



Contract No. HY/2011/03

**Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road
Section between Scenic Hill and Hong Kong Boundary Crossing
Facilities**

Emergency Response Plan for Incidents at Tank Farm

Rev. 2

4 September 2012

Main Contractor



Designer

ATKINS



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1 Background

- 1.1.1 This Emergency Response Plan for Tank Farm is prepared for Contract HY/2011/03 Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and Hong Kong Boundary Crossing Facilities (“the Contract”) for the Highways Department of HKSAR. The Works in this Contract are considered to be a “Designated Project”, under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap 499) and an Environmental Impact Assessment (EIA) Report was undertaken “Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road (HKLR)” (Register No. AEIAR-144/2009). An Environmental Permit (EP) was successfully applied for and received on 23 October 2009 (EP-352/2009). The EP was subsequently varied and reissued on 31 October 2011 (EP-352/2009/A). These documents are available through the EIA Ordinance Register.
- 1.1.2 The construction site of the Scenic Hill Tunnel is located at a distance of 162m away from the nearest tank at the Aviation Fuel Tank Farm where a large amount of flammable jet fuel is stored. The location of the Tank Farm and the boundary of the construction area is shown in Figure 1. Due to the close proximity of the construction site with the tank farm, an emergency response plan should be prepared. The purpose of this document is to fulfil the Condition 2.10 of the Environmental Permit for the Project to detail the emergency response procedures in the event of fire, fuel spillage and fuel leakage at the tank farm.

2 Foreseeable Emergency Condition inside Construction Site due to Incident happening in the Aviation Fuel Tank Farm

- 2.1.1 According to the Hazard to Life Assessment of the approved EIA Report conducted for the Hong Kong Link Road Project, fuel spillage outside tank bund with subsequent ignition, thermal radiation emitted from bund fire and smoke dispersion have been identified as potential hazardous scenarios caused by the tank farm.

3 Emergency Team Organization Chart

- 3.1.1 The personnel of the Emergency Team are full-time on site and it will be triggered in case of emergency. In case of sick leave/holiday leave of individuals during emergency case, other construction managers and safety officer will take up their relevant responsibility. Where an emergency happens after working hours, members of the Emergency Team will be called up when necessary. The Organisation Chart of China State’s Emergency Team is shown in **Appendix A**.
- 3.1.2 Members of the emergency team should have received sufficient trainings in handling emergency situations. There will be trained personnel to use fire-fighting equipment and provide first aid. In particular, two certified first aiders will be included in the Emergency Team.

4 Function of Site Emergency Team

- 4.1.1 The functions of the site emergency team in relation to Aviation Fuel Tank Farm incident are to:
- Contact Aviation Fuel Tank Farm operator (AFSC) and confirm the situation of aviation fuel spillage or fire;
 - Notify relevant government departments / organisations if necessary;



- Assess the seriousness and potential impact to the construction site and initiate emergency evacuation if necessary;
- Assist in evacuating all workers and staff to assembly point;
- Assist in checking casualty, provide first aid treatment and accompany to hospital, if required;
- Under a safe situation, fence off the scene and staying intact;
- Report the incident to relevant parties; and
- Lead external rescue team to the scene, to assist Fire Services Department personnel to rescue trapped people if required.

4.1.2 The roles of site emergency team personnel required to handle Aviation Fuel Tank Farm incident are specified in the following table:

Position	Responsibility
Emergency Coordinator	<ul style="list-style-type: none"> • Notify Team Leader (Deputy Site Agent) immediately about the accident. • Determine with Team Leader (Deputy Site Agent) if an emergency evacuation is required and any emergency action is required. • Analyse the situation and determine if rescue services from relevant government departments are necessary (e.g. Ambulance Station, Fire Services Department). • Organize of rescue team to deal with emergency situation before the arrival of the rescue services. • Inform onsite Safety Officer about the incident. • Act as a point of contact for the rescue services such as police and fireman arriving at the construction site. • Conduct a review of the accident site with onsite Safety Officer after resolving the accident and determine if it is safe to resume the construction work. • If it is not safe to resume the construction work after the accident, it is necessary to report the situation to Team Leader (Deputy Site Agent) and determine the appropriate action required. • Instruct team member to release the accident site to allow staff to go back to the construction site under a safe situation. • Conduct a post-accident review and report the review to Team Leader (Deputy Site Agent).
Team Leader (Deputy Site)	<ul style="list-style-type: none"> • Work with Emergency Coordinator and Safety Officer to develop



Agent)	<p>actions to handle the emergency situation.</p> <ul style="list-style-type: none"> Participate in the post-accident review and report the review to head office of the China State Construction Engineering (HK) Ltd. (CSHK) and Supervising Officer's Representative/Delegates.
Safety Officer	<ul style="list-style-type: none"> Work with Team Leader and Emergency Coordinator to develop actions to handle the emergency situation Notify the accident to Labour Department/Marine Department if necessary Notify the accident to CSHK Head Office –Safety & Environmental Protection Department). Instruct General Foremen to take the required actions (e.g. asking them to announce emergency evacuation to other site workers. Work with Emergency Coordinator to conduct a post-accident review to determine if it is safe to resume the construction works.
General Foremen	<ul style="list-style-type: none"> Take actions instructed by Safety Officer/Emergency Coordinator. Conduct head-count in the Emergency Assembly Point and report any missing person to the Safety Officer/Emergency Coordinator.
First Aiders	<ul style="list-style-type: none"> Provide first aid to injured worker

5 Contact List of Site Emergency Team

5.1.1 The Contact List of Site Emergency Team is shown in **Appendix B**.

6 Government Authority & Outside Emergency Contact List

6.1.1 The Government Authority & Outside Emergency Contact List is shown in **Appendix B**.

7 Emergency Response Procedure

7.1 Evacuation Procedure



1. When an incident occurs in the Aviation Fuel Tank Farm (e.g. fire, leakage, spillage, etc.), emergency coordinator in the site will be notified by AFSC immediately.
2. The emergency coordinator will gather all emergency team members.
3. The emergency team will assess the seriousness of the incident and determine if an emergency evacuation of all construction workers is required.
4. Should an emergency evacuation is not required, a person will be assigned the duty to keep a close monitoring of the situation until the incident is controlled.
5. Should the spillage overflowing the bund wall or a significant fire occurred, an emergency evacuation is required. The emergency team members will announce (in Cantonese, Mandarin and English) on loudspeaker as follows:

“Attention please! Attention please! There is an emergency occurred in the construction site, please switch off the construction machine and evacuate to the emergency assembly point orderly and report to the person in charge.”

6. The emergency team members will lead the construction workers to an emergency assembly point and head count will be conducted at the assembly point to ensure no one is left inside the construction site. The location of the emergency assembly point is shown in **Appendix C**.
7. Under a safe condition, the emergency team members will block all access to the scene of emergency to prevent un-authorized entry.
8. The emergency coordinator will dial 999 to call the Fire Services Department and Police Force to report the spillage incident.
9. The emergency coordinator will also report the incident to other relevant parties such as the Supervising Officer immediately.
10. Upon arrival of the firemen and policemen at the scene, the emergency coordinator will provide assistance to them.
11. If someone is missing, the emergency coordinator will report the missing to the policemen and firemen.
12. Nobody is allowed to return to the affected area for any reason until they are authorized to do so.
13. When the incident is recovered and permission has been granted from the firemen and policemen, the emergency coordinator will first go into the affected area and identify the area and the construction machines being affected by fire/leakage or fuel spillage.

14. The affected area and equipment will be rectified and/or replaced before construction work is resumed.
15. The emergency team will record the details of the emergency and submit to the Supervising Officer.
16. A meeting will be held following the emergency for reviewing the problem arisen. Minutes of the meeting will be recorded.

7.2 Notification Arrangement

- 7.2.1 China State will inform the Airport Fuel Tank Farm operator (AFSC) about the details of the construction work before the tunnel construction is commenced and a formal communication channel between the two parties should be set up and maintained throughout the construction period.
- 7.2.2 In case of jet fuel spillage from the tank farm, AFSC will contact the construction site to report the incident. Upon receiving the reported incident, the emergency coordinator in the construction site will review the incident. If this is a minor fuel spillage (i.e. contained within the bund wall) without the potential to affect the construction site, the emergency coordinator will assign a staff to keep monitoring the situation. The emergency coordinator will report the incident to the Team Leader and in turns will report to the Supervising Officer's Representative / Delegates.
- 7.2.3 In case of significant fuel spillage which may potentially affect the construction site, the emergency coordinator in the construction site will first contact Fire Services Department and Police Force to report the incident and ask for assistance. The operator of the fuel tank farm will be contacted to confirm the latest situation of the incident and remedial work. Under a safe situation, the emergency coordinator and the Team Leader will report the incident and any damage/casualty to the Supervising Officer's Representative / Delegates and other relevant Government Departments (including HyD, MD, EPD, and AFCD where appropriate).
- 7.2.4 Post-accident review will be conducted should there is any damage/casualty on site. The findings of the review will be reported to the Supervising Officer's Representative / Delegates and Labour Department within one month after the incident .

8 Evacuation Drill and Training on Emergency Procedures

- 8.1.1 Fire and evacuation drills will be held at interval of 6 months for all site workers and staff. Training on emergency procedures will be provided during induction training, and refreshments on the subject will be given every two month during the regular toolbox talk sessions.

9 Evacuation Route Map

- 9.1.1 The evacuation route map, which is shown in **Appendix C** will be posted at the bulletin boards at the site entrances and other conspicuous places that allow workers to read. .



路政署
HIGHWAYS DEPARTMENT

港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge
Hong Kong Project Management Office

Contract No. HY/2011/03 : Hong Kong-Zhuhai-Macao Bridge
Hong Kong Link Road - Section between Scenic Hill
and Hong Kong Boundary Crossing Facilities
Emergency Response Plan for Incidents at Tank Farm (Rev.2)

FIGURE 1



中國建築工程(香港)有限公司
CHINA STATE CONSTRUCTION ENGINEERING (HONG KONG) LTD.

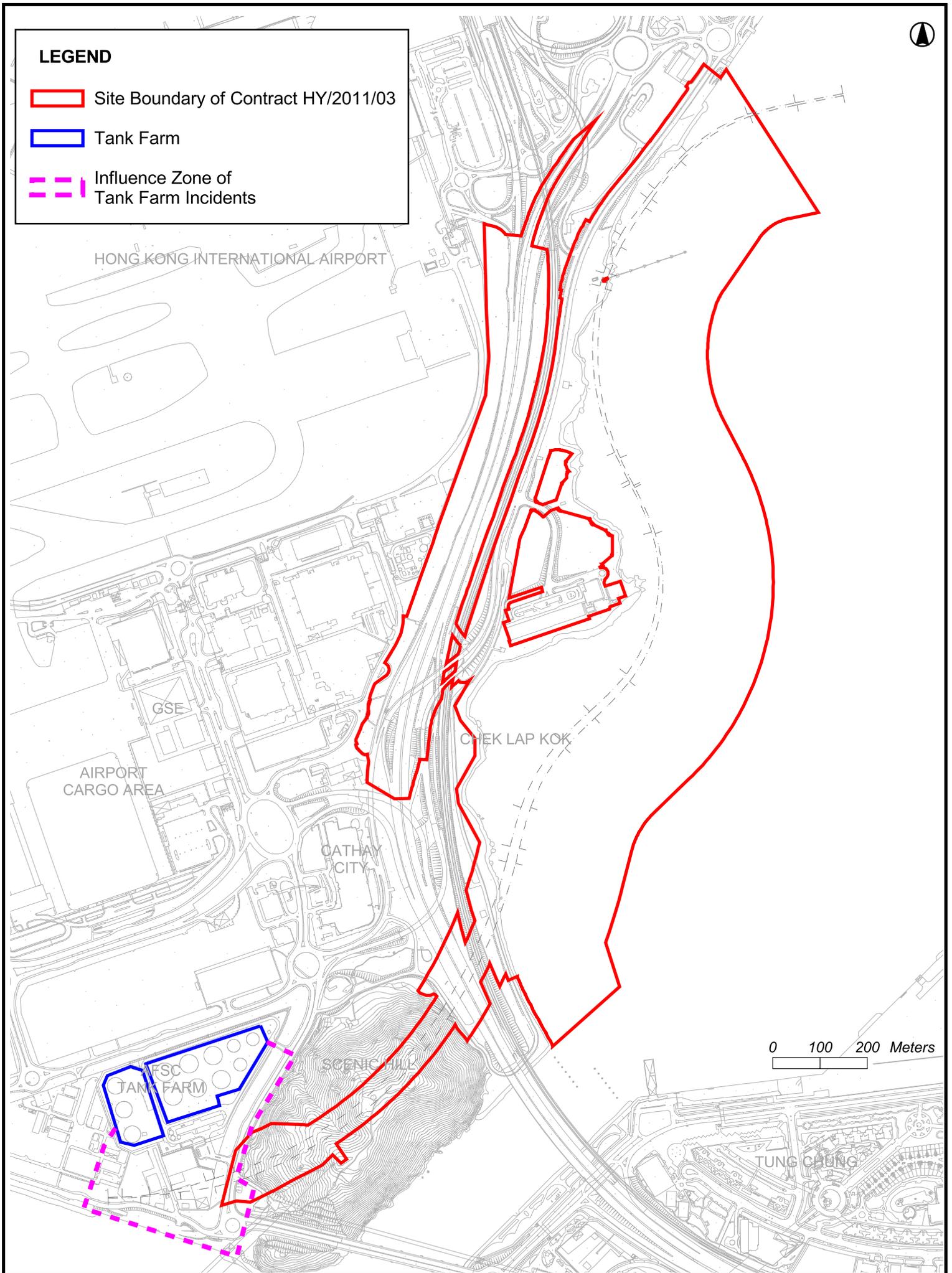


Figure 1: Location of the Tank Farm and Boundary of the Construction Site



路政署
HIGHWAYS DEPARTMENT

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Hong Kong - Zhuhai - Macao Bridge
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Hong Kong Link Road - Section between Scenic Hill
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APPENDIX A

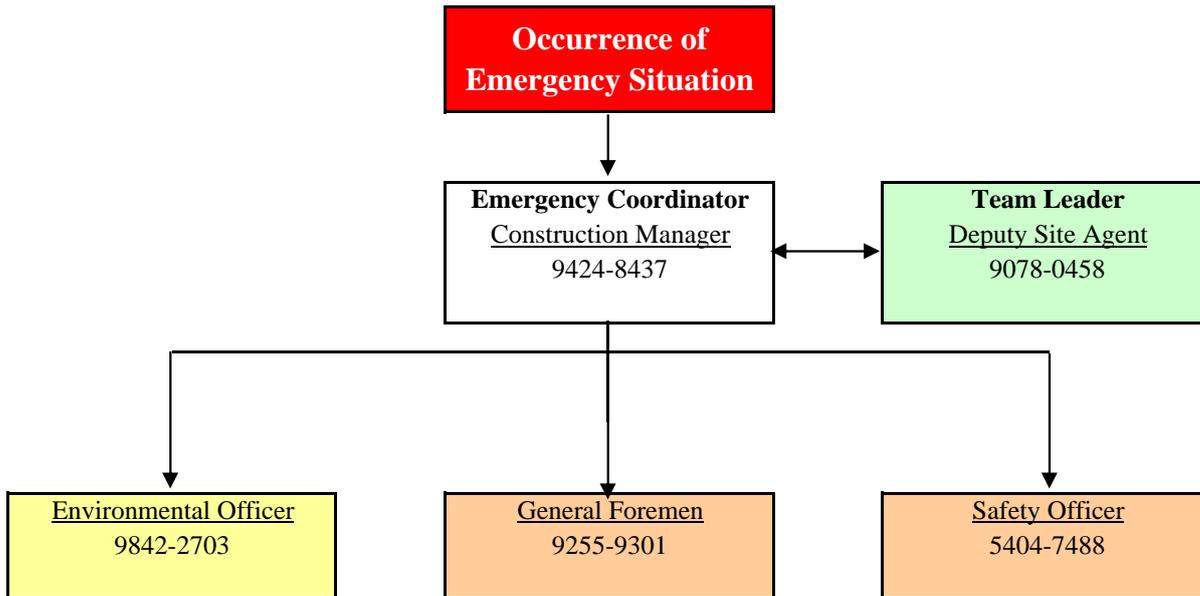
O-Chart of Emergency Team



中國建築工程(香港)有限公司
CHINA STATE CONSTRUCTION ENGINEERING (HONG KONG) LTD.



Contact List of Site Emergency Team





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Hong Kong Project Management Office

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APPENDIX B

Contact List of Site Emergency Team and Government Authority & Outside Emergency



中國建築工程(香港)有限公司
CHINA STATE CONSTRUCTION ENGINEERING (HONG KONG) LTD.



中國建築工程(香港)有限公司

China State Construction Engineering (Hong Kong) Limited

HY/2011/03 Hong Kong-Zhuhai-Macao Bridge

Hong Kong Link Road – Section between Scenic Hill and Hong Kong Boundary Crossing Facilities

地盤緊急聯絡電話表

CSHK Emergency Telephone List 中國建築緊急事故電話聯絡表

<u>Post 職位</u>	<u>Telephone 電話</u>
Deputy Site Agent 副地盤代表	9078 0458
Construction Manager 施工經理	9424 8437
Safety Officer 安全主任	5404 7488
Environmental Officer 環保主任	9842 2703
General Foreman 總管	9255 9301

Government Department Emergency Telephone List 政府部門緊急事故電話聯絡表

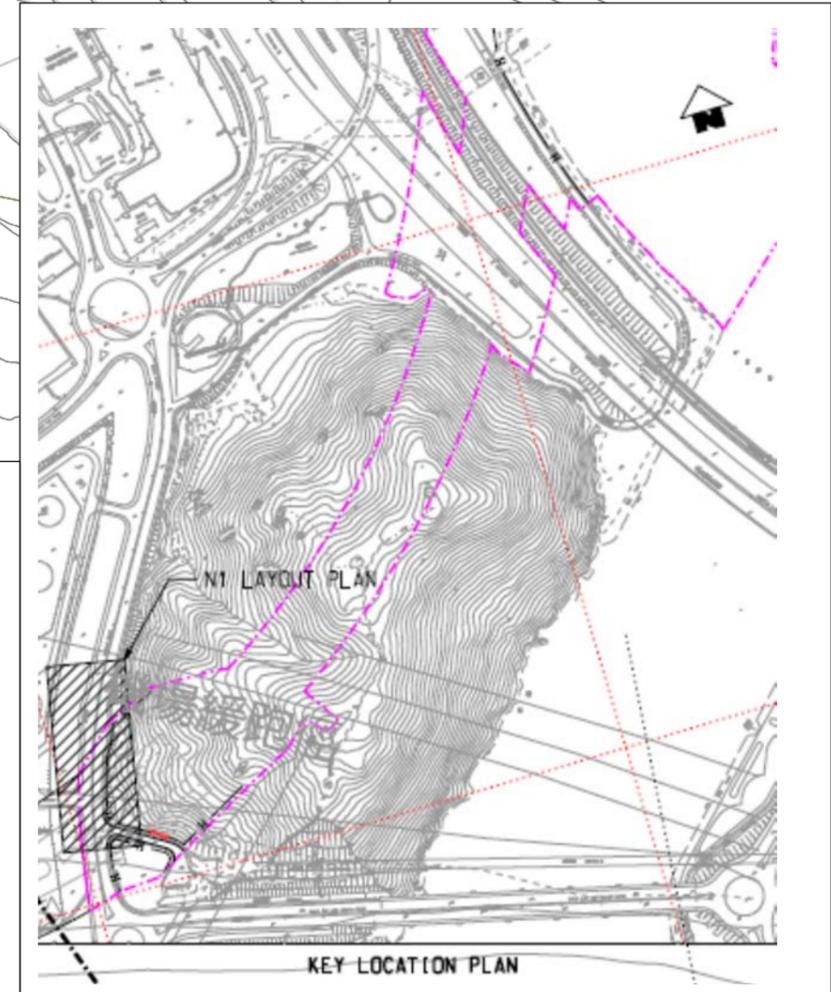
Ambulance Services	救護車	2735 3355
Police Station (Tung Chung North)	警察局 (東涌北)	999 / 3661 1694
Police Station (Chek Lap Kok)	警察局 (赤臘角)	999 / 3661 1688
Fire Services Department (Tung Chung)	消防局 (東涌)	2988 1898
Fire Services Department (Chek Lap Kok)	消防局 (赤臘角)	2949 9081
Highways Department	路政署	2926 4111
Water Services Department	水務署	2824 5000
Labour Department	勞工處	2463 8355
Marine Department	海事處	2542 3711
Hong Kong Observatory	香港天文台	2926 8200 / 1878 200
China Light Power Ltd.	中華電力	2728 8333
Town Gas	煤氣公司	2880 6999
Airport Authority	機場管理局	2188 1104
Mass Transit Railway Corporation	地鐵公司	2881 8888
AFSC Operations Limited (Aviation Fuel Tank Farm)	香港航煤營運有限公司 (機場航煤油庫)	2511 3380
Ngong Ping 360 Limited	昂坪 360	3666 0606



APPENDIX C

Emergency Assembly Point and Evacuation Route Map





Evacuation Route Map

Legend

- 1  Assembly Point
-  Direction of Evacuation
-  HOARDING
-  WATER FILLED BARRIER WITH PLASTIC BOARD
-  UPGRADE TRAIL (GRADE 40/20)
-  150 THK. CONCRETE (GRADE 30/20)