Section 10
Environmental Management Framework

SECTION 10 : ENVIRONMENTAL MANAGEMENT FRAMEWORK

10.1 INTRODUCTION

This section outlines the environmental management framework to ensure that a proper system is in place to address, communicate and manage the environmental issues and concerns that have been identified. In view of the potential impacts that are likely to the affect certain groups of communities during the construction stage, communication with the relevant stakeholders is an important element besides ensuring that relevant mitigating measures will be implemented and monitored by the relevant parties.

The framework will address the following key components:

- Organization set-up-this will form the back-bone of the environmental management structure where the roles and responsibilities of each parties involved in the Project will be clearly identified and defined.

- Environmental communication line - this will determine the various levels of communication for different stages and whether it is either internal and external, especially where it involves public and other stakeholders

- Environmental reporting - this will indicate the types of reporting required, either in terms of reports to be prepared and submitted as well as attending meetings to discuss environmental performance.

- Environmental monitoring and auditing - this will state the monitoring and auditing requirements in terms of environmental quality (water quality, noise level, vibration level and air quality) as well as implementation of the mitigating measures proposed in the DEIA and EMP.

- Emergency response plan - will identify the various responses to emergencies that could potentially occur at the Project site.

10.2 ENVIRONMENTAL MANAGEMENT POLICY

The Project Proponent, MRT Corp, has established Safety Health and Environmental Policy for the KVMRT Project (**Figure 10-1**). This policy takes into account the entire project life-cycle in ensuring that these aspects are being incorporated during various project development stages - planning and design, construction and operation.

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Figure 10-1 MRT Corp's Safety, Health and Environmental Policy

SAFETY, HEALTH & ENVIRONMENTAL (SHE) POLICY

MRT CORP

SAFETY, HEALTH AND ENVIRONMENTAL (SHE) POLICY

Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) is committed to uphold the Safety, Health and Environmental (SHE) standards in our business that encompasses the entire life cycle of the Klang Valley Mass Rapid Transit (KVMRT) project vis-à-vis **Planning and Design**, **Construction** and **Operation** Stage.

In realization of this we are committed to :

Comply with all applicable legal and other requirements

- *Remove or reduce risks to all employees and stakeholders*
- *Prevent incident and environmental pollution*
- *Engineer, educate and enforce within the project*
- *Consult and communicate effectively to all parties*

To the end, we aim to raise the SHE standards by embracing behavioural based approach to inculcate SHE culture within MRT Corp.

"Transforming SHE"

DATO' SRI SHAHRIL MOKHTAR
CHIEF EXECUTIVE OFFICER
12 January 2015

10.3 ORGANIZATION STRUCTURE

10.3.1 Roles and Responsibility

Clear definition of roles and responsibilities of all parties involved in the Project is imperative for a Project of this size and nature. The proposed overall project organization structure is shown in **Chart 10-1**. The key parties involved are:

Supervising Agency	Suruhanjaya Pengangkutan Awam Darat (SPAD)
Project Proponent	Mass Rapid Transit Corporation (MRT Corp)
Project Delivery Partner	MMC Gamuda KVMRT (PDP SSP)

The next tier or level comprises of Work Package Contractors, Independent Consulting Engineers and Supervising Consultants at work package levels. At this stage, the work packages are divided based on the following work components:

- Tunnel and Underground Station Works
- Advance Works
- Elevated Works
- Depot
- Railway System
- Car Parks

It is crucial that the responsibilities of each of the work packages be clearly defined, particularly with regards to environmental requirements. These requirements must be stipulated in the tender document to ensure that all environmental requirements will be addressed by the relevant contractors.

In this regards, a Master Environmental Management Plan (EMP) will be prepared for the Project and submitted to the DOE for approval. Construction works will only commence after the EMP approval.

The proposed environmental roles and responsibilities of all the parties involved are summarized in **Table 10-1**. The roles and responsibilities for each party will be further elaborated in the EMP to ensure smoother and effective implementation. The EMP will be submitted to DOE one month after approval of the DEIA.

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Chart 10-1 Overall Project Organization Structure

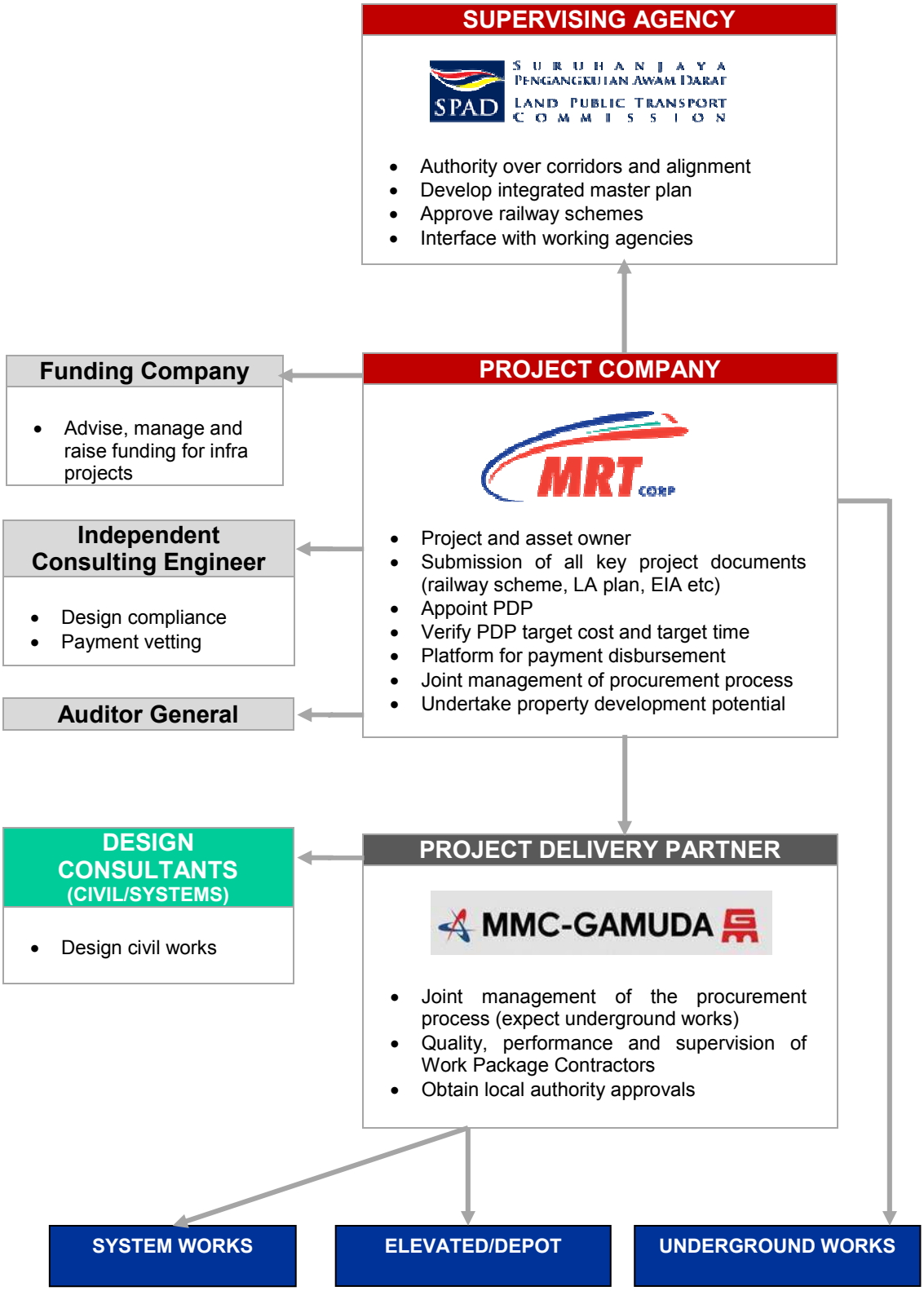

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Table 10-1 Proposed Roles and Responsibility

Roles	Responsibility
Supervising Agency ***(SPAD)***	• To monitor environmental compliance by Project Proponent and PDP as per contractual requirements
Project Proponent ***(MRT Corp)***	• To comply with the EIA approval conditions and other relevant environmental requirements • To ensure environmental mitigating measures are incorporated in the tender document • To ensure implementation of environmental mitigating measures as specified in the EIA, EMP and others deemed relevant • To monitor environmental compliance by PDP as per contractual environmental requirements • To ensure that relevant actions are taken to address any complaints received during construction stage
Project Delivery Partner (PDP) (***MMC-Gamuda KVMRT)***	• To brief all contractors, sub-contractors and consultants about environmental requirements • To monitor implementation of environmental mitigating measures during construction stage by the relevant WPCs • To ensure environmental compliance by all WPCs • To submit prepare and submit relevant environmental reports to DOE, MRT Corp and others (if required) • To ensure that any complaints with regards to environmental impacts during construction are addressed and acted upon
Work Package Contractors ***(WPC)***	• To implement the environmental protection works for the work package • To ensure compliance to environmental requirements at all time • To submit relevant environmental reports to PDP and MRT Corp for submission to DOE

At working level, Safety, Health and Environmental Unit (SHE Unit) under the Standard and Compliance Department of MRT Corp. The key roles and responsibilities for SHE Unit include the following:-

- establish of strategic planning for Safety, Health & Environment
- ensure environmental compliance and implementation of mitigating measures by PDP and WPC
- carry out investigation works on any major/critical incidents
- engage with relevant local authorities and other technical agencies such as Department of Occupational Safety & Health and Department of Environment.

The organization chart for the SHE Unit is shown in **Chart 10-2**.

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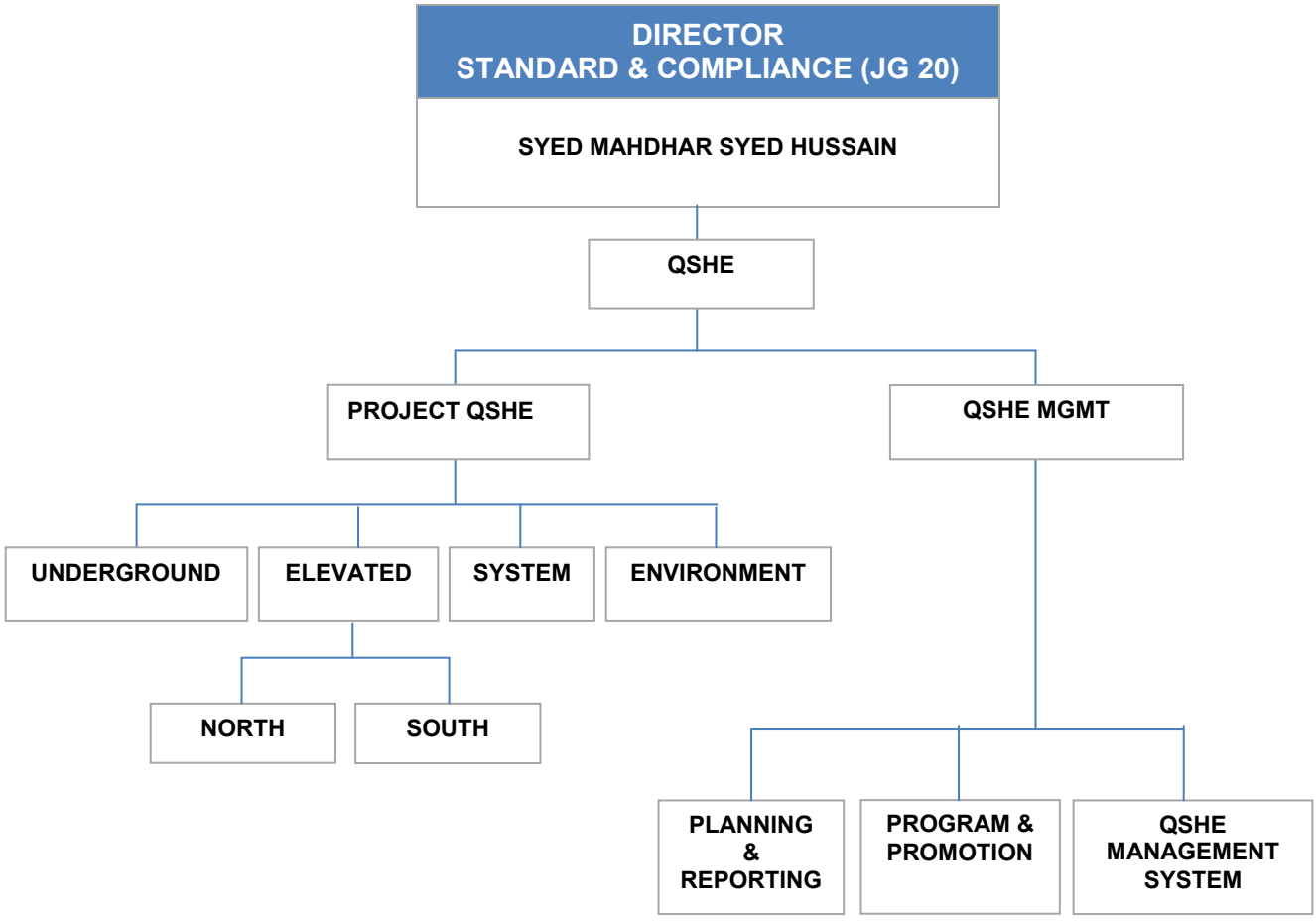
10.3.2 Lines of Communication

All Work Package Contractors (WPC) will report to the PDP on all environmental related matters. PDP will then report to MRT Corp on the progress and environmental performance of each of the work packages. MRT Corp, being the Project Proponent, will report to SPAD, DOE and other technical departments as well as the relevant technical committees (such as MRT Exco Meeting).

The only exception is the WPC for tunnel and underground station works who will report directly to MRT Corp.

Chart 10-2 Standard and Compliance Department Organization Chart (MRT SBK Line and SSP Line)



10.4 EXTERNAL COMMUNICATION

Effective communication with the relevant stakeholders plays an important role for such a large project that traverses highly populated areas (Damansara Damai, Sri Damansara, Kepong, KL city centre, Kuchai Lama, Salak South and Serdang). As part of the environmental management framework, it is important that regular communications with relevant stakeholders, affected communities and the general public be established and maintained to ensure a systematic, efficient and prompt response to any complaints and feedback.

10.4.1 Communication Channels

MRT Corp has established and will maintain several channels for stakeholders and public to provide feedback or lodge complaints (**Table 10-2**).

Table 10-2 Communication Channels Provided by MRT Corp

Channels	Description
MRT Hotline (1-800-82-6868)	• 24-hour hotline service started since December 2011. • Once the complaints are registered in the system, steps will be taken to resolve the issue according to Standard Operating Procedures (SOP).
MRT Website	• www.mymrt.com.my
MRT Information Centre	• Located in Damansara Utama and in operation since September 2014. • Provides information boards, brochures and interactive “Hawkeye” which displays a 360 degree aerial view of the entire MRT SBK Line and the proposed SSP Line
MRT Information Truck	• Started its service in June 2012. • The info truck goes to the communities to provide information (brochure, MRT Newsletter) about MRT. • MIT displays information of the Project, touch-screen “Hawkeye” application. It is deployed at commercial buildings, schools, mosques, “pasar malam’ and “pasar pagi”. • The truck is also placed at property launches (collaboration with developers).
MRT Information Kiosk	• Two MRT Kiosks were launched in June 2012 to provide information about MRT • Two mobile booths which does monthly rotations at shopping malls, hypermarkets, transportation hubs and other community centres.
Engagements with stakeholders	• Engagement sessions could be in the form of town-halls, group meetings or one-to-one discussions. • Information to be shared at the engagement session can be specifically tailored to the need and request of specific stakeholders

10.4.2 Community and Stakeholder Consultation

MRT Corp aims to set a new standard in terms of engagement with the public, especially those who are directly impacted by the Project. Engagements serve as a platform for stakeholders to raise any concerns regarding the Project.

The engagement with local communities along the proposed alignment is vital at all stages - the pre-construction, construction and operation stages. Engagements carried out during the planning and design stage, particularly during the EIA stage, provided early information about communities' concerns and responses towards the project. This information is a vital input to the Project Proponent so that necessary measures can be formulated to address the issues. The community engagement will be continuous as different issues arise at different stages. Most importantly, stakeholders need to be informed and where possible, be involved in the formulation of the mitigating measures to ensure that these are workable, practical and effective.

Stakeholder engagements will be carried out with local communities and other stakeholders, particularly those close to the alignment and stations Engagements will be carried out before construction works commence on the site. The objective of the engagements is to inform stakeholders about the construction works. The Project Proponent together with the PDP and contractors will share information about the type of works, duration of the works, potential impacts, and mitigating measures that will be implemented to reduce these impacts and address any concerns raised by the stakeholders. Follow-up sessions will be conducted if the need arises.

For the SSP Line, a "Stakeholder Engagement Plan" will be prepared to address and managed issues pertaining to the stakeholders, communities and the public. The strategy that will be adopted for community and stakeholder consultation is as **Table 10-3**.

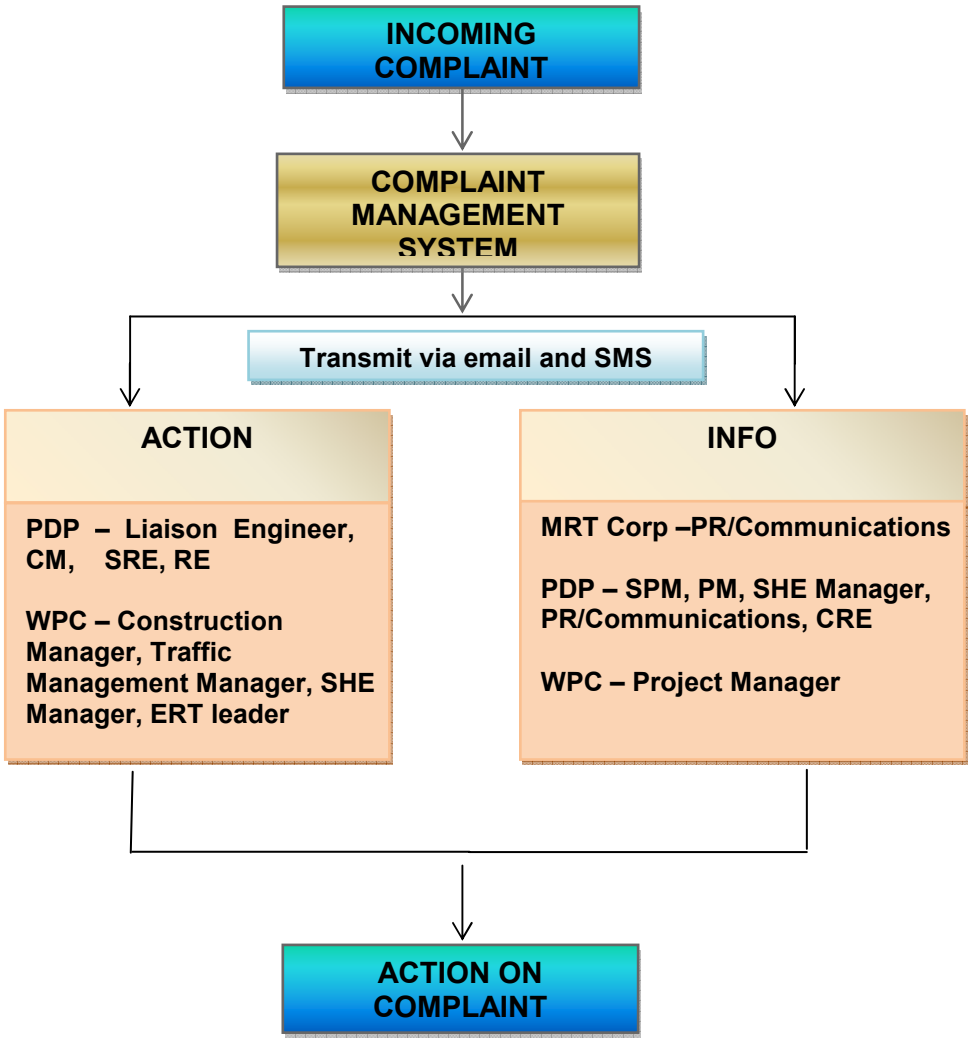
Table 10-3 Stakeholder Engagement Methods

Stage	Description
During DEIA Report Preparation	EIA Consultant, MRT Corp and PDP briefed communities and stakeholders likely to be affected by the Project. Feedback obtained at this stage will be useful in identifying "high risk" areas so that necessary measures can be undertaken.
Before Railway Scheme Public Display	MRT Corp, PDP and SPAD will conduct briefings (general alignment and stations locations) to Members of Parliament (MPs), ADUNs, Local Councillors, Local Authorities, relevant government agencies and the media.
During Railway Scheme Public Display *(Note: Railway Scheme Public Display duration is 3 months)*	MRT Corp and PDP will engage the Residents' Associations and other stakeholders who are likely to be affected by the Project, particularly those affected by the land acquisition. These engagement sessions will be held at community or local council's halls.
After Railway Scheme Approval	MRT Corp and PDP will continue with one-to-one engagements with the affected communities and stakeholders
After Work Package Contracts awarded	Engagements with relevant communities along the alignment before the site works commence. The engagements will be carried out together by MRT Corp together with the WPC.

10.4.3 Complaints

A Complaint Management System (CMS) has been established by MRT Corp (**Chart 10-3**). The CMS enables all complaints to be attended to quickly and effectively and procedures for investigation and closure.

Chart 10-3 Procedure for Complaint Management System



10.5 ENVIRONMENTAL MONITORING PROGRAMME

A comprehensive Environmental Monitoring Programme will be implemented during the construction to ensure that the Project Proponent is able to monitor the effectiveness of the environmental protection measures that have been put in place. The environmental monitoring programme will include the following components:

- Noise and Vibration Monitoring
- Water Quality Monitoring
- Silt Trap Discharge
- Air Quality Monitoring

a) Noise and Vibration Monitoring

Specific location for noise and vibration monitoring stations during construction stage cannot be determined at this stage as it will largely depends on the types of construction activities and its locations. Therefore, the exact location will be determined at a later stage during the preparation of the Master EMP and Site Specific EMP. The monitoring strategy represents a cost effective approach upon which noise emissions at the work sites are permanently monitored, and noise and vibration levels at all sensitive receptors could be monitored on a periodic basis.

- **Line Wide Monitoring Requirements & Practices**

While conventional and past practices of environmental noise (& vibration) monitoring during construction are based on periodic monitoring (once i.e. one day measurements only every month with reporting submitted monthly or quarterly to DOE), past experiences showed that high noise and vibration events may not necessarily be measured on the day of monitoring.

It is therefore necessary that noise and vibration monitoring shall be undertaken on a continuous basis (at sensitive location where necessary) for the entire duration of construction works with high noise and vibration events such as during piling works, demolition and hacking works, and blasting if any. This requires the use of proprietary permanent or semi-permanent noise monitoring devices for continuous long term outdoor environmental noise & vibration with weather proof microphones and data logging functions at the construction work sites such that all noise & vibration events would be captured regardless of time and day.

Environmental noise and vibration monitoring for general construction works shall be monitored on a regular periodic basis (once every month for example) to establish the ambient prevailing noise (and vibration) levels typically for road traffic (that may also be attributed to road diversions, etc.) and general construction activities (site preparation, movement of materials, site installation of formwork, etc.)

Examples of recommended and acceptable noise monitoring instruments to be used for continuous noise measurements are shown in **Plate 10-1**. These instruments are designed and intended for unmanned monitoring with automatic data-logging of noise levels on a permanent or semi-permanent basis.

Examples of permanent noise monitoring units used in continuous long term noise monitoring at the SBK Line Underground Station and Shafts work site (**Plates 10-2 – 10-3**), and monthly 24 hours continuous noise monitoring at sensitive receptors in close vicinity to the SBK Line work sites (**Plate 10-4**). These conformed to international best practices for environmental noise monitoring.

Plate 10-5 shows example of vibration sensor geophone mounting plate while **Plate 10-6** shows recommended installation of vibration sensor mounted onto a mounting plate bolted into the ground for measurement of ground borne vibration at a SBK Line Underground Station work site for piling vibration monitoring at the perimeter boundary.

- **Underground Stations, Shafts and Portal Works Sites**

The Underground Stations, Shafts and Portal work sites require a more comprehensive approach to environmental monitoring due to the almost permanent nature of construction period (approximately 5 years) at a fixed location which in some cases are fronting sensitive and/or built up locations.

Practices already implemented in the SBK Line for tunnel construction works, underground station, shafts and portals shall be similarly implemented in this SSP Line. The work sites shall have permanently installed remote noise monitoring units (proprietary monitoring units solar powered with dedicated 3G Web monitoring for continuous monitoring data sampled every seconds 24 hours 7 days a week ever since commencement of construction works till Project completion).Each site shall have a minimum one unit installed at the work site boundary. All data shall be archived, and high noise events exceeding pre-defined limits shall be audio recorded for playback. These data could be used to correlate against construction activities and respond to complaints and queries by the authorities.

In addition to the permanent monitoring at the work site boundary, additional 24 hours continuous monitoring at identified noise sensitive receptors shall be undertaken. Results of the monitoring at receptors could be correlated against the permanent monitoring units at the work site (to establish distance loss, etc.) such that on days when there are high noise (and vibration) events observed at the work site likely noise and vibration levels at all identified receptors could be estimated. Results of the monthly monitoring shall be compared against the baseline levels.

In addition, it is proposed that settlement and continuous vibration monitoring be carried out for buildings, houses and/or structures that may be susceptible to earth movements with the uses of unmanned data loggers.

- **Elevated Viaduct and Station Work Sites**

Construction works of elevated viaducts typically involve piling works progressing in a linear run manner, from a pier to the subsequent pier. On this basis semi-permanent noise and vibration monitoring units shall be used to continuously permanently monitor piling works so that noise and vibration levels throughout the piling process are obtained. The monitoring shall track the piling machines with monitoring to be undertaken at the nearest receptors. Periodic monitoring (typically on a monthly basis) shall be undertaken for ambient noise and vibration of general construction activities and road traffic noise.

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Overall, baseline measurements, applicable to all the above different type of works sites, shall be undertaken at all noise sensitive receptors located in close proximity of the work sites over and above noise monitoring locations conducted in this EIA to establish the prevailing noise and vibration climate prior to commencement of construction (i.e. immediately upon site possession by the Works Package Contractors). These baseline levels shall be used for assessment of noise and vibration levels in addition to limits prescribed in the respective Schedules of the DOE Noise and Vibration Guidelines. The noise levels (L_{eq}), statistical percentile L_{10}, L_{90} and instantaneous maximum L_{max} levels for daytime and night time shall be reported.

All noise and vibration instrumentation, procedures and data reporting to be in accordance to Annex B of DOE Planning Guidelines for Environmental Noise Control and Limits, Annex B of DOE Planning Guidelines for Vibration Control and Limits in the Environment, 2004, and vibration instrumentations requirements as per ISO 4866:1990/ BS 7385-1: 1990, BS 7385-2:1993, BS 6472-1: 2008 and BS-2: 2008.

Vibration intensity (vibration velocities and/or accelerations) and frequency response of adjacent receivers from piling and underground works to be quantified and assessed against human response in buildings and potential structural damage (1 to 80 Hz) in accordance to ISO 4866:1990/ BS 7385-1: 1990, BS 7385-2:1993, BS 6472-1: 2008 and BS-2: 2008.

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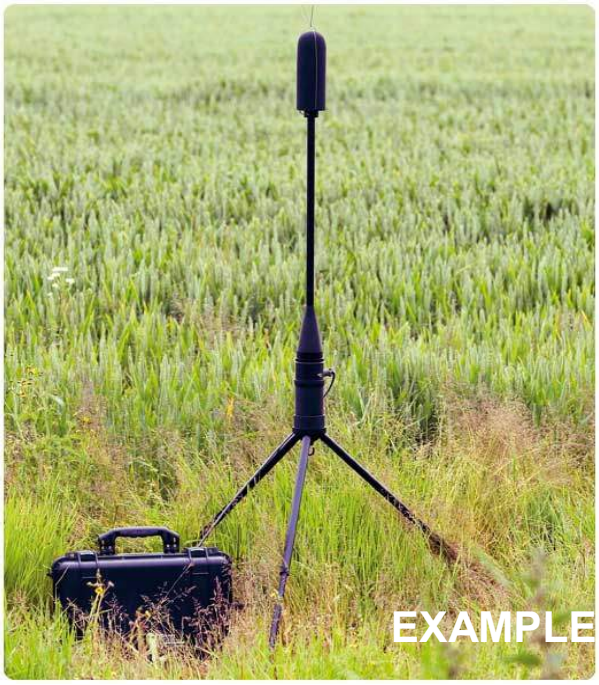	**Plate 10-1** Example of acceptable semi-permanent noise monitoring instruments with outdoor microphone with correct microphone mounting
	**Plate 10-2** Example of permanent noise monitoring unit used in construction noise monitoring. .

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	**Plate 10-3** Example of permanent noise monitoring unit used in SBK Line Underground Station work sites permanent continuous noise monitoring for entire duration of SBK Line Project construction period.
	**Plate 10-4** Example of permanent noise monitoring unit used in SBK Line construction continuous noise monitoring undertaken monthly at sensitive receptors.

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	**Plate 10-5** Example of vibration sensor geophone mounting plate (with spikes) intended to be embedded into soft ground. On hard surfaces, spikes must be removed and mounting plate to be bonded with epoxy or screws fastened onto the ground / hard floor surface.
	**Plate 10-6** Example of vibration sensor secured onto mounting plate bolted onto solid ground surface for vibration monitoring of construction works at SBK Line Underground Station work sites.

b) River Water Quality Monitoring

The exact location of the water quality monitoring locations will be determined at the Master EMP or Site Specific EMP for each work package. However, the water quality monitoring stations for the EIA can be used as guidance. The locations are tabulated in **Table 10-4** and shown in **Figure 10-2a - Figure 10-2d**.

Table 10-4 Tentative River Water Quality Monitoring Locations

Proposed Location	Description
Sg. Gasi (Point 1)	River crossing near Jalan PJU 10/1, Damansara Damai
Sg. Gasi (Point 2)	River crossing near 8trium and Sri Damansara Club
Sg. Keroh	River crossing at Jalan Kepong near Kepong Police Station and Masjid Amaniah
Nanyang Pond	Water discharge from Nanyang Pond near Kampung Batu Delima
Sg. Batu	Downstream of river crossing near the KTM Kg Batu Station
Sg. Gombak	River crossing near the existing Titiwangsa LRT and Monorail Stations
Sg. Bunus	River crossing between Hospital Kuala Lumpur and SK Jalan Raja Muda Abdul Aziz
Sg. Klang	River crossing near Jalan Gurney towards Ampang Park Shopping Centre
Sg Kerayong (Point 1)	Sg Kerayong; adjacent to Restoran Siu Siu in Jalan Sg Besi
Sg Kerayong (Point 2)	Sg Kerayong; adjacent to Desa Water park right after the junction from NPE heading towards Kuala Lumpur Seremban Expressway (E37)
Sekolah Tunas Bakti Sg Besi Recreational Pond	Pond; located within Sekolah Tunas Bakti Sg Besi near Taman Naga Emas
Sg. Kuyoh (Point 1)	River crossing between Kawasan Perindustrian Seri Kembangan and Bala iBomba along Jalan Raya Satu
Sg. Kuyoh (Point 2)	Sg Kuyoh; adjacent to Hindu Temple at Jalan Raya 3
MARDI Pond	Crosses the pond; located within MARDI development area, owned by MARDI
Sg Gajah (Point 1)	Sg Gajah near Sky Park development along Persiaran Apec, Cyberjaya
Sg Gajah Tributary (Point 2)	Sg Gajah between Sky Park and Limkokwing University of Creative Technology

The monitoring frequency will be monthly. The parameters to be analysed include:

- pH
- Heavy metals
- BOD
- COD
- Dissolved oxygen
- Total suspended solids
- Oil and Grease
- Ammoniacal nitrogen

c) Silt Trap Discharge Monitoring

Silt trap discharge monitoring is proposed at the depot, the launch shafts and retrieval shafts. The monitoring frequency will be monthly. The parameters to be analysed is Total Suspended Solids. The proposed silt trap discharge locations will be based on the ESCP to be prepared at the following locations.

- **Serdang depot**
- **Launch Shafts**:-Titiwangsa, Crossover at Hospital KL, Conlay, Chan Sow Lin and BM North
- **Retrieval Shafts**:- North Portal, Crossover at Hospital KL, Ampang Park, Conlay, Tun Razak Exchange and Chan Sow Lin.

d) Air Quality Monitoring

The main air pollutants that would be emitted during the construction stage are particulates from earthworks, vehicle and machinery engine exhaust and movement of construction vehicles. Other gaseous pollutants will also be emitted, although at levels that are expected to be low.

At this stage, it is not possible to identify specific air quality monitoring locations along the SSP Line. The exact location of the air quality monitoring locations will be determined at the Master EMP or Site Specific EMP preparation. However, the ambient air quality monitoring stations conducted can be referred to as guidance. The locations of ambient air quality monitoring stations are shown in **Figure 10-2a - Figure 10-2d**. The monitoring frequency will be quarterly. The parameters to be analysed include:

- Total suspended particulates
- NO_x
- CO

e) Laboratory

All field sampling shall be carried out by trained field personnel and the samples shall be analysed in an accredited laboratory. All samples collected during monitoring will be sent to a laboratory accredited to the “Skim Akreditasi Makmal Malaysia” (SAMM).

The results from the laboratory shall be signed by a registered chemist. The analytical methods used shall be in accordance to the latest edition of ‘Standard Methods for the Analyses of Water and Wastewater’ as required under the Environmental Quality Act (1974).

10.6 ENVIRONMENTAL REPORTING

Environmental reports will be prepared at various levels of the Project. Environmental reporting consists of two parts which are:

- preparation of reports by MRT Corp for submission to DOE to fulfill the environmental legal requirements'
- preparation of reports by PDP and WPCs for submission to MRT Corp to fulfill contractual requirements

The main objective of the environmental reporting is to document environmental status/progress and any issues arising from each work package to ensure that specific actions can be carried out. The types of reports prepared are as tabulated in **Table 10-5**.

Table 10-5 Types of Environmental Reports and Submission Responsibility

Types of Report	Responsibility		
	WPC	PDP	MRT Corp
1. Master EMP prepared by Environmental Consultant	N/A	Review the report	Review and submit to DOE
2. Master ESCP prepared by Consultant	N/A	Review the report	Review and submit to DID
3. Work Package Specific Baseline Environmental Monitoring Report	Prepare the report	Review & compile the report	Review & submit to DOE
4. Work Package Specific EMP	Prepared the report	Review & compile the report	Review & submit to DOE
5. Work Package Site Specific Erosion Sediment and Control Plan	Prepare the ESCP	Review & compile the ESCP	Review & submit to DID
6. Weekly online ESC inspection	Prepare and submit to DOE		
7. Quarterly Monitoring Report for submission to DOE	Prepare the report	Review & compile the report	Review & submit to DOE
8. EIA 1-08 and EIA 2-08 every quarterly	Prepare the report	Review & compile the report	Review & submit to DOE

Note: N/A means Not Applicable

PDP will be responsible to ensure that each WPC prepare and submit relevant environmental reports for submission to MRT Corp and eventually to DOE. Such reporting will assist not only in terms of monitoring compliance but also effectiveness of the EMP, ESCP and other mitigating measures that are being implemented.

10.7 EMERGENCY RESPONSE PLAN

Emergency Response Plan (ERP) is a plan to tackle emergencies that may occur during construction and operation stage. Such plan is important to safeguard the safety and health of workers as well as the public in the event of an emergency. The Emergency Response Plan shall be made known and available to all workers who in turn should become familiar with its various procedures.

Similar to SBK Line, a “Fire, Life Safety and Security” committee will be established to manage any operational emergencies including coordination with rescue operations. The committee consists of representative from MRT Corp, BOMBA, Police, Majlis Keselamatan Negara and the operator and shall meet regularly. The committee will among others develop and review the security and critical incident management plan.

The Safety, Health and Environment (SHE) framework for the overall KVMRT Project has been established by MRT Corp. The SHE Unit is responsible in overseeing proper implementation and performance of all aspects pertaining to the safety, health and environment by the PDP and the WPCs, particularly during construction stage.

For SSP Line, Project Safety and Health Plan will be prepared, implemented and monitored. Prior to commencement of construction activities, comprehensive risk assessment will be carried out to identify potential hazards and risks associated with related construction activities so that appropriate safety and health control measures will be implemented prior and during the construction stage. The risk assessment will include but not limited to:

- potential emergencies associated with the work activities
- traffic congestions and accidents
- risks to public safety
- impacts from construction activities on the overhead transmission lines, utilities, community area, buildings and adjacent structures
- operation of high risk machinery and plant

Safety and health measures will be provided and maintained during the design and construction stage to ensure potential hazard and risks are minimized.

During operation, provisions will be made to manage any accidents and irregularities in the design of the fixed installation. Major components that will be addressed include:

<u>Emergency Train Operations</u>
In the event that train is stalled in the mainline due to failures, it will be withdrawn from the main line. Central control will manage this situation from the Incident Management Room at the OCC.