for infrastructure projects. Some examples of the analytical tools are as described in **Table 2-3**.

Table 2-3 Analytical Comparison Tool Examples

Analytical Tool	Description
Gap Analysis	Comparison of actual performance with potential or desired performance
Comparative Analysis	Item-by-item comparison of comparable alternatives, processes, products, qualifications, sets of data or systems

ii. Interview/Focus Group Discussion

Interview and/or Focus Group Discussion (FGD) involving key stakeholders from the infrastructure industry will be organized to obtain their feedback on (but not limited to):

- Experiences with sustainability rating tool
- Barriers and challenges to adopt sustainability practices
- Existing and proposed incentives for sustainability rating tool
- Proposed improvement and desired incentives

2.3.3 WORK SCOPE 4

Establish paper for approval of new incentive to relevant authority

A proposal on potential incentive that details out steps needed to realize the adoption of sustainability tool among new infrastructure projects. The proposed potential incentive will clearly define:

- Objective / Goal
 - Specific
 - Measurable
 - Attainable
 - Realistic
 - Time based
- Steps to achieve the goals set
- Incentive model
 - Type (e.g. Monetary, non-monetary, etc.)
 - Structure (e.g. staggered, handhold, qualifying criteria, etc.)
 - Mechanism (e.g. weightage, timeframe, output, etc.)
- Key person(s) involved/stakeholders
- Resources allocation

Paper for approval will also be established and submitted to relevant authorities for approval. This may include federal, state and local government agencies, professional bodies and statutory bodies such as:

- Kementerian Kerja Raya (KKR)
- Kementerian Tenaga, Sains, Teknologi, Alam Sekitar & Perubahan Iklim (MESTECC)
- Kementerian Perumahan dan Kerajaan Tempatan (KPKT)
- Jabatan Kerja Raya (JKR)
- Construction Industry Development Board (CIDB)
- Malaysian Investment Development Authority (MIDA)
- Local Authority

2.4 EXPECTED DELIVERABLES

As stated in the TOR, 5 deliverables are expected:

- | | |
|------------------------------|--|
| 1. Work plan | At the start of the consultancy that indicates the methodology and anticipated to achieve target outputs |
| 2. Project Progress Report 1 | Compendium on Incentive on Sustainability Rating Tool and Related Materials |
| 3. Project Progress Report 2 | Feasibility Report and Incentive Model on Infrastructure Projects to Adopt Sustainability Rating Tool |
| 4. Executive Summary | On Incentive Study on Infrastructure Projects to Adopt Sustainability Rating Tool |
| 5. Final Project Report | Full report that include all aspect including technical report describing the methodology used in developing the incentive model, data findings and suggesting areas for improvement |

The reports will be prepared in English. Three (3) hardcopies of the final report, one soft copy (word and/or excel format), and a PDF format for web publishing will be submitted to CREAM.





2.5 WORK PROGRAMME

The proposed timeframe for the study is two months. The key deliverables are as follows:

1. Submission of Work plan Week 1
2. Submission of Project Progress Report 1 Month 1
3. Submission of Project Progress Report 2 Month 3
4. Submission of Executive Summary Month 4
5. Submission of Final Project Report Month 4

The proposed work programme is as shown in **Chart 2-1**.

Chart 2-1 Proposed Work Programme

Activity	Week															
	1				2				3				4			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
WORK SCOPE 1: Prepare work plan																
WORK SCOPE 2: Identify the incentive model in Malaysia and other countries																
WORK SCOPE 2: Assess feasibility of incentive for infrastructure Projects in Malaysia																
WORK SCOPE 3: Stakeholder engagement																
WORK SCOPE 3: Develop suitable incentive model for infrastructure projects in Malaysia																
WORK SCOPE 4: Establish paper for approval of new incentive to relevant authority																
WORK SCOPE 4: Final Project Report																

Note: Red diamonds indicate deliverables

SECTION 3: PROJECT TEAM

3.1 INTRODUCTION

The proposed organization structure for carrying out the Project takes cognizance of the inter-relationships between the key organizations with responsibilities of the study, i.e. CREAM, the Consultant and the various stakeholders. It is essential that close coordination is maintained between these bodies.

3.2 BASIS FOR PROJECT TEAM

The Project team consists of a strong team covering all the relevant fields for the study. The team has been selected to provide a balance of seniority and experience, with emphasis on the following factors:

- Broad-ranging project experience and good knowledge of applicable precedents
- Technical competence in their area of expertise
- Superior analytical skills
- Communication skills
- Capability to perform in a multi-disciplinary and team environment
- Practical-oriented capability, with up-to-date knowledge of technology
- Familiarity with government procedures and protocol

3.3 PROJECT TEAM ORGANIZATION

The Project Team comprises of 4 professional team members (**Table 3-1**). The professional team is well qualified and experienced in matters relevant to the proposed Project.

The team will maintain clear and efficient lines of communication and reporting and will hold internal meetings at regular intervals to discuss technical and administrative issues and to keep the Project on track.

Table 3-1 Project Team

	Designation	Name	Qualification
1.	Project Director	Dr G Balamurugan	BEng, MPhil, PhD
2.	Project Manager	Kevin Quah Wenjie	B. Eng. (Civil & Environmental), M.B.A.
3.	Project Team	Sharmila Devi	B.Sc.
4.	Project Team	Mohammad Izzat Rasnan	B.Sc., M.Sc. (Environment & Development)

SECTION 4: FINANCIAL PROPOSAL

4.1 FINANCIAL PROPOSAL

Our financial proposal covers the breakdown of consultant fees and reimbursable expenses, as follows:

Table 4-1 Financial Proposal

Item	Amount
Professional fees (A)	RM 113,645.70
Reimbursable expenses (B)	RM 5,000.00
Sub-total	RM 118,645.70
6% government service tax*	RM 7,118.74
Total	RM 125,764.44
* Professional fees are subject to 6% government service tax.	
** Stakeholder workshop costs to be borne by CREAM	

4.1.1 PROFESSIONAL FEES

The total professional fee is RM 113,645.70 (RM One Hundred Thirteen Thousand and Six Hundred Forty-Five and Seventy Cents Only).

Table 4-2 Professional Fees

NO.	NAME	DESIGNATION	YEARS OF EXPERIENCE	BASIC SALARY (RM/MONTH)	MULTIPLIER	INPUT (MM)	TOTAL (RM)
1	Dr. G. Balamurugan	Project Director	31	13,800.00	2.7	0.2	7,452.00
2	Kevin Quah Wenjie	Project Manager	11	7,015.00	2.7	3.00	56,821.50
3	Sharmila Devi	Consultant	9	5,520.00	2.7	2.00	29,808.00
4	Mohammad Izzat Rasnan	Consultant	2	3,623.00	2.7	2.00	19,564.20
TOTAL PROFESSIONAL FEES							113,645.70

4.1.2 REIMBURSABLES EXPENSES

Table 4-3 Reimbursables

NO	ITEM	QUANTITY	UNIT RATE (RM)	TOTAL (RM)
1	Travelling (parking + toll)	As per bill		2,300.00
2	Printing			
	D1: Work plan	3	100.00	300.00
	D2: Progress Report 1	3	150.00	450.00
	D3: Progress Report 2	3	150.00	450.00
	D4: Executive Summary & Final Report	3	500.00	1,500.00
				2,700.00
TOTAL REIMBURSABLE EXPENSES				5,000.00

4.2 SCHEDULE OF PAYMENT

The payment schedule will follow as indicated in the TOR:

Table 4-4 Payment Schedule

Output	% of payment
Deliverable 1: Submission of Work plan	20
Deliverable 2: Submission of Project Progress Report 1	30
Deliverable 3: Submission of Project Progress Report 2	30
Deliverable 4 & 5: Submission of Executive Summary and Final Project Report	20

ATTACHMENT 1

COMPANY PROFILE



Experience & Capability Statement

June 2019

INTRODUCTION

ERE Consulting Group provides sustainable development consultancy solutions to governments, industries and organizations across Asia and Africa. We understand the challenges faced by Asian and African countries and our services help our clients to manage their environmental challenges better. We enable our clients plan, manage and monitor their operations and businesses to ensure prosperity and sustainability.

Established since 1992, we have successfully served the government and industry and have completed over 550 projects. The firm maintains a comprehensive quality management system and has been ISO 9001 certified since 2000.

We have worked in the following countries :

- Malaysia
- Indonesia
- Brunei Darusalam
- Myanmar
- United Arab Emirates
- Bangladesh



OUR SERVICES

Our core competencies lie in helping our clients :

- Improve land use planning & natural resources management
- Understand the natural environment
- Enhance project planning and execution
- Improve industrial efficiency
- Minimize environmental liabilities
- Engage with stakeholders

We provide professional services in all phases of environmental project management from pre-feasibility surveys, baseline studies to master-planning and project approvals. We cover a wide range of sectors including :

**BIODIVERSITY CONSERVATION &
ECOSYSTEM MANAGEMENT**



GREEN INFRASTRUCTURE



SUSTAINABLE TRANSPORTATION



ENVIRONMENTAL LAND USE PLANNING



NATURAL RESOURCE MANAGEMENT



INDUSTRIAL ENVIRONMENTAL MANAGEMENT

STAKEHOLDER ENGAGEMENT



TRAINING & CAPACITY BUILDING

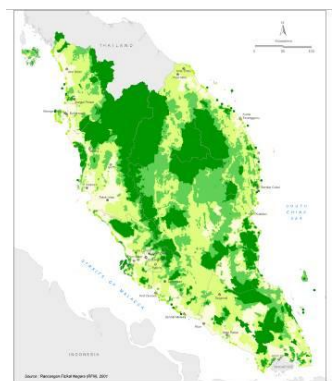
BIODIVERSITY CONSERVATION & ECOSYSTEM MANAGEMENT

ERE provides a wide range of professional services to support biodiversity conservation and ecosystem management. These services range from basic field surveys, animal and plant inventories, habitat assessment, protected areas planning, landscape-level biodiversity planning and policy formulation.

Some of our key projects include :

- **Heart of Borneo** – ERE has been a consultant to governments of Malaysia and Brunei Darussalam and to WWF Malaysia and Indonesia for developing strategies and action plans for the conservation of the tropical rainforests of Borneo.
- **Guidelines for the management of environmentally sensitive areas in Malaysia** – ERE was part of a team that formulated development control guidelines for environmentally sensitive areas in Malaysia – commissioned by the Dept of Town & Country Planning.
- **Central Forest Spine** – ERE is leading the biodiversity and environment sector in identifying ecological linkages and forest connectivity in the Central Forest Spine– commissioned by the Dept of Town & Country Planning.
- **Conservation of the highlands Peninsular Malaysia, Sabah and Sarawak** – ERE played a major role in two studies commissioned by the Economic Planning Unit aimed at formulating conservation strategies for the highlands of Malaysia culminating in the drafting of the National Highlands Policy.
- **Criteria for biological corridors** – ERE was engaged by WWF Malaysia to help develop criteria and guidelines for biological corridors.
- **Lower Kinabatangan Wildlife Sanctuary** – ERE was engaged by WWF Malaysia to undertake a water quality survey and hydrological assessment for the Lower Kinabatangan Wildlife Sanctuary.
- **Capacity building for Ministry of Natural Resources & Environment Biodiversity Component** – ERE served as a consultant under a DANIDA-funded project to development guidelines for landscape-level biodiversity planning
- **Kinabalu ECOLINC** – ERE, working for Sabah Parks, developed the masterplan for the ecological corridor between the Kinabalu Park and the Crocker Range Park.
- **Sabah Biodiversity Conservation Strategy** – ERE was engaged by the Sabah State government to formulate the strategy and action plans for the conservation of biodiversity in the state.
- **Sustainable Financing for RAMSAR Sites** – ERE was engaged by the Ministry of Natural Resources and Environment Malaysia to examine the options for sustainable financing of protected areas, particularly RAMSAR and MAB sites.

Wildlife
Habitats
Protected areas
Biodiversity
Forests



GREEN INFRASTRUCTURE

ERE assists construction industry players throughout the region to design sustainable infrastructure, meet environmental regulations and minimize liabilities. Our professionals have extensive experience and are familiar with the regulatory framework and challenges facing the industry.

Our services in this sector include environmental site assessment, formulation of environmental management plans, environmental impact assessment, emergency response plans, environmental compliance monitoring & audit and training. Some of our key projects include :

- **Storm Water Management & Road Tunnel (SMART) Project** – ERE was appointed to undertake the environmental impact assessment for a very large infrastructure project involving an urban motorway and stormwater diversion tunnel in the heart of Kuala Lumpur.
- **Pulau Perhentian Water Supply Scheme** – ERE was appointed to undertake the environmental impact assessment for the water supply submarine pipeline to Pulau Perhentian within a marine park.
- **Beris Dam** – ERE was the environmental consultant for supervising the construction of the Beris Dam in Kedah. This entailed audits, monitoring, supervising the environmental management plan, relocation of rare plant species and stakeholder engagement.
- **Ringlet to Tanah Rata road and Ringlet – Kuala Lipis road in Cameron Highlands** – ERE was engaged to formulate the environmental management plan, supervise the implementation of the plan and to undertake environmental monitoring.
- **Kota Kinabalu Sewerage Project-** ERE was engaged to undertake the environmental impact assessment, formulate the environmental management plan and long-term monitoring.
- **Johor Bahru Outer Ring Road** – ERE was engaged to undertake the environmental appraisal for the proposed outer ring road for the Johor Bahru conurbation.
- **Kahang Dam, Johor** - ERE was engaged to undertake the environmental assessment, as part of the feasibility study, for the construction of the water supply dam

Roads
Drainage
Sewerage
Water Supply

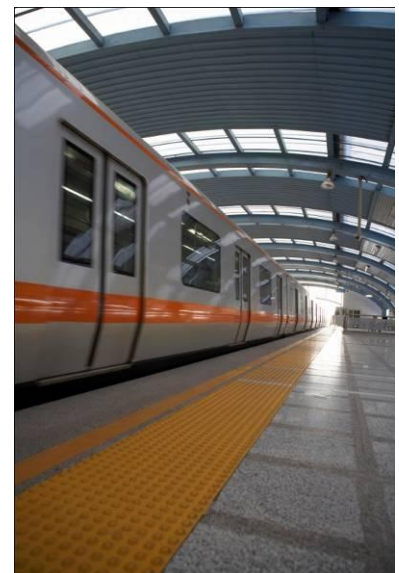


SUSTAINABLE TRANSPORTATION

ERE assists governments, private companies and international agencies to plan and implement environmental solutions for road and transportation projects. From the planning for transport terminals to the construction of airports and the rehabilitation of roads, we work closely with our clients to ensure these transportation projects are planned and implemented with due care for the environment.

Roads
Ports
Airports
Railways
Mass Rapid Transit

- **Ringlet to Tanah Rata road and Ringlet – Kuala Lipis road in Cameron Highlands** – ERE was engaged to formulate the environmental management plan, supervise the implementation of the plan and to undertake environmental monitoring.
- **Feasibility Studies for New Roads** – ERE was engaged to undertake the initial environmental evaluation for the Seremban – Kemayan road, Keruak – Kuala Krai road, Johor Bahru Outer Ring Road and Bernam Valley Road Network.
- **Westport and Kuantan Port** – ERE was engaged to formulate the environmental management plans and undertake environmental monitoring for the two large deepwater ports.
- **Alor Setar Airport** – ERE was engaged as consultant to formulate the environmental management plan for the Alor Star airport.
- **Johor Bahru Outer Ring Road** – ERE was engaged to undertake the environmental appraisal for the proposed outer ring road for the Johor Bahru conurbation.
- **KLIA New LCCT Terminal and 3rd Runway** – ERE was appointed by Malaysian Airport Holdings Bhd to undertake the environmental impact assessment and supervision for the new LLCT project.
- **Kelang Valley MRT SBK Line** – ERE was engaged to undertake the Detailed environmental impact assessment for the Sg Buloh to Kajang line.
- **Subang to Skypark Railway Line** - ERE was engaged to undertake the environmental impact assessment for the 8 km railway line from Subang Jaya Komuter station to the Skypark terminal.
- **Tenom – Beaufort Railway Line** – ERE was engaged to undertake the environmental assessment, as part of the feasibility study, for the railway line from Tenom to Beaufort in Sabah.
- **KL – Singapore High Speed Rail** – ERE was engaged to undertake the social impact assessment for the 350-km high speed railway line.
- **East Coast rail Link** – ERE was engaged to undertake the environmental and social impact assessment and the wildlife management plan for the 600-km railway line connecting the east coast of Peninsular Malaysia to the Kelang Valley.



INDUSTRIAL ENVIRONMENTAL MANAGEMENT

ERE provides a wide range of professional services to the industrial sector. We have successfully worked with clients in the petrochemical, iron & steel, food and beverages, household goods, chemicals and pharmaceuticals, building materials, waste recovery and energy sectors. Services that we have provided to clients in this sector include environmental impact assessment, waste management planning, site suitability studies, factory approvals & licensing, air quality monitoring/pollution control, site assessments, environmental compliance audits, environmental management systems and training

Some of our key projects include :

Environmental Impact Assessment

- Aluminum Refinery, Samalaju, Bintulu, Sarawak
- Steel Billet Plant, Telok Kalong, Kemaman, Terengganu
- Engineering Plastics Manufacturing Plant, Gebeng, Kuantan
- Bitumen Refinery at Teluk Kalong, Kemaman
- Polyurethane Plant at Pulau Indah
- Integrated Iron & Steel Mill at Teluk Kalong , Kemaman
- Precious Metal Recovery from E-Waste in Kulim Kedah
- Precious Metal Recovery from E-Waste in Penang
- 600 MW combined-cycle power station in Banting, Selangor
- 10,000 acre Gebeng Industrial Estate Phase III in Kuantan
- 1,000 acres ZIL Industrial Park in Kuantan
- Municipal Solid waste incinerator at Pulau Tioman
- Municipal Solid waste incinerator at Cameron Highlands
- Biodiesel Facility at Teluk Kalong, Kemaman
- Biodiesel Facility at Northport, Selangor
- Biodiesel Facility at Carey Island, Selangor
- Synthetic resin plant at Tuanku Jaafar Industrial Park, NS
- Scheduled Waste Recovery Facility in Johor
- Lubricant Oil Blending Plant Expansion in Negeri Sembilan
- Expansion of the Connaught Bridge power station
- Lime Kiln Plant in Kemaman, Terengganu

Other Services

- Environmental site assessment Phase I/II (soil & groundwater investigation) for a wide range of industries including petrochemical and pharmaceutical
- Development of the ISO14001 environmental management system for a major gas distribution company
- Liquid Bulk Terminal at Westport – risk assessment
- Preparation of a landfill closure plan
- Development of EIA guidelines for upstream and downstream gas sector projects for the Bangladesh Department of Environment

Petrochemical
Iron & steel
Municipal waste
Hazardous waste
Power plants
Pharmaceutical
Oleochemicals
Pulp & paper

Due diligence
Env impact assessment
Risk assessment
Env management system
Environmental audits



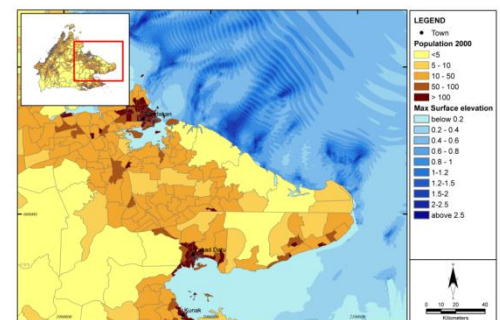
NATURAL RESOURCES MANAGEMENT

ERE has the experience and expertise to provide complete environmental services in natural resources management. Our services in the natural resources sector include environmental planning studies, water quality assessment and modeling, rehabilitation, environmental impact assessment and management plans and policy formulation.

**Water
Marine
River
Minerals**

We have successfully worked on a range of natural resources projects including :

- **Study on the Pollution Prevention and Water Quality Improvement for Sg. Linggi** – a comprehensive study commissioned by the Department of Environment Malaysia to improve the water quality of Sg. Linggi, a highly urbanized and industrial river basin.
- **Study on the Rehabilitation of Sg. Perai River mouth** – a comprehensive project commissioned by the Department of Irrigation & Drainage Malaysia to rehabilitate the polluted Sg. Prai, a highly urbanized and industrial river basin.
- **Tioman Beach Rehabilitation Project** – ERE was engaged as consultant for a large and complex environmental impact assessment for a project entailed rehabilitating a recreational beach from coastal erosion in a national marine park.
- **Integrated Shoreline Management Plan for Penang** – ERE was engaged as the environmental consultant for formulating shoreline management strategies for the state of Penang – covering about 200 km of shoreline.
- **Coastal Zone Physical Plan for Peninsular Malaysia** – ERE was engaged as the environmental consultant for formulating spatial environmental plan and shoreline management strategies for Peninsular Malaysia – covering about 2000 km of shoreline.
- **Padas Integrated Catchment Management Plan** – ERE was engaged to undertake the river corridor survey in the upper Padas in Sabah and to formulate floodplain management guidelines for rivers in Sabah.
- **Study on the Pollution Prevention and Water Quality Improvement for Sg. Kinabatangan** – a comprehensive study commissioned by the Department of Environment Malaysia to improve the water quality of Sg. Kinabatangan Sabah, one of the largest rivers in Malaysia.
- **Tsunami Vulnerability Assessment for East Coast of Sabah** - ERE was engaged as consultant to undertake the environmental vulnerability assessment with respect to tsunami for the north and east coast of Sabah.
- **Sabah Water Management Policy and Guidelines** – ERE has been engaged by the government of Sabah to formulate state policy to manage water activities and to develop guidelines to govern such activities.



ENVIRONMENTAL LAND USE PLANNING

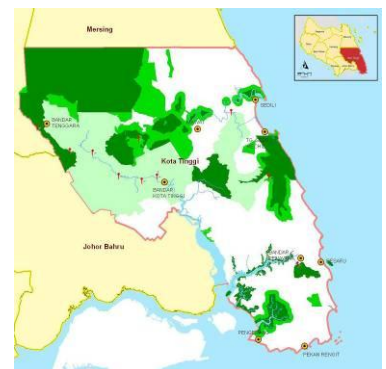
ERE has been very active in environmental land use planning in Malaysia. The firm has been engaged in a variety of statutory land use plans such as the National Physical Plan, State Structure Plans, District Locals as well as special regional plans. ERE works closely with land use planners to ensure that the environment and biodiversity are safeguarded in spatial planning process.

National Physical Plan
Structure Plan
Local Plan
Regional Spatial Plan

Some of our key projects include :

- **National Physical Plan for Peninsular Malaysia** – ERE was responsible for formulating spatial environmental and biodiversity strategies to support the national spatial plan up to 2020.
- **Kuala Lumpur and Penang Island Local Plan** – ERE was environmental sector consultant and responsible for formulating spatial environmental strategies to support the cities' local spatial plan up to 2020.
- **Eastern Corridor Economic Region (ECER)** – ERE was responsible for formulating the environmental strategy for this regional masterplan covering the states of Terengganu, Kelantan dan Pahang. The acceptance of 6 new protected areas was a major success of the work.
- **District Local / Structure Plans** – ERE was the environmental consultant for the following areas :

Muar	Port Dickson,
Setiu,	Pontian,
Marang	Sg. Pelek
Kota Tinggi	Cameron Highlands
Segamat	Melaka
Kluang	Raub
Kajang	Tapah-Bidor,
Rawang	Putrajaya
Kelang	Kuala Terengganu
Seberang Takir	Lembah Biah
- **Physical Plan for the Multimedia Super Corridor** – ERE was engaged as the environmental consultant for the physical plan for the IT corridor.
- **National Coastal Zone Physical Plan** - ERE was engaged as the environmental consultant for the physical plan for the entire coastal zone of Peninsular Malaysia
- **Land Use Blueprint for Iskandar Region Development Area** – ERE was engaged as the environmental consultant for the formulation of a land use blueprint for IRDA.



STAKEHOLDER ENGAGEMENT

We are passionate about stakeholder engagement and assist our clients engage effectively with their stakeholders pertaining to environmental management and performance. In this respect, our services include :

- Public outreach programmes
 - Conducting social and perception surveys
 - Organizing stakeholder dialogues and focus-group discussions
 - Convening and moderating stakeholder forums
 - Public information dissemination
- **River of Life Public Outreach Programme** – ERE is the Public Outreach Partner for the Department of Irrigation & Drainage Malaysia for the ambitious River of Life project. ERE is responsible for raising awareness, building relationships with local communities and fostering partnerships among stakeholders towards rejuvenating the Klang River.
 - **Study on Public Attitude Towards Modern Biotechnology and Biosafety** – ERE was engaged by the Department of Biosafety Malaysia to undertake a large public perception survey to gauge the attitudes of the Malaysian public and selected target groups towards genetically-modified food and biosafety.
 - **Community engagement for ecological corridor between Kinabalu Park and Crocker Range park, Sabah** – ERE was responsible for a large scale indigenous community engagement exercise in Sabah as part of a process to design an ecological corridor between two of the most important protected areas in Sabah.
 - **Social impact assessment for the Kelang Valley MRT Sg. Buloh - Kajang Line** - ERE undertook the social impact assessment for the SBK Line over a period of 6 months. It entailed conducting a large scale public perception survey, focus group discussions and town hall meetings.
 - **Community-based conservation survey in Tudan, Sabah** - ERE is undertaking an indigenous community based conservation survey in Kg Tudan in the Crocker Range area, Sabah as part of a programme to encourage community based natural resources management.
 - **Sociological survey, Fraser Hills** – ERE is undertaking a sociological survey in Fraser's Hill Pahang as part of the process to establish a Frasers' Hill State Park.

Public Outreach
Social surveys
Social impact assessment
Awareness programmes



TRAINING & CAPACITY BUILDING

The building of human skills and capacity is vital for any organization to remain competitive. This is particularly important in Asia where human skills in the environmental management field are still wanting. The efforts to improve the quality of human life and push nations towards sustainable development cannot succeed unless the level of human skills and the capacity of organization are significantly improved.

We help our clients improve their skills and capacity of their employees. At office, we believe in education, creating awareness and sharing knowledge. We conduct various environment-related training programmes for our clients – often customizing these programmes to suit their needs and operations. The most common type of training requested by our clients are :

- Environmental legislation
- Environmental best management practices
- Environmental management systems
- Environmental impact assessment
- Waste management
- Water quality planning & management
- Wildlife & biodiversity
- Air quality modeling and analysis

From time to time, we also conduct public forums, seminars and training courses on various topics for the private and public sectors.

Capacity building for the Government of Bangladesh – ERE was engaged by CIDA to help build the capacity of the Department of Environment Bangladesh particularly in strengthening the environmental impact assessment process and procedures. ERE develop interships for officers from the DOE, conducted training programmes and developed a set of guidelines for use in Bangladesh.

Development of EIA Guidelines for the Department of Environment Malaysia – ERE has been a consultant to the DOE Malaysia to develop various tools and guidelines to strengthen environmental management in Malaysia including :

- The Handbook for EIA Guidelines in Malaysia
- EIA Guidelines for Landfills
- Guidelines for the Zoning and Siting of Industries

Advancing Human Skills Organizational Capacity



EIA GUIDELINES FOR PROJECTS IN THE NATURAL GAS SECTOR



DEPARTMENT OF ENVIRONMENT
MINISTRY OF ENVIRONMENT AND FOREST
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
December 2009



EIA GUIDELINES FOR ROADS AND BRIDGES



DEPARTMENT OF ENVIRONMENT
MINISTRY OF ENVIRONMENT AND FOREST
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
August 2010



CLIENTS

Our clients range from national and local governments to private industry and multinationals to non-governmental organizations and international aid agencies.

GOVERNMENT

Federal Government of Malaysia

- Department of Environment
- Department of Irrigation & Drainage
- Department of Town & Country Planning
- Department of Solid Waste Management
- Department of Public Works
- Marine Department
- Economic Planning Unit
- Ministry of Natural Resources & Environment
- Ministry of Agriculture
- Ministry of Energy, Water & Telecommunications
- Lembaga Kemajuan Ikan Malaysia
- National Hydraulic Research Institute

State Government

- Sabah State Government
- Perak State Development Corporation
- Pahang State Development Corporation
- Majlis Perbandaran Subang Jaya

Government of Brunei Darussalam

Government of Bangladesh – Department of Environment

NON-GOVERNMENTAL ORGANIZATIONS

WWF Malaysia

WWF Indonesia

INTERNATIONAL AGENCIES

ASEAN Secretariat

Japanese International Cooperation Agency

Canadian International Development Agency

Danish International Development Agency

CORPORATIONS

Aker Kvaerner

Air Products STB

Baker Hughes

Black & Veatch

Brunei Shell Petroleum Co

Delfort Group AG

Eastern Steel

Elkay International

Gamuda Bhd

Gas Malaysia Bhd

Halla Engineering

Hong Leong Properties Bhd

Indah Water Konsortium

Infineon Technologies

Leader Steel

Kelang Multi Terminal

Kian Joo

Laureate Inc

Lafarge

Malaysian Airport Holdings

MRCB Engineering

Mallinckrodt Baker Inc.

Mitsui-Takeda Chemicals

Mobil Oil

Polyplastics Asia

Perwaja Steel

Perwira Bintang Holdings

PETRONAS

Press Metal Bhd

Clients in 6 countries



RSPO Secretariat

Salcon Engineering Bhd

SDB Properties

Shell Malaysia

Sime Darby

Sinohydro Corporation

Sunway Construction

Suremax Bhd

Syarikat Maju Perak

Taisei Corporation

Tenaga Nasional Bhd

Titan Petchem

Thai Bitumen Company Ltd

West Synergy Sdn Bhd

Worldwide Holdings

WCT Construction

The above is only a partial list of client

PEOPLE

The Company is staffed by some of the most talented and experienced professionals in the industry. The multidisciplinary team is also supported by many associate external consultants who provide specialized inputs in many diverse fields.

The key professionals in our team include :



Dr G Balamurugan
B. Eng., M.Phil., Ph.D., MIEM, PEng.
Managing Director



Raja Nur Ashikin
B. Sc. (Civil Engineering)
Director



Dato' Dr Mikail Kavanagh
B.A. (Hons) M.S.; D. Phil. Ecology
Biodiversity Advisor



Lee Hwok Lok
B. Sc. (Environmental)
Director
Head, Transportation



V Sathyabama
Dipl. Civil Eng.
Head, Admin & Finance



Randolph S. Jeremiah
B. Sc. (Ecology) Hons.
Head, Water & Resources



Kevin Quah Wenjie
B. Eng. (Civil & Environmental)
Head, Sustainable
Construction &
Infrastructure



Tan Yen Chen
B. Eng (Hon)(Chemical),
M. Eng. (Environmental)
Head, Industry &
Environment



Fong Chuen Far
B. Applied Sc. (Fisheries Sc.),
M. Sc. (Marine Biotech.)
Head, Stakeholder
Engagement



Dr Christine Dawn Fletcher
PhD., MSc. Zoology
BSc. Zoology
Head, BioD & Ecosystem
Management



Ahmad Farez Dahlan
B. Sc. (Remote Sensing)
Head of GIS Unit

Consultants

Mohamad Izwan Roslan
B. (Environmental Biology)

Chua Li Ying
B. Sc. M. Sc. (Environmental Science)

Tobias Javan G Yangus
B. Eng. (Environment)

Wan Mujahid Wan Hamidon
B. Eng. (Chemical) & M. Eng (Environmental)

Krystal Geevarughese
B. Sc. (Environmental Engineering)

Wan Muhammad Nazmi Abdullah
B. Sc. (Chemical Engineering)

Zulfadly Azizi Bohari
B. of Urban & Regional Planning (Microbiology) & M. Sc. (Built Environment)

Sharmila Devi a/p Valaitham
B. Sc. (Science & Management of Animal Resources)

Norazlin Nahar Azmi
B. Applied Science

Zulhisyam Zaibuddin
B. Sc. Applied Geology, M. Sc. Env. Science

Daniel Chin Zhi Hao
B. Sc. (Conservation) Hons.

Joyce Wong Wui Mei
B.Eng. Chemical

Ahmad Afandi Nor Azmi
B. Sc. (Environmental Science)

Soh Mei Yin
B. Environmental Science
M. Sc. Hydrogeology

Mohammad Izzat Rasnan
B. Sc. Computer Engineering & M. Sc. Environment & Development

Mohd Fazlin Bin Nazli
B. Sc. Environment

Tan XingKang
B. Sc. Environmental Management

Amirul Rahman Zamri
B. Sc. Civil Engineering

Anisa Mohd Azhar
B. Sc. (Environmental Health & Safety)

Hafizah Mohd Zaidi
B. Urban and Regional Planning
M. Sc. Applied GIS

Nur Idzumi Binti Mohamed Hasnan
Dipl. Eng. , B. Eng. , M. Eng. (Civil Environment)

Subashini Venkatramanan
B. Eng. Environmental

Hamsavahiny Premkumar
B. Eng. (Chemical)

Nurul Aini Othaman
B. Social Science (Anthropology & Sociology)

Admin & Technical Support

Jayakumar Ganesu

Nur Safwanah Abd Kahar

Wan Azura Abdul Hamid

Shahrul Nizam Saidi

ATTACHMENT 2

CURRICULUM VITAE

-
1. **NAME** : G. BALAMURUGAN
 2. **DATE OF BIRTH** : 15 September 1964
 3. **NATIONALITY** : Malaysian
 4. **ACADEMIC QUALIFICATIONS** :
 - 1997
Ph. D.
University of Manchester, UK
 - 1990
Masters of Philosophy
Universiti Malaya, Kuala Lumpur
 - 1987
B. Engineering (Civil) Hons.
Universiti Teknologi Malaysia, Kuala Lumpur
 5. **MEMBERSHIP OF PROFESSIONAL BODIES** :
 - Member, Institution of Engineers Malaysia
 - Professional Engineer registered with the Board of Engineers Malaysia
 - Member, Environmental Professionals Register of Malaysia
 - Registered EIA Consultant with the Department of Environment, Malaysia
 6. **LANGUAGE AND DEGREE OF PROFICIENCY** :

Bahasa Malaysia	
Written : Good	Spoken: Good
English	
Written : Good	Spoken : Good
Tamil	
Written : Fair	Spoken : Good
 7. **COUNTRY OF WORK EXPERIENCE** : Malaysia, Brunei, Indonesia, Myanmar, Bangladesh

8. KEY QUALIFICATIONS

Dr G Balamurugan is an environmental & sustainability management and planning specialist and has over 30 years of experience with projects in Malaysia, Myanmar, Bangladesh, Indonesia and Brunei. He has project experience over a wide range of sectors including roads, railways, water supply, flood mitigation as well as in regional environmental planning, having been directly involved in large-scale planning projects such as the National Physical Plan for Peninsular Malaysia, Sustainability Policy for the state of Johor and the National Policy on Biodiversity. Dr Bala works well with a multitude of stakeholders ranging from Federal and state governments, NGOs and private sector. He has published widely and is frequently invited to speak at conferences and seminars on environmental and natural resources planning.

9. EMPLOYMENT RECORD

April 1994 - Present	:	Managing Director/ Principal Consultant ERE Consulting Group Sdn Bhd
Dec 1990 - April 1994	:	HSS Integrated Sdn Bhd Senior Engineer (Environment & Water Resources)
Jan 1990 - Nov. 1990	:	Free Lance Environmentalist/ Hydrologist
June 1987 - Dec 1989	:	Research Assistant Institute for Advanced Studies, Universiti Malaya

11. SELECTED PROJECT EXPERIENCE

1994 – 2018

Environmental Impact Assessments

Have been involved in over 50 environmental impact assessment projects throughout Malaysia in various capacities (team leader, water quality specialist, hydrologist). Projects ranged from roads, railways, airports, dams, and heavy industries. Some of the larger projects include the Kelang Valley MRT Line 1 and Line 2, LRT3, the KLIA 2 terminal and 3rd runway at KL International Airport, SMART tunnel, and the Jeniang Dam and Transfer scheme.

June 2018 – on going

Feasibility study on the establishment of an Environmental Board in Sabah

Lead consultant to investigate the feasibility of establishing an environmental academy or board in Sabah to improve governance in the environmental sector.

Client : Environmental Protection Department, Sabah

Sep 2017 – March 2018

Scoping Study for National Climate Change Adaptation

Team leader for the scoping study for national climate change adaptation to determine priority areas for adaptation.

Client : Ministry of Natural Resources & Environment

Feb – Dec 2016

Dasar Kelestarian Negeri Johor (Johor Sustainability Policy)

Team leader for the formulation of the Dasar Kelestarian Negeri Johor for the period 2016 – 2020.

The policy focuses on engaging the people, greening of the economy, promoting a sustainable lifestyle and improving governance.

Client : UPEN Johor

March 2016 – Feb 2017

National Policy on Biological Diversity

Team leader for the formulation of the National Policy on Biological Diversity 2016 – 2025. The policy spells out Malaysia's commitment to conserve its biodiversity and mirrors the Strategic Plan of the Convention of Biological Diversity.

Client : Ministry of Natural Resources & Environment

August 2012 – July 2014

River of Life Public Outreach Programme

Team leader for a 2- year public outreach programme in the upper Sg. Kelang Basin to support the River of Life project. The project aimed to engage with all stakeholders in the upper basin with the aim of fostering partnerships to improve the water quality.

Client : Jabatan Pengairan dan Saliran

July 2011 – March 2012**Sabah Biodiversity Strategy and Action Plan**

Team leader for the formulation of the Sabah Biodiversity Strategy and Action Plan for the period 2012 – 2022. The project was carried out in close cooperation with key stakeholders and involves substantial consensus building and workshops in a highly participatory approach. The strategy focuses on engaging the people in Sabah to conserve biodiversity, reducing external pressures and strengthening ecosystem resilience.

Client : Natural Resources Office, Chief Minister's Department, Sabah.

March 2010 – July 2011**Kinabalu Park – Crocker Range Park Ecological Linkage**

Team leader for the development of a masterplan to establish ecological connectivity between two of the most important protected areas in Sabah. The project was carried out in a highly participatory approach and engaging local communities to develop workable solutions, enhance livelihoods and protecting biodiversity. Key outcomes include the identification of 9 indigenous community conserved areas and plans to strengthen local communities' capacities.

Client : Sabah Parks

September – December 2011**Sustainable Financing for RAMSAR and MAB Sites in Malaysia**

Team leader to formulate a sustainable financing mechanism for protected areas in Malaysia with focus on RAMSAR and Man & Biosphere sites.

Client : Ministry of Natural Resources & Environment, Malaysia

June 2007 – July 2008**Central Forest Spine – A Masterplan for Ecological Linkages in Peninsular Malaysia**

Environmental team leader for formulating ecological linkages / wildlife corridors for Peninsular Malaysia. Responsible for developing criteria and spatial planning to determine priority linkages. Formulated land use guidelines for key areas. A total of 31 ecological linkages were identified and mapped.

Client : Department of Town & Country Planning, Peninsular Malaysia

January – December 2009**National Physical Plan**

Environmental team leader for formulating spatial strategies for environmental conservation in Peninsular Malaysia. Identification, prioritization and mapping of sensitive environmental areas as well as formulating long-term strategies for natural resources conservation.

Client : Department of Town & Country Planning, Peninsular Malaysia

June – November 2009**ASEAN 4th State of the Environment Report**

Consultant to the ASEAN Secretariat to draft the 4th State of the Environment Report (SoER) for the regional grouping. The ASEAN SoER is tri-annual publication that documents the state of the environment in the 10 ASEAN member states (Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, The Philippines, Singapore, Thailand, Vietnam), including the pressures and threats faced as well as the responses taken. The drafting of the SoER4 involved the collation and analysis of environmental data, project briefs, issues faced and policy responses taken by the 10 ASEAN countries. The ASEAN SoER4 was released in October 2009 in conjunction with the 11th ASEAN Ministerial Meeting on the Environment in Singapore.

Client : ASEAN Secretariat

January 2009 – December 2009**Tsunami Vulnerability Study for the East Coast of Sabah**

Environmental specialist responsible for determining the environmental vulnerability of the north and east coast of Sabah in relation to impacts of tsunamis. Mapping of coastal resources, prioritization, risk assessment and formulation of land use guidelines.

Client : Dept of Irrigation & Drainage Malaysia

September 2008 – August 2009**Sg. Kinabatangan Water Quality Improvement Study**

Team leader to formulate strategies and action plan to reduce pollution and improve water quality Sg. Kinabatangan, the largest river in Sabah. The team also developed a comprehensive inventory of pollution sources and developed a decision-support system to enable better decision making.

Client : Dept of Environment, Malaysia

November 2006 – December 2007**Sg. Linggi Water Quality Improvement Study**

Team leader to formulate strategies and action plan to reduce pollution and improve water quality Sg. Linggi, the largest river in Negeri Sembilan. The team also developed a comprehensive inventory of pollution sources and developed a decision-support system to enable better decision making.

Client : Dept of Environment, Malaysia

January – June 2007**Heart of Borneo Project Implementation Framework for Brunei Darussalam**

Environmental specialist to formulate the comprehensive project implementation framework that charts the way forward for Brunei's participation in the Heart of Borneo initiative. It addresses targets and outputs, programme and activities, roles and responsibilities as well as funding and institutional responsibilities. The Heart of Borneo is an ambitious conservation initiative by the governments of Brunei Darussalam, Indonesia and Malaysia aimed at conserving the central rainforests on the island of Borneo.

Client : Ministry of Primary Industry, Brunei Darussalam

April 2005 – May 2007**Study on the sustainable development of the highlands of Sabah and Sarawak**

Technical team leader to formulate strategic land use plans for the highlands, design measures to improve tourism, natural resources management and quality of life. On the whole, it was a major undertaking with substantial stakeholder collaboration and input. The study culminated in the formulation of a sustainable development strategy for the highlands of Sabah and Sarawak as well as the draft National Highlands Policy.

Client : Economic Planning Unit, Prime Minister's Dept, Malaysia

January – September 2010**Capacity Building for the Dept of Environment, Government of Bangladesh**

Engaged as environmental specialist to strengthen the capacity of the Department of Environment, Bangladesh. Responsibilities include formulating EIA guidelines for roads and bridges and conducting training for government officials.

Client : Government of Bangladesh

Oct 2004 – Jan 2008**Beach Rehabilitation Project, Teluk Tekek, Tioman Island**

Team leader for the Detailed Environmental Impact Assessment, Environmental Management Plan, Stakeholder Communication and Environmental Monitoring for the beach rehabilitation and river improvement project in the marine park island of Tioman. Extensive studies were carried out coastal hydraulics, water quality, coral ecology, and marine biology. Substantial effort was made to engage with stakeholders – with special focus on local communities.

Client : Dept of Irrigation & Drainage Malaysia

Nov 2007 – October 2008**Fraser's Hill Development Streamlining Study**

Team leader for a study to streamline the development in Fraser's Hill, with special focus on carrying capacity and geological terrain mapping. The study formulated strategies and measures for conservation, rehabilitation and effective management of Fraser's Hill including planning and development control including a set of guidelines specifically for the development at Fraser's Hill.

Client : Department of Environment Malaysia

Nov 2006 – June 2007**East Coast Economic Region Masterplan**

Environmental team leader. The East Coast Economic Region (ECER) is a new economic

development corridor aimed at accelerating economic growth and increase income levels in the east coast of Peninsular Malaysia. Was responsible for providing environmental planning inputs into the ECER Masterplan including formulating spatial plans for environmental and natural resource protection in the ECER, identifying environment-related projects to be implemented and formulating environmental measures for economic projects. In the course of this project, 5 new protected areas were identified and recommended.

Client : Petronas / PAG Consult Sdn Bhd

1998 - 2007

Statutory Land Use Plans

Environmental specialist in over 20 statutory land use planning projects in Malaysia, providing environmental input to these projects. These include Melaka Local Plan, Kluang Utara Local Plan, Raub Local Plan, Kuala Terengganu Structure Plan Review, Klang Structure Plan Review, Tapah – Bidor Local Plan, Port Dickson Local Plan, Rawang – Kuang Local Plan, Pontian Local Plan and Cameron Highlands Local Plan.

12. PUBLICATIONS/ SEMINAR PAPERS/ DISSERTATIONS

1. **Balamurugan, G.** (1987) Kajian endapan di lembangan hulu Sg. Kelang (Sediment study of the upper Sg. Kelang basin). unpubl. B.Eng. thesis, Universiti Teknologi Malaysia, Kuala Lumpur.
2. Mohammad Noor, S. & **Balamurugan, G.** (1988) Sedimentation process in the Klang River Valley. In *Proceedings of the International Symposium on Water Erosion*, UNESCO-IHP, pp. 153-161.
3. Tso, C.P., Low, K.S. & **Balamurugan, G.** (1988) An efficiency comparison of seven sewage treatment plants in Malaysia. Paper presented at *The Second JSPS-VCC Symposium on Chemistry, Biotechnology and Environmental Engineering*, Kyoto University, Kyoto, Japan, Dec 6-7.
4. Low, K.S., Tso, C.P., Low, W.L. & **Balamurugan, G.** (1989) Options for Sewage Treatment in Malaysia. Environmental Research & Management Association of Malaysia, Kuala Lumpur.
5. **Balamurugan, G.** (1989) The use of suspended sediment rating curves in Malaysia : Some preliminary considerations. *Pertanika*, 12(3), pp. 367-376.
6. Low, K.S. & **Balamurugan, G.** (1989) A Preliminary Hydrological Investigation of the North Selangor Peat Swamp Forest. Asian Wetland Bureau Report No. 46b, Kuala Lumpur. 72pp.
7. Tso, C.P., Low, K.S. & **Balamurugan, G.** (1990) Public perception towards sewage treatment plants in Kuala Lumpur, Malaysia. *The Environmentalist*, 10(2), pp. 85-93.
8. Low, K.S. & **Balamurugan, G.** (1990) Soil erosion hazard and sediment balance in the Kelang River Basin. Paper presented at the *International Symposium on Urban Planning and Stormwater Management*, Kuala Lumpur, 28 May - 1 June.
9. **Balamurugan, G.** (1990) Discharge correction factor for estimating sediment load by sediment rating curve method. *Bulletin of the Institution of Engineers Malaysia*, 12, 17-23.
10. Low, K.S., Tso, C.P. & **Balamurugan, G.** (1990) Sewage treatment in Malaysia : The need for a comprehensive approach. Paper presented at *Seminar on Options for Sewage Treatment in Malaysia*, Petaling Jaya, 18 Sept.
11. **Balamurugan, G.** (1990) Soil erosion and sediment balance in the Sungai Kelang Basin. unpubl. M.Phil thesis, Universiti Malaya, Kuala Lumpur.
12. Low, K.S. & **Balamurugan, G.** (1991) Urbanization and urban water problems in Southeast Asia : A case of unsustainable development. *Journal of Environmental Management*, 32(3), pp. 195-209.
13. **Balamurugan, G.** (1991) Sediment balance and delivery in a humid tropical urban river basin - The Kelang River, Malaysia. *Catena*, 18, pp. 271-287.
14. ** **Balamurugan, G.** (1991) Some characteristics of sediment transport in the Kelang River Basin, Malaysia. *Journal of the Institution of Engineers Malaysia*, 48, pp. 31-52.
15. **Balamurugan, G.** (1991) Tin mining and sediment supply in Peninsular Malaysia with special reference to the Kelang River Basin. *The Environmentalist*, 11(4), pp. 281-291.
16. **Balamurugan, G.** (1992) Water quality modelling as a tool in environmental impact assessment. *Bulletin of the Institution of Engineers Malaysia*, August, pp. 29-38.
17. Wilkinson, G. & **Balamurugan, G.** (1993) Environmental implications of land drainage. Paper presented at the *National Conference on Agricultural Drainage*, Melaka, 9 - 12 February.

18. **Balamurugan, G.** (1995) Some notes on the suspended sediment rating curve. *Journal of the Institution of Engineers Malaysia*, 25(1), 99-106.
19. **Balamurugan, G.** (1997) Suspended solids dynamics in small forested catchments in Ulu Segama, Sabah, Malaysia. Ph.D. thesis, Univ. Manchester.
20. **Balamurugan, G.** (1998) Contaminated land problem in Malaysia : Where do we go from here ?. Paper presented at Institution of Engineers Malaysia, Petaling Jaya.
21. **Balamurugan, G.** (1998) Effective Environmental Management at Construction Sites : A Consultant's Perspective. Paper presented at *Seminar on Post-EIA Management*. Institution of Engineers Malaysia, Petaling Jaya. July 4.
22. **Balamurugan, G.** (1998) Contaminated Land Problems in Malaysia, *IMPAK*, 4, 14-15.
23. **Balamurugan, G.** & Douglas, I. (1999) Particle size characteristics of suspended sediment in small forested catchments and implications of land use change. Paper presented at the *Seminar on Water : Forestry and Land Use Perspectives*. Forest Research Institute of Malaysia, Kepong. 31 March - 1 April.
24. **Balamurugan, G.** & Mohd Rizal, M.R. (1999) The implications of land use change on the hydrology of Sg. Kinabatangan. Paper presented at *Seminar on Palm Oil Effluent and Pollution Management*, WWF-DOE, Sandakan, April 28 - 29.
25. **Balamurugan, G.** & Victor, D. J. (1999) Trends in environmental management in the next millennium. Paper presented at *Seminar on Palm Oil Effluent and Pollution Management*, WWF-DOE, Sandakan, April 28 - 29.
26. **Balamurugan, G.** (1999) EIA and Environmental Management in Malaysia : A Consultant's View Point. Paper presented at the *Seminar on Sustainable Land Management*. Environmental Protection Society of Malaysia, Petaling Jaya, 19 June.
27. Douglas, I, Bidin, K., **Balamurugan, G.**, Chappell, N., Walsh, R.P.D., Greer, T. & Sinun, W. (1999) The role of extreme events in the impacts of selective tropical forestry on erosion during harvesting and recovery phases at Danum Valley, Sabah. *Philosophical Transactions of The Royal Society, London B354*, 1749-1761.
28. **Balamurugan, G.** & Victor, D.J. (1999) Environmental management in the property and construction sectors : What to expect in the next millennium. Paper presented at the *Seminar on Environmental Management in the Property and Construction Sectors*, Institution of Engineers Malaysia, Petaling Jaya, 10 July.
29. Cede Prudente, **G. Balamurugan** & Geoffrey Davison (1999) Sg. Kinabatangan "Partners For Wetlands" Project : A Partnership For Sustainable Development And Conservation. Paper presented at the *National Conference on Rivers 99 : Towards Sustainable Development*, Universiti Sains Malaysia, October 14 – 17.
30. **Balamurugan, G.** (1999) The hydrology of wetlands : A case study of two wetlands in Sabah. Paper presented at *Sabah Wetlands Workshop*, Kota Kinabalu, October 12 – 13.
31. Cede Prudente & **Balamurugan, G.** (1999) Sg. Kinabatangan "Partners For Wetlands" Project : A Partnership For Sustainable Development And Conservation. *Sabah Society Journal*, 16, 41-56.
32. **Balamurugan, G.** & Raja Nur Ashikin, R.Z. (2000) The Implementation of the Environmental Management Plan for the Beris Dam. Paper presented at *National Seminar on Environmental Management Plan for the Beris Dam*, Kedah, Sg. Petani, 28 Feb – 1 Mac.
33. **** **Balamurugan, G.** & Victor, D.J (2001) The applicability of the ASTM E-1527 standards for site assessments in Malaysia. Paper presented at *Brownfield 2001 : 1st National Conference on Contaminated Land*, February 14 – 15, Petaling Jaya.
34. **Balamurugan, G.** (2001) Floodplains : Functions & benefits. Paper presented at *Forum on Making Land Use Sustainable in the Lower Kinabatangan Floodplain*, April 17 – 18, Kota Kinabalu.
35. **Balamurugan, G.** (2001) The hydrology of Sg. Kinabatangan and the implications of land use change. Paper presented at *Forum on Making Land Use Sustainable in the Lower Kinabatangan Floodplain*, April 17 – 18, Kota Kinabalu.
36. **Balamurugan, G.** & Khoo, B.K. (2001) Environmental Management During the Construction of a Large Dam : Experience from the Beris Dam Project, Kedah. Paper presented at *Kolokium R & D Kejuruteraan Sungai dan Saliran Bandar*, REDAC-MANCID-JPS, Pulau Pinang, August 14 – 15.
37. **Balamurugan, G.** (2002) Impacts of Engineering on Environment and Sustainability : Experience from Large Engineering Projects in Malaysia. Paper presented at the *20th Conference of the ASEAN Federation of Engineering Organizations*, Phnom Penh, Cambodia, Sep 2 – 4.

38. **Balamurugan, G.** (2003) Hazardous Waste Management in Southeast Asia. Paper presented at the 30th International Seminar on Planetary Emergencies, Erice, Italy, 19 – 25 August.
39. **Balamurugan, G.** (2003) ASEAN engineers and sustainable development :The need for paradigm shift and sensible capacity building. Paper presented at the 21st Conference of the ASEAN Federation of Engineering Organizations, Jogjakarta, Indonesia, October 21 - 23.
40. **Balamurugan, G.** (2004) Environmental costs and benefits of road projects : An assessment in relation to project appraisal in Malayhia. Paper presented at the 6th Malaysian Road Conference, Petaling Jaya, 16 – 18 August.
41. **Balamurugan, G.** (2004) Internalizing environmental costs and benefits in infrastructure project appraisal – a move towards sustainable development. Paper presented at the *Expert's Meeting on Balancing Infrastructure development and the Environment*. Langkawi 29 – 30 November.
42. **Balamurugan, G.** (2005) Managing environmentally and socially controversial infrastructure project sin Malaysia. Paper presented at the *Seminar on Environment and Development*, 21-22 November, Kuala Lumpur.
43. Yin, C.Y., Suhaimi Talib, **Balamurugan, G.** & Khew, S.L. (2007) Contaminated land remediation technologies : current usage and applicability in Malaysia. *The Ingenieur*, 32, 21-24.
44. **Balamurugan, G.** (2007) The EIA process and procedures : improving governance and adding value. Paper presented at the *Workshop on Streamlining Development and Environmental Planning*, Kuala Lumpur 29 January.
45. **Balamurugan, G.** (2010) Effective stakeholder engagement: Case study of the beach rehabilitation project in Pulau Tioman. Paper presented at the Forum on Improving Public Participation in Project and Policy Planning, Subang Jaya
46. **Balamurugan, G.** (2011) Ethical challenges in environmental consultancy. Paper presented at the Forum of Professional Ethics in the Environmental Sector, Subang Jaya.
47. **Balamurugan, G.** (2011) Communicating the importance of biological diversity : Are we doing it right ?. Paper presented at the Asian Wetland Symposium on Integrated Biodiversity Conservation: Linking Forests And Wetlands, Kota Kinabalu, 18-20 July.

*** This paper was awarded the Institution of Engineers of Malaysia's Raja Tan Sri Zainal award for being the best technical paper in 1991.*

***** This paper was awarded the Institution of Engineers of Malaysia's Raja Tan Yusoff award for being the best technical paper in 2001.*

1. **NAME** : KEVIN QUAH WENJIE
2. **PROPOSED POSITION** : ENVIRONMENTAL CONSULTANT
3. **DATE OF BIRTH** : 21 November 1984
4. **NATIONALITY** : Malaysian
5. **ACADEMIC QUALIFICATIONS** :
2017
M.B.A
Victoria University, Melbourne, Australia

2008
B. Eng (Civil and Environmental)
Universiti Kebangsaan Malaysia, Selangor
6. **MEMBERSHIP OF** : Registered EIA Consultant (C0871) with the
PROFESSIONAL BODIES Department of
Environment, Malaysia

Control
International Inc
Certified Professional in Erosion and Sediment
(7931), EnviroCert

Certified Inspector in Sediment and Erosion Control
(MY-0053), CISEC Inc

Graduate Engineer (57570A), Lembaga Jurutera
Malaysia
7. **LANGUAGE AND** : Bahasa Malaysia
DEGREE OF PROFICIENCY Written : Good Spoken: Good

English
Written : Good Spoken : Good

Mandarin
Written : Fair Spoken : Fair
8. **COUNTRY OF WORK** : Malaysia & Myanmar
EXPERIENCE

9. KEY QUALIFICATIONS

Kevin currently leads the Sustainable Construction and Infrastructure Section of ERE Consulting Group Sdn Bhd. He graduated from the Universiti Kebangsaan Malaysia with a Civil & Environmental degree and Master in Business Administration from Victoria University, Melbourne.

He is mainly involved in Environmental Impact Assessments (EIA), Environmental Management Plans (EMP), environmental compliance monitoring and auditing works for both private companies and government agencies such as the Ministry of Agriculture and Agro-based Industry (MOA), Ministry of Defence (MINDEF), Department of Irrigation and Drainage (DID), Keretapi Tanah Melayu Berhad (KTMB), Malaysia Airport Holdings Berhad (MAHB), Projek Lebuh raya Usahasama (PLUS), Iskandar Investment Berhad (IIB), Kementerian Kerja Raya (KKR), Unit Kerjasama Awam Swasta (UKAS), East Coast Economic Region Development Council (ECERDC), Prasarana Malaysia, Malaysia Rail Link, MRT Corp, Ekovest Berhad, Sime Darby Properties, Gamuda Berhad and so forth.

Kevin has also led various EIAs, EMPs, Social Impact Assessments (SIA) & Initial Environmental Assessments (IEA) in Yangon City, Myanmar. His background in civil and environmental engineering aids him to apply sensible environmental solutions to the various construction projects he is involved in. He is a registered EIA Consultant (Soil Erosion & Sediment Control, Water Quality and Hydrology) with the Department of Environment, Malaysia, Certified Professional in Erosion and Sediment Control (CPESC) and Certified Inspector in Sediment & Erosion Control (CISEC).

10. EMPLOYMENT RECORD

April 2016 – Present	:	Head of Sustainable Construction & Infrastructure ERE Consulting Group Sdn Bhd
June 2011 – March 2016	:	Environmental Consultant ERE Consulting Group Sdn Bhd
June 2009 – May 2011	:	Environmental Analyst ERE Consulting Group Sdn Bhd
June 2008 – May 2009	:	Trainee Consultant ERE Consulting Group Sdn Bhd

11. SELECTED PROJECT EXPERIENCE

April 2019 – Present

Cadangan Pembangunan Berkelompok Asnaf, Jalan Kuala Kali, Daerah Hulu Selangor

Part of the team for the preparation of the EIA, EMP, LD-P2M2 and ESCP. Responsible for the assessment of impacts and mitigation measures from erosion and sedimentation issues.

Client: Lembaga Zakat Selangor

April 2019 – Present

Proposed Development of Pencawang Masuk Utama (PMU) Bukit Unggul at Jenderam Hulu, Mukim Dengkil, Sepang, Selangor Darul Ehsan

Part of the team for the preparation of the EIA, EMP, LD-P2M2 and ESCP. Responsible for the assessment of impacts and mitigation measures from erosion and sedimentation issues.

Client: Tenaga Nasional Berhad (Grid Division)

May 2018 – Present

Projek Skim Pemindahan Air Jeniang, Kedah Fasa 1 – Ampang Jajar dan Muka Sauk di Sungai Muda

Part of the team responsible for overall reviewing of the preparation and submission of the management plan to the authority. Was specifically involved in the assessment of impacts and mitigation measures from erosion and sedimentation issues.

Client: Bahagian Pengairan dan Saliran (BPSP), Ministry of Agriculture and Agro-based Industry Malaysia

January 2018 – May 2018

Mass Rapid Transit Line 3 : Circle Line

Project Manager for the Social Impact Assessment (SIA) and part of the EIA team responsible for the assessment of impacts arising as well as recommended mitigation measures from erosion and sedimentation issues.

Client: MRT Corp

June 2017 – May 2018

East Coast Rail Line Phase 2 (Kota Baru – Pengkalan Kubor & Gombak – Port Klang)

Project Manager for both EIA and SIA, responsible for the assessment of impacts arising as well as recommended mitigation measures from erosion and sedimentation issues.

Client: Malaysia Rail Link Sdn Bhd.

June 2017 – Present

Duta – Ulu Kelang Expressway Phase 2A (Kapar – Istana – Kg. Baru)

EIA Team Leader for the preparation of the Environmental & Social Screening, Pre-Feasibility Study, TOR, ESI & EIA.

Client: Lebuhraya DUKE Fasa 2A Sdn Bhd

January 2017 – Present

400 TPD Oil Palm Biomass to Bio-Oil Conversion Plant at Felda Seriting, Jempol, Negeri Sembilan

Team member responsible for the assessment of impacts arising from erosion and sedimentation issues from the proposed works.

Client: Sahabat Renewable Fuel Ventures (SRFV) Sdn Bhd

December 2016 – December 2017

East Coast Rail Line Phase 1 (Gombak – Kota Baru)

Part of the EIA team. Responsible for identifying potential environmental impacts as well as recommended mitigation measures with regards to water quality, hydrology, erosion and sedimentation.

Client: Malaysia Rail Link Sdn Bhd

November 2016 – May 2017

Proposed Natural Gas Distribution System at Lembah Kinta, Perak

Team member responsible for the assessment of impacts arising from erosion and sedimentation issues from the pipeline works.

Client: Gas Malaysia Berhad

September 2016 – August 2018

Integrated Sustainable Living, Iskandar

Part of the team for master planning and the EIA team. Responsible for identifying potential environmental impacts as well as recommended mitigation measures for the development.

Client: Iskandar Investment Berhad/ AJM Planning and Urban Design Group Sdn Bhd

April 2016 – October 2018

Light Rail Transit Line 3 From Bandar Utama to Johan Setia

Project Manager 2 for the environmental supervision PDP. Responsible in coordination and environmental compliance audits as part of the EIA Conditions of Approval.

Client: Prasarana Malaysia Berhad/ MRCB – George Kent Sdn Bhd

April 2016 – October 2016

Cadangan Mendirikan Pembangunan Bercampur Di Atas Lot 27733, Mukim Rantau, Daerah Seremban, Negeri Sembilan Darul Khusus

EIA Team Leader for the preparation of the PAT & EIA.

Client: Senawang Tech Park Sdn Bhd

March 2016

Proposed Healthcare City in Yangon City, Myanmar

Project Manager for the preparation of the Initial Environmental Assessment. Responsible for identifying potential environmental and social impacts as well as recommended mitigation measures for the development.

Client: Shwe Taung Development Co., Ltd

November 2015 – Present

Sime Darby Serenia City Phase 1

Assistant Auditor for the external environmental audit for the development as part of the EIA Approval Conditions. Audits are conducted on annual basis.

Client: Department of Environment Selangor / Sime Darby Serenia Development

May 2015 – October 2015

Extension of Asia Royal Hospital in Yangon City, Myanmar

Project Manager for the preparation of the EIA, SIA & EMP. Responsible for identifying potential environmental and social impacts as well as recommended mitigation measures for the development.

Client: Asia Royal Hospital

May 2015 – October 2015

Proposed 400-Bed Hotel Expansion of Existing Sedona Hotel in Yangon City, Myanmar

Project Manager for the preparation of the EIA, SIA & EMP. Responsible for identifying potential environmental and social impacts as well as recommended mitigation measures for the development.

Client: Straits Greenfield Ltd

March 2015 – October 2017

Proposed Raw Water Supply Project to Rapid (PAMER)

Assistant Auditor for the external environmental audit for the raw water supply works as part of the EIA Approval Conditions. Audits are conducted once every four months.

Client: Department of Environment Johor / Konsortium Asia Baru – PPC JV

January 2015 – May 2015

Projek Mass Rapid Transit Laluan 2: Sg. Buloh – Serdang – Putrajaya

Team member responsible for the assessment of impacts arising from erosion and sedimentation issues from the alignment works.

Client: MRT Corp Sdn Bhd

January 2015 – December 2016

Duta - Ulu Kelang Expressway (DUKE Phase 3) KL City Bypass

Project Manager for the preparation of the EIA & EMP study. Responsible for overall coordination, evaluating potential environmental impacts and providing sensible mitigation measures to minimize the adverse impacts of the project.

Client: Lebuhraya DUKE Fasa 3 Sdn Bhd

December 2014 – April 2015

Proposed Light Rail Transit Line 3 from Bandar Utama to Johan Setia

Team member responsible for the assessment of impacts arising from erosion and sedimentation issues from the alignment works.

Client: Prasarana Malaysia Berhad

October 2014 – December 2015

Cadangan Pembinaan Benteng Pemecah Ombak (Wave-Breaker) di Kuala Teriang, Langkawi, Kedah

Project Manager for the undertaking of the Environmental Management Plan (EMP).

Client: Lembaga Kemajuan Ikan Malaysia (LKIM)

July 2014 – June 2016

Mixed Development at Medini Zone E & F, Nusajaya, Mukim Pulau, Daerah Johor Bahru, Johor Darul Takzim

Lead Auditor for the internal environmental audit for the development as part of the EIA Approval Conditions. Audits are conducted twice a year.

Client: Nuri Merdu Sdn Bhd (Zone E) & Sunway Construction Sdn Bhd (Zone F)

June 2014 – June 2016

Ampar Tenang Interchange and Toll Plaza at KM35 NSE Central Link (ELITE)

Project Manager for the undertaking of the Environmental Management Plan (EMP).

Client: Projek Lebuhraya Usahasama (PLUS) Bhd

June 2014 - December 2014

Proposed Construction, Completion & Maintenance of Coastal Reclamation and Associated Works for 339 Acres (Phase 1A, 2A, 3A & 3B) between Kuala Sungai Melaka dan Kuala Sungai Seri Melaka

Project Manager for the undertaking of the Environmental Management Plan (EMP).

Client: Ultra Green Sdn. Bhd

April 2014 – February 2017

Projek Menaiktarak Empangan Bekok, Batu Pahat, Johor

Team member for the preparation of the EIA study. Responsible for soil erosion risk assessment, conceptual ESCP preparation and water quality assessment. Was also responsible for evaluating potential environmental impacts and providing sensible mitigation measures to minimize the adverse impacts of the project to the environment.

Client: Jabatan Pengairan & Saliran, Malaysia

March 2014

Initial Environmental Assessment for Tender Bid for (1) Thein Phyu and (2) North Dagon, Yangon

Project Manager for the preparation of the initial environmental assessment as well as potential environmental and social impacts as well as recommended mitigation measures for the developments.

Client: Shwe Taung Development Co. Ltd

February 2014 – February 2016

Cadangan Pembangunan Perumahan Di Atas Lot 912, Mukim Rasah, Daerah Seremban

Project Manager for the preparation of the EIA study. Responsible for overall coordination, evaluating potential environmental impacts and providing sensible mitigation measures to minimize the adverse impacts of the project. Also responsible for the USLE and noise modelling.

Client: Matrix Concepts Sdn. Bhd.

January 2014 – February 2014

Cantuman Dan Pecah Sempadan Lot Industri (Jenis Ringan) Di Atas Lot 104399 (PN94194), Lot 159228 (PN92902) dan Lot 159229 (PN92903) di Pulau Indah

Project Manager for the undertaking of the Environmental Management Plan (EMP).

Client: PMB Carbon Sdn Bhd

October 2013 - Present

Bandar Ainsdale Development

Assitant Auditor for the external environmental audit for the development as part of the EIA Approval Conditions. Audits are conducted on annual basis.

Client: Department of Environment Negeri Sembilan / Sime Darby Ainsdale Development

June 2013 – September 2014

River of Life – Public Outreach Program

Part of the team involved in the Construction Industry Value Improvement Leaders Programme (CIVIL), Sustainable Construction – Voluntary Improvement Programme (SC-VIP) and Sustainable Construction – River Rehabilitation for a Vibrant Environment (REVIVE).

Client: Jabatan Pengairan & Saliran, Malaysia

January 2013 – April 2013

River of Life

Team member responsible for the Key Performance Index's (KPIs) 2014 – Beyond.

Client: Jabatan Pengairan & Saliran, Malaysia

March 2013 – October 2013

Proposed Junction Hill Development, Yangon City, Myanmar

Team member for the preparation of the EIA study. Responsible for evaluating potential environmental impacts and providing sensible mitigation measures to minimize the adverse impacts of the project to the environment.

Client: Shwe Taung Development Co. Ltd

March 2013 – July 2013

Proposed Junction City Development, Yangon City, Myanmar

Team member for the preparation of the EIA study. Responsible for evaluating potential environmental impacts and providing sensible mitigation measures to minimize the adverse impacts of the project to the environment.

Client: Shwe Taung Junction City Development Co. Ltd

March 2012 – August 2017

Projek Landasan Keretapi dari Subang ke Terminal Skypark Subang Fasa 1

Team member for the preparation of the EIA, EMP & Monitoring. Responsible for evaluating potential environmental impacts and providing sensible mitigation measures to minimize the adverse impacts of the project to the environment.

Client: KTM Berhad

July 2009 – April 2014

Proposed Development of the new klia2 and Associated Works at KL International Airport

Team member for the preparation of the Supplementary EIA, implementation, monitoring and compliance audits for the Master EMP. Was also responsible for the environmental planning and management for various individual work packages under klia2 for WCT Berhad, Gadang – BJQ JV and TNB Engineering Corporation. As of January 2014, took on the role of Project Manager.

Client: Malaysia Airports Holdings Berhad

May 2012 – May 2013

Cadangan Pembangunan Bercampur di Muara Utara dan Muara Selatan, Bandar Kuala Terengganu, Terengganu

Team member for the preparation of the EIA study. Responsible for water quality modeling & assessment for Sg. Terengganu. Was also responsible for evaluating potential environmental impacts and providing sensible mitigation measures to minimize the adverse impacts of the project to the environment.

Client: East Coast Economic Region Development Council

January 2013 – February 2013

Cadangan Pembangunan Bercampur Atas Lot PT78934 dan PT78935, Mukim Kuala Kuantan, Daerah Kuantan, Pahang

Team member for the water quality modeling and assessment for Sg. Pandan and Sg. Kuantan

Client: Proalpha Land Sdn Bhd

December 2011 – June 2018

Cadangan Pembangunan Akademi Dan Pusat Latihan Tentera Udara Diraja Malaysia (TUDM) Di Atas Lot PT6869, Bandar Sri Sendayan, Mukim Labu, Daerah Seremban, Negeri Sembilan

Part of the study team involved in the preparation of the EIA study. Responsible for evaluating the impacts arising from soil erosion to the water quality of the receiving water ways. Was also responsible environmental monitoring and compliance audit. As of January 2014, took on the role of Project Manager.

Client : Ministry of Defense, Malaysia

August 2011 – September 2011

Proposed Pelletising Plant at Perwaja Steel Teluk Kalung Industrial Estate, Kemaman, Terengganu

Team member for the waste and waste water modeling and assessment for Sg. Cukai and Sg. Kemaman

Client: Perwaja Steel Sdn Bhd

September 2008 – June 2012

Jeniang Transfer Scheme and Naok Reservoir, Kedah

Project member that was responsible for the preparation of the Preliminary EIA and Detailed EIA. Responsible for evaluating potential environmental impacts and providing sensible mitigation measures to minimize the adverse impacts of the project to the environment.

Client : Ministry of Agriculture and Agro-based Industry, Malaysia

March 2011 – August 2011

Cadangan Pembangunan Bandar Universiti Pagoh, Mukim Jorak, Daerah Muar, Johor

Team member for the preparation of the EIA study. Responsible for evaluating potential environmental impacts from soil erosion and water quality impacts and providing sensible mitigation measures

Client: Sime Darby Properties Sdn Bhd

November 2012 – January 2013

Bukit Bintang City Centre

Team member responsible for the environmental management plan as part of Master Planning works.

Client: UDA Holding Bhd

June 2013 – December 2015

Cadangan Pembangunan Pembinaan Loji Rawatan Kumbahan Berpusat Kajang 2 (Kajang 2 CSTP) di Lot PT 38486, Taman Kajang Utama, Kajang, Selangor

Team member responsible for environmental monitoring and compliance audit. As of January 2014, took on the role of Project Manager.

Client: Department of Sewerage Services (JPP)

February 2012 – October 2012

Proposed Sludge Treatment Works for Yong Peng 2 & 3 Water Treatment Plant and Distribution Improvement Works in Johor

Team member responsible for land use survey and upstream water quality study/inventory.

Client: Pengurusan Aset Air Berhad

November 2009 – April 2015

Proposed Bandar Sri Sendayan Mixed Development, Negeri Sembilan

Team member responsible for environmental management, planning, monitoring and compliance audit for Bandar Sri Sendayan Phase 1B, Sendayan Tech Valley 2& 2a and Sendayan Phase 3 (Hijayu). As of January 2014, was the Project Manager.

Client: Bandar Sri Sendayan Development / Matrix Concepts Group Sdn Bhd

December 2009 – July 2011

Panching Water Treatment Works, Kuantan, Pahang

Project member that was responsible for the preparation of the EMP, environmental management, planning and monitoring.

Client: HLA Associates Sdn Bhd

June 2008 – June 2009

Proposed Mini-Hydro Dam, Sg. Perting, Bentong, Pahang

Part of the team responsible for environmental monitoring and compliance audit.

Client: AMDB Perting Hydro Sdn Bhd

June 2008 – January 2009

Proposed Beach Reclamation Project at Four Seasons Resort at Langkawi

Project member that was responsible for the preparation of Environmental Assessment

Client: Angkasa Consulting Services Sdn Bhd

12. PUBLICATIONS/ SEMINAR PAPERS/ DISSERTATIONS

Quah, Kevin Wenjie (2008) Kajian Potensi Sumber Tenaga Hidro di Negeri Perak Darul Ridzuan, B. Eng (Civil and Environmental) thesis. Universiti Kebangsaan Malaysia.

Toh, M. Y., Ong, H. P., & Quah, K. W (2016). *Impacts of Automotive Product Recall on Brand Image and Purchase Intention (Unpublished master's thesis)*. Victoria University, Melbourne, Australia in collaboration with Sunway University, Malaysia.

1. **NAME** : SHARMILA DEVI VALAITHAM
2. **DATE OF BIRTH** : 20th August 1986
3. **NATIONALITY** : Malaysian
4. **ACADEMIC QUALIFICATIONS** : 2009
B. Sc. (Hons) Zoology
Universiti Malaysia Sarawak, Sarawak
5. **MEMBERSHIP OF PROFESSIONAL BODIES** : Registered Assistant Consultant with the
Department of Environment, Malaysia
Registered Environmental Auditor with the
Department of Environment, Malaysia
6. **LANGUAGE AND DEGREE OF PROFICIENCY** : English
Written: Good Spoken: Good

Bahasa Malaysia
Written: Good Spoken: Good

Tamil
Written: Fair Spoken: Good
7. **COUNTRY OF WORK EXPERIENCE** : Malaysia

8. KEY QUALIFICATIONS

Sharmila has about 9 years of working experience in environmental consultancy in Malaysia. Her work experiences include Environmental Impact Assessment (EIA), Environmental Management Plan (EMP), Environmental Compliance Monitoring, auditing works and site assessment in various sectors such as industries, township, mixed development, infrastructure as well as expressways. She is a registered EIA Assistant Consultant with DOE Malaysia specializing in water quality and ecology, a registered Environmental Auditor and a member with the Construction Industry Development Board (CIDB) Malaysia.

9. EMPLOYMENT RECORD

- | | | |
|----------------------------|---|--|
| December 2016 -Present | : | Environmental Consultant
ERE Consulting Group Sdn Bhd |
| April 2010 - November 2016 | : | Environmental Consultant
Environment Asia Sdn Bhd |

10. SELECTED PROJECT EXPERIENCE

March 2019 – Present

Proposed Development of Pencawang Masuk Utama (PMU) Bukit Unggul at Jenderam Hulu, Mukim Dengkil, Sepang, Selangor Darul Ehsan

Project Manager for the preparation of the EIA, EMP, LD-P2M2 and ESCP. Responsible in coordination and planning of the Project.

Client: Tenaga Nasional Berhad (Grid Division)

February 2019

Environmental Compliance Audit for Kemudahan Pemerolehan Kembali Luar Tapak Buangan Terjadual

Lead Auditor conducting third party environmental compliance audit for environmental regulations and legal requirements related to the co-processing facility particularly the scheduled waste offsite recovery facility in order to comply to the audit requirement as per the License Conditions of Approval. Involved in site audit, documentation, review of monitoring reports and other environmental related inventories.

Client: Associated Pan Malaysia Cement Sdn Bhd (Kanthan Works)

January 2018 – May 2018

Mass Rapid Transit Line 3: Circle Line

Project team member for the Social Impact Assessment (SIA) and part of the EIA team responsible for the assessment of impacts arising as well as recommended mitigation measures from water quality issues.

Client: MRT Corp

December 2016 – November 2017

TOR & EIA Study for East Coast Rail Link Phase 1 (Kota Bharu – ITT Gombak)

Project team member responsible for water quality assessment of the Project. Project involves construction of railway extensions from Kota Bharu – ITT Gombak.

Client: China Communications Construction Company

July 2017 – Present

TOR, EIA & SIA Study for East Coast Rail Line Phase 2 (Kota Baru – Pengkalan Kubor & Gombak – Port Klang)

Project team member responsible for overall coordination and compilation of the report. Project involves construction of railway extensions from Kota Bharu – Pengkalan Kubor and Gombak – Port Klang.

Client: China Communications Construction Company

July 2017 – Present

Environmental Compliance Audit for Sime Darby Serenia Mixed Development (Phase 1)

Lead Auditor conducting third party environmental compliance audit for environmental regulations and legal requirements of mixed development (construction stage). Involved in site audit, documentation, review of monitoring reports and other environmental related inventories.

Client: Sime Darby Serenia Development.

February 2018 – Present

Environmental Compliance Audit for Sime Darby Serenia Mixed Development (Phase 2)

Lead Auditor conducting third party environmental compliance audit for environmental regulations and legal requirements of mixed development (construction stage). Involved in site audit, documentation, review of monitoring reports and other environmental related inventories.

Client: Sime Darby Serenia Development

October 2017 – Present

Environmental Compliance Audit for Sime Darby Ainsdale Mixed Development

Lead Auditor conducting third party environmental compliance audit for environmental regulations and legal requirements of mixed development (construction stage). Involved in site audit, documentation, review of monitoring reports and other environmental related inventories.

Client: Sime Darby Ainsdale Development

September 2016

Package 14-0500: Construction and Commissioning (CC) Of Marine Works For Storm Water Outfall (SWO) And Effluent Treatment Plant (ETP) Outlet Pipeline For Rapid Project

Involved in the EMP report preparation, site visit, land use survey, baseline monitoring works and liaison with client. Assistant Auditor conducting environmental compliance audit for environmental regulations and legal requirements of a construction site for offshore and onshore works as well as the monitoring works throughout the construction phase.

Client: SYS-Menta Joint Venture

June 2016

Proposed Construction and Completion Of Breakwater For The New Deep Water Terminal At Kuantan Port, Pahang For The East Coast Economic Region Development (ECERDC): Package 1A- CH3600 To CH4627 And All Associate Works, Daerah Kuantan, Pahang Darul Makmur

Assistant Auditor conducting third party environmental compliance audit for environmental regulations and legal requirements of a construction site for a proposed breakwater involving dredging works. Assisted the Lead Auditor in documentation, review of monitoring reports and compilation of environmental related paper works.

Client: IJM-CHEC Joint Venture

May 2016

3 X 700 MW Coal-Fired Power Plant At Tanjung Bin, Mukim Serkat, Daerah Pontian, Johor

Lead Auditor conducting third party environmental compliance audit for environmental regulations and legal requirements of an operating power plant. Involved in site audit, documentation, review of monitoring reports and other environmental related inventories.

Client: Malakoff Power Berhad

April 2016

Cadangan Pembangunan Perindustrian Di Atas PTD 4997, PTD 4998, PTD 5058, PTD 5059 Dan PTD 5060, Mukim Pengerang, Daerah Kota Tinggi, Johor Darul Ta'zim

EIA Team member responsible for project management, supervision of sampling team and Project team, soil sampling, report preparation, liaison with client and regulator (DOE Johor) for a proposed heavy and medium based industrial estate.

Client: DIALOG Pengerang Sdn Bhd

April 2016

The Proposed Construction and Completion of Main Infrastructure Work for Pahang Technology Park in Gambang, Pahang Darul Makmur, For the East Coast Economic Region Development Council (ECERDC)

Auditor conducting environmental compliance audit for environmental regulations and legal requirements of a construction site. Involved in the preparation of monitoring reports during the construction phase.

Client: Pembinaan Mitrajaya Sdn Bhd

March 2016

Proposed New LNG (Jetty 4) and Precast Yard at Bintulu Port, Sarawak

Assistant Auditor conducting environmental compliance audit for environmental regulations and legal requirements of a construction site for the proposed precast yard. Involved in the review of monitoring reports, EMP and compliance of site activities with Environmental Quality Act.

Client: SYS-MCD Joint Venture

March 2016 – September 2016

Upgrading Of Railway Infrastructure And Systems For KTMB At Klang Valley Electrified Double Track Project

Involved in preparation of EMP report and submission to ICC. Auditor conducting internal environmental compliance audit for environmental regulations and legal requirements of a construction site involving rehabilitation works of railway track.

Client: **Daya Maju Infrastructure (DMIA) (Asia) Sdn Bhd**

March 2016

Proposed Desilting of The Access Channel Of The Construction Jetty Of Dialog Fabricators Sdn Bhd's Fabrication Facility At Lot PTD 4993, 4994 And 4836, Mukim Pengerang, Daerah Kota Tinggi

Involved in the preparation of the EMP Report, sampling works and liaison with client, Department of Irrigation and Drainage (DID) and regulator (DOE Johor).

September 2015

Permohonan Bagi Tujuan Perakuan Pelan Induk Bagi Cadangan Perumahan Bercampur Berstrata Di Atas Lot 614 Dan Lot 11, Pekan Templer, Daerah Gombak, Selangor Darul Ehsan Untuk Tetuan Cash Band (M) Berhad

EIA Team member responsible for soil erosion calculation for a proposed residential development and liaison work with Forestry Department of Selangor with regards to buffer zone requirement.

Client: Cash Band (M) Berhad

November 2015

Proposed Raw Water Supply to RAPID (PAMER)

Assistant Auditor conducting environmental compliance audit for environmental regulations and legal requirements of a construction site.

Client: PRPC Water Sdn Bhd

October 2015

Proposed Duke Expressway Extension

Involved in the preparation of scheduled waste management plan report, site visit and liaison work with client and DOE Wilayah Persekutuan Kuala Lumpur.

January 2015 – July 2015

Proposed EPCC Of Material Off- Loading Facility (MOLF) At Teluk Ramunia For RAPID Project

Involved in the preparation of EMP Report. Involved in liaison work involving Fisheries Department of Pengerang, fishermen, Head of Village, Marine Department of Wilayah Selatan, land use and socio economic survey, report preparation and submission to DOE Johor. Assistant Auditor conducting internal environmental compliance audit for environmental regulations and legal requirements of dredging works as well as monitoring works throughout the construction phase.

Client: See Yong & Son Construction Sdn Bhd

August 2014

Permohonan Kebenaran Merancang Mengikut Seksyen 21, Akta Perancangan Bandar Dan Desa 1976 (Akta 172) Bagi Cadangan Pindaan Ke Atas Pelan Induk Puteri Harbour Yang Melibatkan Pembangunan Plot Perumahan Percutian Selatan Di Atas Sebahagian Lot 139980, PTD 182860, PTD 71102 Dan PTD 166925 Di Puteri Harbour, Mukim Pulau, Daerah Johor Bahru, Johor Darul Takzim Untuk Tetuan Nusajaya Premier Sdn Bhd

EIA Team member responsible for project management, supervision of sampling team, social economic survey, report preparation, liaison with client, local authority (Forestry Department) and regulator (DOE Johor)

Client: Nusajaya Premier Sdn Bhd

October 2014

The Proposed Township Development At Lembah Ruil, Cameron Highlands, Pahang Darul Makmur: Housing, Luxury Apartments, Community And Commercial Centre Untuk Tetuan Cergas Asal (M) Sdn Bhd

Involved in the sampling works, land use survey, preparation of EMP, EMR and EAR throughout the construction phase.

March 2014

Proposed Construction and Completion of Package 1 (Farm Establishment, Buildings And Infrastructure Works) For The Herbal And Biotechnology Product Clusters In Pasir Raja, Dungun, Terengganu Darul Iman

Prepared the Project Closure Plan for submission to ECERDC.

January 2014

Proposed DUKE Expressway Extension

Involved in the preparation of the EMP Report, sampling works and liaison with client and regulator (DOE Wilayah Persekutuan Kuala Lumpur).

December 2013 – December 2015

Proposed New Elevated Alignment In Taman Warisan For The Rawang Town Bypass Project Selangor Darul Ehsan

Involved in the site visit and report preparation on a yearly basis. The tasks include identification of species of flora and fauna observed along the alignment and to tabulate the checklist of species composition.

December 2013 – May 2014

Projek Membina & Menaiktaraf Jalan Lingkaran Pulau Indah Negeri Selangor: Fasa 1B (CH410-CH2800) & Fasa 2 (CH300-CH1660)

Auditor conducting environmental compliance audit for environmental regulations and legal requirements of a construction site.

Client: Aktif Unggul Sdn Bhd

October 2013

Proposed Construction And Operation Of Jetty No.6 For Hydrocarbon Storage And Distribution Terminal At Tanjung Bin, Johor

EIA Team member responsible for project management, supervision of sampling team, report preparation, involved in dialog session with the fishermen, land use and socio economic survey, liaison with client and DOE Johor. Was also involved in the preparation of the EMP Report for the above Project.

Client: ATT Tanjung Bin Sdn Bhd

June 2013

Proposed Hydrocarbon Storage and Distribution Terminal at Tanjung Bin, Johor

Involved in air modeling for the additional new stacks using ISCST 3 model, to identify the impact on the sensitive receptors, report preparation and liaison with client and DOE Johor.

Client: ATT Tanjung Bin Sdn Bhd

April 2013

Phase II- Proposed Hydrocarbon Storage And Distribution Terminal At Tanjung Bin, Johor.

EIA Team member responsible for project management, supervision of sampling team, report preparation, land use and socio economic survey, liaison with client and DOE Johor. Was also involved in the preparation of the EMP Report for the above Project.

Client: ATT Tanjung Bin Sdn Bhd

March 2013 – October 2013

The Proposed Construction And Completion Of Package 1 (Farm Establishment, Buildings And Infrastructure Works) For The Herbal And Biotechnology Product Clusters In Pasir Raja, Dungun, Terengganu Darul Iman

Involved in the preparation of EMP(i). Auditor conducting environmental compliance audit for environmental regulations and legal requirements of a construction site.

Client: Pembinaan Mitrajaya Sdn Bhd

March 2013

Proposed Climbing Lane Between Slim River and Sungkai (Northbound), KM.371.8 To KM.367.24

Involved in the preparation of the EMP Report, sampling works, environmental monitoring and reporting during construction phase and liaison with client and regulator (DOE Perak).

January 2013

Modeltech Factory at Kawasan Perindustrian Bukit Rambai, Melaka

Auditor conducting third party environmental compliance audit for environmental regulations and

legal requirements of an operating factory.
Client: Modeltech Sdn Bhd

June 2012

North-South Expressway Proposed Fourth Lane Widening Between: Shah Alam And Rawang/ Jalan Duta & Nilai (Utara) And Seremban

EIA Team member responsible for project management, supervision of sampling team, report preparation, involved in dialog session with residents, land use survey and socio economic survey, and liaison with client and DOE HQ (Putrajaya). Was also involved in the preparation of EMP Report, conducting the internal environmental audits as well as review of monitoring reports.
Client: Projek Lebuhraya Usahasama Bhd

April 2012 – November 2015

Proposed Ampang Line Extension - Package B

Involved in the preparation of EMP report. Auditor conducting environmental compliance audit for environmental regulations and legal requirements of a construction site for proposed extension of LRT Ampang Line as well as the monitoring works throughout the construction phase.
Client: MRCB Engineering Sdn Bhd

February 2012 -September 2013

Proposed VMMP Engineering Phase 1A Port & Marine At Teluk Rubiah, Manjung District, Perak

Assistant Auditor Conducting Environmental Compliance Audit for Environmental regulations and legal requirements of a construction site involving construction of jetty for an iron ore producing factory.
Client: BAM-MCD-SYS Joint Venture

November 2011 – August 2015

Proposed Ampang Line Extension - Package A

Involved in the preparation of EMP report. Auditor conducting internal environmental compliance audit for environmental regulations and legal requirements of a construction site for proposed extension of LRT Ampang Line as well as the monitoring works throughout the construction phase.
Client: Binapuri Sdn Bhd

November 2011 – March 2013

Proposed Vale Malaysia Manufacturing Project At Teluk Rubiah, Perak

Assistant Auditor conducting third party environmental compliance audit for environmental regulations and legal requirements of a construction site an iron ore producing factory.
Client: Vale Malaysia Manufacturing S/B

September 2011

Permohonan Kebenaran Merancang Secara Serahbalik Dan Kurnia Semula Di Bawah Seksyen 204A KTN Di Atas Sebahagian Lot 18370 (PT21628), Seluas 448.61 Ekar, Mukim Semenyih, Daerah Hulu Langat, Selangor Darul Ehsan Untuk Tetuan Uem Land Berhad

EIA Team member responsible for supervision of sampling team, report preparation and liaison with client.
Client: UEM Land Bhd

September 2011

Engineering, Procurement, Construction And Commissioning (EPCC) Of Langsat Tank Terminal 3 At The Port Of Tanjung Langsat, Johor Darul Takzim

EIA Team member responsible for survey of land use and socio economic and soil sampling
Client: Centralised Terminals Sdn Bhd

February 2011

Proposed Sungai Buaya Interchange and Toll Plaza

EIA Team member responsible for supervision of sampling team, ecological survey, land use and

socio economic survey and report preparation. Was also involved in the EMP report preparation.
Client: Projek Lebuhraya Usahasama Bhd

November 2010

Proposed Construction and Completion of 300m CT6 Wharf (B17) & Access Bridge at Westport, Pulau Indah, Port Klang, Selangor.

Involved in the preparation of the EMP and monitoring Report.

September 2010

Kinrara – Damansara Expressway (KIDEX)

Involved in the land use survey and assisted in the Environmental Screening Study (ESS) report preparation.

July 2010

Environmental Site Assessment (ESA) for Accellent Manufacturing Sdn Bhd

Involved in Phase I site assessment of an industrial site previously occupied by a factory involved in manufacturing of precision mechanical products in accordance with the protocol of ASTM 1527 on an industrial site, including include site reconnaissance, interviews, records review, environmental sampling, identification of recognized environmental conditions and reporting.

June 2010

Environmental Site Assessment (ESA) for Nestle Manufacturing (Malaysia) Sdn Bhd

Involved in Phase I and Phase II site assessment of an industrial site previously occupied by British American Tobacco Malaysia for Nestle Manufacturing (Malaysia) Sdn Bhd according to the protocol of ASTM 1527 on an industrial site, including include site reconnaissance, interviews, records review, environmental sampling, identification of recognized environmental conditions and reporting.

1. **NAME** : MOHAMMAD IZZAT RASNAN
2. **PROPOSED POSITION** : ENVIRONMENTAL ANALYST
3. **DATE OF BIRTH** : 23 APRIL 1991
4. **NATIONALITY** : MALAYSIAN
5. **ACADEMIC QUALIFICATIONS** : 2014
B. Sc. Electrical & Computer Engineering
Ohio State University

2018
M. Sc. Environment & Development
Universiti Kebangsaan Malaysia
6. **MEMBERSHIP OF PROFESSIONAL BODIES** : Board of Engineers Malaysia (145942A)
7. **LANGUAGE AND DEGREE OF PROFICIENCY** : English
Written: Good Spoken: Good

Bahasa Malaysia
Written: Good Spoken: Good
8. **COUNTRY OF WORK EXPERIENCE** : Malaysia

9. KEY QUALIFICATIONS

Mohammad Izzat is currently an analyst in ERE Consulting Group. He graduated from the Ohio State University with a Bachelor of Science Degree in Electrical & Computer Engineering in 2014. He also has a master's degree in Environment & Development from Universiti Kebangsaan Malaysia.

10. EMPLOYMENT RECORD

Mar 2017 – Current : Environmental Analyst
ERE Consulting Group Sdn. Bhd.

11. SELECTED PROJECT EXPERIENCE

March 2019 – Ongoing

Development of Pencawang Masuk Utama (PMU) Bukit Unggul

Analyst is responsible for preparation of Terms of Reference (TOR), Environmental Scoping Information (ESI), Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) of the PMU, which is part of National Grid System.

Client: TNB Research Sdn. Bhd.

October 2018 – Ongoing

Development of Zone E Medini Iskandar Malaysia, Johor

Analyst has been given the role to conduct environmental monitoring and site inspection for the mixed development, as per the requirement of the Environmental Management Plan (EMP).

Client: Nuri Merdu Sdn. Bhd.

August 2018 – Ongoing

Mixed Development in Kajang, Selangor

Analyst is responsible for preparing the Environmental Impact Assessment (EIA) for the waste and soil aspect of the mixed development. He is also involved in the Social Impact Assessment (SIA) of the Project.

Client: Inch Kenneth Kajang Rubber Public Limited Company

May 2018 – October 2018

Jeniang Transfer Scheme and Naok Reservoir, Kedah

Analyst is responsible for preparing the Land Disturbance – Pollution Prevention and Mitigation Measures (LD-P2M2) document for the Environmental Management Plan (EMP) of the Project.

Client: Ministry of Agriculture and Agro-based Industry

January 2018 – September 2018

Light Rail Transit Line 3 (LRT3)

Analyst is involved in environmental supervision for the construction of LRT3 from Bandar Utama to Johan Setia.

Client: MRCB George Kent Sdn. Bhd.

July 2017 – December 2017

East Coast Rail Link (ECRL) - Phase 2

Analyst assisted in preparing the Terms of Reference (TOR), Environmental Scoping Information (ESI), and Environmental Impact Assessment (EIA) for the land use and soil aspect of the ECRL development.

Client: China Communications Construction Company (M) Sdn. Bhd.

March 2017 – August 2018

Development of Pangkalan Udara Sendayan

Analyst assisted in conducting site inspection for construction site of TUDM's military airbase in Sendayan, Negeri Sembilan.

Client: Perbadanan Perwira Harta Malaysia

March 2017 – September 2017

Integrated Sustainable Living (ISL), Iskandar Malaysia, Johor

Analyst assisted in preparing the Environmental Impact Assessment (EIA) for the waste management aspect of the ISL development.

Client: Iskandar Investment Berhad

12. PUBLICATIONS/SEMINAR PAPERS/DISSERTATIONS

Enhancing Role and Participation of industry and Community for Sustainable E-waste Recovery for Sustainable Consumption and Production (SCP): The Case Study of Kuala Lumpur, Malaysia – International Symposium on Environmentally Conscious Design and Inverse Manufacturing (EcoDesign2019).

Understanding Waste Flow in Malaysian Cities for Sustainable Waste Management – Handbook of Sustainability Science and Research (2018).

Sustainable E-waste Management in Asia: Analysis of Practices in Japan, Taiwan and Malaysia – Journal of Environmental Assessment Policy and Management (December 2016).