CHINA HARBOUR ENGINEERING CO., LTD.

Spill Response Plan

For

Contract No. HY/2019/01

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES –
PHASE 2 AND OTHER WORKS

HIGHWAYS DEPARTMENT

The Government of the Hong Kong Special Administrative Region

Revision No.: **Rev.2**

Date: **13 February 2020**

Prepared by: _____

Mr. Matthew Wu, Environmental Officer

Endorsed by: _____

Mr. S.Y. Wong, Site Agent

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APPENDICES

1 INTRODUCTION

China Harbour Engineering Company Limited (hereafter CHEC) is the Main Contractor to responsible for the execution of the construction works for the Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Phase 2 and Other Works under Highways Department Contract number HY/2019/01.

The works mainly include the following works:

a) Landscaping and establishment works;
b) Irrigation system and associated drainage pumping system and facilities;
c) Erection and installation in the Passenger Clearance Building;
d) Public transport interchange (PTI) public toilet, satellite refuse collection point (RCP) and observation guard booths;
e) PTI cross boundary shuttle (CBS) / cross boundary coach (CBC) lanes and covered walkway;
f) Vehicle clearance plazas (VCP) vehicle kiosks and associated automatic vehicle clearance supporting system (AVCSS).

The main scope of works under the Contract does not include marine construction or vessel operation related to construction works.

Under the clause 2.7 of Specific Condition of Environmental Permit No.: EP-353/2009/K, a Spill Response Plan should be submitted at least 1 month before the commencement of construction of the project. The plan includes the actions to be taken in the event of accidental spillage of oil or other hazardous chemicals aiming to minimize the adverse effects to marine ecology.

The site areas of Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Phase 2 and Other Works are located at the northeast of the Chek Lap Kok. The layout illustrated the location of the site area; please refer to the *Appendix A* for reference.

2 EMERGENCY RESPONSE TEAM

2.1 Emergency Team Organization Structure

The organization structure for waste management is outlined in ***Figure 2.1***. This chart outlines the overall site management in relation to the chemical spillage. Details on the roles and responsibilities of staffs responsible for implementation of the spillage response plan are outlined below.

2.2 Roles and Responsibilities

2.2.1 Emergency Team Leader

- Coordinate of all emergency situations at management level;
- Estimate the emergency situation and take appropriate remediate action;
- Supervise the emergency team to provide proper measure to minimize the impact from spillage incidents;
- Allocate resource and manpower for the spillage incidents and emergency procedure;
- Communicate with emergency team member and report to ER for the emergency cases;
- Ensure all members / workers are well trained for the emergency procedures.

2.2.2 Supporting Member (Environmental)

- Review the Spill Response Plan if necessary;
- Assist and advice the Emergency Team Leader to handle spillage cases;
- Ensure the emergency procedures are handled under environmental requirements;
- Provide environmental related training to the all team members and workers for the emergency procedures.

2.2.3 Supporting Member (Safety)

- Assist and advice the Emergency Team Leader to handle spillage cases;
- Ensure the emergency procedures are handled under safety requirements;
- Provide safety equipments and PPE for the emergency procedures if necessary;
- Arrange safety training to the all team members and workers for the emergency procedures.

2.2.4 Supporting Member (Construction Team)

- Monitor the sub-contractors and provide mitigation measure for the spillage;
- Report Emergency Team Leader and communicate with other team members for the emergency cases;
- Assist and advice the Emergency Team Leader to handle spillage cases;
- Arrange the manpower and resource in site level for the spillage incidents and emergency procedure;

2.2.5 Action Member

- Assist the Emergency Team Leader and other team members to handle spillage cases at site level;
- Follow the instruction and emergency procedures for the remediation;
- Ensure spillage is avoided and/or minimized as much as practically possible at site;
- Maintain the inventory and proper storage of oil and chemical on site;
- Proper storage of the spill kits and related equipments;
- Attend the related environmental or safety training for emergency procedures.

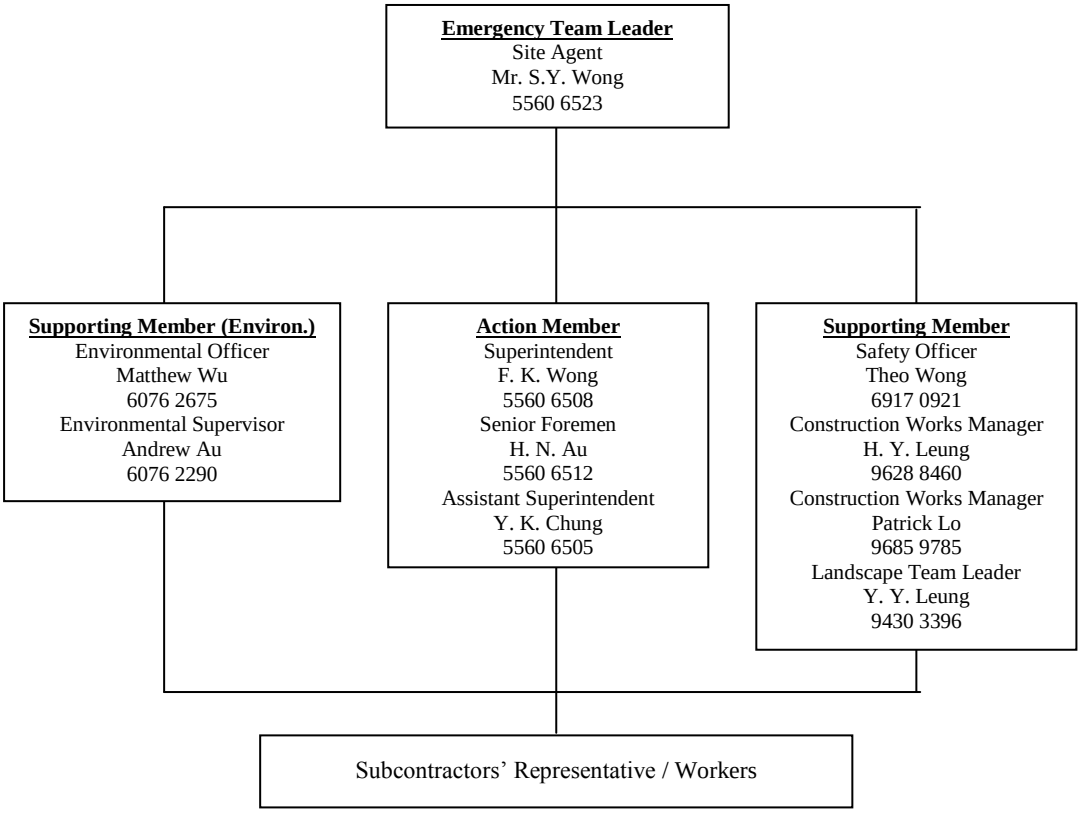

Figure 2.1: The Organizational Structure for Emergency Team

Name	Emergency Position	Post	Telephone No.
Mr. S.Y. Wong	Emergency Team Leader	Site Agent	5560 6523
Matthew Wu	Supporting Member (Environ.)	Environmental Officer	6076 2675
Andrew Au		Environmental Supervisor	6076 2290
Theo Wong	Supporting Member (Safety)	Safety Officer	6917 0921
H.Y. Leung	Supporting Member (Construction)	Construction Works Manager	9628 8460
Patrick Lo		Construction Works Manager	9685 9785
Y. Y Leung		Landscape Team Leader	9430 3396
F. K. Wong	Action Member	Superintendent	5560 6508
H. N. Au		Senior Foreman	5560 6512
Y. K. Chung		Assistant Superintendent	5560 6505

Table 2.1: Contact List of Designated Persons for Emergency Team

2.3 Notification and Contact of Relevant Parties

This will be the responsibility of the most senior and experienced worker involved and the immediate works supervisor. If the spill is small and contained easily, then the EO shall be informed and information will be given to the Engineer Representative (ER) as soon as practicable. Both may choose to inspect the area if the spill is less than 100m^2 to confirm that the spill is contained and the correct / most suitable clean up procedure has been implemented. In all cases of spillage, representative photographs shall be taken before and after clean up. If the spillage persists, daily photo records should be taken. The EO shall be responsible for keeping a record of the spill incidence.

In the event of spillage area greater than 100m^2, both EO and ER shall be required to attend the area to check the spill was contained and for proper cleanup. A photograph record shall be kept, as shall be a record by both the EO and the ER. The Construction Works Manager / Senior Foreman / Foreman shall also be informed of the incident. If there was full containment and no significant quantity entered into the marine environment, then the event shall be documented.

Relevant parties shall be notified if the spillage area is greater than 100m^2, under such circumstances, responsible personal in the relevant parties shall be notified, if their support is needed. The contact of the relevant parties listed on ***Table 2.2***.

Others Concerned Parties	Telephone No.
Engineer Representative (AECOM – Mr. Jason Yu)	3748 8903
Independent Environmental Checker (Ramboll – Mr. Ray Yan)	5181 8723
Environmental Team Leader (Fugro – Calvin Leung)	3565 4441
Environmental Protection Departments (Regional Office (South))	2516 1718
Environmental Protection Departments (Mega Project – Alfred Lo)	2516 1782
General Emergency Services	999
Fire Services Department	2723 2233
Tung Chung Ambulance Depot	2988 1898
Agriculture, Fisheries and Conservation Department (AFCD)	2150 6882
Dolphin Stranding Hotline (AFCD)	1823
Airport Authority Hong Kong	2181 8888
Marine Department (Maritime Rescue Coordination Centre)	2233 7999
Labour Department	2717 1717

Table 2.2: Contact List of Others Relevant Parties

3 GENERAL PRACTICE

In order to minimize the charge of accidental spillage occurring during the storage and transportation of chemicals or containers of chemicals to and from the construction site, some precautionary measures will be implemented on site as far as possible:

3.1 Storage

- Drip trays should be provided for oil/hazardous chemicals containers and / or generators;
- Stack oil/hazardous chemical containers properly to prevent falling of such containers;
- Provide tightly closed lids so as to avoid leakage of oil/hazardous chemicals;
- Store compatible chemicals and the waste in the same storage area;
- Inspected the storage area regularly to ensure compliance;
- The storage areas of oil/hazardous chemicals should be located remote from the coast and any other water bodies as far as practicable;
- Label the storage containers and the chemical tanks according to the EPD's "Code of Practice on the Package, Labeling and Storage of Chemical Wastes",
- Provide adequate ventilation in the storage area as necessary;
- Prohibit open flames and smoking near the chemical storage and fuel storage areas;
- Store large and heavy containers on the floor as far as possible and avoid storing these containers higher than 0.75m above the floor level (storage in vessel / barges are exclusive);
- Keep all chemicals, chemical wastes and fuel oil storage containers below eye level for easy inspection;
- Provide adequate space for safe and easy handling and inspection of the containers;
- Maintain an up-to-date log of all chemicals, chemical waste and fuel oil stored at site;
- Separate incompatible chemicals from one another;
- Keep the ingress to the chemical storage area locked and restrict access;
- Provide a bucket of dry sand and a suitable fire extinguisher in the storage area.

3.2 Transportation

- Use a suitably sized container so as to avoid overfilling;
- Use pumps to transfer oil/hazardous instead of manually pouring;
- Label the oil/hazardous chemical containers properly;
- Provide a containment structure able to hold any chemicals or chemical wastes that is accidentally spilled;
- Use suitable carrying equipment to transfer the oil/hazardous chemical containers from one location to another;
- Only employ and use suitably licensed, trained and responsible chemical waste collector to carry out the transportation requirements.

4 GENERAL SPILLAGE RESPONSE

The general response to the spill shall be carried out to minimize the amount of oil or hazardous chemicals to the environment. The location of the spill is also a consideration. The general response includes the following:

4.1 Spill contained on Land

All persons on site shall be responsible for observing the spill and to report their immediate supervisor immediately, immediate supervisor inform the Emergency Team Leader. A safety manager in Emergency Team shall be assigned to lead a working team and to deploy the Spill Kits to the spillage site. Depending on the scale of the spillage area of 100m^2, there are two scenarios of spill response procedures to be applied.

4.1.1 Scenario 1 – Spillage area within 100m^2

- The Emergency Team Leader shall inform the parties such as Engineer's Representative (ER), Environmental Team (ET), Independent Environmental Checker (IEC) and the emergency team members;
- The Emergency Team shall be responsible for organizing the manpower and resource to identify the spill source and stop or cease it;
- The Emergency Team who equip with suitable personal protective equipment to remove any leaked chemical or chemical waste;
- The spillage area shall be contained by using secondary oil containment (SOC);
- Pads and pillow of the spill kit shall be applied to absorb and remove the spillage within the SOC;
- The absorbent pads and pillows will be collected by disposal bags as part of the spill kits item;
- The used spill kits will be treated, stored and disposed of as chemical waste according to the necessary procedures; and
- An incident report will be submitted to the ER, ET, IEC and ENPO within 2 working days.

4.1.2 Scenario 2 – Spillage area exceed 100m^2

- The Emergency Team Leader shall inform all parties such as ER, ET, Highways Department (HyD), Independent Environmental Checker (IEC), Environmental Protection Department (EPD) and the Project Emergency Team members

immediately. The contacts of the other concerned parties are shown in ***Table 2.2***;

- The weather forecast for the area will also be used to determine the likely direction of movement (if any) of the surface spill;
- The Emergency Team shall be responsible for organizing the manpower and resource to identify the spill source and stop or cease it;
- The Emergency Team who equip with suitable personal protective equipment to remove any leaked chemical or chemical waste;
- The spillage area shall be contained by using secondary oil containment (SOC);
- Pads and pillow of the spill kit shall be applied to absorb and remove the spillage within the SOC;
- The absorbent pads and pillows will be collected by disposal bags as part of the spill kits item;
- The used spill kits will be treated, stored and disposed of as chemical waste according to the necessary procedures;
- An incident report will be submitted to the ER, ET, IEC and ENPO within 2 working days.

4.2 Spill contained into Marine Environment

The main scope of work of the Contract does not include marine construction or vessel operation related to construction works. The handling procedures and notification system is separated into two scenarios, namely within the area of spillage of 100m^2 and over.

4.2.1 Scenario 1 – Spillage area within 100m^2

- The Emergency Team Leader shall inform the parties such as Engineer's Representative (ER), Environmental Team (ET), Independent Environmental Checker (IEC) and the emergency team members;
- The Emergency Team shall be responsible for organizing the manpower and resource to identify the spill source and stop or cease it;
- The Emergency Team who equip with suitable personal protective equipment to remove any leaked chemical or chemical waste;
- The spillage area shall be contained by using secondary oil containment (SOC);
- Pads and pillow of the spill kit shall be applied to absorb and remove the spillage within the SOC;
- The absorbent pads and pillows will be collected by disposal bags as part of the spill kits item;
- The used spill kits will be treated, stored and disposed of as chemical waste

according to the necessary procedures; and

- An incident report will be submitted to the ER, ET, IEC and ENPO within 2 working days.

4.2.2 Scenario 2 – Spillage area exceed 100m^2

- The Emergency Team Leader shall inform all parties such as ER, ET, Highways Department (HyD), Independent Environmental Checker (IEC), Marine Department (MD), Fire Services Department (FSD), Agriculture, Fisheries and Conservation Department (AFCD), Environmental Protection Department (EPD) and the Project Emergency Team members immediately. The contacts of the other concerned parties are shown in ***Table 2.2***;
- The weather forecast for the area will also be used to determine the likely direction of movement (if any) of the surface spill;
- The Emergency Team shall be responsible for organizing the manpower and resource to identify the spill source and stop or cease it;
- The Emergency Team who equip with suitable personal protective equipment to remove any leaked chemical or chemical waste;
- The spillage area shall be contained by using secondary oil containment (SOC);
- Pads and pillow of the spill kit shall be applied to absorb and remove the spillage within the SOC;
- The absorbent pads and pillows will be collected by disposal bags as part of the spill kits item;
- The used spill kits will be treated, stored and disposed of as chemical waste according to the necessary procedures;
- Implement the Dolphin Contingency Plan as stated in ***Section 5*** *and* the procedures for protection of sensitive receivers as stated in ***Section 4.5***.
- An incident report will be submitted to the ER, ET, IEC and ENPO within 2 working days.

4.3 Spillage Control Equipment / Materials

Sufficient standard Spill Kits will be available on site as stated in ***Section 6.3***. The standard Spill Kits includes items such as pads, pillow and Secondary Oil Containment (SOC). SOC is used to enclose the spillage area to contain the spillage spreading outside of the SOC. The pads and pillow are used for absorbing and removing the spillage within the SOC. The standard spill kit detail is shown in ***Appendix C***.

4.4 Inventory of hazardous chemicals / compounds

An inventory of the oil and hazardous chemicals that are stored on site will be recorded, maintained and updated regularly. The details, amounts and location of the materials will be recorded. The senior foreman will responsible for maintaining such record on site.

4.5 Protection of sensitive receivers

The information that is outlined within this section will be applicable if the site area of spillage of chemical / hazardous compounds more than 100m^2:

- The location of the spill relative to the sensitive water receivers will be determined;
- Layer of physical absorbent will be deployed and contained the sensitive water receivers for the protection;
- The Contractor will inform the relevant parties as listed on Table 2.2 immediately;
- The on shift senior foreman or Emergency Team Leader's delegates will in-charge all the mitigate measures implement on site in order to minimize the adverse effect;
- Follow the procedures as stated in Appendix B;
- Scope of additional water quality monitoring would be implemented with the agreement of ER, ET and IEC.

5. GENERAL DOLPHIN CONTINGENCY PLAN

It is not known to what ability Chinese White Dolphin (CWD) can detect chemicals within its environment. At best, cetaceans will be able to detect chemicals that float on the water surface that have a high viscosity (*sludge* like) but may not be able to detect more volatile fractions such as petrol / aviation fuel. As such, an emergency spill plan must be provided for keeping CWD away from the affected area.

5.1 Initial Action

Observation from high platforms or aerial surveys to determine the extent of the spill as well as the presence of CWDs in the vicinity of the spill. The weather forecast for the area will be used to determine the likely direction of movement of the surface spill.

The course of action decided on will be related to such factors as the extent of the spill, the proximity of cetaceans to it and the likelihood of contact, e.g., enclosing the spill area or enclosing important habitats.

5.2 Keep dolphins away from contaminated areas

The use of absorbent booms is an effective containment method and can also act as a barrier to dolphins. This shall prevent the spread of spill and to minimize the potential for CWDs to be in contact with the spill. Deployment of such together with observers is appropriate for small and controllable spills that can be dealt with in the short term.

6 IMPLEMENTATION OF THE SPILL RESPONSE PLAN

6.1 Notification to workers and frontier workforces

Frontline workers shall receive information regarding to the Spill Response Plan during the site induction training carried out by the EO / ES at the site because any chemical spill is considered as a safety and environmental issue. All workers involved with handling chemicals and oils shall be supervised. Therefore, it is important that all site supervisors (senior foreman and foreman) are trained to conduct necessary procedures for a spill control practices. Workers that are constantly involved in handling hazardous chemicals and oils shall receive the appropriate training to the handle spill as well.

This training and briefing should be carried out by a member of the EO / ES at the site area.

Trainer	Notified the workers	Participant
Environmental Officer / Environmental Supervisor	Worker safety Containment Clearing up Correct disposal Reporting spills	All Workers All Supervisors All Foreman
	Types of sensitive receivers Locations of these receivers Methods to protect these receivers Need for prompt action	Workers usually involved with hazardous chemicals or oil. All Supervisors All Foreman

In the event of spillage, the worker(s) noticing a spill shall notify his supervisor immediately, who shall contact the Site Engineer / Foreman, EO and ER immediately. Responsible personnel shall instruct Emergency Team Leader or his delegate for any course of action to contain the spill. Responsible person(s) shall report to the spill area and follow up on the action required to contain the spill. The patrol car would dispatch immediately to the site of spill and spillage control kit will be used to contain the spill.

As soon as the spill made known to senior foreman and / or foreman, and if any of the chemical or oil escaped into the marine environment, relevant parties shall be notified for support as needed. Incident report after the incident would be submitted to ER, ET, IEC and ENPO within 2 working days. For the contacts of relevant parties please refer to

Table 2.2 for more details. The Contractor will follow the procedures attached in ***Appendix B***.

6.2 Training - workers and frontier workforces

The onsite workforce will receive training from Environmental Officer or his delegate regarding the measures outlined in this Plan during the Site Specific Environmental Induction Training. The Environmental Officer or his delegate shall conduct Tool Box Talks with the site workers regarding this Plan quarterly. All site workers will be required to receive this training. Refreshment training for the Site Specific Environmental Induction Training is conducted bi-yearly. Emergency drill will be conducted with the Emergency Response Team bi-yearly.

6.3 Location of Spill Kits

Two sets of Spill Kits would be equipped at work places at HKBCF working zone ready for use if spillage occurred. 1 set of Spill Kits would be stored at patrol car and 1 set of Spill Kits would be stored at WA3.

Foremen and engineers would be notified by EO of the locations of the spillage control kits.

Appendix A

Site Layout Plan

810000 E

815000 E

820000 E

825000 N

820000 N

815000 N

TAP SHEK KOK

CASTLE PEAK BAY

TAI LAM CHUNG

THE BROTHERS

THE SITE SEE DRAWING NO.
60191048/C9/000/C00/1001

THE SITE SEE DRAWING NO.
60191048/C9/000/C00/1002

TUEN MUN-CHEK LAP KOK LINK
(TM-CLKL) (BY OTHERS)

WORKS AREA 'WA3'
SEE DRAWING NO.
60191048/C9/000/C00/1051

RECLAMATION FOR THE TM-CLKL
SOUTHERN LANDFALL (BY OTHERS)

OTHER INFRASTRUCTURE AND
BUILDING WORKS OUTSIDE
SITH BOUNDARY (BY OTHERS)

HONG KONG LINK ROAD (HKLR)
(SEPARATE PROJECT) (BY OTHERS)

CHEK LAP KOK

TUNG CHUNG

LANTAU ISLAND

NORTH LANTAU HIGHWAY

PENG CHAU

SILVER MINE BAY

DISCOVERY BAY
(TAI PAK WAN)

NOTES:

1. COORDINATES ARE RELATED TO HONG KONG METRIC GRID (1980).
2. DIMENSIONS ARE IN MILLIMETER AND CHAINAGE ARE IN METRES UNLESS OTHERWISE SHOWN.

LEGEND:

SITE BOUNDARY

WORKS AREA

N

REV. 修訂	DESCRIPTION 內容摘要	D.E.	P.E. CHECKED 審核	DATE 日期
-	TENDER DRAWING	TTHK	BCC	JUL 19

路政署
HIGHWAYS DEPARTMENT
主要工程管理處(專責事務)
Major Works Project Management Office (Special Duties)

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- PHASE 2 AND OTHER WORKS

SITE LOCATION PLAN

AECOM
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI

Aedas

DRG.NO. 圖紙編號 60191048/C9/000/C00/1000

DESIGNED BY 設計	CONTRACT NO. 合約編號	P. Dir. APPROVED 負責人
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DRAWN BY 繪圖 JC	STATUS 階段	
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SATELLITE REFUSE COLLECTION POINT

CBC, CBS BAYS

PUBLIC TOILETS

ADDITIONAL RAILING

NORTH PUBLIC TRANSPORT INTERCHANGE

VERTICAL ACCESS TO PCB ROOF

INBOUND VEHICLE CLEARANCE PLAZA

DRAINAGE IMPROVEMENT WORKS AT VEHICLE INSPECTION PIT

VEHICLE KIOSKS, CANOPIES AND ASSOCIATED ROAD PAVEMENT

SECURITY MEASURE AT EXISTING GATE

VERTICAL ACCESS TO PCB ROOF

EXISTING GUARD BOOTHS TO BE DEMOLISHED

REPROVISION OF GUARD BOOTHS

CBC PICK UP BAYS

FRANCHISED BUS PICK-UP BAYS

OUTBOUND VEHICLE CLEARANCE PLAZA

C&ED INBOUND CARGO EXAMINATION BUILDING

FIRE STATION CUM AMBULANCE DEPOT

SLIDING GATE

ACCESS ROAD TO GENERATOR AND UPS ROOM

SOUTH PUBLIC TRANSPORT INTERCHANGE

GENERATOR AND UPS ROOM

CUT LINE A-A
SEE DRAWING NO. 60191048/C9/000/C00/1002

LANDSCAPING WORKS AREA

N

REMARKS:

1. IN SPTI:

   - DEMOLISH 2 NOS. EXISTING GUARD BOOTHS AND RE-PROVISION TO REVISED LOCATIONS AS SHOWN
   - CONSTRUCT COVERED WALKWAYS FOR THE NEW FB AND CBC PICK UP BAYS
   - MODIFY EXISTING DUCTING AND POLES FOR ELV SYSTEM, ROAD LIGHTING AND PILLAR BOXES, AND THE ASSOCIATED CABLING WORKS.
   - RELOCATE AND REINSTATE 3 NOS. OF EXISTING BUS OPERATOR OFFICES AND FOOD TRUCK
   - REPLACEMENT OF DRAWPIT COVERS

2. IN NPTI:

   - CONSTRUCT COVERED WALKWAYS FOR THE NEW CBC, CBS PICK UP BAYS AND PUBLIC TOILETS
   - PROVIDE AUTOMATIC IRRIGATION SYSTEM AT SLOPES
   - MODIFY EXISTING COVERED WALKWAY AND PROVISION OF LIGHTING
   - REPLACEMENT OF DRAWPIT COVERS

3. LANDSCAPING WORKS AREA:

   - CONSTRUCT IRRIGATION SYSTEM WITH 13 NOS. OF NEW WATER POINT AND THE AUTOMATIC IRRIGATION SYSTEM AND PROVIDE MAINTENANCE WORKS
   - LANDSCAPE SOFTWORK, ESTABLISHMENT AND MAINTENANCE WORKS
   - CONSTRUCT RIVER WASHED STONE SWATHE AND MAINTENANCE WORKS
   - PROTECT EXISTING PLANTING AND HARD STRUCTURES

4. PASSENGER CLEARANCE BUILDING

   - VERTICAL ACCESS
   - IMPROVEMENT WORKS FOR WATER FEATURE
   - MINOR REMAINING WORKS
   - PROVISION OF NEW CENTRAL AVCSS EQUIPMENT WITH SUFFICIENT CAPACITY, PROCESSING POWER AND STORAGE TO ACCOMMODATE BOTH THE EXISTING AND NEW AVCSS

5. VEHICLE KIOSKS AT INBOUND & OUTBOUND VCP

   - PROVISION OF AVCSS AT NEW KIOSKS TO SERVE 24 NOS. VEHICULAR LANES
   - REPLACEMENT OF BARRIER GATE WITH SKIRTING AT 72 NOS. EXISTING KIOSK

6. C&ED INBOUND CARGO EXAMINATION BUILDING

   - PROVISION OF NEW CENTRAL AVCSS EQUIPMENT WITH SUFFICIENT CAPACITY, PROCESSING POWER AND STORAGE TO ACCOMMODATE BOTH THE EXISTING AND NEW AVCSS

ABBREVIATION:

SPTI - SOUTH PUBLIC TRANSPORT INTERCHANGE
NPTI - NORTH PUBLIC TRANSPORT INTERCHANGE
VCP - VEHICLE CLEARANCE PLAZA
PCB - PASSENGER CLEARANCE BUILDING
FB - FRANCHISED BUS
CBC - CROSS BOUNDARY COACH
CBS - CROSS BOUNDARY SHUTTLE
ELV - EXTRA LOW VOLTAGE
AVCSS - AUTOMATIC VEHICLE CLEARANCE SUPPORT SYSTEM

NOTE:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60191048/C9/000/C00/1002

LEGEND:

- SITE BOUNDARY
- AMENITY AREA
- FOOTPATH
- COVERED WALKWAY
- SECURITY FENCE
- TREE PLANTING
- IRRIGATION POINT

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路政署
HIGHWAYS DEPARTMENT
主要工程管理處(專責事務)
Major Works Project Management Office (Special Duties)

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- PHASE 2 AND OTHER WORKS

GENERAL ARRANGEMENT

SHEET 1 OF 2

AECOM
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI
Aedas

DRG.NO. 圖紙編號 60191048/C9/000/C00/1001

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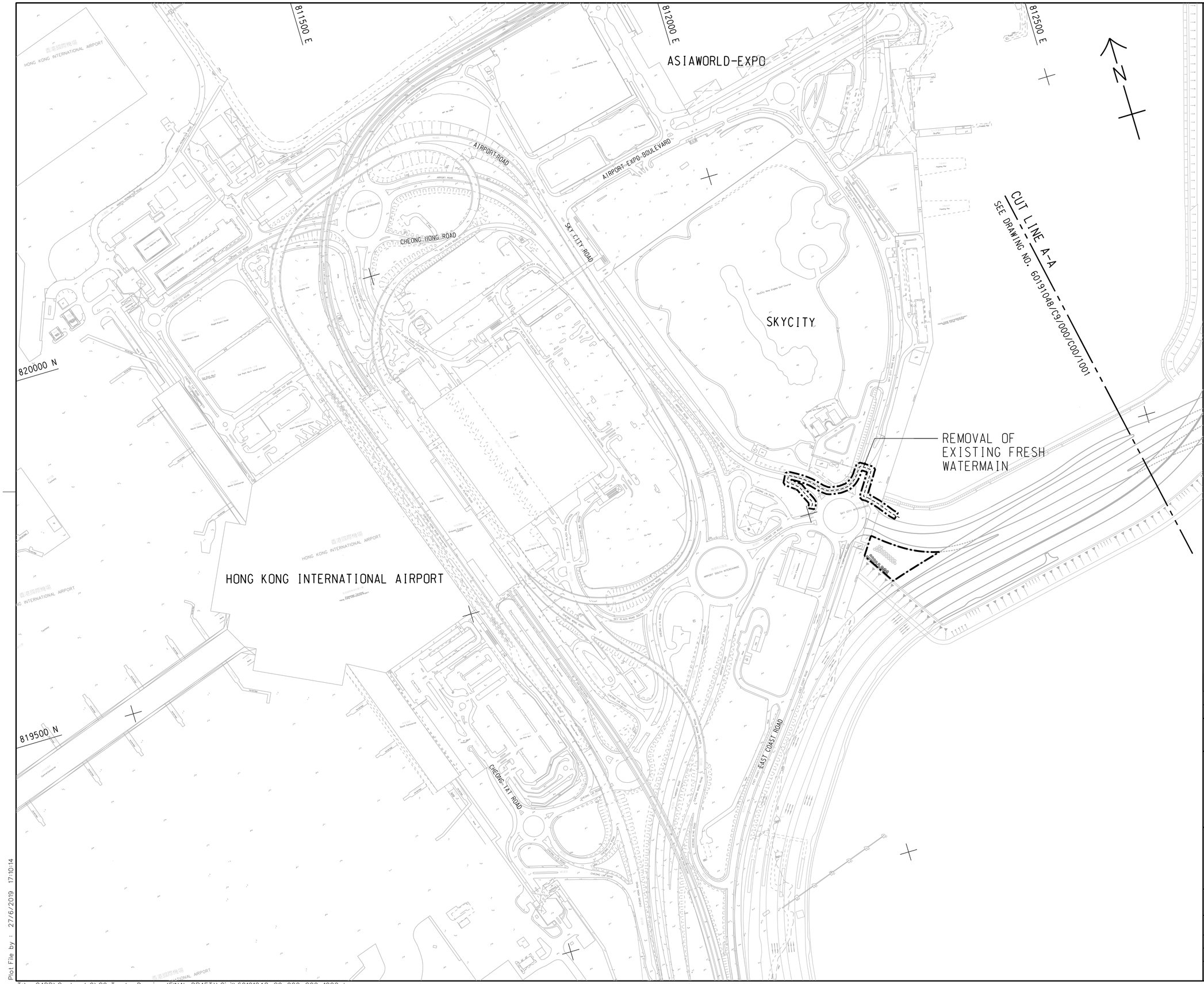

NOTE:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS.60191048/C9/000/C00/1001.

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HONG KONG BOUNDARY CROSSING FACILITIES
- PHASE 2 AND OTHER WORKS

GENERAL ARRANGEMENT

SHEET 2 OF 2

AECOM
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI
Aedas

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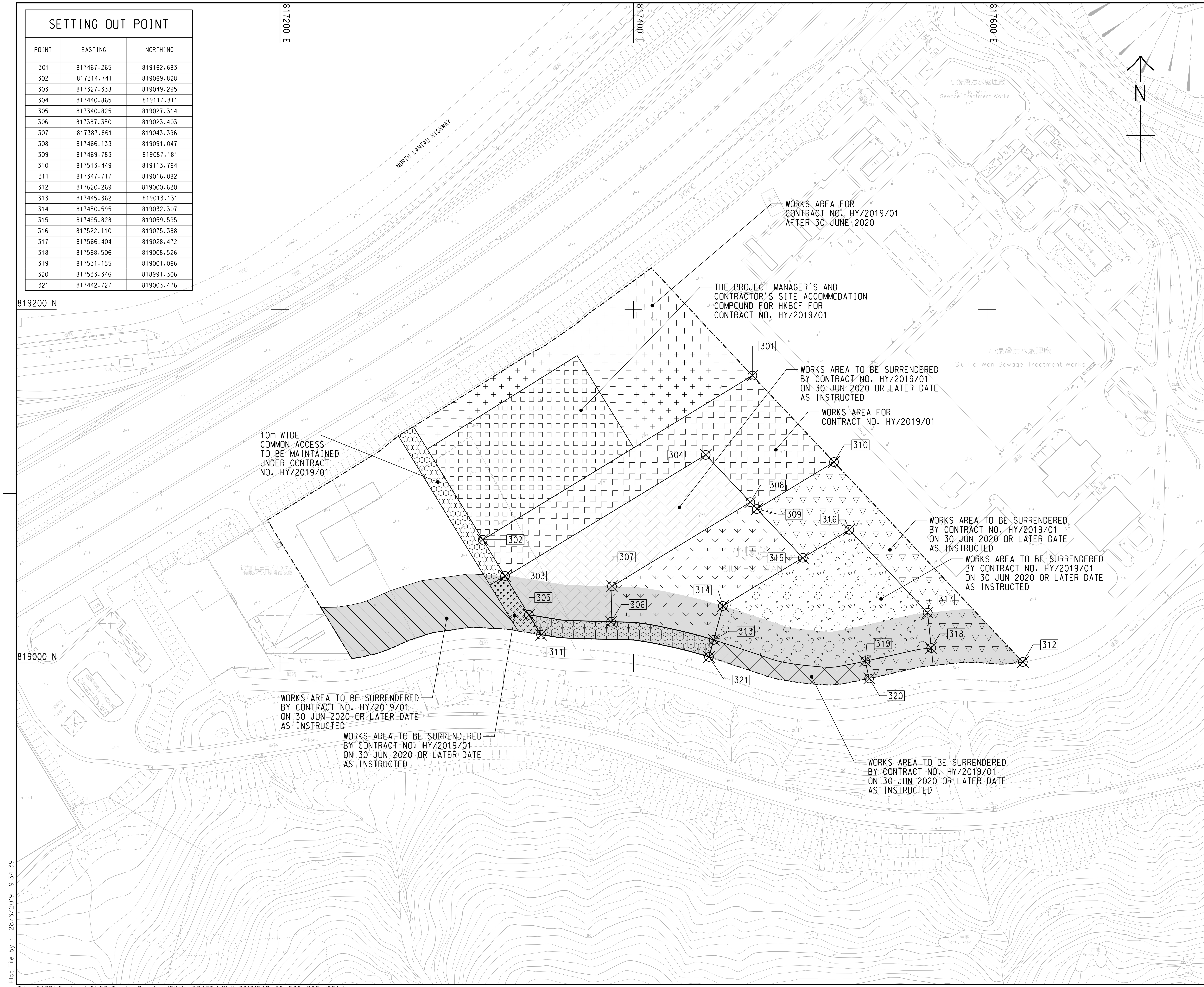
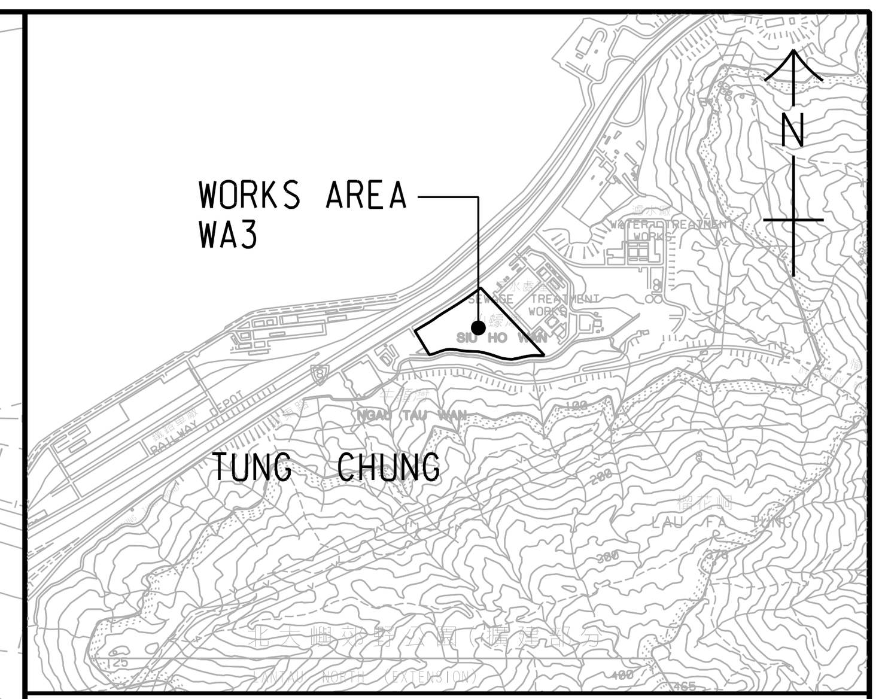
SETTING OUT POINT

POINT	EASTING	NORTHING
301	817467.265	819162.683
302	817314.741	819069.828
303	817327.338	819049.295
304	817440.865	819117.811
305	817340.825	819027.314
306	817387.350	819023.403
307	817387.861	819043.396
308	817466.133	819091.047
309	817469.783	819087.181
310	817513.449	819113.764
311	817347.717	819016.082
312	817620.269	819000.620
313	817445.362	819013.131
314	817450.595	819032.307
315	817495.828	819059.595
316	817522.110	819075.388
317	817566.404	819028.472
318	817568.506	819008.526
319	817531.155	819001.066
320	817533.346	818991.306
321	817442.727	819003.476





LOCATION PLAN
SCALE 1 : 25000

NOTES:

1. COORDINATES ARE RELATED TO HONG KONG METRIC GRID (1980).
2. DIMENSIONS ARE IN MILLIMETER AND CHAINAGE ARE IN METRES UNLESS OTHERWISE SHOWN.

LEGEND:

- WORKS AREA BOUNDARY
- PORTION 3.1
- PORTION 3.2
- PORTION 3.3
- PORTION 3.4
- PORTION 3.5
- PORTION 3.6
- PORTION 3.7
- PORTION 3.8
- PORTION 3.9
- PORTION 3.10
- PORTION 3.11
- PORTION 3.12
- NON-BUILDING AREA 8200m² (WHOLE)

REV. 修訂	DESCRIPTION 內容摘要	D.E.	P.E. CHECKED 審核	DATE 日期
-	TENDER DRAWING	TTHK	BCC	JUL 19

路政署
HIGHWAYS DEPARTMENT
主要工程管理處(專責事務)
Major Works Project Management Office (Special Duties)

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
– PHASE 2 AND OTHER WORKS

WORKS AREA WA3

AECOM
Aedas
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI

DRG.NO. 圖紙編號 60191048/C9/000/C00/1051

DESIGNED BY 設計: TTHK	CONTRACT NO. 合約編號: HY/2019/01	P. Dir. APPROVED 批准人: SCI
DRAWN BY 繪圖: JC	STATUS 階段:	
SCALE 比例: A1 1 : 1000		
DIMENSIONS ARE IN 尺寸單位: METRES		

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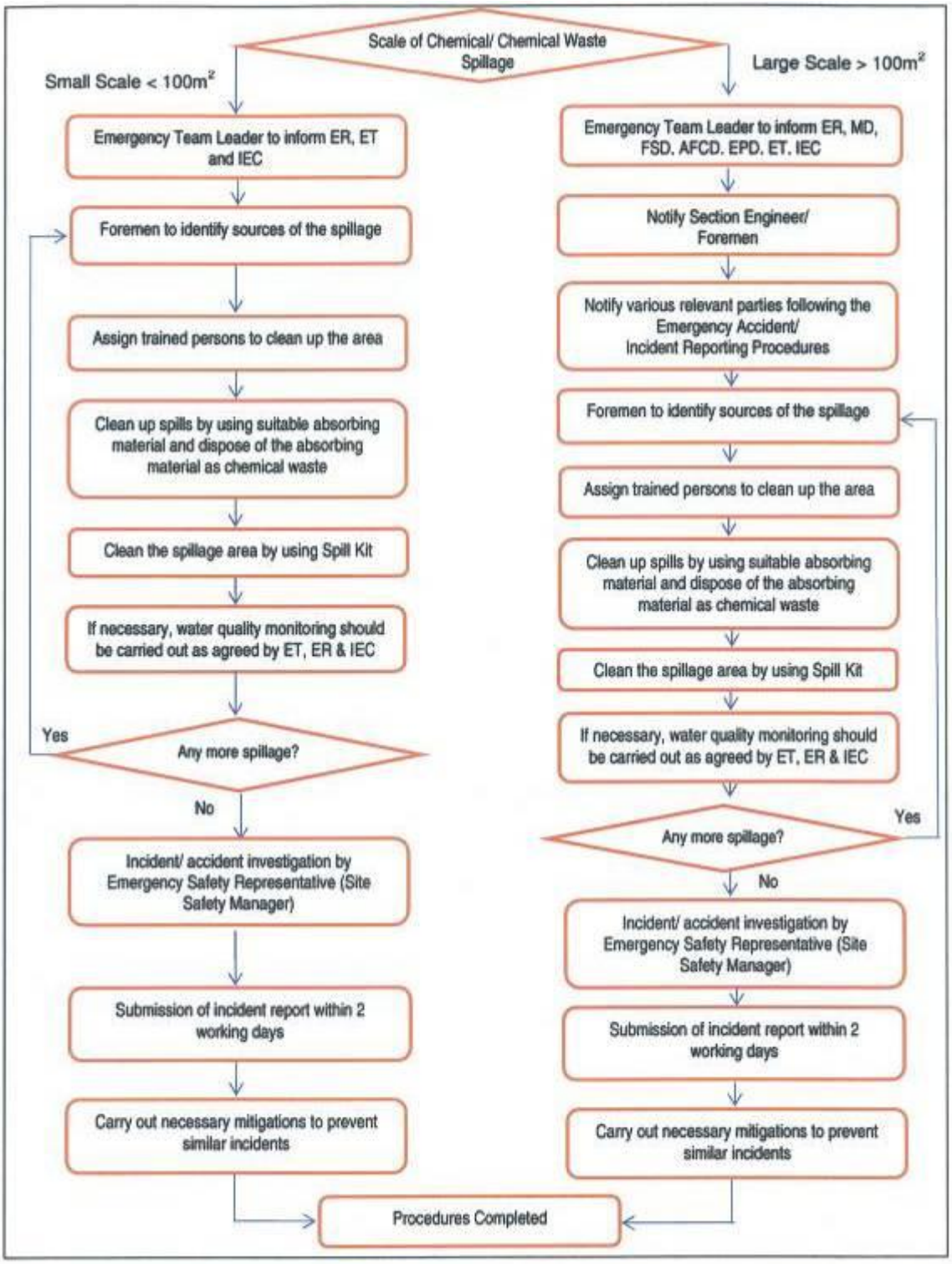
Plot File by : 28/6/2019 9:34:39

T:\- CADD\Contract 9\C9-Tender Drawing (FINAL DRAFT)\Civil\60191048_C9_000_C00_1051.dgn

Appendix B

Flow Diagram of Spillage Procedure


Scale of Chemical/ Chemical Waste Spillage
Small Scale < 100m²
Large Scale > 100m²
Emergency Team Leader to inform ER, ET and IEC
Foremen to identify sources of the spillage
Assign trained persons to clean up the area
Clean up spills by using suitable absorbing material and dispose of the absorbing material as chemical waste
Clean the spillage area by using Spill Kit
If necessary, water quality monitoring should be carried out as agreed by ET, ER & IEC
Yes
Any more spillage?
No
Incident/ accident investigation by Emergency Safety Representative (Site Safety Manager)
Submission of incident report within 2 working days
Carry out necessary mitigations to prevent similar incidents
Emergency Team Leader to inform ER, MD, FSD. AFCD. EPD. ET. IEC
Notify Section Engineer/ Foremen
Notify various relevant parties following the Emergency Accident/ Incident Reporting Procedures
Foremen to identify sources of the spillage
Assign trained persons to clean up the area
Clean up spills by using suitable absorbing material and dispose of the absorbing material as chemical waste
Clean the spillage area by using Spill Kit
If necessary, water quality monitoring should be carried out as agreed by ET, ER & IEC
Yes
Any more spillage?
No
Incident/ accident investigation by Emergency Safety Representative (Site Safety Manager)
Submission of incident report within 2 working days
Carry out necessary mitigations to prevent similar incidents
Procedures Completed

Appendix C

Information of Spill Kits

SPC Environmental Spill Kit

SPC Spill Drum Oil-Only
Click Image to Enlarge

Home ▶ Safety Products ▶ Spill Control / Containment ▶ Absorbent Spill Kits ▶ Overpack Spill Kits ▶ Brady Corp. - SPC Brand

Click Image to Enlarge

55-Gallon Drum Spill Kit

Be prepared to respond quickly to spills with the 55-Gallon Drum Spill Kit.

Features | Reviews | Related Items | Shipping Info

- Kit is stored in a reusable 55-gallon drum with a lever-locked lid.
- Kit includes fifty 15 x 19" pads, four 3" x 12' socs, eight 18 x 18" pillows, goggles, nitrile gloves, five disposal bags and an emergency response handbook.

SPC Spill Drum Oil-Only
Click Image to Enlarge

95-Gallon Overpack Spill Kit

For fast response to a larger spill, choose the 95 Gallon Overpack Spill Kit.

Features | Reviews | Related Items | Shipping Info

- Tough, secure and highly visible, the kit absorbs up to 82 gallons.
- Top quality screw-top overpack drum meets UN and DOT specifications.
- For responding to larger spills.
- Available in Oil Only, Allwik (Maintenance Only) and Hazwik (Chemical Only) versions.
- Click here for Kit Contents

Appendix D

Environmental Mitigation Implementation Schedule

Environmental Mitigation Implementation Schedule

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
Waste Management (Construction Waste)							
S8.3.12 ~ S8.3.15	WM3	*Chemical Waste* • Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. • Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation. • The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated. • Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD.	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	Construction stage	- Waste Disposal (Chemical Waste General) Regulation - Code of Practice on the Packaging, Labelling and Storage of Chemical Waste

Environmental Mitigation Implementation Schedule

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
Water Quality (Construction Phase)							
S9.11.1.7	W2	Land Works General construction activities on land should also be governed by standard good working practice. Specific measures to be written into the works contracts should include: • wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters; • sewage effluent and discharges from on-site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the WPCO or collected for disposal offsite. The use of soakaways shall be avoided; • storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks; • silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm; • temporary access roads should be surfaced with crushed stone or gravel; • rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities; • measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system; • open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms;	To control construction water quality	Contractor	All land-based construction sites	Construction stage	TM-EIAO

Environmental Mitigation Implementation Schedule

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
S9.11.1.7	W2	• manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers; • discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system; • all vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit; • wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain; • the section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel; • wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects; • vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site disposal; • the contractors shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately; • waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance; • all fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank; and • surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the storm water system.	To control construction water quality	Contractor	All land-based construction sites	Construction stage	TM-EIAO

Environmental Mitigation Implementation Schedule

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
Ecology (Construction Phase)							
S10.7	E4	• Watering to reduce dust generation; prevention of siltation of freshwater habitats; Site runoff should be desilted, to reduce the potential for suspended sediments, organics and other contaminants to enter streams and standing freshwater	Prevent Sedimentation from Land-based works areas	Contractor	Seawall, reclamation area	During construction	TM-Water