CINOTECH 漢臻
consultants limited

Room 1710, Technology Park.
18 On Lai Street, Shatin, N.T., Hong Kong.
Tel: (852) 2151 2083 Fax: (852) 3107 1388
Website: http://www.cinotech.com.hk
E-mail:info@cinotech.com.hk

Our ref.: MA12014/Corres/Out/it140304-v1

Dragages-China Habour-VSL Joint Venture
Site Office: Tung Chung Waterfront Road,
adjacent to Tung Chung New Development Pier,
New Territories, Hong Kong

By Mail
4 March 2014

Attn.: Mr. Chan Man (Project Director)

Dear Sir,

Contract No. HY/2011/09
Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between HKSAR Boundary and Scenic Hill

- **Emergency Response Plan for Incidents at Tank Farm**

I refer to the revised emergency response plan for incidents at tank farm (Document Ref. No.: HKLR9 / DCV / ENV / 00009 / G) submitted to us via email dated 24 February 2014 for the captioned project.

I am pleased to inform you that I have no further comment on your proposal and agree to certify the above document in accordance with the EP (No. EP-352/2009/C), Condition 1.9 and 2.10.

Should you have any queries, please contact the undersigned at 2151 2088.

Yours faithfully,
Cinotech Consultants Ltd.

Dr. H.F. Chan
Environmental Team Leader

Directors: Dr H F Chan (Managing Director), Dr Priscilla Choy

A MEMBER OF CINOTECH GROUP

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Hong Kong-Zhuhai-Macao Bridge
Hong Kong Link Road – Section between HKSAR Boundary and Scenic Hill
Contract No. HY/2011/09

Technical Document

Document Ref. No.:

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Project Code						Works Package Code		Type of Document				Sequential Number						Rev. Index

Document Title:

Emergency Response Plan for Incidents at Tank Farm

	PREPARED BY:		INTERNAL REVIEW:		INTERNAL APPROVAL
COMPANY	DCVJV	DCVJV	DCVJV	DCVJV	DCVJV
NAME	Ashley AU	CHU Chung Sing	MA Chi Sing	WK POON	CHAN Man
POSITION	Assistant Environmental Officer	Environmental Officer	QSE Manager	Deputy Project Director	Project Director
SIGNATURE					
DATE	4/3/2014	4.3.2014	4/3/2014	4.3.2014	4.3.2014

Document Amendment Record

Rev.	Rev. Date	Sections	Amendment Source and/or Details
A	19/8/2012	All	For the first submission to the ETL for comments.
B	22/8/2012	All	Incorporated the ET's comments and amended text where necessary, Added Appendices B & C.
C	23/8/2012	Cover page	Same content as Rev. B. Submission to the SOR.
D	4/9/2012	All	Incorporated the IEC's comments and amended text where necessary.
E	7/9/2012	All	Incorporated the ENPO's comments and amended text where necessary.
F	26/10/2012	Section 5 Section 7.1 Appendix A Appendix B Appendix C	The contact persons and contact telephones of the Tank Farm is added. Incorporated the EPD's comments and amended text. The contact list is updated. The site boundary of Portion A and C is clearly marked and the evacuation route is added. The evacuation route is added.
G	20/2/2014	Pages 6 & 7 Page 10, Appendix B	Contact persons and telephone numbers were updated and so as the contact list. In view of the increasing number of workers in Portion A, one more assembly point is designated there for evacuation in emergency cases.

1.0 CONTENT

CONTENT

2.0 INTRODUCTION

2.1 Purpose

The Emergency Response Plan for Tank Farm has been developed in accordance with the Environmental Permit (EP352/2009/C) condition 2.10. It presents to minimize death and damages due to accidents occurred at the Aviation Fuel Tank Farm (the tank farm) at the Hong Kong International Airport, during the construction stage of the Highways Department Contract namely Contract No. HY/2011/09 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between HKSAR Boundary and Scenic Hill (LR9).

2.2 Objectives

The objectives of the Plan are

1. To establish a systematic and orderly evacuation procedure to any accidents at the tank farm in order to safeguard of human lives in the Airport Island and the Airport Channel,
2. To establish roles and responsibilities of LR9 site individuals and the coordination of the relevant government departments to deal with the accident, and
3. To address a notification procedure toward accidents in order to maintain an effective communication among concerned parties and personnel.

This plan is applicable to all Project personnel, including employees, contractors, subcontractors and site visitors, when performing tasks and activities on behalf of the Project or company (including travel to and from the work site). This plan is also applicable to all plant, tools, equipment and facilities utilized for and on behalf the Project, whether owned, hired, leased or borrowed by the Project, its employees, contractors, subcontractors or visitors.

3.0 BACKGROUND INFORMATION

3.1 Components of the Tank Farm and the LR9 Work Areas

The Airport Fuel Tank Farm (the tank farm) comprises nine original tanks (six large and three small), with an additional three large tanks which were constructed at a later date to meet the growth in demand anticipated by the Airport Authority Hong Kong (AAHK). A layout plan showing relative locations of the tank farm and the LR9 site is shown in Figure 3.1. The minimum distance between the LR9 site boundary and the perimeter of the farm tank facilities is about 60m. On the viaduct section of the LR9 near the tank farm, the highway elevation is similar to the tops of the tanks. The alignment and elevations of the LR9 are also shown in Figure 3.1, in which cross sections of the arrangements for both the existing and new extension facilities are also illustrated.

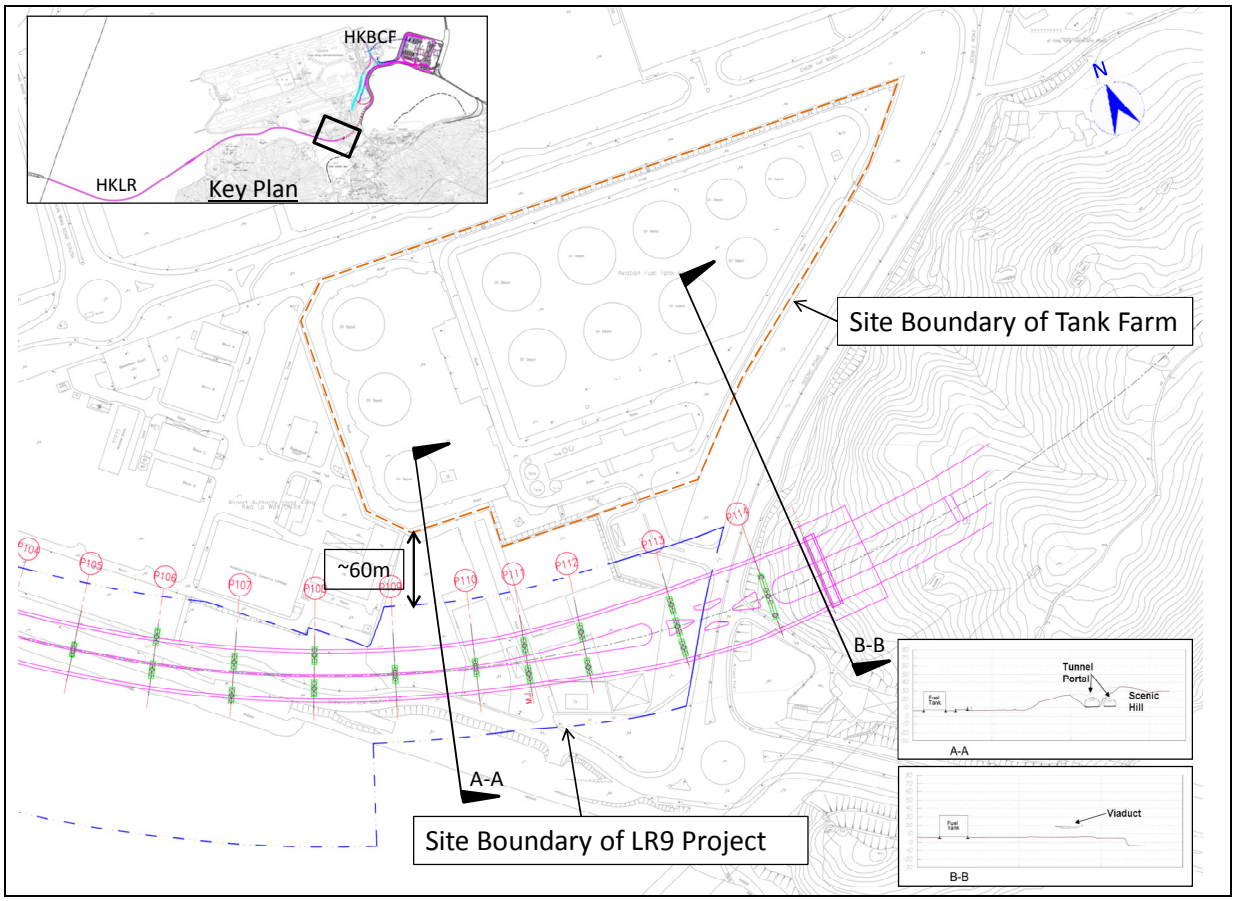


Figure 3.1 – Relative Locations of the tank farm and LR9

The bund arrangements for the existing and new extension facilities at the Airport Fuel Tank Farm are both of a similar format, comprising of an inner bund wall (1.5m in height at existing and 3.5m in height at new extension), positioned at a (minimum) distance of 10m from the tanks. A secondary outer bund/security fence (2m in height at existing and 5m in height at new extension) is provided, 12m from the primary bund wall, at the existing facility and 8.5m from the primary bund at the new extension facility. 4m from the outer bund is a security fence, beyond the security fence the ground slopes up forming a small natural bund. There is also a drainage ditch near the security fences. Figure 3.2 shows a typical cross section of the bund arrangement for both the existing and new extension facilities.

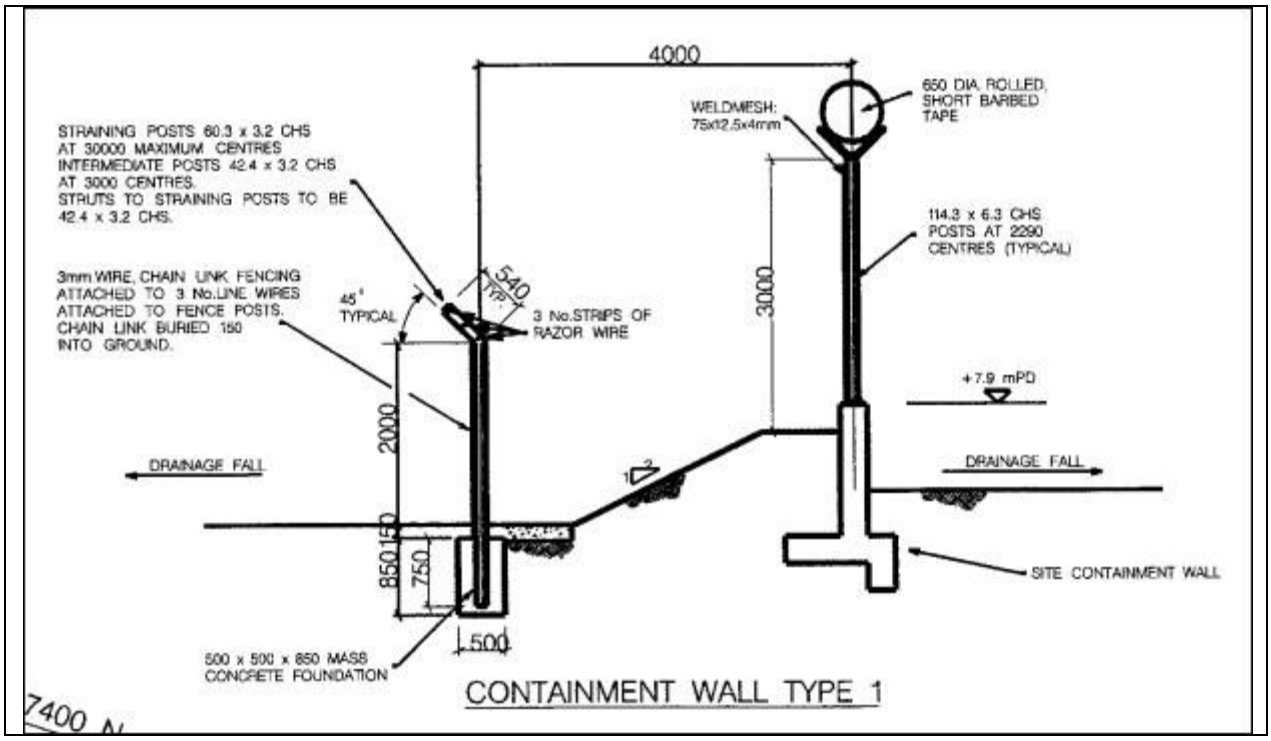


Figure 3.2 shows a typical cross section of the bund arrangement *< Annex G-2 – EIA Report for Tung Chung - Ngong Ping Cable Car Project>*

4.0 HAZARD IDENTIFICATION

4.1 Hazardous Scenarios

The Chapter 13 Hazard to Life Assessment of the EIA Report identifies various potential hazardous scenarios associated with the Airport Fuel Tank Farm (the tank farm) that could impact on the LR9 in construction phase. These hazardous scenarios are generally categorized into hazards of 'Fire', 'Fuel Spillage' and 'Fuel Leakage' as per EP condition 2.10.

4.2 Classification of Emergency Events

Emergency events as a result of the failure of the Airport Fuel Tank Farm (the tank farm) are classified into 2 categories in accordance with event scales and seriousness, namely,

1. Events requiring notifications, and
2. Events requiring evacuation from LR9 local site portion (Portions A & C) which is the nearest work area of LR9 adjacent to the tank farm. Apart from the Portions A & C, other work areas of viaduct section and WA3, 4, 6 and 7 are remote from the Tank Farm. Evacuations at these areas are considered not necessary.

Examples of the 2 types of events include, but are not limited to, those summarised in Table 4-1.

Table 4-1 Examples of Various Emergency Events

Emergency Classification	Examples
Events requiring notifications	1. Visible equipment failure or vehicle accidents observed inside the tank farm, 2. Visible fuel spillage or leakage events observed on land or in coastal area, but confined / controlled immediately inside the tank farm, 3. Any other event deemed potentially reportable.

Emergency Classification	Examples
Events requiring local evacuation (to be applied at the Site Portions A and C)	1. Fire occurred in the tank farm that cannot be extinguished with hand-held extinguishers, 2. Spillage or leakage events that cannot be immediately confined / controlled, 3. Injury to LR9 worker(s) as a result of emergency events in the tank farm.

5.0 EMERGENCY NOTIFICATION

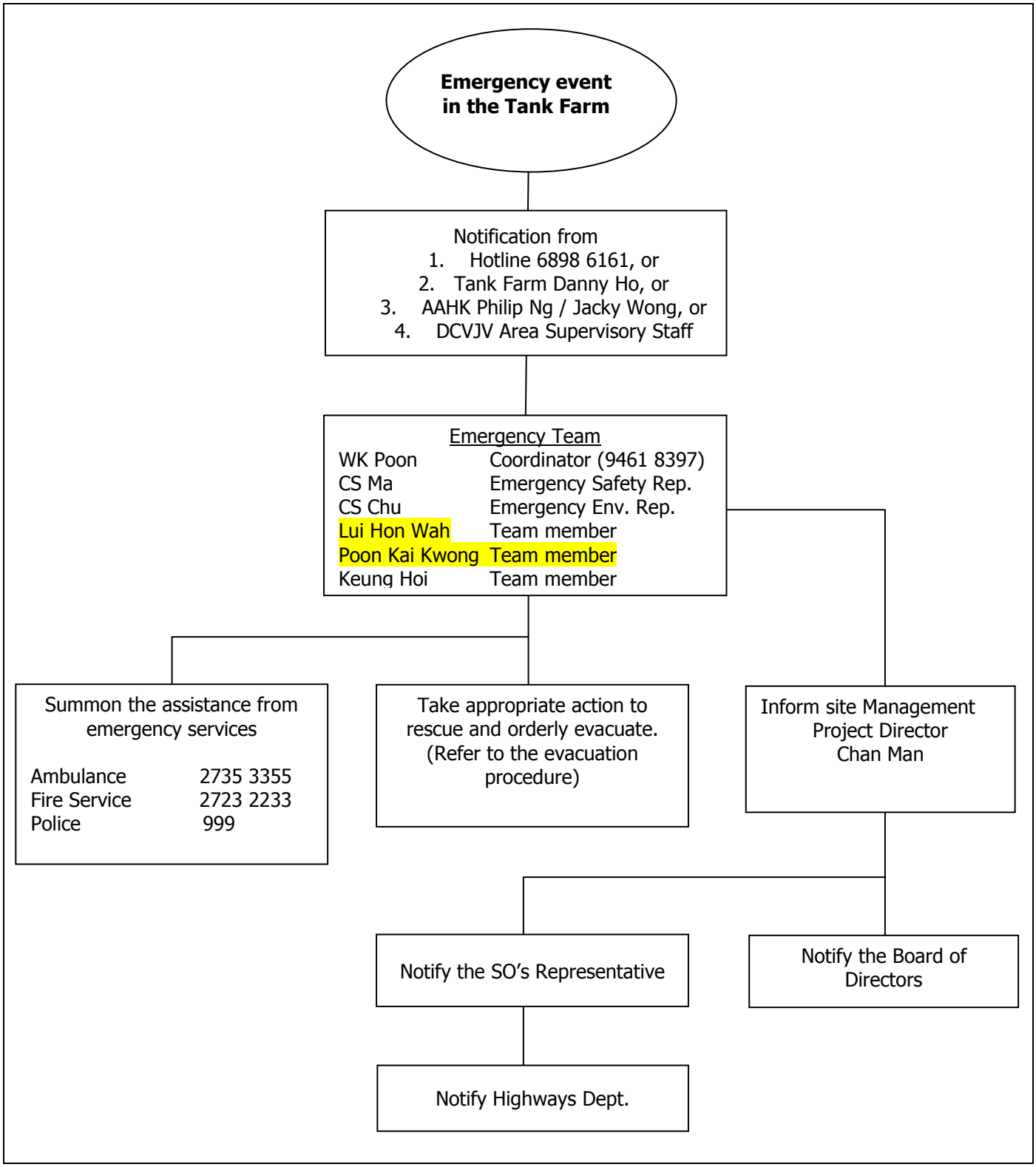
In the event of an emergency, to immediately notify LR9 site personnel, and to inform others of site emergencies is required. Communication equipment at the site will be a combination of radios and telephones (mobile, land-lines or intercom). A procedure of notification is illustrated in a flowchart in the following section and it will be followed for emergency events occurred in the tank farm.

A telephone hotline is established between the general public and the LR9 project as a channel of public participation. The hotline number will reach directly to a DCVJV management staff. In cases of emergency events, the general public may enquire or notify the DCVJV staff when observing emergency events, so that appropriate and prompt responsive actions from the LR9 project staff can be made.

The DCVJV management established connections to relevant personnel in the tank farm, Mr Danny Ho – Tank Farm Manager and Airport Authority Hong Kong (AAHK), Mr Philip Ng – Construction Safety Engineer / Mr Jacky Wong – Construction Superintendent, and this will be another effective pathway of communications in cases of emergency events.

5.1 Notification to Emergency Team and Emergency Services

The following flow chart illustrates the notification pathways for the DCVJV project team, involving the emergency team and SOR and project client, together with local services of ambulance, fire services, police that provide essential emergent assistances.



5.2 **Notifications to Other Concerned Parties**

There is a list showing other concerned parties to be notified of emergency events in tank farm when external supports from the parties are necessary. (**Appendix A**)

6.0 EMERGENCY TEAM

6.1 **Team Structure**

An emergency team shall be established for the project in order to dealing with emergency cases promptly. The emergency team shall comprise members of an emergency coordinator, deputy emergency coordinator, emergency safety and environmental representatives and team members. Table 6-1 lists the members' names and contact numbers of the emergency team.

Table 6-1 Emergency Team Members

Post	Name	Contact No.
Emergency Co-ordinator	W K POON	94618397
Emergency Safety Representative	C S MA	96276217
Emergency Env. Representative	C S CHU	68711634
Work Team Members – Site Agent	LUI Hon Wah	94610005
Work Team Members – General Foreman	Poon Kai Kwong	63000420
Work Team Members – Foreman	KEUNG Hoi	93454251
Work Team Members – Driver	Yau Siu Chun	92670073

This emergency team member list will be maintained and revised from time to time to ensure it is up-to-date. The telephone contact numbers shall be displayed on notice boards of all site portions.

6.2 **Roles and Responsibilities**

Emergency Coordinator

- Co-ordinate of all emergency situations,
- Determine the seriousness of the cases to take appropriate responding actions such as evacuation,
- Lead the emergency team to carry out appropriate emergency measures to ensure site workers are not exposed to any risk,
- Inform the emergency safety / environmental representatives, work team members, and the SOR as soon as possible in case of an emergency event in the tank farm,
- Ensure that staff are well trained for emergency procedures.

Emergency Safety Representative

- Assist the Emergency Coordinator in handling of responding actions towards emergency events of the tank farm,
- Design evacuation procedures and routes for emergency events of the tank farm,
- Advice the Emergency Coordinator on hidden danger or unforeseeable situation to be occurred in LR9 site arising from emergency events,
- Observe the whole proceeding of the emergency procedures,
- Participate periodical emergency drills, scrutinize the steps taken and give recommendation to the Emergency Coordinator for further improvement,
- Ensure the follow-up safety actions are implemented after emergency drill.

Emergency Environmental Representative

- Assist the Emergency Coordinator in handling of responding actions towards emergency events of the tank farm,
- Advice the Emergency Coordinator on hidden danger or unforeseeable situations on environmental aspects to be occurred in LR9 site arising from emergency events,
- Notify the Environmental Team Leader the emergency events, and make known to the dolphin experts,
- Monitor the air and water qualities to identify environmental impacts at sensitive receivers in vicinities,
- Arrange *ad hoc* site inspections to sensitive receivers,
- Assess the potential impacts on the local environment and ecology,
- Liaise the SOR for environmental measures in LR9 site after emergency events in the tank farm,
- Liaise relevant governmental departments such as EPD and AFCD to deal with environmental consequences arising from emergency events in the tank farm.

Work Team Members

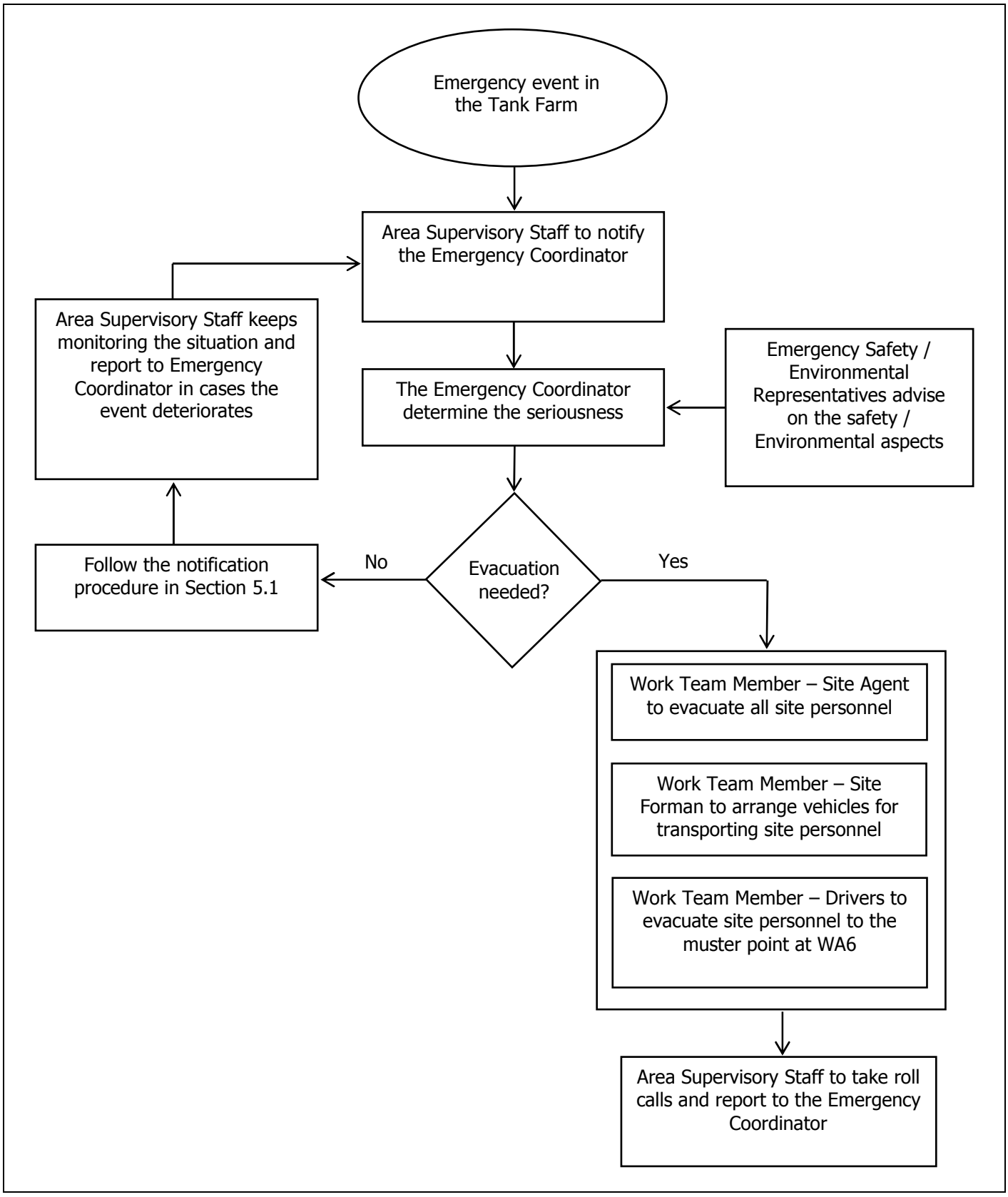
- Responsible to the Emergency Coordinator and shall follow the instruction to perform their duties,
- Be familiar with the emergency procedures, evacuation routes / access, locations of the first-aid points, work areas,
- Inspect and examine the first-aid equipment at regular intervals to ensure the equipment is in place and in good condition,
- Hasten evacuation procedure after receiving emergency calls from the Emergency Coordinator,
- Arrange the necessary plants or vehicles for evacuation,
- Control or mitigate hazards at the scene to prevent further damages to the property or injury to person under a safe condition,
- Provide suitable first aid treatment at scene by certified first aiders,
- Accompany the injured person to hospital,
- Report the latest situation of the injured person to the Emergency Coordinator.

7.0 SITE EVACUATION PROCEDURE

The evacuation procedure established for this plan only targets to a situation of local evacuation, that applies to the portions A and C work area of LR9 project (**Appendix B**), due to their close vicinities to the tank farm.

In events of the emergency that decided by the Emergency Coordinator necessary to evacuate the site personnel in the portions A and C, the work team member of the Site Agent will implement the procedure of the action plan to evacuate all the site personnel. All site personnel, including staff, workers and subcontractors, should stop the work immediately unless that pose any hazards and move in an orderly manner to leave the work areas. Vehicles should be ready to transport all site personnel to a designated muster point. The related site agent(s) should coordinate the roll call of each working team and report to the Emergency Coordinator.

The following flow chart illustrates the essential steps of the evacuation procedure.


Emergency event in the Tank Farm
Area Supervisory Staff to notify the Emergency Coordinator
Area Supervisory Staff keeps monitoring the situation and report to Emergency Coordinator in cases the event deteriorates
The Emergency Coordinator determine the seriousness
Emergency Safety / Environmental Representatives advise on the safety / Environmental aspects
Follow the notification procedure in Section 5.1
No
Evacuation needed?
Yes
Work Team Member – Site Agent to evacuate all site personnel
Work Team Member – Site Forman to arrange vehicles for transporting site personnel
Work Team Member – Drivers to evacuate site personnel to the muster point at WA6
Area Supervisory Staff to take roll calls and report to the Emergency Coordinator

7.1 **Evacuation Routes**

The evacuation routes for Portions A and C lead to the 2 local assembly points in the work site as a temporary shelter for subsequent evacuation by land or marine transports (**Appendix B**). The arrangement of the evacuation routes and assembly points are in compliance with those escape routes as stipulated in the safety plan. The routes will be clearly marked on location plans which are posted on walls of main access.

7.2 **Muster Location**

It is a safe location from emergency events of the tank farm, with a condition of easy access. In LR9 site area, the DCVJV site office compound area in WA6 will be the muster location (**Appendix C**). In the muster location, the site agent may coordinate the roll call again to ensure whole of the site personnel after evacuation. In cases of injuries, minor injured may receive first aid treatments at the muster point, whilst serious cases can be delivered immediately to a hospital nearby via ambulance waiting at the muster point.

8.0 STAFF TRAINING

All site personnel shall receive training in emergency procedures in the site specific induction training at the work commencement and subsequently in refresher trainings after 6 months. The emergency flow charts and the emergency telephone list shall be communicated to staff and workers and they should be posted onto the notice board for reference.

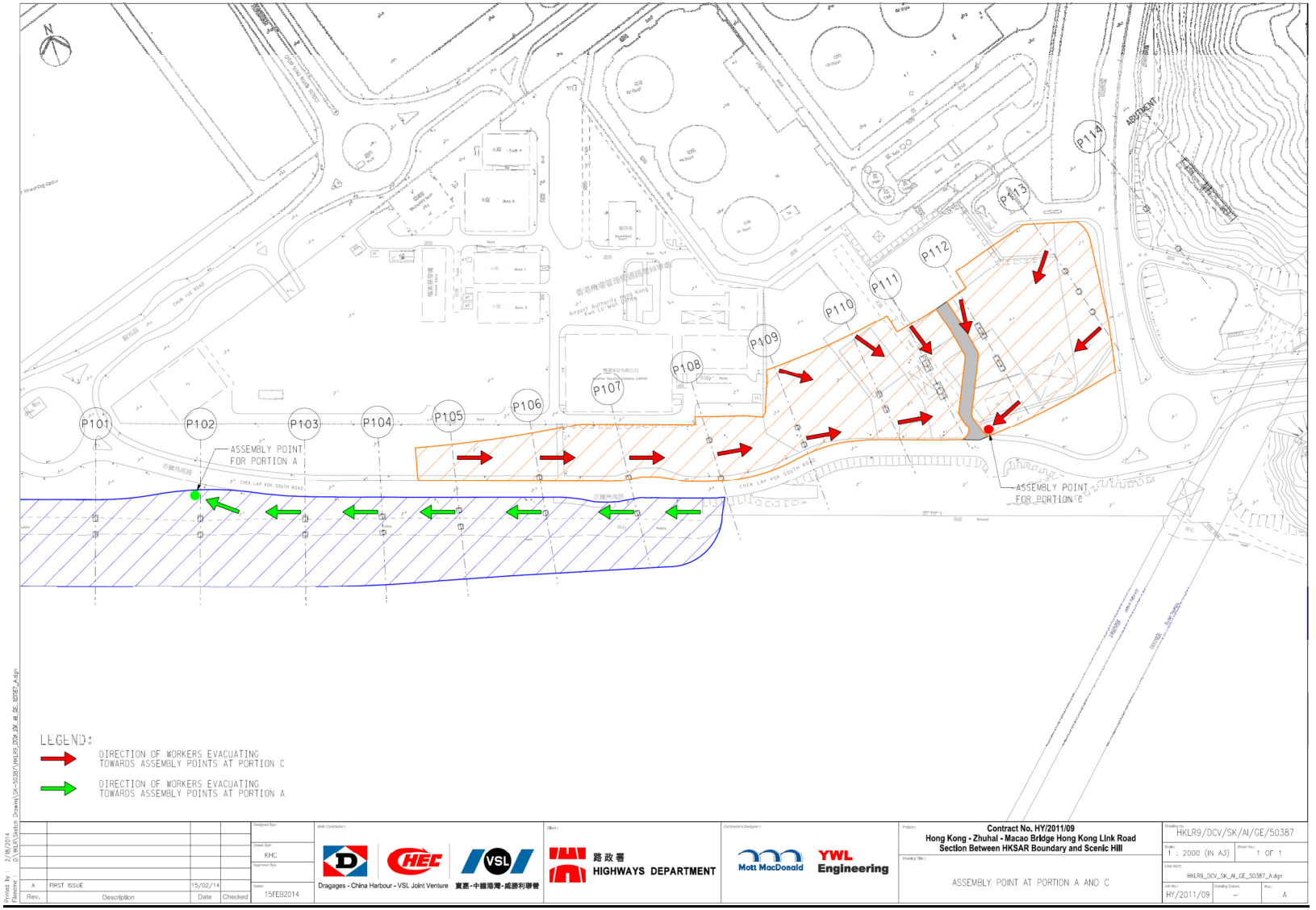
The members of emergency team shall receive training on evacuation drill in order to let them familiar with the established emergency procedures. The drill for evacuation will be performed once a year and it will form a part of the drill programme of the safety management in LR9 site.

END OF TEXT

Appendix A – External Support Teams and Contacts

Contact	Telephone No.
Airport Authority Hong Kong (Mr Philip Ng – Construction Safety Engineer / Mr Jacky Wong – Construction Superintendent)	21881217
Aviation Fuel Tank Farm (Mr Danny Ho – Tank Farm Manager)	25113380
Marine Department (VTC, Maritime Rescue & Oil Spill) (24 hrs)	22337801
Tuen Mun Hospital (switchboard) (24 hrs)	24685111
Environmental Protection Department (For marine spill, LI Kim Man (S(WP)1) / Leung Hing-biu, Joseph (E(WP)13)	24119604 / 25946152
Environmental Protection Department (For on-site spill, Regional South Office)	25161718
Agriculture, Fisheries and Conservation Department (Dr. Ivan Chan)	21506882
Hong Kong Flying Services	23058212
Airport Authority (Integrated Airport Centre)	29101108
Civil Engineering Development Department (Mines Division) (24 hrs)	81030722
Explosive Disposal Bureau (24 hrs)	28602501
Drainage Services Department	23001110
Water Services Department	28245000
Electrical and Mechanical Services Department	23333762
HK & China Gas	28806999
PCCW	109
Typhoon Enquiry (Hotline)	28351473
Weather Enquiry (Hotline)	1878200
Thunderstorm Enquiry (Hotline)	29268473

Appendix B – Site Layout Plan of Portions A & C Showing the Assembly Points



Appendix C – Site Layout Plan of WA6 Showing the Muster Point