

Ref.: HYDHZMBEEM00_0_5986L.17

13 November 2017

By Fax (3468 2076) and By Post

AECOM Asia Co. Ltd. The PRE's Office 5 Ying Hei Road, Tung Chung, Lantau Hong Kong

Attention: Mr. Alfred Cheng

Dear Sir,

Re: Agreement No. CE 48/2011 (EP)

Environmental Project Office for the

HZMB Hong Kong Link Road, HZMB Hong Kong Boundary Crossing Facilities,

and Tuen Mun-Chek Lap Kok Link - Investigation

Contract No. HY/2013/04 - HZMB HKBCF - Infrastructure Works Stage II

(Southern Portion)

Monthly Environmental Monitoring & Audit Report for October 2017

Reference is made to the Environmental Team's submission of the Monthly Environmental Monitoring & Audit Report for October 2017 certified by the ET Leader (ET's ref.: "TC/GC/bw/T355861/02/02/L084" dated 10 November 2017) and provided to us via e-mail on 11 November 2017.

We are pleased to inform you that we have no adverse comment on the captioned submission. We write to verify the captioned submission in accordance with Condition 5.4 of the Environmental Permit No. EP-353/2009/K.

Thank you very much for your attention and please feel free to contact the undersigned should you require further information.

Yours faithfully, For and on behalf of Ramboll Environ Hong Kong Limited

Raymond Dai

Independent Environmental Checker

c.c. HyD Mr. Vico Cheung (By Fax: 3188 6614)
HyD Mr. Horace Hong (By Fax: 3188 6614)
MMHK Mr. Gary Chow (By Fax: 2827 1823)
CSCE Mr. Eddie Tang (By Fax: 2459 4336)

Internal: DY, YH, ENPO Site

Konjut



Ramboll Environ Hong Kong Limited 21st Floor, BEA Harbour View Centre 56 Gloucester Road Wan Chai, Hong Kong

Attn:

Mr. Raymond Dai - Independent Environmental Checker

Our Reference TC/GC/bw/T355861/02/ 02/L084

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T +852 2828 5757 F +852 2827 1823 mottmac.hk Contract No. HY/2013/04 Hong Kong-Zhuhai-Macao Bridge (HZMB) Hong Kong Boundary Crossing Facilities – Infrastructure Works Stage II (Southern Portion)

Monthly EM&A Report for October 2017

10 November 2017

By Email

Dear Sir,

In accordance with Condition 5.4 of the Environmental Permit (EP-353/2009/K) covering the captioned contract, we are pleased to submit the certified Monthly EM&A Report for October 2017 for your verification.

Yours faithfully For MOTT MACDONALD HONG KONG LIMITED

Gary Chow

Environmental Team Leader

Encl.

CC.

AECOM – Mr. Alfred Cheng (By Email) China State Construction Engineering (Hong Kong) Ltd. – Mr. Xavier Lam / Mr. Billy Lao (By Email)



Contract No. HY/2013/04 HZMB HKBCF – Infrastructure Works Stage II (Southern Portion)

Monthly EM&A Report for October 2017

November 2017

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Executive summary

This Monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. HY/2013/04 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Infrastructure Works Stage II (Southern Portion)" (hereafter referred to as "the Contract") for the Highways Department of Hong Kong Special Administrative Region (HKSAR). The Contract was awarded to China State Construction Engineering (Hong Kong) Limited (hereafter referred to as "the Contractor") and Mott MacDonald Hong Kong Limited (MMHK) was appointed as the Environmental Team (ET) by the Contractor.

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The Contract is part of the "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities" (HZMB HKBCF) Project which is a "Designated Project" under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and for which an EIA Report (Register No. AEIAR-145/2009) was prepared and approved. The current Environmental Permit (EP) for HKBCF, namely No. EP-353/2009/K, was issued on 11 April 2016. These documents are available through the EIA Ordinance Register. Commencement of the Contract took place on 13 March 2015 and the construction works commenced on 13 July 2015.

Mott MacDonald Hong Kong Limited has been appointed by the Contractor to implement the Environmental Monitoring & Audit (EM&A) programme for the Contract in accordance with the Updated EM&A Manual for HKBCF (Version 1.0) and will be providing environmental team services for the Contract.

This is the 28th Monthly EM&A Report for the Contract which summaries findings of the EM&A works during the reporting period from 1 to 31 October 2017 (the "reporting period").

Environmental Monitoring and Audit Progress

The monthly EM&A programme was undertaken in accordance with the Updated EM&A Manual for HKBCF (Version 1.0). It should be noted that the air quality, noise, water quality and dolphin monitoring works for the Contract are covered by Contract No. HY/2013/01 "Hong Kong-Zhuhai-Macao Bridge HKBCF – Passenger Clearance Building" and Contract No. HY/2011/03 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF". The ET of the Contract or another ET of the HZMB project is required to conduct impact air quality monitoring at AMS6 and AMS7, noise monitoring at NMS2 and NMS3B, water quality monitoring at the twenty-one stations and dolphin monitoring works at the twenty-four transects as part of EM&A programme if these monitoring stations are no longer covered under Contract Nos. HY/2013/01 and HY/2011/03. However, this is subject to ENPO's final decision on which ET should carry out the monitoring work at these stations.

The dates of site inspection during the reporting period are listed below:

Environmental Site Inspection: 6, 11, 18, 23 and 31 October 2017

Breaches of Action and Limit Levels

Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.

There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at station AMS7 by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

There was no Action and Limit Level exceedance for noise recorded at station NMS2 and station NMS3B by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

A total of 12 Action Level exceedances and 8 Limit Level exceedances (comprising 7 Action Level exceedances and 8 Limit Level exceedances of DO, and 5 Action Level exceedances of SS) were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract. It was concluded that the exceedances were not due to the Contract.

Impact dolphin monitoring results at all transects during the reporting period are reported in the monthly EM&A Report (for the reporting period) prepared for Contract No. HY/2013/01.

Complaint Log

There was one complaint received in relation to the environmental impact during the reporting period.

Log No.	Environmental Complaint Ref. No.	Date of Complaint Receipt	Description
005	ENPO-C0127	27 October 2017	Water Quality

The complaint was about muddy water discharge from HZMB BCF Island works site. According to the complainant, this had continued for one week and occurred at C3 (HY/2013/03) site.

The complaint was investigated by the ET of the Contract and the findings are presented in this report.

Notifications of Summons and Successful Prosecutions

There were no notifications of summons or prosecutions received during this reporting period.

Reporting Changes

There was no reporting change during the reporting period.

Future Key Issues

The future key issues to be undertaken in the upcoming month are:

 Pier column, retaining wall, pump house interior works with E&M works, segment erection, segment delivery (marine-based), excavation with road and drainage works, asphalt paving, outfall works.

1 Introduction

1.1 Background

On 13 March 2015, Mott MacDonald Hong Kong Limited (MMHK) was commissioned by China State Construction Engineering (Hong Kong) Limited (also referred to as "the Contractor") to undertake the Environmental Team (ET) services (including environmental monitoring and audit (EM&A)) for Contract No. HY/2013/04 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Infrastructure Works Stage II (Southern Portion)" ("the Contract") for the Highways Department of Hong Kong Special Administrative Region (HKSAR).

The Contract is part of the "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities" (HZMB HKBCF) Project which is a "Designated Project" under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and for which an EIA Report (Register No. AEIAR-145/2009) was prepared and approved. The current Environmental Permit (EP) for HKBCF, namely No. EP-353/2009/K, was issued on 11 April 2016. These documents are available through the EIA Ordinance Register. Commencement of the Contract took place on 13 March 2015 and the construction works commenced on 13 July 2015. The works areas of the contract are shown in **Appendix A**.

This is the 28th Monthly EM&A Report summarising the findings of EM&A activities conducted under the Contract from 1 to 31 October 2017 (the "reporting period") and is submitted to fulfil Condition 5.4 of the EP.

1.2 Project Description

The Proposed works under this Contract comprise the following:

- Construction of vehicular bridge and at-grade roads at the southern portion of Hong Kong Boundary Crossing Facilities;
- Construction of associated street lighting, street furniture, road marking, road signage, box culverts and outfalls, drainage, sewerage, fresh water and flushing water supply, irrigation, landscape, electrical and mechanical (E&M), utilities and services works;
- Provisioning of civil engineering works and power supply for Traffic Control and Surveillance System (TCSS); and
- Other works in accordance with the Contract.

1.3 Project Organisation

The organisation chart and lines of communication with respect to the on-site environmental management structure together with the contact information of the key personnel are shown in **Appendix B**. The key personnel contact names and numbers are summarized in **Table 1.1**.

Table 1.1: Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Resident Engineer	Alfred Cheng	3958 7471	3468 2076
Environmental Project Office / Independent Environmental Checker	Environmental Project Office Leader	Y H Hui	3465 2888	3465 2899
(Ramboll Environ Hong Kong Limited)	Independent Environmental Checker	Raymond Dai	3465 2888	3465 2899
	Environmental Site Supervisor	Ray Yan	5181 8165	3465 2899
Contractor	Site Agent	Jason Chung	9127 8369	2459 4336
(China State Construction Engineering	Environmental Officer	Xavier Lam	9493 2944	2459 4336
(Hong Kong) Limited)		Billy Lao	6679 1950	2459 4336
Environmental Team (Mott MacDonald Hong Kong Limited)	Environmental Team Leader	Gary Chow	2828 5874	2827 1823
24-hour Complaint Hotline	-	-	5236 7111	-

1.4 Construction Programme

The Construction Works Programme of the Project is provided in **Appendix C**.

1.5 Construction Works undertaken during the Reporting Period

A summary of the construction activities undertaken during this reporting period is shown below:

- Box Culvert D: Bay 17 & Bay 18 wall + roof completed
- Box Culvert C: N/A
- Pier Column: 1 no. completed
- Segment Erection: 59 no. competed
- Segment Delivery: 118 pcs
- Depressed Road: Bay 1- Bay 8 based slab completed, Bay 5 wall completed
- No generation of excavated marine sediment

Marine-based outfall works had not commenced during this reporting month.

2 Air Quality Monitoring

2.1 Monitoring Locations

The air quality and noise monitoring works for the Contract are covered by Contract No. HY/2013/01 "Hong Kong-Zhuhai-Macao Bridge HKBCF – Passenger Clearance Building" and Contract No. HY/2011/03 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF". The ET of the Contract or another ET of the HZMB project is required to conduct impact air quality monitoring at AMS6 and AMS7 as part of EM&A programme if these air quality monitoring stations are no longer covered under Contract No. HY/2013/01 and HY/2011/03. **Figure 2.1** shows the locations of air monitoring stations.

Table 2.1: Construction Dust Monitoring Locations

Identification No.	Location Description	
AMS6 ⁽¹⁾	Dragonair/CNAC (Group) Building	
AMS7 ⁽¹⁾	Hong Kong SkyCity Marriot Hotel	
Remarks: (1) The FT of this Co	ntract should conduct impact air quality monitoring at the AMS liste	ed in the table as

Remarks: (1) The ET of this Contract should conduct impact air quality monitoring at the AMS listed in the table as part of EM&A programme according to latest notification from ENPO when the monitoring station(s) is/are no longer covered by another ET of the HZMB project.

2.2 Monitoring Requirements

The monitoring requirements, monitoring equipment, monitoring parameters, frequency and duration, monitoring methodology and monitoring schedule are detailed in the monthly EM&A Reports prepared for Contract Nos. HY/2013/01 and HY/2011/03.

The Action and Limit Levels for 1-hr TSP and 24-hr TSP are provided in **Table 2.2** and **Table 2.3** respectively.

Table 2.2: Action and Limit Levels for 1-hour TSP

Monitoring Station	Action Level, μg/m ³	Limit Level, μg/m³
AMS6 – Dragonair / SNAC (Group) Building (HKIA)	360	500
AMS7 – Hong Kong SkyCity Marriot Hotel	370	500

Table 2.3: Action and Limit Levels for 24-hour TSP

Monitoring Station	Action Level, μg/m³	Limit Level, μg/m³
AMS6 – Dragonair / SNAC (Group) Building (HKIA)	173	260
AMS7 – Hong Kong SkyCity Marriot Hotel	183	260

The event and action plan is provided in **Appendix D**.

If exceedance(s) at these stations is/are recorded by the ET of the Contract or referred by the other ET under the HZMB project to the Contract, the ET of the Contract will carry out an investigation and findings will be reported in the monthly EM&A Report.

2.3 Monitoring Results

The monitoring results for AMS6 and AMS7 are reported in the monthly EM&A Reports prepared for Contract Nos. HY/2011/03 and HY/2013/01 respectively.

Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.

There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at station AMS7 by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

Noise Monitoring 3

3.1 **Monitoring Locations**

The noise monitoring works for the Contract are covered by Contract No. HY/2013/01 "Hong Kong-Zhuhai-Macao Bridge HKBCF - Passenger Clearance Building". The ET of the Contract or another ET of the HZMB project is required to conduct noise monitoring at NMS2 and NMS3B as part of EM&A programme if these monitoring stations are no longer covered under Contract No. HY/2013/01. Figure 3.1 shows the locations of noise monitoring stations.

Table 3.1: Construction Noise Monitoring Locations

Identification No.	Location Description
NMS2 ⁽¹⁾	Seaview Crescent
NMS3B ⁽¹⁾ (2)	AECOM PRE's Office

- Remarks: (1) The ET of this Contract should conduct impact noise monitoring at the NMS listed in the table as part of EM&A programme according to the latest notification from ENPO when the monitoring station(s) is/are no longer covered by another ET of the HZMB project.
 - (2) The Action and Limit Levels for schools will be applied for this alternative monitoring location.

3.2 **Monitoring Requirements**

The monitoring requirements, monitoring equipment, monitoring parameters, frequency and duration, monitoring methodology and monitoring schedule are detailed in the monthly EM&A Reports prepared for Contract No. HY/2013/01.

The Action and Limit Levels for construction noise are defined in Table 3.2.

Table 3.2: Action and Limit Level for Construction Noise

Parame	eter	Action Level	Limit Level
07:00 – 1	9:00 hours on normal weekdays	When one documented complaint is received	75 dB(A)*
Notes: If works are to be carried out during restricted		ng restricted hours, the conditions stipulated in the	construction noise
	permit issued by the Noise Contro	I Authority have to be followed.	

Reduce to 70 dB(A) for schools and 65 dB(A) during school examination period.

3.3 **Monitoring Results**

The monitoring results for NMS2 and NMS3B are reported in the monthly EM&A Reports prepared for Contract No. HY/2013/01. No noise exceedances were recorded at stations NMS2 and NMS3B by the ET of Contract No. HY/2013/01 during the reporting period.

4 Water Quality Monitoring

4.1 Monitoring Locations

The water quality monitoring works for the Contract are covered by Contract No. HY/2013/01 "Hong Kong-Zhuhai-Macao Bridge HKBCF – Passenger Clearance Building". A total of twenty-one stations (nine Impact Stations, seven Sensitive Receiver Stations and five Control/Far Field Stations) are covered by the current EM&A programme. The ET of the Contract or another ET of the HZMB project is required to conduct water quality monitoring at these stations as part of EM&A programme if these monitoring stations are no longer covered under Contract No. HY/2013/01. **Table 4.1** and **Figure 4.1** shows the locations of water quality monitoring stations.

Table 4.1: Impact Water Quality Monitoring Stations

Station	Description	East	North
IS5	Impact Station (Close to HKBCF construction site)	811579	817106
IS(Mf)6	Impact Station (Close to HKBCF construction site)	812101	817873
IS7	Impact Station (Close to HKBCF construction site)	812244	818777
IS8	Impact Station (Close to HKBCF construction site)	814251	818412
IS(Mf)9	Impact Station (Close to HKBCF construction site)	813273	818850
IS10(N)	Impact Station (Close to HKBCF construction site)	812942	820881
IS(Mf)11	Impact Station (Close to HKBCF construction site)	813562	820716
IS(Mf)16	Impact Station (Close to HKBCF construction site)	814328	819497
IS17	Impact Station (Close to HKBCF construction site)	814539	820391
SR3	Sensitive receivers (San Tau SSSI)	810525	816456
SR4(N)	Sensitive receivers (Tai Ho)	814705	817859
SR5(N)	Sensitive receivers (Artificial Reef in NE Airport)	812569	821475
SR6	Sensitive receivers (Sha Chau and Lung Kwu Chau Marine Park)	805837	821818
SR7	Sensitive receivers (Tai Mo Do)	814293	821431
SR10A	Sensitive receivers (Ma Wan FCZ) 1	823741	823495
SR10B(N)	Sensitive receivers (Ma Wan FCZ) 2	823683	823187
CS(Mf)3(N)	Control Station	808814	822355
CS(Mf)5	Control Station	817990	821129
CS4	Control Station	810025	824004
CS6	Control Station	817028	823992

4.2 Monitoring Requirements

The monitoring requirements, monitoring equipment, monitoring parameters, frequency and duration, monitoring methodology, monitoring schedule, meteorological information are detailed in the monthly EM&A Reports prepared for Contract No. HY/2013/01.

The Action and Limit Levels for water quality are provided in **Table 4.2**.

Table 4.2: Action and Limit Levels for Water Quality

Parameters	Action	Limit
DO in mg L ⁻¹	Surface and Middle	Surface and Middle
(Surface, Middle & Bottom)	5.0	4.2 (except 5 mg/L for FCZ)
	Bottom	Bottom
	4.7	3.6
SS in mg L ⁻¹ (depth-averaged) at all monitoring stations and control stations	23.5 and 120% of upstream control station's SS at the same tide of the same day*	34.4 and 130% of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes*
Turbidity in NTU (depth-averaged)	27.5 and 120% of upstream control station's turbidity at the same tide of the same day*	47.0 and 130% of upstream control station's

Remarks:

Notes:

- 1. "depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.
- 2. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
- 3. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
- 4. All the figures given in the table are used for reference only and the EPD may amend the figures whenever it is considered as necessary.
- The 1%-ile of baseline data for dissolved oxygen (surface and middle) and dissolved oxygen (bottom) are 4.2 mg/L and 3.6 mg/L respectively.

If exceedance(s) at these stations is/are recorded by the ET of the Contract or referred by the other ET under the HZMB project to the Contract, the ET of the Contract will carry out an investigation and findings will be reported in the monthly EM&A Report.

4.3 Monitoring Results and Exceedance Investigations

The monitoring results for the twenty-one monitoring stations are reported in the monthly EM&A Reports prepared for Contract No. HY/2013/01.

A total of 12 Action Level exceedances and 8 Limit Level exceedances (comprising 7 Action Level exceedances and 8 Limit Level exceedances of DO, and 5 Action Level exceedances of SS) were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract.

Water quality exceedances recorded during the reporting period are summarised in Table 4.3.

Table 4.3: Action and Limit Level Exceedance for Water Quality

)	SR10A	Bottom	Action Level	Action Lovel
	0540540			Action Level
	SR10B(N)	Surface and Middle	-	Limit Level
	SR10B(N)	Bottom	-	Action Level
DO	SR10A	Surface and Middle	Limit Level	Limit Level
	SR10A	Bottom	Action Level	Action Level
	SR10B(N)	Surface and Middle	Limit Level	Limit Level
	SR10B(N)	Bottom	-	Action Level
)	SR10B(N)	Surface and Middle	Limit Level	Limit Level
	SR10B(N)	Bottom	-	Action Level
)	SR10B(N)	Surface and Middle	-	Limit Level
)		SR10B(N) SR10A SR10A SR10B(N) SR10B(N) SR10B(N) SR10B(N) SR10B(N)	SR10B(N) SR10A Surface and Middle SR10A Bottom SR10B(N) Surface and Middle SR10B(N) SR10B(N) SR10B(N) SR10B(N) SR10B(N) Surface and Middle SR10B(N) Surface and Middle SR10B(N) Surface and Middle	SR10B(N) SR10A Surface and Middle SR10A Surface and Middle SR10B(N) Surface and Middle Limit Level SR10B(N) Surface and Middle Limit Level SR10B(N) Surface and Middle SR10B(N) Surface and Middle SR10B(N) Surface and Middle SR10B(N) Surface and Middle Limit Level SR10B(N) Surface and Middle SR10B(N)

Reference is made to EPD approval of adjustment of water quality assessment criteria issued and became effective on 18 February 2013.

Date	Parameter (Units)	Station	Depth	Exceedance Recorded during Mid-ebb Tide	Exceedance Recorded during Mid-flood Tide
18 Oct 2017	SS	SR5(N)	Depth Average	-	Action Level
20 Oct 2017	SS	IS(Mf)11	Depth Average	-	Action Level
		SR5(N)	Depth Average	-	Action Level
		SR7	Depth Average	-	Action Level
23 Oct 2017	SS	SR5(N)	Depth Average	-	Action Level

The details of water quality exceedances can be referred to in the Monthly EM&A report under Contract No. HY/2013/01.

Investigations into these exceedances were conducted and the findings are summarised below.

2 October 2017

According to the Contractor of HY/2013/04, no marine-based works and no marine-based transportation were conducted under the contract on 2 October 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 2 October 2017 was identified.

During ET's regular weekly site inspections on 27 September and 6 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected and there were no observations referring to water quality mitigation measures associated with that shoreline.

Also, the exceedance locations, i.e. SR10A and SR10B(N), were located well away from the HY/2013/04 site.

It was concluded that the exceedances were not due to HY/2013/04.

4 October 2017

According to the Contractor of HY/2013/04, no marine-based works and no marine-based transportation were conducted under the contract on 4 October 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 4 October 2017 was identified.

During ET's regular weekly site inspections on 27 September and 6 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected and there were no observations referring to water quality mitigation measures associated with that shoreline.

Also, the exceedance locations, i.e. SR10A and SR10B(N), were located well away from the HY/2013/04 site.

It was concluded that the exceedances were not due to HY/2013/04.

6 October 2017

According to the Contractor of HY/2013/04, no marine-based works and no marine-based transportation were conducted under the contract on 6 October 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 6 October 2017 was identified.

During ET's regular weekly site inspection on 6 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected and there were no observations referring to water quality mitigation measures associated with that shoreline.

Also, the exceedance location, i.e. SR10B(N), was located well away from the HY/2013/04 site.

It was concluded that the exceedances were not due to HY/2013/04.

9 October 2017

According to the Contractor of HY/2013/04, no marine-based works were conducted under the contract on 9 October 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 9 October 2017 was identified.

Marine-based segment delivery was conducted on the evening of 8 October 2017 to the early morning of 9 October 2017, with the barge vessel arriving at HY/2013/04 loading/unloading point at 01:35 (a.m.) on 9 October 2017 (attached vessel tracking record refers). No other marine transportation was conducted under the contract on 9 October 2017.

Given that the sampling time at SR10B(N) where exceedance was recorded was at least several hours after the abovementioned segment delivery, it is considered unlikely that the exceedance recorded could be attributed to this activity. Also, SR10B(N) was located well away from the segment delivery route.

According to the Contractor, after finishing the unloading operation, the vessel for segment delivery departed from the loading/unloading point at 16:00 on the same day. Since samplings showing exceedances were obtained before this time, it is unlikely that they could be attributed to this activity.

During ET's regular weekly site inspections on 6 and 11 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected and there were no observations referring to water quality mitigation measures associated with that shoreline.

It was concluded that the exceedance was not due to HY/2013/04.

18 October 2017

According to the Contractor of HY/2013/04, no marine-based works and no marine-based transportation were conducted under the contract on 18 October 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 18 October 2017 was identified.

During ET's regular weekly site inspection on 18 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected and there were no observations referring to water quality mitigation measures associated with that shoreline.

It was concluded that the exceedance was not due to HY/2013/04.

20 October 2017

According to the Contractor of HY/2013/04, no marine-based works were conducted under the contract on 20 October 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 20 October was identified.

Marine-based segment delivery was conducted on the evening of 19 October 2017 to the early morning of 20 October 2017, with the barge vessel arriving at HY/2013/04 loading/unloading point at 01:34 (a.m.) on 20 October 2017 (attached vessel tracking record refers). No other marine transportation was conducted under the contract on 20 October 2017.

Given that the sampling times where exceedances were recorded were at least several hours after the abovementioned segment delivery, it is considered unlikely that the exceedances recorded could be attributed to this activity.

According to the Contractor, after finishing the unloading operation, the vessel for segment delivery departed from the loading/unloading point at 16:00 on the same day. Since samplings

showing exceedances were obtained before this time, it is unlikely that they could be attributed to this activity.

While SS exceedance was recorded at IS(Mf)11, SR5(N) and SR7, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

During ET's regular weekly site inspections on 18 and 23 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected. On 18 October 2017, no observations referring to water quality mitigation measures associated with that shoreline were made. During the inspection on 23 October 2017 at 14:40, a water quality observation regarding a silt curtain associated with that shoreline was made and the following day the Contractor deployed a diver to inspect the silt curtain and confirm its structural integrity, however it was located well away from SR5(N) and therefore unrelated to the recorded exceedance.

No further exceedance was reported in the next monitoring event on 23 October 2017 at IS(Mf)9, i.e. the WQM station closest to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

It was concluded that the exceedance was not due to HY/2013/04.

23 October 2017

According to the Contractor of HY/2013/04, no marine-based works were conducted under the contract on 23 October 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 23 October 2017 was identified.

Marine-based segment delivery was conducted on the evening of 22 October 2017 to the early morning of 23 October 2017, with the barge vessel arriving at HY/2013/04 loading/unloading point at 01:33 (a.m.) on 23 October 2017 (attached vessel tracking record refers). No other marine transportation was conducted under the contract on 23 October 2017.

Given that the sampling time at SR5(N) where exceedance was recorded was at least several hours after the abovementioned segment delivery, it is considered unlikely that the exceedance recorded could be attributed to this activity.

According to the Contractor, after finishing the unloading operation, the vessel for segment delivery departed from the loading/unloading point at 16:00 on the same day. Since samplings showing exceedances were obtained before this time, it is unlikely that they could be attributed to this activity.

While SS exceedance was recorded at SR5(N), no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

During ET's regular weekly site inspection on 23 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected. A water quality observation regarding a silt curtain associated with that shoreline was made at 14:40 during that inspection and the following day the Contractor deployed a diver to inspect the silt curtain and confirm its structural integrity, however it was located well away from SR5(N) and therefore unrelated to the recorded exceedance.

No further exceedance was reported in the next monitoring event on 25 October 2017 at IS(Mf)9, i.e. the WQM station closest to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

Mott MacDonald	Contract No.	HY/2013/04 HZM	B HKBCF -	- Infrastructure Works	s Stage II (Southern Po	ortion)
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13

It was concluded that the exceedance was not due to HY/2013/04.

5 Dolphin Monitoring

5.1 Monitoring Locations

The dolphin monitoring works for the Contract are covered by Contract No. HY/2013/01 "Hong Kong-Zhuhai-Macao Bridge HKBCF – Passenger Clearance Building". The ET of the Contract or another ET of the HZMB project is required to conduct dolphin monitoring at the twenty-four transects as part of EM&A programme if these transects are no longer covered under Contract No. HY/2013/01. The dolphin monitoring should adopt line-transect vessel survey method. The survey follows pre-set and fixed transect lines in the two areas defined by AFCD as: Northeast Lantau survey area; and Northwest Lantau survey area.

Table 5.1 shows the co-ordinates for the transect lines and layout map.

The revised layout map showing the transect lines have been provided by AFCD and are shown in **Figure 5.1**.

Table 5.1: Impact Dolphin Monitoring Line Transect Co-ordinates (Provided by AFCD)

Transect	HK Grid	System	Long Lat	in WGS84
	Х	Υ	Long	Lat
1#	804671	815456	113.870287	22.277678
	804671	831404	113.869975	22.421696
2#^	805476	820800	113.877995	22.325951
	805476	826654	113.877882	22.378815
3^	806464	821150	114.030267	22.196697
	806464	822911	114.047344	22.196712
4^	807518	821500	114.033651	22.206219
	807518	829230	114.108618	22.206267
5^	808504	821850	114.037037	22.215126
	808504	828602	114.102523	22.215169
6^	809490	822150	114.039938	22.224033
	809490	825352	114.070995	22.224056
7*^	810499	822000	114.038474	22.233143
	810499	824613	114.063820	22.233163
8#	811508	821123	113.936539	22.328966
	811508	824254	113.936486	22.357241
9#	812516	821303	113.946320	22.330606
	812516	824254	113.946279	22.357255
10*	813525	820827	113.956112	22.326321
	813525	824657	113.956066	22.360908
11#	814556	818853	113.966155	22.304858
	814556	820992	113.966125	22.327820
12	815542	818807	113.975726	22.308109
	815542	824882	113.975647	22.362962

Transect	HK Grid	System	Long Lat	in WGS84
13	816506	819480	113.985072	22.314192
	816506	824859	113.985005	22.362771
14	817537	820220	113.995070	22.320883
	817537	824613	113.995018	22.360556
15	818568	820735	114.005071	22.325550
	818568	824433	114.005030	22.358947
16	819532	821420	114.014420	22.331747
	819532	824209	114.014390	22.356933
17	820451	822125	114.023333	22.338117
	820451	823671	114.023317	22.352084
18	821504	822371	114.033556	22.340353
	821504	823761	114.033544	22.352903
19	822513	823268	114.043340	22.348458
	822513	824321	114.043331	22.357971
20	823477	823402	114.052695	22.349680
	823477	824613	114.052686	22.360610
21	805476	827081	113.877878	22.382668
	805476	830562	113.877811	22.414103
22	806464	824033	113.887520	22.355164
	806464	829598	113.887416	22.405423
23	814559	821739	113.966142	22.334574
	814559	824768	113.966101	22.361920
24^	805476	815900	113.979368	22.187721
	805476	819100	114.010398	22.187756

Remarks:

- (a) * Due to the presence of deployed silt curtain systems at the site boundaries of the Contract, some of the transect lines shown in Figure 5.1 could not be fully surveyed during the regular survey. Transect 10 is reduced from 6.4km to approximately 3.6km in length due to the HKBCF construction site. Therefore the total transect length for both NEL and NWL combined is reduced to approximately 108km.
- (b) # Coordinates for transect lines 1, 2, 7, 8, 9 and 11 have been updated in respect to the Proposal for Alteration of Transect Line for Dolphin Monitoring approved by EPD on 19 August 2015.
- (c) ^ The change of transect lines 2, 3, 4, 5, 6 and 7 and new transect line 24 were justified and verified by the ET Leader for Contract No. HY/2010/02 and the IEC respectively on 24 March 2017 and it was approved by EPD on 12 May 2017.

5.2 Monitoring Requirements

The monitoring requirements, monitoring equipment, monitoring parameters, frequency and duration, monitoring methodology, monitoring schedule, meteorological information are detailed in the monthly EM&A Reports prepared for Contract No. HY/2013/01.

The Action and Limit Levels for Chinese White Dolphin Monitoring are provided in **Table 5.2** and **Table 5.3**, respectively.

Table 5.2: Action and Limit Levels for Chinese White Dolphin Monitoring - Approach to Define Action Level (AL) and Limit Level (LL)

	North Lantau Social Cluster		
	NEL	NWL	
Action Level	(STG < 70% of baseline) &	(STG < 70% of baseline) &	
	(ANI < 70% of baseline)	(ANI < 70% of baseline)	
Limit Level	[(STG < 40% of baseline) &	(ANI < 40% of baseline)] AND	
	[(STG < 40% of baseline)	& (ANI < 40% of baseline)]	

Table 5.3: Derived Value of Action Level (AL) and Limit Level (LL) for Chinese White Dolphin Monitoring

	North Lantau Social Cluster		
	NEL	NWL	
Action Level	(STG < 4.2) & (ANI < 15.5)	(STG < 6.9) & (ANI < 31.3)	
Limit Level	[(STG < 2.4) & (ANI <8.9)] AN	[(STG < 2.4) & (ANI <8.9)] AND [(STG < 3.9) & (ANI < 17.9)]	

The event and action plan is provided in **Appendix D**.

If exceedance(s) at these survey transect(s) is/are recorded by the ET of the Contract or referred by the other ET under the HZMB project to the Contract, the ET of the Contract will carry out an investigation and findings will be reported in the monthly EM&A Report.

5.3 Monitoring Results

The monitoring results for dolphin monitoring during the reporting period are reported in the monthly EM&A Report (for the reporting period) prepared for Contract No. HY/2013/01.

6 Environmental Site and Audit

6.1 Site Inspection

Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control mitigation measures for the project. During the reporting period, site inspections were carried out on 6, 11, 18, 23 and 31 October 2017.

Particular observations during the site inspections and corrective actions undertaken by the Contractor are described below.

18 September 2017

a. The colour of a NRMM label for crawler crane at Bridge D8 had faded. Subsequently, the crawler crane was removed from site. The observation was closed on 11 October 2017.

27 September 2017

a. Loose general refuse was observed at P910. Subsequently, the general refuse was cleared. The observation was closed on 6 October 2017.

6 October 2017

a. Loose general refuse was observed near the bridge at P802. Subsequently, the general refuse was cleared. The observation was closed on 18 October 2017.

11 October 2017

- a. Site housekeeping near Bridge D1 at P101 was untidy with unsorted construction materials and general refuse observed. Subsequently, the site housekeeping was improved with general refuse and construction materials cleared. The observation was closed on 18 October 2017.
- b. Dusty access road between main haul road and P101 was observed. Subsequently, the access road was provided with water spray. The observation was closed on 18 October 2017.

18 October 2017

- a. The colour of a NRMM label for generator near Retaining Wall RW1a had faded. Subsequently, a new NRMM label was provided for the generator near RW1a. The observation was closed on 23 October 2017.
- b. Stagnant water pond near Bridge D14a at P1406 was observed. Subsequently, the stagnant water pond was cleared. The observation was closed on 23 October 2017.

23 October 2017

- a. A few haul roads were observed to be slightly dry. Subsequently, more frequent water spray was provided for the haul roads. The observation was closed on 31 October 2017.
- b. Some C&D waste stockpiles were observed on the deck of Bridge D8/D9a. Subsequently, the C&D waste was removed. The observation was closed on 31 October 2017.
- c. Silty water was observed immediately outside the perimeter of a silt curtain for Box Culvert D. Subsequently, the Contractor inspected the silt curtain for Box Culvert D and confirmed that it was structurally intact. No silty water was observed outside the silt

curtain during the follow-up inspection on 31 October 2017. The observation was closed on 31 October 2017.

31 October 2017

a. Loose general refuse and construction materials were observed at A801 (Bridge D8) and P910 (Bridge D9c). The Contractor was reminded to improve the housekeeping at these locations (including sorting and disposal). Follow-up actions for the outstanding observation will be inspected during the upcoming site inspections and reported in the coming reporting period.

6.2 Advice on the Solid and Liquid Waste Management Status

The Contractor registered as a chemical waste producer for the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting. As a practical means, the disposal operation is managed by a single HKBCF contractor who is also responsible for applying dumping permit and its subsequent extension applications from EPD. Contract No. HY/2013/03 has been assigned to coordinate and arrange for disposal of extracted marine sediment from this Contract.

There was no generation of excavated sediment for treatment during this reporting period. Any treatment of excavated marine sediment will be conducted using cement solidification/ stabilization (Cement S/S) techniques and the treated sediment will be reused onsite for either backfilling or landscaping (e.g. berm material).

The monthly summary of waste flow table is detailed in **Appendix E**.

The Contractor was reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packing, Labelling and Storage of Chemical Waste.

6.2.1 Disposal of Marine Sediment Extracted from Bored Piling Works

6.2.1.1 Background

After the acceptance of the review of the approved Sediment Quality Report (SQR) for this Project under EPD letter dated 19 August 2015, an approval to dispose the marine sediment extracted from bored piling for this Project was then approved under memo from Secretary, Marine Fill Committee of CEDD dated 20 August 2015 for the disposal of marine sediment extracted from bored piling works. The disposal sites allocated to this Project are the Mud Pit CMP2 of the Confined Marine Sediment Disposal Facility to the South of The Brothers (or at the East of Sha Chau). As advised by CEDD in the memo dated 19 February 2016, from 00:00 on 22 March 2016 onward, the disposal space at CMP2 of the South of The Brothers is closed and all disposal of contaminated sediment is to be carried out at CMP Vd to the East of Sha Chau (ESC).

As Contract No. HY/2013/01 has commenced treatment of the extracted marine sediment, treatment will continue and the treated marine sediment will be re-used within the HKBCF Island. On the other hand, Contract Nos. HY/2013/02, HY/2013/03 and HY/2013/04 have not commenced the treatment of extracted marine sediment. Therefore the marine sediment extracted from these three Contracts will be disposed to the allocated disposal sites directly without treatment. As a practical means, the disposal operation is managed by one contractor who is also responsible for applying dumping permit and its subsequent extension applications from EPD. Contract No. HY/2013/03 has been assigned to coordinate and arrange for disposal of extracted marine sediment from all three Contracts.

The SQR was further reviewed in mid-2016. EPD has no comment to extend the validity of the SQR to August 2017 under letter dated 18 August 2016.

Based on the actual piling operation, the estimated quantity of marine sediment to be extracted has been revised from 85,000 m³ to 126,000 m³ (bulk volume). EPD has no comments on the request as in the letter dated 20 October 2016. The Secretary of Marine Fill Committee, CEDD approved the increasing quantity in the memo dated 10 November 2016.

During the course of reviewing the SQR, it was noted that the contamination level of the marine sediment extracted from the inner part of the HKBCF Island was not identified during the previous sampling and testing. As requested by EPD, sampling and testing are required. The Sediment Sampling and Testing Proposal (SSTP) for the inner area of the HKBCF Island was approved by EPD on 2 June 2016.

As in the agreed SSTP for the inner area of the HKBCF Island, samples were taken from the seventeen batches of stockpiled marine sediments and from five boreholes each in one of the five sampling grids. After conducting chemical tests on samples, six batches of stockpiled samples under Contract No. HY/2013/03 and all eight batches of stockpiled samples under Contract No. HY/20013/04 are classified as Category L sediment. The Secretary of Marine Fill Committee of CEDD allocated disposal sites under memo dated 24 October 2016 and dated 22 November 2016 for disposal of a total of 9,500 m³ in-situ volume of Category L sediment (using a bulk factor of 1.3). The Category L sediment was disposed in December 2016.

One sample from the batch of stockpiled marine sediment under Contract No. HY/2013/03 and samples from all five sampling grids had contamination levels exceeding the Lower Chemical Exceedance Levels (LCEL) and biological screenings were carried out. All samples passed the biological screenings and are classified as Category Mp sediment and to be disposed off site using Type II confined marine disposal method the same method used for marine sediment extracted from other part of the HKBCF Island.

6.2.1.2 Dumping Arrangements

The barge for disposal of marine sediment will morn at the temporary loading and unloading at the east shore of the HKBCF Island, which has been being used by reclamation contractor (Contract No. HY/2010/02) for reclamation activities. In terms of safety consideration, each dumping date will be allocated to one Contract. The quantity of marine sediment disposed on the date is from one Contract.

During dumping, each Contractor is responsible for transporting the marine sediment from his site area to the barge. The estimated quantity of marine sediment in each truck is confirmed by Resident Site Staff of each Contract. The trip tickets for transportation and disposal of marine sediment are collected and checked. Contract No. HY/2013/03 as the dumping permit holder is responsible for reporting to EPD the quantity disposed of as the condition stipulated in the dumping permit.

6.2.1.3 Reporting

AECOM has confirmed that the disposal of excavated marine sediments to allocated dumping site via Contract No. HY/2013/03 has been completed with the last batch disposal on 30 August 2017. The total quantities disposed are presented in the following table (**Table 6.1**):

Table 6.1: Summary of Marine Sediment disposed to Dumping Site via Contract No. HY/2013/03

Type of Sediment and Quantity Disposed (m³)

Cat. L (in Type I)

Type II

3,570

39,814

Note: For monthly breakdown of these quantities, please refer to the waste flow table in Appendix E.

6.3 Environmental Licenses and Permits

Total

The valid environmental licenses and permits during the reporting period are summarized in **Appendix F**.

6.4 Implementation Status of Environmental Mitigation Measures

In response to the site audit findings, the Contractor carried out corrective actions.

A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in **Appendix G**. Most of the necessary mitigation measures were implemented properly.

Implementation status of the Regular Marine Travel Route Plan (RMTRP) was checked by ET. Training of marine travel route for marine vessel operator was given to relevant staff and relevant records were kept properly. The marine traffic records and geographical plots of all the vessel tracks to demonstrate the conformance of the vessel to the proposed route in October 2017 would be provided to ER, ETL and IEC/ENPO for checking within the month of November 2017.

The localised silt curtains under this Contract were deployed on 15 July 2017. No dolphins were observed by the trained MMOs during the reporting month. Regarding the implementation of dolphin monitoring and protection measures (i.e. implementation of Dolphin Watching Plan, Dolphin Exclusion Zone and Silt Curtain Integrity Check), regular checking was conducted by the experienced MMOs within the works area to ensure no dolphin was trapped by the enclosed silt curtain systems. Any dolphin spotted within the enclosed silt curtain systems was reported and recorded. Relevant procedures were followed and measures were well implemented. Silt curtain systems were also inspected timely in accordance to the submitted plan. All inspection records were kept properly.

6.5 Summary of Exceedance of the Environmental Quality Performance Limit

Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.

There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at station AMS7 by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

There was no Action and Limit Level exceedance for noise recorded at station NMS2 and station NMS3B by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

Water quality monitoring exceedances were recorded by the ET of Contract No. HY/2013/01 during the reporting period. The investigation findings are presented in Section 4.3 of this report.

Impact dolphin monitoring results at all transects during the reporting period are reported in the monthly EM&A Report (for the reporting period) prepared for Contract No. HY/2013/01.

6.6 Summary of Complaints, Notification of Summons and Successful Prosecution

Complaints

There was one complaint received in relation to the environmental impact during the reporting period. The summary of environmental complaints is presented in **Table 6.2**. The details of cumulative statistics of Environmental Complaints are provided in **Appendix H**.

Table 6.2: Summary of Environmental Complaints for the Reporting Month

Log No.	Environmental Complaint Ref. No.	Date of Complaint Receipt	Description
005	ENPO-C0127	27 October 2017	Water Quality

The complaint was about muddy water discharge from HZMB BCF Island works site. According to the complainant, this had continued for one week and occurred at C3 (HY/2013/03) site.

The complaint was investigated by the ET of the Contract.

As informed by the Contractor of HY/2013/04, there was no ongoing discharge of wastewater from the HY/2013/04 site during the period described in the complaint.

The Contractor has obtained a discharge licence under the WPCO for treatment and disposal of wastewater (Licence No. WT00028782-2017). The discharge licence and most recently-received results for monthly sampling under the licence were included in ET's investigation report.

During ET's regular weekly site inspection on 23 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected. Land-based works at the shoreline for Box Culverts C and D were in progress. Bunds were provided near the shoreline to contain potential site runoff. No surface runoff was observed near the shoreline. Wastewater treatment facilities were provided near Box Culverts C and D to treat site runoff before discharge from the contract site. No discharge was observed at the discharge points or along the same shoreline interfacing with open waters. Silt curtain was provided at each box culvert for marine work areas. Photos of these mitigation measures were included in ET's investigation report. A location plan showing the discharge points was also included in ET's investigation report.

During the abovementioned site inspection, silty water was observed immediately outside the perimeter of a silt curtain for Box Culvert D, and the Contractor was reminded to inspect the silt curtain to ensure that its structural integrity is intact. Subsequently, the Contractor inspected the silt curtain to confirm its structural integrity and no silty water outside the silt curtain was observed. There were no other observations referring to water quality mitigation measures associated with that shoreline.

The Contractor is reminded to observe all conditions stated in the relevant discharge licence and implement all necessary water quality mitigation measures identified in the EM&A Manual.

The ET's investigation report for the abovementioned complaint is presented in **Appendix J**.

Notification of Summons and Successful Prosecution

No notification of summons or prosecutions was received during the reporting period.

Statistics on notifications of summons and successful prosecutions are summarized in **Appendix H**.

7 Future Key Issues

7.1 Construction Programme for the Coming Months

As informed by the Contractor, the major construction activities for November 2017 are summarized in **Table 7.1**.

Table 7.1: Construction Activities for November 2017

Site Area	Description of Activities
HKBCF	 Pier column, retaining wall, pump house interior works with E&M works, segment erection, segment delivery (marine-based), excavation with road and drainage works, asphalt paving, outfall works.

7.2 Environmental Site Inspection Schedule for the Coming Month

The tentative schedule for weekly site inspections for November 2017 is provided in **Appendix** I

8 Conclusions

8.1 Conclusions

Commencement of the Contract took place on 13 March 2015 and the construction works of the Contract commenced on 13 July 2015.

Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.

There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at station AMS7 by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

There was no Action and Limit Level exceedance for noise recorded at station NMS2 and station NMS3B by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

A total of 12 Action Level exceedances and 8 Limit Level exceedances (comprising 7 Action Level exceedances and 8 Limit Level exceedances of DO, and 5 Action Level exceedances of SS) were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract. It was concluded that the exceedances were not due to the Contract.

Impact dolphin monitoring results at all transects during the reporting period are reported in the monthly EM&A Report (for the reporting period) prepared for Contract No. HY/2013/01.

Environmental site inspections were carried out on 6, 11, 18, 23 and 31 October 2017. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site inspections.

There was one complaint received in relation to the environmental impact during the reporting period. The complaint was investigated by the ET of the Contract. The Contractor is reminded to observe all conditions stated in the relevant discharge licence and implement all necessary water quality mitigation measures identified in the EM&A Manual.

There were no notifications of summons or prosecutions received during the reporting period.

Figures

Figure 2.1 Location of Air Quality Monitoring Stations

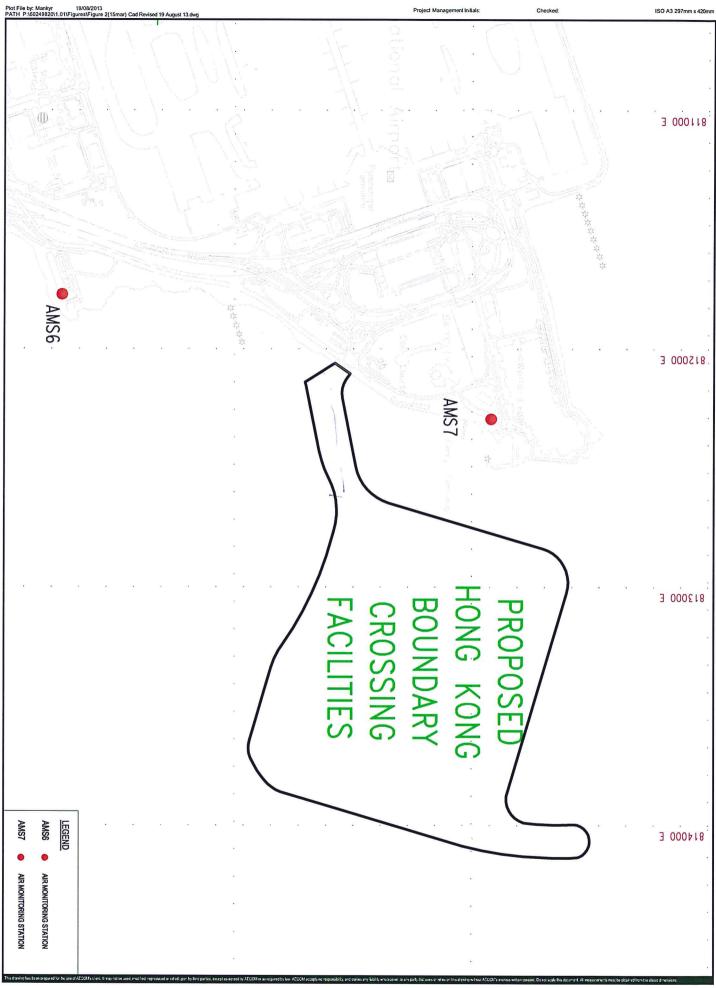


Figure 3.1 Location of Noise Quality Monitoring Stations

Plot File by: LAMMCL 15/03/2012 PATH P:#60249820#1.01#CAD#Drawing#Figure#Figure 2(15mor).dwg 817000 818000 819000 N 1 811000 E 815000 E NMS2- Sed View Cresent NMS2 and NMS3B LEGEND 813000 E **AECOM PRE's Office** NOISE MONITORING STATIONS

Project Management Initials:

AGREEMENT NO. CE 13/2010(EE) HZMB HONG KONG BOUNDARY CROSSING FACILITIES (SUPERSTRUCTURE & INFRASTRUCTURE) — DESIGN AND CONSTRUCTION Project No.: — Date: JUL 2013

AIR QUALITY AND NOISE MONITORING STATIONS

AECOM

ISO A3 297mm x 420mm

Figure 5-1



<u>LEGEND</u>



IMPACT STATIONS



CONTROL / FAR FIELD STATIONS

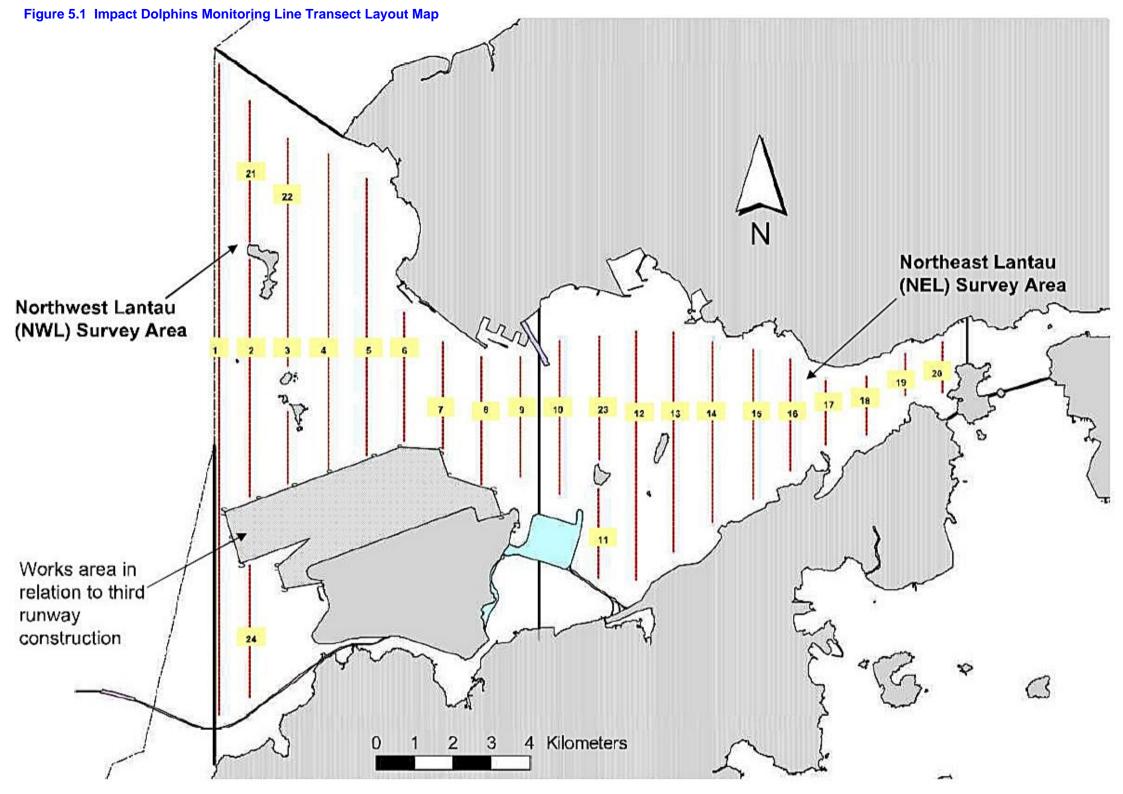


SENSITIVE RECEIVERS STATIONS

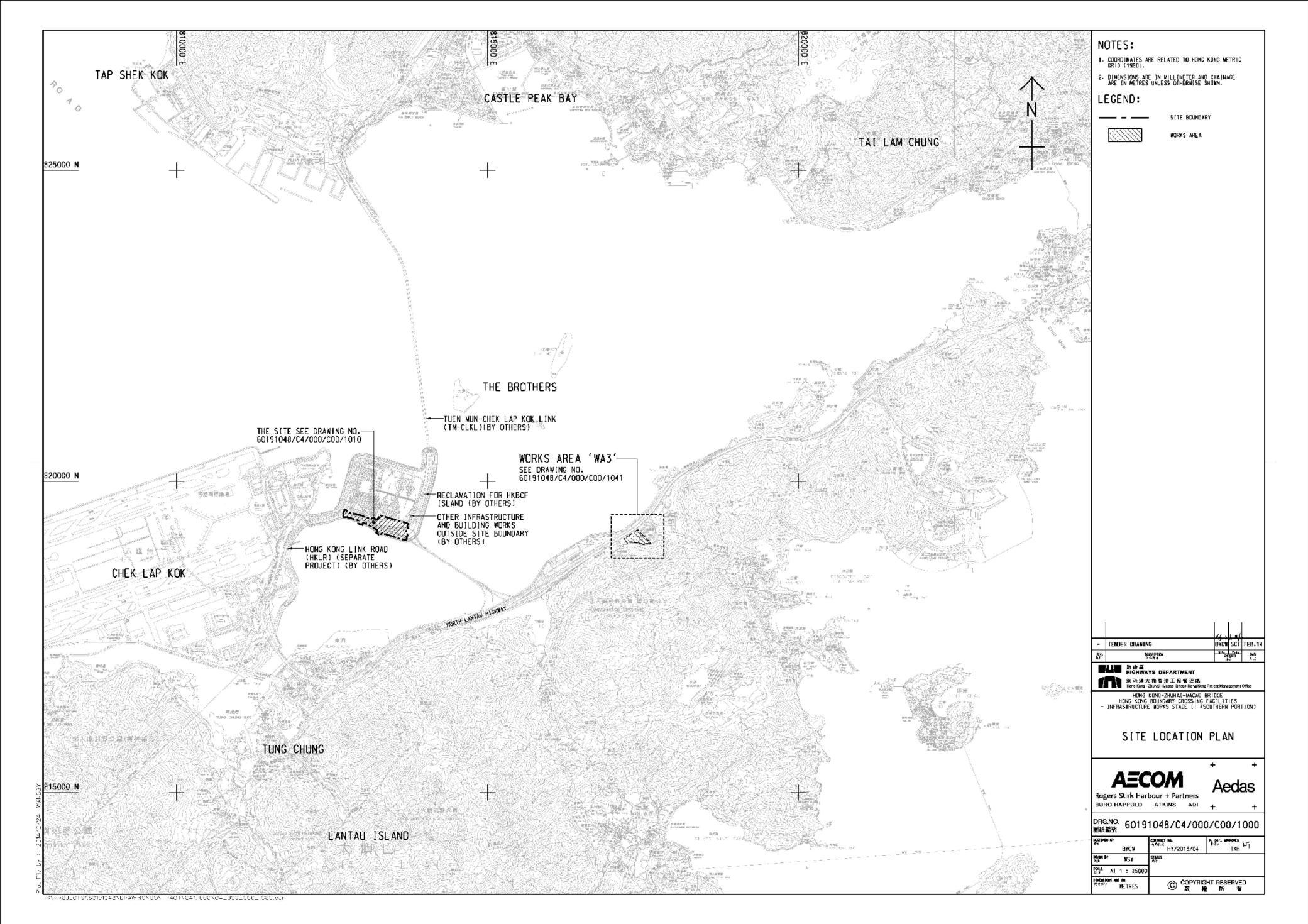
FIGURE 4.1— LOCATION OF WATER QUALITY MONITORING STATIONS

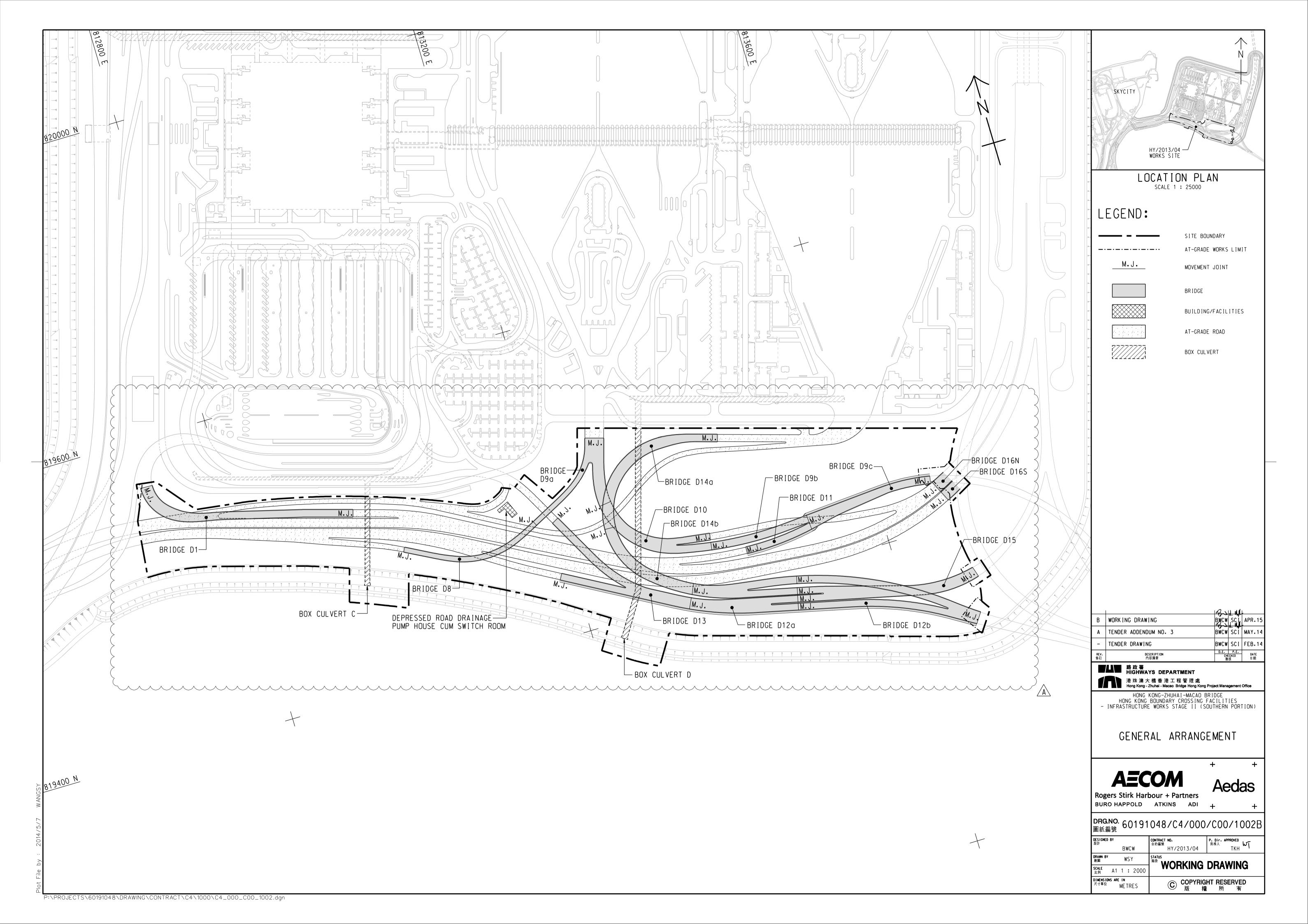
SETTING OUT SCHEDULE

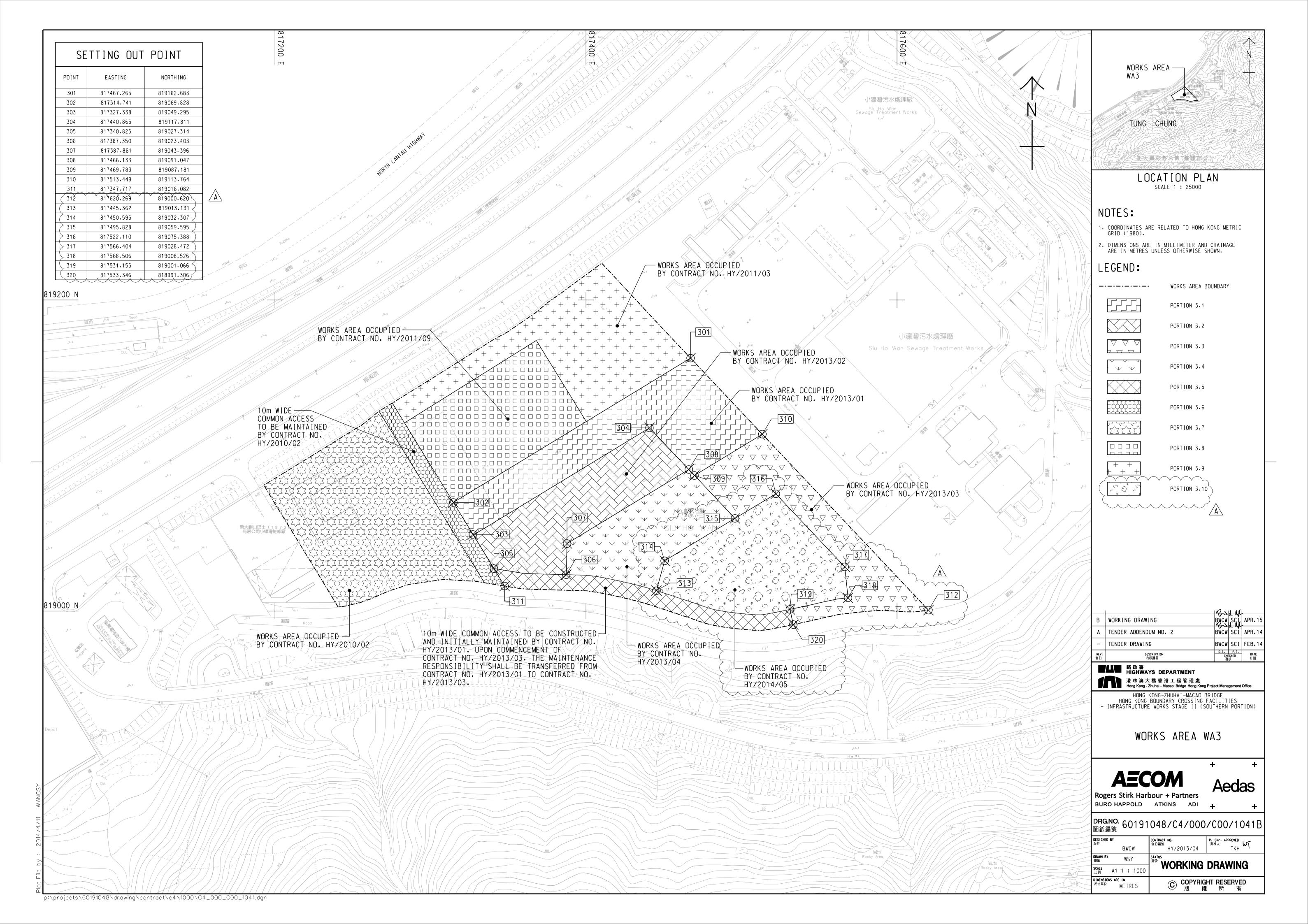
MONITORING	CO-ORDINATES		
STATIONS	EASTING	NORTHING	
IS5	811579	817106	
IS(Mf)6	812101	817873	
IS7	812244	818777	
188	814251	818412	
[S(Mf)9	813273	818850	
IS10	812577	820670	
IS10(N)	812942	820455	
IS(Mf)11	813562	820716	
IS(Mf)16	814328	819497	
IS17	814539	820391	
SR3	810525	816456	
SR4(N)	814705	817859	
SR5	811489	820455	
SR5(N)	812569	821475	
SR6	805837	821818	
SR7	814293	821431	
SR10A	823741	823495	
SR10B(N)	823683	823187	
CS(Mf)3	809989	821117	
CS(Mf)3(N)	808814	822355	
CS(Mf)5	817990	821129	
CS4	810025	824004	
CS6	817028	823992	
CSA	818103	823064	



Appendix A. Location of Works Areas

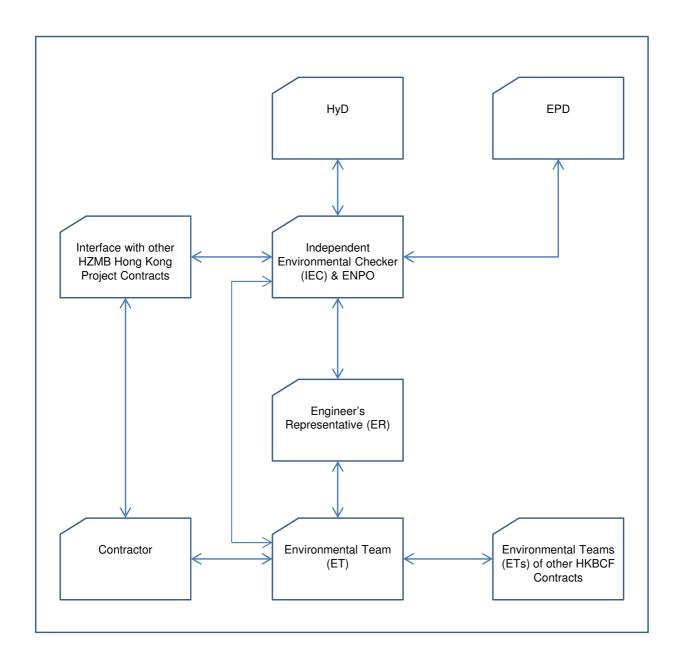






Appendix B. Project Organization for Environmental Works

Project Organisation for Environmental Works



Appendix C. Construction Programme

| A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D Essential Works Updates - Tier 1 - 26 C **Contract Key Dates** CON KD 0005 Letter of Acceptance (LOA) etter of Acceptance (LOA) CON.KD.0010 ent Date Commencement Date CON.KD.0020 Completion of the whole of the Works (1520) 11-May-19, Completion of the whole of the Works (1520) Possession Dates CON.PD.1010 Site Possession of Portion A1 (61) - 8 sion of Portion A1 (61) CON.PD.1020 Site Possession of Portion A2 (61) Site Poss sion of Portion A2 (61) CON.PD.1050 Site Possession of Portion A5 (61) Site Possession of Portion Site Possession of Portion A6 (61) on of Portion A6 (61) CON.PD.1060 CON PD 1070 e Possession of Portion B1-5 (92) Site Possession of Portion B1-5 (92) CON.PD.1080 sion of Portioh B2 (123) Site Possession of Portion B2 (123) Site Possession of Portion B5 (123) CON.PD.1130 Site Possession of Portion B5 (123) CON.PD.1140 Site Possession of Portion C1 (184) 06-Oct-16 Site Pos CON.PD.1150 Site Possession of Portion C2 (184) Site Possession of Port Site Pos sion of Portion D1 (183) CON.PD.1160 Site Possession of Portion D1 (183) CON.PD.1180 Site Possession of Portion D3 (183) Site Po sion of Portion D3 (183) CON.PD.1190 Site Possession of Portion A1 (61) - 2 Site Possession of Portion A1 (61) CON.PD.1200 Site Possession of Portion A1 (61) - 5 Site Passessian of Partian A1 (61) - 5 CON.PD.1210 Site Possession of Portion A1 (61) Site Possession of Portion A1 (61) - 1 ssion of Portion C1; -1 (184) CON.PD.1220 Site Possession of Portion C1 -1 (184) CON.PD.1230 Site Possession of Portion C1 -2 (184) session of Portion C1 -2 (184) CON.PD.1240 Site Possession of Portion B1 -1 (92) Site Possession of Portion B1 -1 (92) CON.PD.1250 Site Possession of Portion B1 -2 (92) Site Possession of Portion B1 +2 (92) CON.PD.1260 Site Possession of Portion A1 (61) - 7 ion of Porti<mark>o</mark>n A1 (61) - 7 ossession of Portion B1-3 (92) CON.PD.1270 Site Possession of Portion B1-3 (92) CON PD 1280 Site Possession of Portion B1-4 (92) Site Possession of Portion B1-4 (92) Site Possession of Portion C1 -3 (184) ite Possession of Portion C1 -3 (184) CON.PD.1290 CON.PD.1030 Site Access of Portion A3 (476) 06-Oct-16 Site Access of Portion A3 (476) -16 🔷 Site Access of Portion A4 (627) CON.PD.1040 Site Access of Portion A4 (627) CON.PD.1090 Site Access of Portion B3 (476) 06-Oct-16 Site Access of Portion B3 (476) CON.PD.1100 Site Access of Portion B4 (627) -16 🔷 Site Access of Portion B4 (627) Site Access of Portion D2 (488) CON.PD.1170 Site Access of Portion D2 (488) Contractual Key Dates - Stage / Section CON.FOT.KD01 KD01 - Achievement of Stage 1A (525) 06-Oct-16, KD01 - Achi ◆ 22-Dec-16, KD02 - Achievement of Stage 1B (650) CON.FOT.KD02 KD02 - Achievement of Stage 1B (650) CON.FOT.KD03 KD03 - Achievement of Stage 2 (525) 06-Oct-16, KD03 - Achieve ment of Stage 2 (525) 06-Oct-16, KD04 - Achievement of Stage 3 (465) CON.FOT.KD04 KD04 - Achievement of Stage 3 (465) ◆ 17-Nov-16, KD05 - Achievement of Stage 4 (615) CON.FOT.KD05 KD05 - Achievement of Stage 4 (615) ◆ 17-Nov-16, KD06 - Achievement of Stage 5 CON.FOT.KD06 KD06 - Achievement of Stage 5 (615) 6-Oct-16, KD07 - Achiev nent of Stage 6 (270) CON.FOT.KD07 KD07 - Achievement of Stage 6 (270) CON.FOT.KD08 KD08 - Completion of Section I of the Works ◆ 16-May-17, KD08 - Completion of Section I of the Works (795) ◆ 24-May-17, KD09 CON.FOT.KD09 KD09 - Completion of Section II of the Works ◆ 24-May-17, KD10 - Completion of Section III of the Works (803) CON.FOT.KD10 KD10 - Completion of Section III of the Works 06-Oct-16, KD11 - Completion of Section IV of the Works (565) CON.FOT.KD11 KD11 - Completion of Section IV of the Works 24-May-17, KD12 - Completion of Section V of the Works (803) CON.FOT.KD12 KD12 - Completion of Section V of the Works 06-Oct-16, KD13 - Completion of Section VI of the Works (465) CON.FOT.KD13 KD13 - Completion of Section VI of the Works CON.FOT.KD14 KD14 - Completion of Section VII of the Works (1155) ♦ 11-May-18, KD14 - Co tion of Section VII of the Works (1155 ♦ 16 May-17, KD15 - Completion of Section VIIIA of the Works (795 CON.FOT.KD15 KD15 - Completion of Section VIIIA of the Works (795) ◆ 11-May-18, KD16 - Completion of Section VIIIB of the Works (1155) CON.FOT.KD16 KD16 - Completion of Section VIIIB of the Works (1155) CON.FOT.KD17 KD17 - Achievement of Stage 7 (718) ♦ 28-Feb-17, KD17 - Achievement of Stage 7 (718) ◆ 16-May-17, KD17A - Completion of Section VIIIC of the Works (795) CON.FOT.KD17A KD17A - Completion of Section VIIIC of the Works (795) KD18 - Completion of Section VIIID of the Works (1155) CON.FOT.KD18 ◆ 11-May-18, KD18 - Co etion of Section VIIID of the Works (1155) etion of \$ection IXA of the Works (1160) ♦ 16-May-18, KD19 - Comp KD19 - Completion of Section IXA of the Works CON.FOT.KD19 ♠ 11-May-19, KD20 - Completion of Section IXB of the Works (1520) CON.FOT.KD20 KD20 - Completion of Section IXB of the Works (1520) Contractual Handover Dates to Employer ♦ 13-Jun-17, Handover of Portion A1 (KD8+28 days) CON.HD.1190 Handover of Portion A1 (KD8+28 days) CON.HD.1200 Handover of Portion A2 (KD8+28 days) 13-Jun-17, Handover of Portion A2 (KD8+28 days) ♦ 21-Jun-17, Handover of Portion A3 (KD9+28 days) CON.HD.1210 Handover of Portion A3 (KD9+28 days) CON.HD.1220 21-Jun-17, Handover of Portion A4 (KD10+28 days) Handover of Portion A4 (KD10+28 days) Handover of Portion A5 (KD13+0 days) CON.HD.1240 r of Portion A5 (KD13+0 days) HY/2013/04 - Detailed Works Programme **** Current Milestone

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Detailed Works Programme (IVVP) Rev. 04					
Date	Revision	Chec	Approved		
09-Sep-15	Detailed Works Programme	WN/WC	ET		
17-Oct-15	Detailed Works Programme	WN/WC	ET		
29-Oct-15	Detailed Works Programme	WN/WC	ET		
25-Nov-15	Detailed Works Programme	WN/WC	ET		

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Print Date: 14-Dec-16 09:46 Page: 2/23 CON.HD.1250 Handover of Portion A6 (KD14+28 days) CON.HD.1260 Handover of Portion B1 (KD8+28 days) of Portion B1 (KD8+28 days) Handover of Portion B2 (KD8+28 days) ♦ 13-Jun-17, Handover of Portion B2 (KD8+28 davs) CON.HD.1270 of Portion B3 (KD11+28 days) CON.HD.1280 Handover of Portion B3 (KD11+28 days) CON.HD.1290 Handover of Portion B4 (KD12+28 days) 21-Jun-17, Handover of Portion B4 (KD12+28 days) CON.HD.1300 Handover of Portion B5 (KD14+28days) ♦ 08-Jun-18. Had B5 (KD14+28days CON.HD.1310 Handover of Portion C1 (KD8+28 days) ♦ 13-Jun 17 Handover of Portion C1 (KD8+28 days) CON.HD.1320 Handover of Portion C2 (KD13+0 days) 06-Oct-16, Hand f Portion C2 (KD13+0 days CON.HD.1330 Handover of Portion D1 (KD8+28 days) of Portion D1: (KD8+28 days) CON.HD.1340 🔷 13-Jun-17, Handov er of Portion D2 (KD8+28 days) Handover of Portion D2 (KD8+28 days) 13-Jun-17, Handov CON.HD.1350 Handover of Portion D3 (KD8+28 days) er of Portion D3 (KD8+28 days) Contractor Planned Completion: Key Dat ◆ 19-Jun-18, KD01 - Achievement of Stage 1A (525) CON.SC.KD01 KD01 - Achievement of Stage 1A (525) nent of \$tage 1B (650) KD02 - Achievement of Stage 1B (650) CON.SC.KD02 03-May-18, KD02 - Achie CON.SC.KD03 KD03 - Achievement of Stage 2 (525) 19-Jun-18, KD03 - Achievement of Stage 2 (525) ♦ 12-Jun-17, KD04 - Achie CON.SC.KD04 KD04 - Achievement of Stage 3 (465) nt of Stage 3 (465) CON.SC.KD05 KD05 - Achievement of Stage 4 (615) ◆ 20-Aug-18, KD05 -CON.SC.KD06 03-Aug-17, KD06 - Achievement of Stage 5 (615) KD06 - Achievement of Stage 5 (615) CON.SC.KD07 KD07 - Achievement of Stage 6 (270) nent of Stage 6 (270) ♦ 04-Jul-18, KD08 tion of Section I of the Works (795 CON.SC.KD08 KD08 - Completion of Section I of the Works CON.SC.KD09 21-Aug-18, KD09 - Completion of Section II of the Works (803) KD09 - Completion of Section II of the Works (803) CON.SC.KD10 KD10 - Completion of Section III of the Works 21-Aug-18, KD10 - Completion of Section III of the Works (803) CON.SC.KD11 10-Apr 18 KD11 Completion of Section (V of the Works (565) KD11 - Completion of Section IV of the Works (565)◆ 21-Aug-18, KD12 - Completion of Section V of the Works (803) CON.SC.KD12 KD12 - Completion of Section V of the Works KD13 - Completion of Section VI of the Works CON.SC.KD13 🔷 29-Jun-17, KD13 tion of Section VI of the Works (465) ♦ 28-Aug-19, KD14 - Comp CON.SC.KD14 KD14 - Completion of Section VII of the Works CON SC KD15 KD15 - Completion of Section VIIIA of the 03-Aug-18, KD15 - Completion of Section VIIIA of the Works (795) Works (795) 28-Aug-19, KD16 - Completion of Section VIIIB of the CON.SC.KD16 KD16 - Completion of Section VIIIB of the Works (1155) O3-Jul-18, KD17 - Achievement of Stage 7 (718) CON.SC.KD17 KD17 - Achievement of Stage 7 (718) KD17A - Completion of Section VIIIC of the Works (795) CON.SC.KD17A d3-Aug-18, KDI 7A - Completion of Section VII IC of the Works (795) CON.SC.KD18 KD18 - Completion of Section VIIID of the 28-Aug-19, KD18 - Completion of Section VIIID of the Works (1155) CON.SC.KD19 KD19 - Completion of Section IXA of the Works 0/3-Aug-19, KD19 - Completion of Section IXA of the World CON.SC.KD20 KD20 - Completion of Section IXB of the Works ♦ 27-Aug-20, KD20 (1520)Preliminaries and General Requiremer Insurance CON.PR.1010 Arrange and Secure Professional Indemnity Insurances and submit copy to Engineer **Initial Works Programme** CON.PR.1020.10 Prepare & Submit Initial Works Programme (IWP) Enginéer's Approval CON.PR.1020.20 Engineer's Approval **Provisional Programme for Piling Works** CON.PR.1030.10 Prepare Detailed Piling Schedule (refer to IWP) repare Detailed Piling S CON.PR.1030.20 Engineer's Approval Engineer's Approval 3 Months Rolling Programme Prepare 3 Months Rolling Progra CON.PR.1040.10 Prepare 3 Months Rolling Programme CON.PR.1040.20 Engineer's Approval Engineer's Appro **Detailed Works Programme** CON.PR.1050.10 Prepare Detailed Works Programme (DWP) Prepare Detailed Works Programme (DWP) Engineer's Approval CON.PR.1050.20 Engineer's Approval Safety & Health CON.PR.1060.10 Draft Safety Plan Draft Safety Plan Finalized Safety Plan CON.PR.1060.20 Finalized Safety Plan **Environmental Management Plan** CON.PR.1080.10 Draft Envirionmental Management Plan Draft Envirionm Finalized EMP CON.PR.1080.20 Finalized EMP **Sub-Contractor Management Plan** CON.PR.1080.50 Draft Subcontractor Management Plan Engineer's Approval CON.PR.1080.60 Engineer's Approval **Temporary Facilities** ession / Access to W CON.PR.0130 Site Possession / Access to Works Area WA3 CON.PR.0140 Survey / Setting Out Survey / Setting Out CON.PR.0150.10 Site Formation / Site Clearing Site Formation / Site Clearing CON.PR.0160 Contractor's Site Office 💄 ¢ontractor's Site Øffice CON.PR.0170 External Works - Paving, Drainage and Fencing External Works: - Paving, Drainage and Fencing **Contractors Design & Procurement Bridge Bearings**

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A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D Detailed Design / Shop Drawings and Materials PROC.MA.1610 PROC.MA.1615 Engineer's Review / Approval Engineer's Review / Approva PROC.MA.1650 Production / Manufacturing / Facbrication Production / Manufacturing / Facbrid 6 ♦ Materials Delivery (first delivery) PROC.MA.1670 Materials Delivery (first delivery) **Precast Concrete - Segments** PROC.MA.1760 Moulds Detailed Design Preparation / Engineer's Review / Appr PROC.MA.1765 Engineer's Review / Approval Mould Fabri PROC.MA.1770 Mould Fabrication Cast Prototype / Ir PROC.MA.1780 Cast Prototype / Inspection and Approval ection and Approva PROC.MA.2570 Production of Precast Segments 14-Nov-16 ♦ Materials Delivery (First Delivery) PROC.MA.2590 Materials Delivery (First Delivery) Segment Fabrication and Post Pouring Segment Fabrication Type A Segment Fabrication for Bridge D1 (96 nos) tion for Bridge D1 (96 nos) Segment Fabrication Type C1 Fab.TC1.0010 Segment Fabrication for Bridge D12b (91-106) 16 nos. Segment Fabrication for Bridge D12b (91-106) 16 nos Fab.TC1.0020 rication for Bridge D9c (1-3) 3 nos. Segment Fabrication for Bridge D9c (1-3) 3 nt Fabrication for Bridge D14a (1-30) 30 nos Fab.TC1.0030 Segment Fabrication for Bridge D14a (1-30) 30 Fab.TC1.0040 Segment Fabrication for Bridge D12a (66-80) Segment Fabrication for Bridge D12a (66-80) 15 nds Segment Fabrication for Bridge D14b (14-27) 14 nos. Fab.TC1.0050 Segment Fabrication for Bridge D14b (14-27) Segment Fabrication for Bridge D14c (1-15) 15 nos. Fab.TC1.0060 Segment Fabrication for Bridge D14c (1-15) 1 Fab.TC1.0080 Segment Fabrication for Bridge D9c (4-14) 11 abrication for Bridge D9c (4-14) 11 nos Segment Fabrication for Bridge D15 (48-64) 17 nos. Fab.TC2.00060 | Segment Fabrication for Bridge D15 (48-64) 1 Segment Fabrication for Bridge D15 (31-47) 17 nos Fab.TC3.0060 Segment Fabrication for Bridge D15 (31-47) 1 Segment Fabrication for Bridge D13 (103-129) 27 nos. Fab.TC4.0030 ment Fabridation for Bridge D13 (103-129) 27 nos egment Fabrication for Bridge D14c (46-60) 15 nos Fab.TC4.0060 Segment Fabrication for Bridge D14c (46-60) 15 nos. Segment Fabrication Type C2 Segment Fabrication for Bridge D15 (1-15) 15 nos Fab.TC1.0070 Segment Fabrication for Bridge D15 (1-15) 15 Fab.TC2.00010 Segment Fabrication for Bridge D12b Segment Fabrication for Bridge D12b (112-127) 16 nos. (112-127) 16 nos. Fab.TC2.00020 Segment Fabrication for Bridge D14a (31-59) 29 nos. Segment Fabrication for Bridge D14a (31-59) 29 nos nt Fabrication for Bridge D9c (29-42) 14 nos Fab.TC2.00030 | Segment Fabrication for Bridge D9c (29-42) 14 Fab.TC2.00040 Segment Fabrication for Bridge D12a (48-65) \$egment Fabrication for Bridge D12a (48-65) 18 nos. Fab.TC2.00050 Segment Fabrication for Bridge D14c (16-30) 15 nos. Segment Fabrication for Bridge 014c (16-30) 15 nos. Segment Fabrication for Bridge D12b (4/4-8/4, 1/07-111) 46 nos Fab.TC3.0010 Segment Fabrication for Bridge D12b (44-84, 107-111) 46 nos. Segment Fabrication for Bridge D14c (31-45) 15 nos. Fab.TC3.0050 Segment Fabrication for Bridge D14¢ (31-45) 15 nos. Segment Fabrication for Bridge D15 (65-78) 14 no Fab.TC4.0070 Segment Fabrication for Bridge D15 (65-78) 1 Segment Fabrication Type C3 Fab.TC3.0020 Segment Fabrication for Bridge D9c (15-28) 14 nt Fabrication for Bridge D9c (15-28) 14 nos Segment Fabrication for Bridge D13 (43-70 & 100-102) 31 nos Fab.TC3.0030 Segment Fabrication for Bridge D13 (43-70 & 100-102) 31 nos. Fab.TC3.0040 Segment Fabrication for Bridge D14b (28-49) Segment Fabrication for Bridge D14b (28-49) 22 nos. Fab.TC4.0010 Segment Fabrication for Bridge D12b (1-43,85-90) 49 nos. nent Fabrication for Bridge D12b (1-43,85-90) 49 no abrication for Bridge D14a (60-75) 16 nos Fab.TC4.0020 Segment Fabrication for Bridge D14a (60-75) Segment Fabrication for Bridge D12a (81-95) 15 nos. Fab.TC4.0040 Segment Fabrication for Bridge 🛭 12a (81-95) 15 nos Segment Fabrication for Bridge D14b (1-13) 13 nos Fab.TC4.0050 Segment Fabrication for Bridge D14b (1-13) 13 Segment Fabrication Type D2 ment Fabrication for Bridge D9a (75-86 & nt Fabrication for Bridge D9a (75-86 & 92-104) 25 r Segment Fabrication for Bridge D13 (33-46) 14 nos. Fab.T1.0040 Segment Fabrication for Bridge D13 (33-46) 14 Segment Fabrication for Bridge D9a (1-15) 15 nos. ent Fabrication for Bridge D9a (1-15) 15 nos. Fab.T1.0050 Fab.T2.0010 Segment Fabrication for Bridge D9a (32-46) 15 ment Fabrication for Bridge D9a (32-46) 15 nos brication for Bridge D9b (1-15) 15 nos Fab.T2.0030 Segment Fabrication for Bridge D9b (1-15) 15 Fab.T2.0040 Segment Fabrication for Bridge D10 (33-47) 14 Segment Fabrication for Bridge D10 (33-47) 14 nos. Segment Fabrication for Bridge D13 (29-41) 13 nos. Fab.T2.0050 Segment Fabrication for Bridge D13 (29-41) 13 ment Fabrication for Bridge D9a (47-57, 70-74) 16 nos; Fab.T3.0030 Segment Fabrication for Bridge D9a (47-57, 70-74) 16 nos. Segment Fabrication for Bridge D10 (68-88 & 27-32) 27 nos. Fab.T3.0040 Segment Fabrication for Bridge D10 (68-88 & 27-32) 27 nos Segment Fabrication for Bridge D15 (1-14) 14 no Segment Fabrication for Bridge D15 (1-14) 14 Fab.T3.0070 Segment Fabrication for Bridge D10 (61-67 & 89-95) 14 nos. Fab.T4.0020 Segment Fabrication for Bridge D10 (61-67 & 89-95) 14 nos. Fab.T4.0040 Segment Fabrication for Bridge D8 (48-62) 15 Segment Fabrication for Bridge D8 (48-62) 15 nos Segment Fabrication for Bridge D13 (78-98) 21 nos Fab.T4.0050 Segment Fabrication for Bridge D13 (78-98) 21 Fab.T4.0060 Segment Fabrication for Bridge D10 (96-109) 14 nos. Segment Fabrication for Bridge D10 (96-109) 14 nos. Segment Fabrication Type D3 Fab.T1.0010 Segment Fabrication for Bridge D11 (17-31) 15 nos. Segment Fabrication for Bridge D11 (17-31) 15 nos egment Fabrication for Bridge D10 (1-26) 26 nos. Fab.T1.0030 Segment Fabrication for Bridge D10 (1-26) 26 Fab.T1.0060 Segment Fabrication for Bridge D8 (1-16) 16 abrication for Bridge D8 (1-16) 16 nos. Segment Fabrication for Bridge D12a (1-16) 16 nos. Segment Fabrication for Bridge D12a (1-16) 14 nos Fab.T1.0070 Fab.T2.0020 nt Fabrication for Bridge D11 (1-16) 16 no Segment Fabrication for Bridge D11 (1-16) 16 Segment Fabrication for Bridge D8 (17-31) 15 Segment Fabrication for Bridge D8 (17-31) 15 nos. Fab.T2.0060

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3 Nos Pier Segment for Bridge D13 - 4 Nos Fab.T3.00130 Pier Segment for Bridge D13 - 4 Nos ier Segment for Bridge D14b - 4 Fab.T3.00140 Pier Segment for Bridge D14b - 4 Nos Pier Segment for Bridge D12a - 4 Nos Fab.T3.00150 Pier Segment for Bridge D12a - 4 Nos Fab.T3.00160 Pier Segment for Bridge D14c - 4 Nos ■ Pier Segment for Bridge D14c - 4 Nos Pier Segment for Bridge D12b - 4 Nos Fab.T3.00170 Pier Segment for Bridge D12b - 4 Nos Pier Segment for Bridge D15 - 4 Nos Fab.T3.00180 Pier Segment for Bridge D15 - 4 Nos Fab.T3.00260 Pier Segment for Bridge D15 - 4 Nos Pler Segment for Bridge D15 - 4 Nos Fab.T3.0090 Pier Segment for Bridge D14a - 6 Nos Segment for Bridge D14a - 6 Nos Pier Segment - Type D- 1 Fab.T2.0070 Segment Fabrication for Bridge D12a (18-31) Fab.T3.00100 Pier Seament for Bridge D9b - 4 Nos Pier Segment for Bridge D9b - 4 Nos Pier Segment for Bridge D9a - 5 Nos Fab.T3.00190 Pier Segment for Bridge D9a - 5 Nos Pier Segment for Bridge D11 - 3 Nos Fab.T3.00200 Pier Segment for Bridge D11 - 3 Nos Fab.T3.00210 Pier Segment for Bridge D10 - 5 Nos Pier Segment for Bridge D10 - 5 No Fab.T3.00220 Pier Segment for Bridge D8 - 5 Nos Pier Segment for Bridge D8 - 5 No Pier Segment for Bridge D13 - 6 Nos Fab.T3.00230 Pier Segment for Bridge D13 - 6 Nos Fab.T3.00240 Pier Segment for Bridge D12a - 4 Nos Pier Segment for Bridge D12a + 4 Nos ■ Pier Segment for Bridge D15 - 1 Nos Pier Segment for Bridge D15 - 1 Nos Fab.T3.00250 Fab.T3.00280 Pier Segment for Bridge D10 - 5 Nos Pier Segment for Bridge D10 - 5 Nbs Fab.T3.00290 Pier Segment for Bridge D9a - 5 Nos Pier Segment for Bridge D9a - 5 Nos Segment Fabrication for Bridge D12a (33-46) 14 no Segment Fabrication for Bridge D12a (33-46) Fab.T3.0060 &M Works and Building Services for Pu Detailed Design and Material/ Equipment Submisison & Statutory Approval (FSD/EMSD) PROC.SC.1285 Engineer's Review / Approval PROC.SC.1287 Engineer's Review / Approval PROC.SC.1290 Procurement and Manufacturing of Materials nt and Manufacturing of Material PROC.SC.1300 Materials Delivery (first delivery) 29-Jun-17 • Materials Delivery (first delivery) Draft Operation and Maintenance (O&M) Manual PROC.SC.1310 Draft Operation and Maintenance (O&M) PROC.SC.1320 Engineer's Review on Draft O&M Manual Engineer's Review on Draft O&M Manual Draft Testing and Commissioning (T&C) Procedure PROC.SC.1330 Draft Testing and Commissioning (T&C) Final T&C Procedure PROC.SC.1340 Final T&C Procedure Engineer's Review on Draft T&C Procedure PROC.SC.1350 Engineer's Review on Draft T&C Procedure Engineer's Approval on Final T&C Procedure PROC.SC.1360 Engineer's Approval on Final T&C Procedure PROC.SC.2840 Final O&M Manual with as-fitted drawings Final O&M Manual with as-fitted drawings PROC.SC.2850 Engineer's Approval on Final O&M Manual with teel Structures for Sign Gantry / High N PROC.MA.1990 Detailed Design / Material Submission Detailed Design / Material Subr Engineer's Review / Approval PROC.MA.1995 Engineer's Review / Approval PROC.MA.2010 Manufacture of Steel Structures of Steel Structures PROC.MA.2020 Material Delivery (first delivery) 15-Sep-17 : ♦ Material Delivery (first delivery Roads and Bridge Lighting PROC.MA.2840 Lighting Arrangement Detailed Design / Material Submission and Approval (within 12 Lighting Arrangement Detailed Design / Material Submission and Approval (within 12 weeks) Engineer's Review / Approval PROC.MA.2845 Engineer's Review / Approval Manufacture of Road and Bridge Lighting PROC.MA.2850 Manufacture of Road and Bridge Lighting rv (first delivery) PROC.MA.2860 Material Delivery (first delivery) 27-Sep-17 🔷 Material Delive The Engineer confirm Landscape Works/ Irrigation Work (31 Dec 2015) PROC.SC.1178 The Engineer confirm Landscape Works/ 06-Oct-16 Irrigation Work (31 Dec 2015) PROC.SC.1180 Detailed Design / Material Submission Detailed Design / Material Submis Engineer's Review / Approval PROC.SC.1185 Engineer's Review / Approval PROC.SC.1190 Procurement and Shipment of Irrigation Materials/Equipment Soft Landscaping PROC.SC.2760 Propose Nursery for Landscape Materials Propose Nursery for Landscape Materials Joint Inspection and Engineer's appro PROC.SC.2780 Joint Inspection and Engineer's approval PROC.SC.2790 Landscape Materials Growing 02-Aug-17 A Materials Delivery (first delivery) PROC.SC.2810 Materials Delivery (first delivery) Construction / Installation Initial Works / Site Establishment & Mai

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| A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D **Mobilisation and Site Establishment** CONS.A1.0100 Site Possession / Access to Portion A1, A2, A5 CONS.A1.0110 Mobilisation, Site Clearing and Site Set-up oilisation, Site Clearing and Site Set-up CONS.A1.0120 Install Temporary Facilities / Hygiene Facilities Gates and Haul Road Construction (as per Dwg CONS.A1.1010 Site Possession / Access to Portion A1 Survey/ Setting Out CONS.A1.1020 Survey/ Setting Out CONS.A1.1030 | Construct Gate 1 at Haul Road Construct Gate 1 at Haul Road CONS.B1.1010 Site Possession / Access to Portion B1 06-Oct-16 Site Possession / Access to Portion B1 Mobilisation, Site Survey and Setting Out CONS.B1.1020 Mobilisation, Site Survey and Setting Out CONS.B1.1030 Construct Gate 3 and Temporary Haul Road Construct Gate 3 and Temporary Haul Road CONS.B2.1010 Site Possession / Access to Portion B2 & B5 ession / Access to Portion B2 & B5 Site Survey / \$etting out CONS.B2.1020 Site Survey / Setting out CONS.B2.1030 Construct Temporary Haul Road Construct Temporary Haul Road Preliminary Bored Pile with Additional Instrum CONS.A1.0180 | Commence Preliminary Bored Pile at Abutmer CONS.A1.0190 Mobilise Plant & Set-up Support ■ Mobilise Plant & Set-up Support CONS.A1.0195.1 Predrilling to Preliminary Bored Pile (D11) Predrilling to Preliminary Bored Pile (D11) CONS.A1.0195.2 GI Report and Verification / Agreement to GI Report and Verification / Agreement to F unding Level CONS.A1.0200 Preliminary Bored Piling with Additional Instrumentation at Abutment A1101 (1 no. Pile Curing CONS.A1.0210 Pile Curing CONS.A1.0220 Pile Load Testing & Submit Report Pile Load Testing & Submit Repor Replacement Preliminary Bored Pile and Load CONS.A1.0195.6 GI Report and Verification / Agreement to GI Report and Verification! Agreement to Founding Level CONS.A1.0195.7 Engineer's Representative confirmed the replacement bored pile at Pier P908-P1 Engineer's Representative confirmed the replace ement bored pile at Pier P908-P1 Commence Replacement Preliminary Bored Pile at Abutment A1004 CONS.A1.0280 Commence Replacement Preliminary Bored Pile at Abutment A1004 CONS.A1.0290 Mobilise Plant & Set-up Support ■ Mobilise Plant & Set-up Support Replacement Preliminary Bored Pil CONS.A1.0300 Replacement Preliminary Bored Piling - Pier Pile Curing CONS.A1.0310 Pile Curing CONS.A1.0320 Pile Load Testing & Submit Report Pile Load Testing & Submit Preliminary Bored Pile and Load Testing at Abı CONS.C1.0400 Commence Preliminary Bored Pile at Abutmer A106 06-Oct-16 Commence Préliminary Bored Pile at Abutment A106 CONS.C1.0410 Mobilise Plant & Set-up Support Mobilise Plant & Set-up Support Predrilling to Preliminary Bored Pile (D1) CONS.C1.0415.1 Predrilling to Preliminary Bored Pile (D1) CONS.C1.0415.2 GI Report and Verification / Agreement to Founding Level GI Report and Verification / Agreement to Founding Level Preliminary Bored Piling - Abutment A106 (1 no. 2000mm dia x 52m CONS.C1.0420 Preliminary Bored Piling - Abutment A106 (1 no. 2000mm dia x 52m) Pile Curing CONS.C1.0430 Pile Curing CONS.C1.0440 Pile Load Testing and Submit Report Pile Load Testing and Submit Report **Prelimnary Driven H Piles and Load Testing** CONS.A1.4360 Test Pile approved, commence permanent driven h-pile 15-Oct-16 Test Pile approved, commence permanent driven select Preliminary Test Pile (Driven H Pile) CONS.C1.0510 Engineer select Preliminary Test Pile (Driven H e Plant & Set-up Support CONS.C1.0520 | Mobilise Plant & Set-up Support CONS.C1.0530.1 Pre-drilling (2 nos) (Sign Gantry - Preliminary Pile) Pre-drilling (2 nos) (Sign Gantry - Preliminary Pile) CONS.C1.0530.2 GI Report and Verification / Agreement to Founding Level Preliminary Driven H Pile (2 nos) CONS.C1.0540 Preliminary Driven H Pile (2 nos) Pile Load Testing and Submit Report CONS.C1.0550 Pile Load Testing and Submit Report Preliminary Pre-Bored H-Pile and Load Testing CONS.A1.0195.3 Predrilling to Preliminary Pre-Bored H-Pile - 1 Predrilling to Preliminary Pre-Bored H-Pile - 1 no ent ta Founding L CONS.A1.0195.4 GI Report and Verification / Agreement to Founding Level GI Report and Verification / Agree Engineer select Preliminary Test Pile (Pre-Bored H-Pile) CONS.A1.0230 Engineer select Preliminary Test Pile (Pre-Bored H-Pile) Mobilise Plant & Set-up Support CONS.A1.0240 | Mobilise Plant & Set-up Support Preliminary Pre-Bored H-Piling - 1 no. CONS.A1.0250 Preliminary Pre-Bored H-Piling - 1 no. ile Load Testing & Submit Report CONS.A1.0270 Pile Load Testing & Submit Report **Treatment for Bored Piling Excavated Materials** Set-up Stockpile for Excavated Marine Mud CONS.EX.1010 Set-up Stockpile for Excavated Marine Mud Pilot Test for Marine Mud Treatmen CONS.EX.1020 Pilot Test for Marine Mud Treatment CONS.EX.1030 Solidification / Stabilisation / Approval Method Solidification / Stabilisation Set-up Treatment Facilities and Storage Yard CONS.EX.1040 Set-up Treatment Facilities and Storage Yard CONS.EX.1050 Full Scale Solidification / Stabilization Treatment and Verification Testing Full Scale Solidification CONS.EX.1060 Decommissioning of Treatment Facilities Site Set Up at Portion C1 CONS.C1.1010 Site Possession / Access to Portion C1 and C2 06-Oct-16 Site Possession / Access to Portion C1 and C2 06-Oct-16 Site Possession / Access to Portion D1 and D3 CONS.C1.1020 Site Possession / Access to Portion D1 and D3 Site Set-Up CONS.C1.1030 Site Set-Up Pump House cum Switch Room CONS.C1.5110 Commence Pump House Cum Switch Room mmence Pump House Cum Switch Room (2B+ GF) (2B+ GF)

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| A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D CONS.C1.5120 Mobilisation / Survey/ Setting Out CONS.C1.5125 Cofferdam - Sheet Piling Install Dewatering Wells + Pump Test CONS.C1.5130 Install Dewatering Wells + Pump Test ELS Works to Formation level (Base CONS.C1.5140 ELS Works to Formation level (Basement 2) Blinding, Waterproofing and Base Slab CONS.C1.5150 Blinding, Waterproofing and Base Slab Construct Walls and Slab to Upper Ba CONS.C1.5160 Construct Walls and Slab to Upper Basement CONS.C1.5170 Construct Walls and Slab to Ground Level CONS.C1.5200 Construct Walls and Roof Slab Construct Walls and Roof Slab ABWF & Building Service Works to Pump Hous / Switch Room ABWF & Building Service Works to Pump House / Switch CONS.C1.5205 vement of \$tage 5 (KD6) / Interfac ♦ 03-Aug-17, Achie CONS.C1.5210 Achievement of Stage 5 (KD6) / Interface with Pump House/ Switch Rm - Allow Access to ◆ 03-Aug-17, Pump House/Switch Rm - Allow Access to Contract HY/2013/03 CONS.C1.5215 Contract HY/2013/03 CONS.C1.5225 MEP installation for Pump House/Switch Room Testing and Commissioning and Statutory Permits / Certification by FSD / BD CONS.C1.5235 Testing and Commissioning and Statutory Permits / Certification by FSD / BD ABWF Works and External Works CONS.C1.5245 ABWF Works and External Works E&M Equipment Installation CONS.C1.5255 E&M Equipment Installation **Box Culvert D - Cost Savings Design Contractors Design** AD.A1.0001 Approval in Principle for Cost Savings Design 06-Oct-16 Approval in Principle for Cost Savings Design Detailed Design / Shop Drawings and AD.A1.0100 Detailed Design / Shop Drawings and Material AD.A1.0110 Engineer's Review / Approval Engineer's Review / Approva **Preliminary Driven Pile and Load Test** AD.A1.0470.30 Predrilling (1 nos) (Box Culvert D) Predrilling (1 nos) (Box Culvert D) GI Report and Verification / Agreement to Founding Level AD.A1.0470.40 GI Report and Verification / Agreement to Engineer advise Test Pile/ Preliminary Driven Pile at Box Culvert D Engineer advise AD.A1.0510 Test Pile/ Preliminary Driven H Pile at Box (Mobilize Plant & Set-up Support AD.A1.0520 Mobilize Plant & Set-up Support AD.A1.0530 Preliminary Driven H Pile (2 nos) Preliminary Driven H Pile (2 nos) Pile Load Testing and Submit Report AD.A1.0540 Box Culvert D - 15 Bays drilling at Portion A1 (30 nos) (Box Culvert D) AD.A1.1055.30 Predrilling at Portion A1 (30 nos) (Box Culvert ■ GI Report and Verification / Agree AD.A1.1055.40 GI Report and Verification / Agreement to Founding Level AD.A1.1095.30 Box Culvert - Base Slab, Wall & Top Slab - Part Box Culvert - Base Slab, Wall & Top Slab - Part 1 (8 bays) AD.A1.1095.40 Box Culvert - Base Slab, Wall & Top Slab - Part Box Culvert - Base Slab, Wall & Top \$lab - Part 2 (7 bays) 2 (7 bays) Access to Portion A1 (Interface with Contract 03) 06-Oct-16 Access to Portion A1 (Interface with Contract AD.A1.1110 AD.A1.1120 Box Culvert D - Driven H-Pile Works ox Culvert D - Driven H-Pile Works AD.A1.1130 Install Dewatering Wells + Pump Test + Open Cut Excavation to formation ■ Backfill / Reinstate and Conhect UU and Road Works SOL101 AD.A1.1150 Backfill / Reinstate and Connect UU and Road Works SOL101 and SOL102 AD.A1.1160 Survey / Setting Out Survey / Setting Out AD.A1.1170 Pile Testing Mobilization and AD.A1.1180 Mobilization and Plant Set Up int Set Up Pile Trimming and Pile Caps (30 nos) Pile Trimming and Pile Caps (30 nos.) AD.A1.2250 Box Culvert D - 3 Bays and Outfall AD.B1.1180.30 Predrilling (6 nos) (Box Culvert D along Seawall redrilling (6 nos) (Box Culvert D along Seawall Are AD.B1.1180.40 GI Report and Verification / Agreement to Founding Level Pile Trimming and Construction of Pile Caps AD.B1.2235 Pile Trimming and Construction of Pile Caps AD.B1.2250 Remove Piling Platform ve Piling Platform AD.B1.2260 Install Seawall Block & Rockfill near Seawall AD.B1.2270 General Fill General Fill AD.B1.2280 ELS Works (2 levels of Strut) ELS Works (2 levels of \$trut) Box Culvert D - Driven H Pile with Steel Plate AD.B1.2330 AD.B1.2350 Backfill, Remove Seawall Blocks & Reinstate Backfill, Remove Seawall Blocks & Reinstate Rock Armpur AD.B1.2360 ♦ 02-Mar-18, Complete Box Culvert D - based on CSD Complete Box Culvert D - based on CSD Construct Box Culvert Outfall & Connect Drainage AD.B1.2370 Construct Box Culvert Outfall & Connect Drainage Divert/Shift Haul Road (on top of completed box culvert) AD.B1.2380 Divert/Shift Haul Road (lon to of completed box culvert) Sheet Piling Works AD.B1.2390 Install Dewatering Wells and Carry Out Pumping Test Install Dewatering Wells and Carry Out Pumping Test AD.B1.2400 AD.B1.2410 Commence Works on Box Culvert Outfall MDN Application for Marine Plants CONS.OF.1010 Prepare Documents for Statutory Submission to Marine Department MD Vetting, Site Inspection and Approva CONS.OF.1020 MD Vetting, Site Inspection and Approval 02-Dec-16. Marine Department Issues Permit / Cd CONS.OF.1030 Marine Department Issues Permit / Consent **Box Culvert C (Portion C1) Preliminary Driven Piles and Load Testing** CONS.C1.0450 Commence Preliminary Driven H Pile at Box Culvert C 06-Oct-16 Commence Preliminary Driven HiPile at Box Culvert C Mobilise Plant & Set-up Support CONS.C1.0460 Mobilise Plant & Set-up Support CONS.C1.0470. Predrilling (4 nos) (Box Culvert C) Predrilling (# nos) (Box Culvert C)

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CONS.C1.0470. GI Report and Verification / Agreement to Founding Level CONS.C1.0480 Preliminary Driven H Pile (4 nos) Preliminary Driven H Pile (4 nos) CONS.C1.0500 Pile Load Testing and Submit Report Pile Load Testing and Submit Report Box Culvert C - Bay 4-8 CONS.C1.1040 Commence Box Culvert C at Portion C1 05-Nov-Commence Box Culvert C at Portion C1 CONS.C1.1045 Survey / Setting Out Survey / Setting Out CONS.C1.1055. Predrilling (56 nos) (Box Culvert C) Predrilling (56 nos) (Box Culvert C) CONS.C1.1055. GI Report and Verification / Agreement to GIReport and Verification / Agreement to Founding Level CONS.C1.1060 Driven H Piling Works (56 nos x 6 days per Pile Driven H Piling Works (56 nos x 6 days per Pile / 3 rigs) CONS.C1.1070 Excavate and Install Dewatering Wells+ Pump Excavate and Install Dewatering Wells+ Pump Test Test CONS.C1.1090 Pile Trimming and Construction of Pile Caps Pile Trimming and Construction of Pile Caps CONS.C1.1100 Construct Box Culvert & Drainage Connection Construct Box Culvert & Drainage (5 bays) Backfill CONS.C1.1110 Backfill Box Culvert C - Bay 1-3 and Outfall CONS.C1.1120 Divert / Shift Haul Road to North Divert / Shift Haul Road to North Remove Rock Armour CONS.C1.1150 Remove Rock Armour CONS.C1.1160 Construct Piling Plaform Construct Piling Plaform CONS.C1.1170. Predrilling (36 nos) (Box culvert area in C1, Predrilling (36 nos) (Box culvert area in C1, along the GI Report and Verification / Agreement to Founding Leve CONS.C1.1170. GI Report and Verification / Agreement to Piling Driving Works - Driven H-Pile (36 nos) CONS.C1.1180 Piling Driving Works - Driven H-Pile (36 nos) 27-Feb-17. ♦ Commence Box Culvert C Outfall CONS.C1.8480 Commence Box Culvert C Outfall Divert /Shift Haul Road to North CONS.C1.8485 Divert /Shift Haul Road to North (on top of completed box culvert) CONS.C1.8490 Remove Piling Platform Remove Piling Platform CONS.C1.8500 Seawall Block Installation near Seawall Seawall Block Installation CONS.C1.8510 General Fill General Fill Sheet Piling CONS.C1.8530 Sheet Piling CONS.C1.8540 Dewatering Wells + Pump Test Dewatering Wells + Pump Test CONS.C1.8550 ELS Works (2 layers of Strut) ELS Works (2 layers of Strut) CONS.C1.8560 Pile Trimming and Construction of Pile Caps (9 Pile Trimming and Construction of Pile Caps (9:Pile CONS.C1.8570 Construct Box Culvert + Outfall & Drainage Connection (38m or 3 bays) Construct Box Culvert + Outfall & Drainage Connection (38m or 3 bays) CONS.C1.8580 Backfill & Remove Sea Wall Blocks and Backfill & Remove Sea Wall Blocks and Reinstate Rock Armour CONS.C1.8590 | Complete Box Culvert C ◆ 28-Feb-18, Complete Box Cully **Bridge Works** Bridge D1 in Portion C1, D1 and D3 (Interface CONS.C1.1130 Access to Portion C1, D1 & D3 06-Oct-16 Access to Portion C1, D1 & D3 CONS.C1.1140 Survey / Setting Out Survey / Setting Out Pier Columns (P508) CONS.C1.2100 Pier Columns (P508) CONS.C1.2200 Pier Head (P508) Pier Head (P508) CONS.C1.2200.1 Predrilling (17 nos) (D1) CONS.C1.2200.2 GI Report and Verification / Agreement to GI Report and /erification / Agreement to Founding Level Founding Level CONS.C1.2210 D1 Bored Piling (18 nos. 1800-2000mm dia x 52m) (2 nos + 0.8m Rock Socket) D1 Bared Piling (18 nos, 1800-2000m) Pile Testing CONS.C1.2215 Pile Testing Pile Trimming CONS.C1.2220 Pile Trimming CONS.C1.2225.3 Bearing Installation, Final Inspection and ♦ 17-May-17, Achievement of KD4 (465) CONS.C1.2226 Achievement of KD4 (465) CONS.C1.2230 Construct Abutment A106 Construct Aboutm CONS.C1.2250 Bridge D1 - Erect Precast Segments + Bridge D1 Erect Precast Segments + Stitching + Stressing (6 spans) Stitching + Stressing (6 spans) D1 Bridge Ancillary Parapet/TCS\$, Railing, MJ, Drainage & Bridge Lighting CONS.C1.2260 D1 Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage & Bridge Lighting CONS.C1.2265 D1 Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages D1 Bridge Aricillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signa D1 Final Asphalt Paving + Road Mark CONS.C1.2270 D1 Final Asphalt Paving + Road Markings ♦ 02-Jan-18, Completion of Bridge D1 CONS.C1.2280 Completion of Bridge D1 Pier Columns (P101) CONS.C1.2299 Pier Columns (P101) Pier Columns (P102) CONS.C1.8850 Pier Columns (P102) CONS.C1.8860 Pier Columns (P103) Pier Columns (P103) Pier Columns (P104) CONS.C1.8870 Pier Columns (P104) Pier Columns (P105) CONS.C1.8880 Pier Columns (P105) CONS.C1.8950 Pile Cap (P103) Pile Cap (P103) Pile Cap (P104) CONS.C1.8960 Pile Cap (P104) CONS.C1.8970 Pile Cap (P105) Pile Cap (P105) Pile Cap (P101) CONS.C1.8980 Pile Cap (P101) Pile Cap (A106) CONS.C1.8990 Pile Cap (A106) CONS.C1.9000 Pile Cap (P508) Pile Cap (P508) CONS.C1.9010 Pile Cap (P102) Ple Cap (P102) CONS.C1.9020 Pier Head & Bearing (P101) Pier Head & Bearing (P101) Pier Head & Bearing (P102) CONS.C1.9030 Pier Head & Bearing (P102) Pier Head & Bearing (P103) CONS.C1.9040 Pier Head & Bearing (P103)

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1 A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J CONS.C1.9050 Pier Head & Bearing (P104) Pier Head & Bearing (P105) CONS.C1.9060 Pier Head & Bearing (P105) RW1 (51m / 4 bays) CONS.C2.3140 Commence RW1 Retaining Wall Survey / Setting Out CONS.C2.3150 Survey / Setting Out CONS.C2.3160 Excavate to formation level (open cut / slope) Excavate to formation level (ppen cut / slope) Cast Base & Wall Stem 4 bays (ribbed finish to 1m CONS.C2.3170 Cast Base & Wall Stem 4 bays (ribbed finish to 1m below F.G.L) Backfill to final ground level and Reinstate Roa CONS.C2.3180 Backfill to final ground level and Reinstate CONS.C2.3250 Install Railing for RW1 and RW1a Install Railing for RW1 and RW1a RW1a (176m / 11 bays) CONS.C2.3200 Commence RW1a Retaining Wall Commence RW1a Retaining Wal CONS.C2.3210 Survey / Setting Out ■ Survey / Setting Out Excavate to formation level (open cut / slope) - Bay 4 to Bay 11 CONS.C2.3220 Excavate to formation level (open cut / slope) Bay 4 to Bay 11 CONS.C2.3230 Cast Base & Wall Stem (ribbed finish to 1m below F.G.L) - Bay 4 to Bay 11 Cast Base & Wall Stem (ribbled finish to 1m below F.G.L) - Bay 4 to Bay 11 CONS.C2.3240 Backfill to final ground level and Reinstate Backfill to final ground level and Reinstate Roads - Bay 4 to Bay 1 Roads - Bay 4 to Bay 11 Excavate to formation level (open cut / slope) - Bay 1 to Bay : CONS.C2.3370 Excavate to formation level (open cut / slope) Bay 1 to Bay 3 CONS.C2.3380 Cast Base & Wall Stem (ribbed finish to 1m below F.G.L) - Bay 1 to Bay 3 Cast Base & Wall Stem (ribbed finish to 1m below F.G.L) - Bay 1 to Bay 3 CONS.C2.3390 Backfill to final ground level and Reinstate Roads - Bay 1 to Bay 3 Bridge D8 CONS.C1.2285 Site Possession / Access to Portion C1 CONS.C1.2288 Survey / Setting Out Survey / Setting Out CONS.C1.2290.1 Predrilling (10 nos) (D8) Predrilling (10 nos) (D8) CONS.C1.2290.2 GI Report and Verification / Agreement to GI Report and Verification / Agreement to Founding Leve Founding Level D8 Bored Piling (10 nos.2000mm dia x.52m) CONS.C1.2300 D8 Bored Piling (10 nos.2000mm dia x 52m) CONS.C1.2305 Pile Testing Pile Testing Pile Trimming CONS.C1.2310 Pile Trimming Construct Abutment A801 CONS.C1.2320 Construct Abutment A801 CONS.C1.2322 Pier Columns (P805) Pier Columns (P805) Bridge D8:- Erect Precast Segments + Stitching + Stressing (4 CONS.C1.2340 Bridge D8 - Erect Precast Segments + CONS.C1.2350 D8 Bridge Ancillary - Parapet/TCSS, Railing, MJ Drainage & Bridge Lighting D8 Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage & Bridge Lighting D8 Bridge Ancillary - Parapet + Railing, Mi, Drainage, Bridge Lighting, Signages CONS.C1.2355 D8 Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages ■ D8 Final Asphalt Paving + Road Markings CONS.C1.2360 D8 Final Asphalt Paving + Road Markings O2-Nov-17, Completion of Bridge D8 CONS.C1.2370 Completion of Bridge D8 CONS.C1.8820 Pier Columns (P804) CONS.C1.8830 Pier Columns (P803) Pier Columns (P803) CONS.C1.8900 Pile Cap (A801) Pile Cap (A801) Pile Cap (P805) CONS.C1.8910 Pile Cap (P805) CONS.C1.8920 Pile Cap (P804) Pile Cap (P804) CONS.C1.8930 Pile Cap (P802) CONS.C1.9070 Pier Head & Bearing (P805) Pier Head & Bearing (P805) CONS.C1.9080 Pier Head & Bearing (P804) Pier Head & Bearing (P804) Pier Head & Bearing (P803) CONS.C1.9090 Pier Head & Bearing (P803) Pier Columns (P802) CONS.C2.3420 Pier Columns (P802) CONS.C2.3460 Pile Cap (P803) Pier Head & Bearing (P802) CONS.C2.3490 Pier Head & Bearing (P802) RW8 (35m / 3 bays) 08-Aug-17 ♦ Commence RW8 Retaining Wall CONS.C2.3320 Commence RW8 Retaining Wall ■ Survey / Setting Out CONS.C2.3330 Survey / Setting Out CONS.C2.3340 Excavate to formation level (open cut / slope) Excavate to formation level (open cut / slope) CONS.C2.3350 Cast Base & Wall Stem 3 bays (ribbed finish to 1m below F.G.L) Backfill to final ground level & Reinstate Road CONS.C2.3360 Backfill to final ground level & Reinstate Road Bridge D9a in Portion A1 & A5 06-Oct-16 Site Possession / Access to Portion A1 & A5 (61 days) CONS.A5.2010 Site Possession / Access to Portion A1 & A5 (61 days) CONS.A5.2015 Suvey / Setting out Suvey / Setting out Predrilling - Portion A1 & A5 (12 nos) (09a) CONS.A5.2020.1 Predrilling - Portion A1 & A5 (12 nos) (D9a) ■ GI Report and Verification / Agreem CONS.A5.2020.2 GI Report and Verification / Agreement to to Founding Level Founding Level CONS.A5.2030 D9a Bored Piling (12 nos.1800-2200mm dia x 47m) Pilling (12 nos 1800-2200mm dia x 47m) D9a Bor CONS.A5.2035 Pile Testing CONS.A5.2040 Pile Trimming Bridge D9a - Erect Pr CONS.A5.2065 Bridge D9a - Erect Precast Segments + Stitching + Stressing (4 spans) D9a Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry CONS.A5.2070 D9a Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry CONS.A5.2080 D9a Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages D9a Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages CONS.A5.2090 Pier Columns (P905 & P907) Pier Columns (P905 & P907) Pier Columns (P904 & P906) CONS.A5.2110 Pier Columns (P904 & P906) CONS.A5.2140 Pile Caps (P904) Pile Caps (P904) Pile Caps (P905) CONS.A5.2150 Pile Caps (P905)

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| A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D CONS.A5.2160 Pier Head & Bearing (P905 & P907) Pier Head & Bearing (P904 & P906) CONS.A5.2180 Pier Head & Bearing (P904 & P906) Bridge D9a in Portion C1 & C2 cess to Portion C1 & C2 (184 days) CONS.C2.3010 Site Possession / Access to Portion C1 & C2 (184 days) CONS.C2.3015 Survey / Setting Out Survey / Setting Out CONS.C2.3020. Predrilling - Portion C1 & C2 (8 nos) (D9a) Predrilling + Portion C1 & C2 (8 nos) (D CONS.C2.3020. GI Report and Verification / Agreement to GI Report and Verification / Agree Founding Level D9a in Portion C1 & C2 Bored Piling (8 nos.1800-2200mm dia x 47m) CONS.C2.3030 D9a in Portion C1 & C2 Bored Piling (8 nos.1800-2200mm dia x 47m) CONS.C2.3035 Pile Testing CONS.C2.3040 Pile Trimming CONS.C2.3070 Construct Abutment A901 Construct Abutment A901 CONS.C2.3080 Bridge D9a (C1 & C2) - Erect Precast Bridge D9a (C1 & C2) - Erect P D9a (C1 & C2) Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry CONS.C2.3085 D9a (C1 & C2) Bridge Ancillary - Parapet/TCSS Railing, MJ, Drainage, Bridge Lighting, & Sign CONS.C2.3095 Completion of Works in Section VI (KD13) ♦ 14-Jun-17, Completion of Works in Section VI (KD13) CONS.C2.3100 Bridge D9a (C1 & C2) - Erect Precast Bridge D9a (C1 & C2) - Erect Precast Segments + Stitching Segments + Stitching + Stressing (1 span) iD9a Bridge Ancillary | Parapiet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry CONS.C2.3110 D9a Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry CONS.C2.3115 D9a Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages D9a Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signage CONS.C2.3120 D9a Final Asphalt Paving + Road Markings ■ D9a Final Asphalt Paving + Road Markings ♦ 28-Jul-17, Completion of Bridge D9a CONS.C2.3130 Completion of Bridge D9a CONS.C2.3400 Pier Columns (P902) Pier Columns (P902) Pier Calumns (P903) CONS.C2.3410 Pier Columns (P903) CONS.C2.3440 Pile Caps (P902) Pile Caps (P902) CONS.C2.3450 Pile Caps (P903) Pile Caps (P903) CONS.C2.3470 Pier Head & Bearing (P902) Pier Head & Bearing (P902) CONS.C2.3480 Pier Head & Bearing (P903) Pier Head & Bearing (P903) CONS.C2.3560 Pile Caps (A901) Pile Caps (A901) Bridge D9b CONS.A1.1105 Access to Portion A1 ccess to Portion A CONS.A1.1108 Survey / Setting Out Survey / Setting Out CONS.A1.1110.1 Predrilling (8 nos incl. 4 nos for P910) (D9b) drilling (8 nos incl. 4 nos for P910 CONS.A1.1110.2 GI Report and Verification / Agreement to GI Report and Verification / Agreement to Founding Leve Founding Level D9b Bored Piling (8 nos. 2000mm dia x 49m) including 4 for P910 CONS.A1.1120 D9b Bored Piling (8 nos. 2000mm dia x 49m) including 4 for P910 CONS.A1.1125 Pile Testing CONS.A1.1130 Pile Trimming CONS.A1.1160 Bridge D9b - Erect Precast Segments + Stitching + Stressing (3 spans) Bridge D9b - Erect Precast Segments + Stitching + \$tressing (3 spans) CONS.A1.1170 D9b Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage & Bridge Lighting D9b Bridge Ancillary - Parapet/TC\$S, Railing, MJ Drainage & Bridge Lighting D9b Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signage CONS.A1.1175 D9b Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages CONS.A1.1180 D9b Final Asphalt Paving + Road Markings Þ9b Final Asphalt Paying + Road Markings ♦ 11-Aug-17, Bridge D9b complete CONS.A1.1190 Bridge D9b complete CONS.A1.8750 Pier Columns (P908) Pier Columns (P908) CONS.A1.8760 Pier Columns (P909) Pier Columns (P909) Pler Columns (P910) - A (Portal) CONS.A1.8770 Pier Columns (P910) - A (Portal) Per Columns (P910) B (Portal) CONS.A1.8780 Pier Columns (P910) - B (Portal) CONS.A1.9230 Pile Caps (P908) CONS.A1.9240 Pile Caps (P909) Pilė Caps (P909) CONS.A1.9250 Pile Caps (P910 - A) Pile Cap (P910 - A) CONS.A1.9260 Pile Caps (P910 - B) CONS.A1.9270 Pier Head & Bearing (P908) Pier Head & Bearing (P908) CONS.A1.9280 Pier Head & Bearing (P909) Pier Head & Bearing (P909) Bridge D9c CONS.A1.1192 Site Possession / Access to Portion A1 & A2 06-Oct-16 Site Possession / Access to Portion A1 & A2 CONS.A1.1194 Survey / Setting Out Survey / Setting Out CONS.A1.1200.1 Predrilling (8 nos) (D9c) Predrilling (8 nos) (D9c) CONS.A1.1200.2 GI Report and Verification / Agreement to Founding Level CONS.A1.1210 D9c Bored Piling (8 nos. 2000mm dia x 62m) CONS.A1.1215 Pile Testing CONS.A1.1220 Pile Trimming Construct Deck (Cast in Situ) (1 span, P910 to P911) CONS.A1.1240 Bridge D9c - Construct Deck (Cast in Situ) (1 Bridge D9c span, P910 to P911) CONS.A1.1250 Bridge D9c - Erect Precast Segments Pier P911 to Pier P913 + Stitching + Stressing (2 spans) Bridge D9¢ - Erect Precast Segments Pier P911 to Pier P913 + Stitching D9c Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage & Bridge Lighting CONS.A1.1260 D9c Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage & Bridge Lighting CONS.A1.1270 D9c Bridge Ancillary - Parapet + Railing, MJ, 💻 ;D9¢ Bridgė Aricillary į Parapet + Railing, MJ, Drainage, Bridge Lighting; Sigr Drainage, Bridge Lighting, Signages CONS.A1.8790 Pier Columns (P913) Pier Columns (P913) CONS.A1.8800 Pier Columns (P912) Pier Columns (P912) CONS.A1.8810 Pier Columns (P911) Pier Columns (P911) CONS.A1.9190 Pile Cap (P913) CONS.A1.9200 Pile Cap (P912) ap (P912)

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Erect Precast Segments + Bridge D10 - Erect Precast Segments + Stitching + Stressing (8 spans Stitching + Stressing (8 spans) CONS.A1.1350 D10 Bridge Ancillary - Parapet/TCSS, Railing, D10 Bridge Ancillary - Parapet/TCSS, Ralling, MJ, Drainage, Bridge Lighting, & Sign Gantry MJ, Drainage, Bridge Lighting, & Sign Gantry CONS.A1.1355 D10 Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages D10 Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, \$ignage D10 Final Asphalt Paving + Road Markings CONS.A1.1360 D10 Final Asphalt Paving + Road Markings ◆ 18-Oct-17, Bridge D10 complete CONS.A1.1370 Bridge D10 complete Pier Columns (P1003) CONS.A1.8830 Pier Columns (P1003) Pier Columns (P1002 & P1006) CONS.A1.8840 Pier Columns (P1002 & P1006) CONS.A1.8850 Pier Columns (P1008) Pier Columns (P1008) Pier Columns (P1001 & P1 CONS.A1.8860 Pier Columns (P1001 & P1005) Pier Columns (P1007) CONS.A1.8870 Pier Columns (P1007) CONS.A1.9110 Pile Caps (P1008) Pile Caps (P1008) Pile Caps (P1003) CONS.A1.9120 Pile Caps (P1003) CONS.A1.9130 Pile Caps (P1007) Pilė Caps (P1007) le Caps (P1002) CONS.A1.9140 Pile Caps (P1002) Pile Caps (P1001) CONS.A1.9160 Pile Caps (P1001) CONS.A1.9350 Pier Head & Bearing (P1003) Fier Head & Bearing (P1003) Pier Head & Bearing (P1007) CONS.A1.9360 Pier Head & Bearing (P1007) Pier Head & Bearing (P1008) CONS.A1.9370 Pier Head & Bearing (P1008) CONS.A1.9380 Pier Head & Bearing (P1002 & P1006) Pier Head & Bearing (P1002 & P1006) ■ Pier Head & Bearing (P1001 & 1005) CONS.A1.9400 Pier Head & Bearing (P1001 & 1005) Bridge D11 CONS.A1.1375 Site Possession / Access to Portion A1 (61d) Survey / Setting Out CONS.A1.1378 Survey / Setting Out CONS.A1.1380.1 Predrilling (3 nos) (D11) Predrilling (3 nos) (D11) GI Report and Verification / Agreem CONS.A1.1380.2 GI Report and Verification / Agreement to nt to Founding Level D11 Bored Piling (3 nos. 2000mm dia x 65) (52m for abutment CONS.A1.1390 D11 Bored Piling (3 nos. 2000mm dia x 65) (52m for abutment) CONS.A1.1395 Pile Testing Pile Te CONS.A1.1400 Pile Trimming CONS.A1.1405 Abutment A1101 nt A1101 CONS.A1.1430 Bridge D11 - Erect Precast Segments + Bridge D11 - Erect Precast Segments + Stitching + Stressing (2 spans) CONS.A1.1440 D11 Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry D11 Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry CONS.A1.1445 D11 Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages D11 Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages Road Markings D11 Final Asphalt Paving CONS.A1.1450 D11 Final Asphalt Paving + Road Markings CONS.A1.1460 Bridge D11 complete CONS.A1.8900 Pier Columns (P1102) Pler Columns (P1102) Pile Caps (P1102) CONS.A1.9070 Pile Caps (P1102) CONS.A1.9080 Pile Caps (A1101) Pile Caps (A1101) CONS.A1.9420 Pier Head & Bearing (P1102) Pier Head & Bearing (P1102) RW11 (42m / 3 bays) CONS.A1.3320 Commence RW11 Retaining Wall (42m / 3 bays) 13-May-17 ♦ Commence RW11 Retaining Wall (42m / 3 bays) Survey / Setting Out CONS.A1.3330 Survey / Setting Out CONS.A1.3340 Excavate to formation level (open cut / slope) Excavate to formation level (open cut / slope) CONS.A1.3350 Cast Base & Wall Stem 3 bays (ribbed finish to 1m below F.G.L) Cast Base & Wall Stem 3 bays (ribbed finish to 1m below Backfill to final ground level CONS.A1.3360 Backfill to final ground level

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Bridge D12a CONS.B1.1835 Site Possession / Access to Portion B1 Site Survey and Setting Out CONS.B1.1837 Site Survey and Setting Out CONS.B1.1840.1 Predrilling (17 nos) (D12a) Predrilling (17 nos) (D12a) GI Report and Verification / Agreement to Founding Leve CONS.B1.1840.2 GI Report and Verification / Agreement to Founding Level CONS.B1.1850 D12a Bored Piling (17 nos. 2000mm dia x 60m + 1.0m Rock Socket) D12a Bored Piling (17 nos, 2000mm dia x 60m + 1,0m Rock \$ocket) CONS.B1.1855 Pile Testing Pile Trimming CONS.B1.1860 Pile Trimming CONS.B1.1890 Bridge D12a - Erect Precast Segments + Stitching + Stressing (6 spans) Bridge D12a - Erect Precast Segr nents + Stitching + Stressing (6 spans) D12a Bridge Ancillary - Parapet/TCSS, Railing, M.), Drainage, Bridge Lighting, & Sig CONS.B1.1900 D12a Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry CONS.B1.1905 D12a Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages D12a Bridge Ancillary CONS.B1.1910 D12a Final Asphalt Paving + Road Markings aving + Road Markings O4-Jul-18, Bridge D12a complete CONS.B1.1920 Bridge D12a complete Pier Columns (P1201 & P1204) CONS.B1.2020 Pier Columns (P1201 & P1204) CONS.B1.2040 Pier Columns (P1202 & P1205) Pier Columns (P1202 & P1205) Pier Columns (P1203 & P1414) CONS.B1.2050 Pier Columns (P1203 & P1414) CONS.B1.2070 Pier Columns (P1206) Pier Columns (P1206) Pile Caps (P1206) CONS.B1.2440 Pile Caps (P1206) CONS.B1.2450 Pile Caps (P1201) Pile: Caps (P1201): CONS.B1.2460 Pile Caps (P1202) Pile Caps (P1202) CONS.B1.2470 Pile Caps (P1203) Pile Caps (P1203) CONS.B1.2480 Pier Head & Bearing (P1201 & P1204) Pier Head & Bearing (P1201 & P1204) Pier Head & Bearing (P1202 & P1205) CONS.B1.2500 Pier Head & Bearing (P1202 & P1205) CONS.B1.2520 Pier Head & Bearing (P1203 & P1414) Pier Head & Bearing (P1203 & P1414) Pier Head & Bearing (P1206) CONS.B1.2530 Pier Head & Bearing (P1206) Bridge D12b CONS.B2.2015 Site Possession / Access to Portion B2 & B5 06-Oct-16 Site Possession / Access to Portion B2 & B5 CONS.B2.2018 Site Survey / Setting out Site Survey / Setting ou Predrilling (18 nds) (D12b) CONS.B2.2020.1 Predrilling (18 nos) (D12b) CONS.B2.2020.2 GI Report and Verification / Agreement to Founding Level GI Report and Verification / Agree D12b Bored Piling (18 nos. 2000mm da x 64m + 3.3m Rock Socket) CONS.B2.2030 D12b Bored Piling (18 nos. 2000mm dia x 64m 3.3m Rock Socket) CONS.B2.2035 Pile Testing Pile Testing Pile Trimming CONS.B2.2040 Pile Trimming D12b - Erect Precast Segments + Stitching + Stressing (4 spans) CONS.B2.2070 Bridge D12b - Erect Precast Segments + Stitching + Stressing (4 spans) ■ D12b Bridge Ancillary - Farapet/TCSS, Ralling, MJ, Drainage, Bridge Lighting, & Sign Gantry CONS.B2.2080 D12b Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry CONS.B2.2085 D12b Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages D12b Bridge Ancillary - Parapet + Railing MJ, Drainage Bridge Lighting, \$ignage Final Paving, Road CONS.B2.2090 Final Paving, Road Markings and Signages Markings and \$ignages CONS.B2.2100 Pier Columns (P1211) Pier Columns (P1211) CONS.B2.2110 Pier Columns (P1212) Pier Columns (P1214) CONS.B2.2120 Pier Columns (P1214) CONS.B2.2130 Pier Columns (P1213) - A (Portal) Pier Columns (P1213) - A (Porta Pier Columns (P1210) CONS.B2.2140 Pier Columns (P1210) CONS.B2.2150 Pier Columns (P1213) - B (Portal) Pier Columns (P1213) - B (Porta Pier Columns (P1208) CONS.B2.2160 Pier Columns (P1208) Pier Columns (P1209) CONS.B2.2170 Pier Columns (P1209) CONS.B2.2190 Pile Caps (P1211) Pile Caps (P1211) Pile Caps (P1212) CONS.B2.2200 Pile Caps (P1212) Pile Caps (P1213 - A) CONS.B2.2210 Pile Caps (P1213 - A) CONS.B2.2220 Pile Caps (P1213 - B) Pile Caps (P1213 - B) Pile Caps (P1214) CONS.B2.2230 Pile Caps (P1214) CONS.B2.2240 Pile Caps (P1207) Pile Caps (P1207) CONS.B2.2250 Pile Caps (P1208) Pile Caps (P1208) Pile Caps (P1209) CONS.B2.2260 Pile Caps (P1209) CONS.B2.2270 Pile Caps (P1210) Pile Caps (P1210) Pier Columns (P1207) CONS.B2.2280 Pier Columns (P1207) CONS.B2.2290 Pier Head & Bearing (P1211) Pier Head & Bearing (P1211) CONS.B2.2300 Pier Head & Bearing (P1214) Pier Head & Bearing (P1214) ■ Pier Head & Bearing (P1212) CONS.B2.2320 Pier Head & Bearing (P1212) CONS.B2.2340 Pier Head & Bearing (P1207) Pier Head & Bearing (P1207) Pier Head & Bearing (F CONS.B2.2350 Pier Head & Bearing (P1210) CONS.B2.2360 Pier Head & Bearing (P1208) Pier Head & Bearing (P1208) CONS.B2.2370 Pier Head & Bearing (P1209) Pier Head & Bearing (P1209 CONS.B2.2380 Bridge D12b - Erect Precast Segments + Stitching + Stressing (4 spans) Bridge D12b - Frect Preca Bridge D12b (cast in-situ) in Portion B3 (Inter CONS.B3.2110 Site Possession/Access to Portion B3 CONS.B3.2120 Survey / Setting Out Survey / Setting Out

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CONS.B3.2130 Bridge D12b (Portion B3) - Construct Deck (cast-in-situ) Pier P1210/P1214 interface with CONS.B3.2140 D12b Bridge Ancillary - Parapet/TCSS, Railing, TCSS, Railing, NJ, Drainage, Bridge Lighting, & Sign Gantry MJ, Drainage, Bridge Lighting, & Sign Gantry D 2b Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages CONS.B3.2145 D12b Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages CONS.B3.2150 D12b Final Paving, Road Markings and Signages 10-Apr-18, Completion of Section IV (KD11) Works within Portion \$3 including Bridge D12b CONS.B3.2160 | Completion of Section IV (KD11) Works within Portion B3 including Bridge D12b Bridge D13 in Portion B1 and Portion C1 CONS.B1.1925 Site Possession / Access to Portion B1 CONS.B1.1926 Site Possession / Access to Portion C1 06-Oct-16 Site Possession / Access to Portion C CONS.B1.1928 Site Survey / Setting out Portion B1 Site Survey / Setting out Portion B1 CONS.B1.1929 Site Survey / Setting out Portion C1 Site Survey / \$etting out Portion C1 CONS.B1.1930.1 Predrilling (15 nos) in Portion B1 (D13) Predrilling (15 nos) in Portion B1 (D13) GI Report and Verifica CONS.B1.1930.2 GI Report and Verification / Agreement to Founding Level - B1 Predrilling (6 nos) in Portion C1 (D13) CONS.B1.1932.1 Predrilling (6 nos) in Portion C1 (D13) CONS.B1.1932.2 GI Report and Verification / Agreement to Founding Level - C1 ■ GI:Report and Verification / Agreen nt to Founding D13 Bored Piling (15 nos 1800-2000mm dia x 52m) 4nos + 0.8m Rock Socket CONS.B1.1940 D13 Bored Piling (15 nos. 1800-2000mm dia x 52m) 4nos + 0.8m Rock Socket - Portion B1 Pile Testing B1 CONS.B1.1942 Pile Testing B1 CONS.B1.1946 D13 Bored Piling (6 nos. 1800-2000mm dia x 47m-52m) - Portion C1 D13 Bored Plling (6 nos. 1800-2000mm dia x 47m CONS.B1.1948 Pile Testing C1 CONS.B1.1950 Pile Trimming - Portion B1 Pile Trimming - Portion B1 Pile Trimming - Portion C1 CONS.B1.1952 Pile Trimming - Portion C1 CONS.B1.1960 Construct Abutment A1301 + A1307 - Portion Construct Abutment A1301 + A1307 - Portion C1 CONS.B1.1980 Bridge D13 - Erect Precast Segments + Stitching + Stressing (9 spans) g + Stressing (9 span Bridge D13 - Erect Precast Segments + Stitcl CONS.B1.1990 D13 Bridge Ancillary - Parapet/TCSS, Railing, D13 Bridge Ancillary - Parapet/TCSS, Railing, NU, Drainage, Bridge Lighting, & Sign Gantry MJ, Drainage, Bridge Lighting, & Sign Gantry D13; Bridge, Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages CONS.B1.1995 D13 Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting, Signages D13 Final Asphalt Paving, Road Markings & \$ignages CONS.B1.2000 D13 Final Asphalt Paving, Road Markings & Signages 24-Feb-18, Completion of Bridge D13 CONS.B1.2010 Completion of Bridge D13 CONS.B1.2190 Pier Columns (P1303) Pler Columns (P1303) Pier Columns (P1308) CONS.B1.2200 Pier Columns (P1308) CONS.B1.2210 Pier Columns (P1311 & P1306) Pier Calumns (P1311; & P1306) CONS.B1.2220 Pier Columns (P1310 & P1305) Pier Columns (P1310 & P1305 Pier Columns (P1309 & P1304) CONS.B1.2230 Pier Columns (P1309 & P1304) CONS.B1.2330 Pile Caps (P1311) Pile Caps (P1311) CONS.B1.2340 Pier Columns (P1302) Pier Columns (P1302) Pile Caps (P1310) CONS.B1.2350 Pile Caps (P1310) CONS.B1.2360 Pile Caps (P1309) Pile Caps (P1309) CONS.B1.2370 Pile Caps (A1307) Pile Caps (A1307) Pile Caps (A1301) CONS.B1.2380 Pile Caps (A1301) CONS.B1.2390 Pile Caps (P1308) Pile Caps (P1308) CONS.B1.2400 Pile Caps (P1303) Pile Caps (P1303) Pile Caps (P1302) CONS.B1.2410 Pile Caps (P1302) CONS.B1.2560 Pier Head & Bearing (P1311 & P1306) ■ Pier Head & Bearing (P1311 & P1306) Pier Head & Bearing (P1310 & P1305) CONS.B1.2580 Pier Head & Bearing (P1310 & P1305) CONS.B1.2600 Pier Head & Bearing (P1309 & P1304) Pier Head & Bearing (P1309 & P1304) Pier Head & Bearing (P130 CONS.B1.2610 Pier Head & Bearing (P1303) Pier Head & Bearing (P1308) CONS.B1.2620 Pier Head & Bearing (P1308) CONS.B1.2630 Pier Head & Bearing (P1302) Pier Head & Bearing (P1302) RW13 (40m / 3 bays) nence RW13 Retaining Wall CONS.C2.3260 Commence RW13 Retaining Wall 11-Oct-17 🔷 Comn CONS.C2.3270 Survey / Setting Out I Survey / Setting Out CONS.C2.3280 Excavate to formation level (open cut / slope) CONS.C2.3290 Cast Base & Wall Stem 3 bays (ribbed finish to 1m below F.G.L) Cast Base & Wall Stem 3 bays (ribbed finish to 1m below F.G.L) CONS.C2.3300 Backfill to final ground level and Reinstate Backfill to final ground level and Reinstate Bridge D14a CONS.A1.1464 Commence Bridge D14a / Portion A1 06-Oct-16 nce Bridge D14a / Portion A1 Survey / Setting Out CONS.A1.1466 Survey / Setting Out CONS.A1.1470.1 Predrilling (12 nos) (D14a) Predrilling (12 nos) (D14a) CONS.A1.1470.2 GI Report and Verification / Agreement to Founding Level ■ G Report and Verification / Agr D14a Bored CONS.A1.1480 D14a Bored Piling (12 nos. 2000mm dia x 62m) 47m for Abutment Piling (12 nos. 2000mm dia x 62m) 47m for Abutment CONS.A1.1485 Pile Testing CONS.A1.1490 Pile Trimming CONS.A1.1515 Construct Abutment A1401 Construct Abutment A1401 CONS.A1.1520 Bridge D14a - Erect Precast Segments + Stitching + Stressing (5 spans) Bridge D14a - Erect Precast Segn CONS.A1.1530 D14a Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting & Signages Parapet + Ralling, MJ, Drainage, Bridge D14a Bridge Ancillary CONS.A1.1540 D14a Final Asphalt Paving + Road Markings D14a Final Asphalt Paving + Road Markings ♦ 09-Jun-17, Bridge D14a co CONS.A1.1550 Bridge D14a complete CONS.A1.8940 Pier Columns (P1402) Columns (P1402)

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CONS.A1.8950 Pier Columns (P1403) Pier Columns (P1404) CONS.A1.8960 Pier Columns (P1404) Pier Columns (P1405) CONS.A1.8970 Pier Columns (P1405) CONS.A1.8980 Pier Columns (P1406) Pier Columns (P1406 CONS.A1.9000 Pile Caps (A1401) Pile Caps (A1401) CONS.A1.9010 Pile Caps (P1402) Pile Caps (P1402) Pile Caps (P1403) CONS.A1.9020 Pile Caps (P1403) Pile Caps (P1404) CONS.A1.9030 Pile Caps (P1404) CONS.A1.9040 Pile Caps (P1405) Pile Caps (P1405) Pile Caps (P1406) CONS.A1.9050 Pile Caps (P1406) CONS.A1.9440 Pier Head & Bearing (P1402) Pier Head & Bearing (P1402) CONS.A1.9450 Pier Head & Bearing (P1403) Pier Head & Bearing (P1404) CONS.A1.9460 Pier Head & Bearing (P1404) CONS.A1.9470 Pier Head & Bearing (P1405) Pier Head & Bearing (P1405) Pier Head & Bearing (P1406) CONS.A1.9480 Pier Head & Bearing (P1406) RW14A (29m / 2 bays) CONS.A1.3380 Commence RW14a Retaining Wall (29m / 2 25-Jul-17 • Comr nce RW14a Retaining Wall (29m / 2 bays) Survey / Setting Out CONS.A1.3390 Survey / Setting Out Excavate to formation level (open cut / slope) CONS.A1.3400 Excavate to formation level (open cut / slope) CONS.A1.3410 Cast Base & Wall Stem 2 bays (ribbed finish to Cast Base & Wall Stem 2 bays (ribbed finish to 1 m 1m below F.G.L) CONS.A1.3420 Backfill to final ground level Backfill to final ground level Bridge D14b in Portion A1 and Portion B1 CONS.B1.1654 Access to Portion B1 Access to Portion B1 CONS.B1.1656 Survey / Setting Out Survey / Setting Out CONS.B1.1660.1 Predrilling (6 nos) (D14b) Predrilling (6 nos) (D14b) GI Report and Verification / Agreement to Founding Level CONS.B1.1660.2 GI Report and Verification / Agreement to Founding Level CONS.B1.1670 D14b Bored Piling (6 nos. 2000-2200mm dia x 62m) (2nos +2.3m Rock Socket) D14b Bored Piling (6 nos. 2000-2200mm dia x 62m) (2nos +2.3m Rock Socket) Pile Testing / Coring Test for Socket Bored Pile CONS.B1.1675 Pile Testing / Coring Test for Socket Bored Pile Pile Trimming CONS.B1.1680 Pile Trimming CONS.B1.1710 Bridge D14b - Erect Precast Segments + Stitching + Stressing (3 spans) CONS.B1.1720 D14b Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting & Signages D14b Bridge Ancillary - Parapet + Railing, MJ Drainage, Bridge Lighting & Signages D14b Final Asphalt Paving + Road Markings CONS.B1.1730 D14b Final Asphalt Paving + Road Markings ♦ 26-Sep-17, Bridge D14b complete CONS.B1.1740 Bridge D14b complete Pier Columns (P1407) CONS.B1.2090 Pier Columns (P1407) CONS.B1.2100 Pier Columns (P1408) Pier Columns (P1408) CONS.B1.2110 Pier Columns (P1409) Pier Columns (P1409) Pile Caps (P1407) CONS.B1.2290 Pile Caps (P1407) Pile Caps (P1408) CONS.B1.2300 Pile Caps (P1408) Pile Caps (P1409) CONS.B1.2310 Pile Caps (P1409) CONS.B1.2640 Pier Head & Bearing (P1407) Pier Head & Bearing (P1407) CONS.B1.2650 Pier Head & Bearing (P1408) Pier Head & Bearing (P1408) Pier Head & Bearing (P1409) CONS.B1.2660 Pier Head & Bearing (P1409) Bridge D14c CONS.B1.1744 Site Possession / Access to Portion B1 Survey / Setting Out CONS.B1.1746 Survey / Setting Out CONS.B1.1750.1 Predrilling (11 nos) (D14c) redrilling (11 nos) (D14c) CONS.B1.1750.2 GI Report and Verification / Agreement to GI Report and Verification / Agreement to Founding Level D) 4c Bored Pilling (11 nos; 2000-2200mm dia x 67m + 2.3m (Rock Socket) CONS.B1.1760 D14c Bored Piling (11 nos. 2000-2200mm dia x 67m + 2.3m Rock Socket) Pile Testing CONS.B1.1765 Pile Testing CONS.B1.1770 Pile Trimming CONS.B1.1795 Bridge D14c - Construct Deck (cast in-situ) Pier P1409 to P1410 Bridge D14c - Construct Deck (cast in-situ); Pier P1409 to P1410 Bridge D14c - Erect Precast Segments + Stitching + Stressing (4 spans) CONS.B1.1800 Bridge D14c - Erect Precast Segments + CONS.B1.1810 D14c Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting & Signages D14c Bridge Ancillary - Parapet + Railing, MJ, Drainage, Bridge Lighting & Signages CONS.B1.1820 D14c Final Asphalt Paving + Road Markings D14c Final Asphalt Paving + Road Marking ♦ 14-Dec-17, Bridge D14c complete CONS.B1.1830 Bridge D14c complete CONS.B1.2120 Pier Columns (P1410) Pier Columns (P1410) CONS.B1.2130 Pier Columns (P1411 & P1413) Pier Columns (P1411 & P1413) Pier Columns (P1412) CONS.B1.2140 Pier Columns (P1412) CONS.B1.2250 Pile Caps (P1410) Pile Caps (P1410) CONS.B1.2260 Pile Caps (P1411) Pile Caps (P1411) CONS.B1.2270 Pile Caps (P1412) Pile Caps (P1412) CONS.B1.2670 Pier Head & Bearing (P1410) Pier Head & Bearing (P1410) CONS.B1.2680 Pier Head & Bearing (P1411 & P1413) Pier Head & Bearing (P1411 & P1413) Pier Head & Bearing (P1412): CONS.B1.2690 Pier Head & Bearing (P1412) Bridge D15 Site Possession/Access to Partion B5 CONS.B5.2104 Site Possession/Access to Portion B5 06-Oct-16

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| A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D CONS.B5.2106 Survey/ Site Setting Out edrilling (11 nos) (D15) CONS.B5.2110.1 Predrilling (11 nos) (D15) CONS.B5.2110.2 GI Report and Verification / Agreement to GI Report and Verification / Agreement to Founding Level D15 Bored Piling (11 nos. 2000mm dia x 65m CONS.B5.2120 D15 Bored Piling (11 nos. 2000mm dia x 65m 3.3m Rock Socket) CONS.B5.2125 Pile Testing Pile Testing CONS.B5.2130 Pile Trimming Pile Trimmino CONS.B5.2150 Bridge D15 - Construct Deck (cast in-situ) Pier P1501/P1502-1503 CONS.B5.2160 Bridge D15 - Erect Precast Segments + Bridge D15 - Erect Precast Segments Stitching + Stressing (2 spans Stitching + Stressing (2 spans) CONS.B5.2170 D15 Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry :D15 Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Ligh CONS.B5.2180 D15 Final Asphalt Paving, Road Markings and p15 Final Asphalt Paving, Road Markings and Signages Signages CONS.B5.2190 Pier Columns (P1501 & P1502) Pier Columns (P1501 & P1502) Pier Columns (P1503) CONS.B5.2210 Pier Columns (P1503) Pier Columns (P1504) CONS.B5.2220 Pier Columns (P1504) CONS.B5.2230 Pier Columns (P1505) Pier Columns (P1505) CONS.B5.2250 Pile Caps (P1501 & P1502) Pile Caps (P1501 & P1502) Pile Caps (P1503) CONS.B5.2260 Pile Caps (P1503) CONS.B5.2270 Pile Caps (P1504) Plle Caps (P1504) CONS.B5.2280 Pile Caps (P1505) Pile Caps (P1505) CONS.B5.2290 Pier Head & Bearing (P1501) Pier Head & Bearing (P1501) Pier Head & Bearing (P1503) CONS.B5.2310 Pier Head & Bearing (P1503) Pier Head & Bearing (P1504) CONS.B5.2320 Pier Head & Bearing (P1504) CONS.B5.2330 Pier Head & Bearing (P1505) Pier Head & Bearing (P1505) CONS.B5.2340 Bridge D15 - Erect Precast Segments + Bridge D15 - Erect Precast Segments + \$titching + Stressing (2 spans) Stitching + Stressing (2 spans) Bridge D15 in Portion B4 (Interface with Cont CONS.B4.2170 Site Possession/Access to Portion B4 ■ Survey / \$ite Setting Out CONS.B4.2180 Survey / Site Setting Out CONS.B4.2190 Bridge D15 - Erect Precast Segments on Falseworks at Portion B4 Interface (1 spa ■ Bridge D15 - Erect Precast Segments on Falseworks at Portion B4 Interface (1 span) orks at Portion B4 Interface (1 span) - Parapet/T¢SS, Railing, M.), Drainage, Bridge Lighting, & Sign G CONS.B4.2200 D15 Bridge Ancillary - Parapet/TCSS, Railing, MJ, Drainage, Bridge Lighting, & Sign Gantry D15 Final Asphalt Paving, Road Markings and Signages CONS.B4.2210 D15 Final Asphalt Paving, Road Markings and CONS.B4.2220 Inspection and Handover CONS.B4.2230 Completion of Section V (KD12) Works within Portion B4 including Bridge D15 mpletion of Section V (KD12) Works within Portion B4 including Bridge D15 ♦ 18-Aug-18, Co Bridge D16S and D16N and Abutment A1601 in CONS.A4.2230 Commence Works for Abutment A1601 06-Oct-16 ce Works for Abutment A1601 Survey / Site \$etting Out CONS.A4.2240 Survey / Site Setting Out CONS.A4.2250.1 Predrilling (2 nos) (D16) - BH 03 & BH 04 at Portion A6 Predrilling (2 nos) (D16) - BH 03 & BH 04 at Portion A6 CONS.A4.2250.2 GI Report and Verification / Agreement to Founding Level to BH 03 and BH 04 Predrilling (2 nos):(D16) + BH 01 & BH 02 at Portion A3 CONS.A4.2250.3 Predrilling (2 nos) (D16) - BH 01 & BH 02 at CONS.A4.2250.4 GI Report and Verification / Agreement to Founding Level to BH 01 and BH 02 CONS.A4.2260 D16S Bored Piling (2 nos x 1800mm dia) D16S Boried Piling (2 nos x 1800mm dia) CONS.A4.2265 Pile Testing - BH 03 & BH 04 Pile Testing - BH 03 & BH 04 Construct Abutment A1601 CONS.A4.2280 | Construct Abutment A1601 016N Bored Piling (2 nos x 1800mm dia) CONS.A4.2340 D16N Bored Piling (2 nos x 1800mm dia) CONS.A4.2350 Pile Testing - BH 01 & BH 02 Pile Testing - BH 01 & BH 02 CONS.A4.2360 Pile Trimming + Pile Caps Bridge D16S and D16N in Portion A4 CONS.A4.2285 Site Possession / Site Access to Portion A4 20-Mar 17 Site Po sion / Site Access Construct Deck (cast in-stu) CONS.A4.2290 Bridge D16S & D16N - Construct Deck (cast D16N & D16S Bridge Ancillary - Parapet, MJ, Drainage, Bridge Lighting, †CSS & Signage CONS.A4,2300 D16N & D16S Bridge Ancillary - Parapet, MJ Drainage, Bridge Lighting, TCSS & Signages CONS.A4.2310 D16 Final Asphalt Paving, Road Markings and D16 Final Asphalt Paving, Road Markings and Signages Signages CONS.A4.2320 Inspection and Handover of Bridge D16 Handover of Bridge D16 CONS.A4.2330 Completion of Bridge D16N and D16S 21-Aug-18, Completion of Bridge D16N and D16S RW16S (15m / 1 bay) in Portion A6 13-Feb-17 ♦ Commence RW16s Retaining Wall (29m / 2 bays) CONS.A1.3500 Commence RW16s Retaining Wall (29m / 2 bays) Survey / Setting Out CONS.A1.3510 Survey / Setting Out Excavate to formation level (open cut / slope) CONS.A1.3520 Excavate to formation level (open cut / slope) CONS.A1.3530 Cast Base & Wall Stem 1 bay (ribbed finish to 1m below F.G.L) Cast Base & Wall Stem 1 bay (ribbed finish to 1m below F.G.L) CONS.A1.3540 Install U/G Utilities - TCSS, ELV & LV Ducting & Draw Pits Install U/G Utilities - TCSS, ELV & LV Ducting & Draw Pits CONS.A1.3550 Backfill to final ground level Backfill to final ground level RW16N (15m / 1 bay) in Portion A6 ence RW16n Retaining Wall (29m / 2 bays) CONS.A1.3440 Commence RW16n Retaining Wall (29m / 2 bays) CONS.A1.3450 Survey / Setting Out : Survey / Setting Out: CONS.A1.3460 Excavate to formation level (open cut / slope) Excavate to formation level (open cut / slope) CONS.A1.3470 Cast Base & Wall Stem 1 bay (ribbed finish to 1m below F.G.L) Cast Base & Wall Stem 1 bay (ribbed finish to 1m below F.G.L) Install U/G Utilities - TCSS, FLV & LV Ducting CONS.A1.3480 Install U/G Utilities - TCSS, ELV & LV Ducting Backfill to final ground leve CONS.A1.3490 Backfill to final ground level **Depressed Road RC Structure**

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Predrilling (12 nos) (DS303) CONS.A1.4380. GI Report and Verification / Agreement to Founding Level GI Report and Verification / Agreement to Fo CONS.A1.4390 Piling Works - Driven H Pile (12 nos) ing Works - Driven H Pile (12 nos) CONS.A1.4410 Excavation, Pile Trimming + Cast Pile Caps (3 Excavation, Pile Trimming + Cast Pile Caps (3 nos) CONS.A1.4420 Backfill Foundation ■ Backfill Foundation Sign Gantry Footing at Grade in Portion C1 & P DS302 (610mm dia. Prebored H Pile) CONS.D1.3380 Commence Foundation / Footing for Sign 06-Oct-16 🔷 Commence Foundation / Footing for Sign Gantry Gantry Mobilisation/Survey/Setting Out CONS.D1.3390 Mobilisation/ Survey / Setting Out CONS.D1.3400. Predrilling for Prebored H Pile (8 nos) (DS302) Predrilling for Prebored H Pile (8 nos) (DS302) CONS.D1.3400. GI Report and Verification / Agreement to GI Report and Verification / Agr Founding Level CONS.D1.3410 Pre-bored Socket H-Pile (8 nos) Pre-bored Socket H-Pile (8 nds) CONS.D1.3420 Pile Testing Pile Testing Excavation, Pile Trimming + Pile Caps (2 nos) CONS.D1.3430 Excavation, Pile Trimming + Pile Caps (2 nos) CONS.D1.3440 Backfill Foundation Backfill Foundation GT408 (Driven H Pile) Predrilling (8 nos) (GT408) CONS.C1.4030. Predrilling (8 nos) (GT408) CONS.C1.4030. GI Report and Verification / Agreement to Founding Level GI Report and Verification / Agreement to Founding Level Piling Works - Driven H Pile (8 nos) CONS.C1.4040 Piling Works - Driven H Pile (8 nos) CONS.C1.4060 Excavation, Pile Trimming + Cast Pile Caps (2 nos) Excavation, Pile Trimming + Cast Pile Caps (2 nos) CONS.C1.4070 Backfill Foundation Backfill Foundation DS44 (Driven H Pile) CONS.C1.4100. Predrilling (8 nos) (DS44) Predrilling (8 nos) (DS44) GI Report and Verification / Agreement to Founding Level CONS.C1.4100. GI Report and Verification / Agreement to Founding Level ing Works - Driven H Pile (8 nos) CONS.C1.4110 Piling Works - Driven H Pile (8 nos) CONS.C1.4130 Excavation, Pile Trimming + Cast Pile Caps (2 Excavation, Pile Trimming + Cast Pile Caps (2 nos) Backfill Foundation CONS.C1.4140 Backfill Foundation DS261 (Driven H Pile) Predrilling (8 nos) (D\$261) CONS.C1.4170. Predrilling (8 nos) (DS261) ■ GI Report and Verification / Agreement to Founding Level CONS.C1.4170. GI Report and Verification / Agreement to Founding Level Piling Works - Driven H Pile (8 nos) CONS.C1.4180 Piling Works - Driven H Pile (8 nos) Excavation, Pile Trimming + Cast Rile Caps (2 nos) CONS.C1.4200 Excavation, Pile Trimming + Cast Pile Caps (2 nos) ■ Backfill Foundation CONS.C1.4210 Backfill Foundation ADS301 (Driven H Pile) Predrilling (12 nos) (ADS301) CONS.C1.4240. Predrilling (12 nos) (ADS301) GI Report and Verification / Agreement to Founding Level CONS.C1.4240. GI Report and Verification / Agreement to Founding Level Pillng Works - Driven H Pile (12 nos) CONS.C1.4250 Piling Works - Driven H Pile (12 nos) CONS.C1.4270 Excavation, Pile Trimming + Cast Pile Caps (3 nos) Excavation, Pile Trimming + Cast Pile Caps (3 nos) CONS.C1.4280 Backfill Foundation Backfill Foundation FADS303 (Driven H Pile) Predrilling (8 nos) (FADS303) CONS.C1.4310. Predrilling (8 nos) (FADS303) CONS.C1.4310. GI Report and Verification / Agreement to Founding Level GI Report and Verification / Agre Piling Works - Driven H Pile (8 nos) CONS.C1.4320 Piling Works - Driven H Pile (8 nos) CONS.C1.4340 Excavation, Pile Trimming + Cast Pile Caps (2 nos) Excavation, Pile Trimming + Cast Pile Caps (■ Backfill Foundation CONS.C1.4350 Backfill Foundation **Erection of Sign Gantry and High Mast for TCS!** CONS.C1.4360 Erection of Sign Gantry & High Mast Structure and Associated Conduits for TCSS Works and Associated Conduits for TCSS Works Drainage and U/G Utilities CONS.RW.2300 Handover area to CLP for HV Cable Laying and Install HV Cable Ducting on Ca CONS.RW.3870 Excavate and Install HV Cable Ducting on Carriageway (West of Pump House - Portion : Excavate and Install HV Cable Ducting on Carriageway (East of Pump House - Portion: A and C) CONS.RW.3880 Excavate and Install HV Cable Ducting on Carriageway (East of Pump House - Portion A

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CONS.RW.3890 Excavate and Install HV Cable Ducting on Carriageway (East of Pump House - Portion B CONS.RW.3900 Excavate and Install HV Cable Ducting on Carriageway (West of Pump House - Portion Drainage and U/G Utilities (West of Pump Hou Drainage & UU Road SOL 101 / 105 (Phase 1) **Drainage System** CONS.RW.22 Survey/ Road Setting Out Survey/ Road Setting Out CONS.RW.228 Road Formation to Sub-grade (Cut & Fill) Road Formation to Sub-grade (Cut & Fill) CONS.RW.22 Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + **Installation of Underground Utilities** CONS.RW.23 Excavate and Install Fresh WM / Valves & Excavate and Install Fresh WM / Valves & fittings; + Testing; Cleaning & Flushing and Interface Co fittings + Testing, Cleaning & Flushing and CONS.RW.23 Excavate and Install Common Telecom Ducting and Telecom Ducting by Others elecom Ducting by Other Excavate and Install ELV/ LV Ducting and Pillar Box for CONS.RW.23 Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS Road SOL 101 / 105 (Phase 2) **Drainage System** CONS.RW.34 Survey/ Road Setting Out Survey/ Road Setting Out CONS.RW.34 Road Formation to Sub-grade (Cut & Fill) Road Formation to Sub-grade (Cut & Fill) CONS.RW.34(Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + **Installation of Underground Utilities** CONS.RW.34(Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Excavate and Install Fresh WM / Valves & fittings + To ng, Cleaning & Flushing a Excavate and Install Common Telecom Ducting and Telecom Ducting by Others CONS.RW.34 Excavate and Install Common Telecom Ducting and Telecom Ducting by Others CONS.RW.34 Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS Excavate and Install ELV/ LV Ducting and Pillar Box for Road SOL 102 /106 /111 and the neigboring la **Drainage System** Survey/ Road Setting Out CONS.RW.24 Survey/ Road Setting Out Road Formation to Sub-grade (Cut & Fill) CONS.RW.242 Road Formation to Sub-grade (Cut & Fill) CONS.RW.24 Excavate to invert level and install Drainage Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) System (Drain Pipes & Catchpit/Manholes) + **Installation of Underground Utilities** Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Interface Connection CONS.RW.29 Excavate and Install Fresh WM / Valves & Excavate and Install Common Telecom Ducting and Telecom Ducting; by Others fittings + Testing, Cleaning & Flushing and CONS.RW.29 Excavate and Install Common Telecom Ducting and Telecom Ducting by Others Excavate and Install ELV/ LV Ducting and Pillar Box for TC\$S CONS.RW.29(Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS Road SOL 102 /106 /111 and the neigboring la **Drainage System** Survey/ Road Setting Out CONS.RW.34 Survey/ Road Setting Out CONS.RW.34 Road Formation to Sub-grade (Cut & Fill) Road Formation to Sub-grade (Cut & Fill) CONS.RW.34 Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + nd install Drainage System (Drain Pipes Installation of Underground Utilities CONS.RW.35(Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flush Excavate and Install Common Telecom Ducting and Telecom Ducting by Others CONS.RW.35 Excavate and Install Common Telecom Ducting and Telecom Ducting by Others Excavate and Install ELV/ LV Ducting and Pillar Box for TC\$S CONS.RW.352 Excavate and Install ELV/ LV Ducting and Pilla Box for TCSS Road SOL 104 (Phase 1) **Drainage System** CONS.RW.24 Survey/ Road Setting Out ■ Survey/ Road Setting Out CONS.RW.24 Road Formation to Sub-grade (Cut & Fill) Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + Testing & Interface Connection CONS.RW.24(Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + Installation of Underground Utilities CONS.RW.24 Excavate and Install Fresh WM / Valves & Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Interface Connection fittings + Testing, Cleaning & Flushing and Excavate and Install Flush WM / Valves & fittings + Testing, Cleaning & Flushing and Interface Connection (1 line) CONS.RW.24{ Excavate and Install Flush WM / Valves & fittings + Testing, Cleaning & Flushing and CONS.RW.24 Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS Excavate and Install ELV/LV Ducting and Pillar Box for TCSS Road SOL 104 (Phase 2) **Drainage System** Survey/ Road Setting Out CONS.RW.35¢ Survey/ Road Setting Out Road Formation to Sub-grade (Cut & Fill): CONS.RW.35 Road Formation to Sub-grade (Cut & Fill) CONS.RW.35{ Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + Installation of Underground Utilities CONS.RW.351 Excavate and Install Fresh WM / Valves & Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Interface Connection (3 lines) fittings + Testing, Cleaning & Flushing and CONS.RW.35 Excavate and Install Flush WM / Valves & fittings + Testing, Cleaning & Flushing and Excavate and Install Flush WM / Valves & fittings + Testing, Cla Excavate and Install ELV/LV Ducting and Pillar Box for TCSS CONS.RW.35! Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS Undergound Utilties (ELV, Fresh WM & Teleco Work in Portion D1 and D2 Sewage Rising main at Portion D1 16-May-17 Commence Works on Rising Main CONS.RM.101 Commence Works on Rising Main ■ Site Survey / Setting Out Sewerage Alignment CONS.RM.102 Site Survey / Setting Out Sewerage Alignmen CONS.RM.103 Excavate to Invert Level & Install 2 Sewage Rising Main DN100 CHC & CHD Excavate to Invert Level & Install 2 Sewage Rising Main DN100 CHC & CHD Construct Thrust Block CONS.RM.104 Construct Thrust Block Gravity Flow Testing CONS.RM.105 Gravity Flow Testing

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Print Date: 14-Dec-16 09:47 Page: 17 / 23 CONS.RM.106 Backfill Telecom Crossing at Portion D2 and D1 Excavate and Install Common Telecom Ducting and Telecom Ducting by Telecom Com CONS.RW.28(Excavate and Install Common Telecom Ducting and Telecom Ducting by Telecom Companies Backfill and reinstate ground CONS.RW.282 Backfill and reinstate ground Drainage and U/G Utilities (East of Pump Hous Drainage & UU Road SOL 101 / 109 / 114 (Phase 1) **Drainage System** Survey/ Road Setting Out CONS.RE.101 Survey/ Road Setting Out CONS.RE.102 Road Formation to Sub-grade (Cut & Fill) Road Formation to Sub-grade (Cut & Fill) CONS.RE.103 Excavate to invert level and install Drainage Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + Testing Interface Connection System (Drain Pipes & Catchpit/Manholes) + **Installation of Underground Utilities** CONS.RE.106 Excavate and Install Fresh WM / Valves & Excavate and Install Fresh WM / Valves & fittings; + Testing, Cleaning & Flushing and Interface Connection fittings + Testing, Cleaning & Flushing and CONS.RE.107 Excavate and Install Common Telecom Ducting and Telecom Ducting by Others and Install Common Telecom Ducting a Telecom Ducting by Others Excavate and Install ELV/ LV Ducting and Pillar Box for TCS\$ and Road Lighting CONS.RE.108 Excavate and Install ELV/ LV Ducting and Pilla Box for TCSS and Road Lighting Road SOL 101 / 109 / 114 (Phase 2) **Drainage System** CONS.RE.420 Road Formation to Sub-grade (Cut & Fill) Road Formation to Sub-grade (Cut & Fill) CONS.RE.421 Excavate to invert level and install Drainage Excavate to invert level and install [inage System (Drain Pipes & Catchpit/ System (Drain Pipes & Catchpit/Manholes) + Survey/ Road Setting Out CONS.RE.422 Survey/ Road Setting Out **Installation of Underground Utilities** CONS.RE.423 Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Excavate and Install Common Telecom Ducting and Telecom Ducting by Others CONS.RE.424 Excavate and Install Common Telecom Ductin and Telecom Ducting by Others CONS.RE.425 Excavate and Install ELV/ LV Ducting and Pillar Excavate and Install ELV/ LV Ducting and Pillar Bdx for TCSS and Road Lighting Box for TCSS and Road Lighting Road SOL 102 and the area outside the carriage **Drainage System** CONS.RE.197 Survey/ Road Setting Out Survey/ Road Setting Out CONS.RE.198 Road Formation to Sub-grade (Cut & Fill) Road Formation to Sub-grade (Cut & Fill) CONS.RE.199 Excavate to invert level and install Drainage Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + Testing & Interface Connection System (Drain Pipes & Catchpit/Manholes) + Installation of Underground Utilities CONS.RE.289 Excavate and Install Fresh WM / Valves & l; Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Interi fittings + Testing, Cleaning & Flushing and Excavate and Install Common Telecom Ducting and Telecom Ducting by Others CONS.RE.290 Excavate and Install Common Telecom Ductin and Telecom Ducting by Others CONS.RE.291 Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS and Road Lighting Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS and Road Lighting Road SOL 102 and the area outside the carriage **Drainage System** CONS.RE.426 Survey/ Road Setting Out Road Formation to Sub-grade (Cut & Fill) CONS.RE.427 Road Formation to Sub-grade (Cut & Fill) CONS.RE.428 Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + Excavate to invert level and install Dr em (Drain Pipes & Catchpit/Manholes) + Testing & Interface Connecti **Installation of Underground Utilities** CONS.RE.429 Excavate and Install Fresh WM / Valves & Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Interface Con fittings + Testing, Cleaning & Flushing and CONS.RE.430 Excavate and Install Common Telecom Ducting and Telecom Ducting by Others Telecom Ducting and Telecom Ducting by Others CONS.RE.431 Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS and Road Lighting Road SOL 107 / 113 (Phase 1) **Drainage System** CONS.RE.200 Survey/ Road Setting Out Survey/ Road Setting Out CONS.RE.201 Road Formation to Sub-grade (Cut & Fill) Road Formation to Sub-grade (Cut & Fill) CONS.RE.202 Excavate to invert level and install Drainage Excavate to invert level and install Drainage System (Drain Pipe System (Drain Pipes & Catchpit/Manholes) + **Installation of Underground Utilities** CONS.RE.204 Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Excavate and Install Fresh WM / Valves & fittings + Testing Cleaning & Flushing and Interface Connection (3 lines) CONS.RE.205 Excavate and Install Fresh WM / Valves & Excavate and Install Fresh WIM / Valves & fittings + Testing, Cleaning & Flushing and Interface Cor fittings + Testing, Cleaning & Flushing and CONS.RE.206 Excavate and Install ELV/ LV Ducting and Pillar Box for TCSS Excavate and Install ELV/LV Ducting and Pillar Box for TOSS Road SOL 107 / 113 (Phase 2) **Drainage System** CONS.RE.432 Survey/ Road Setting Out CONS.RE.433 Road Formation to Sub-grade (Cut & Fill) Road Formation to Sub-grade (Cut & Fill) CONS.RE.434 Excavate to invert level and install Drainage Excavate to invert level and install Drainage System (Drain I System (Drain Pipes & Catchpit/Manholes) + Installation of Underground Utilities CONS.RE.435 Excavate and Install Fresh WM / Valves & Excavate and Install Fresh WM / Valves & fittings; + Testing, Cleaning & Flushing and Interface Connection (3 lines) Excavate and Install Fresh:WM / Valves & fittings +: Testing, Cleaning & Flushing and Interface Connection (1 line) fittings + Testing, Cleaning & Flushing and CONS.RE.436 Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and and Install ELV/LV Ducting and Pillar Box for TCSS CONS.RE.437 Excavate and Install ELV/ LV Ducting and Pilla Box for TCSS Road SOL 108 / 106 & SOL 110 Adjacent to Road SOL 108 / 106, Abutment A90 CONS.RE.207 Excavate and Install Common Telecom Ducting Common Telecom Ducting and Telecom and Telecom Ducting by Others + Backfilling CONS.RE.216 Road Formation to subgrade + Drainage Road Formation to subgrade + 'Drainage System' CONS.RE.219 Install TCSS/LV/ELV Ducting ■ Install TC\$S/LV/ELV Ducting Portion A1 and A2 - Sub-Base Area

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Page: 18 / 23 Print Date: 14-Dec-16 09:47 CONS.A1.4430 Demobilisation of Temporary Facilities on Site CONS.A1.4440 Site Survey / Site Clearing Area to Formation Level CONS.A1.4450 Area to Formation Level CONS.A1.4460 Sub-Base Material Topping (Area 29,963 m2 : 100mm thk Subbase) Sub-Base Material Topping (Area 29,963 m2 x 100r Area 3 (in Portion A6) **Drainage System** ■ Survey/ Road Setting Out CONS.RE.4660 Survey/ Road Setting Out Road Formation to Sub-grade (Cut & Fill) CONS.RE.4670 Road Formation to Sub-grade (Cut & Fill) CONS.RE.4680 Excavate to invert level and install Drainage System (Drain Pipes & Catchpit/Manholes) + ■ Excavate to invert leve and install Drainage System (Drain Pipe Installation of Underground Utilities CONS.RE.4690 Excavate and Install ELV/ LV Ducting and Pilla Excavate and Install ELV/, LV Ducting and Pillar Box for TCSS Box for TCSS Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Interface Connec CONS.RE.4700 Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flyshing and Interface Connection CONS.RE.4710 Excavate and Install Fresh WM / Valves & fittings + Testing, Cleaning & Flushing and Area 1 (West of Pump House) (Portion C1) **Road Works** Road SOL 101 / 105 (Phase 1) Kerbing and Footings for Railing, Fencing, Sign CONS.RW.30(Excavate and Construct Footings for Road and Construct Footings for Road Lightings / Railing / Fencing and Signage Lightings / Railing / Fencing and Signages oad Formation to Sub-base CONS.RW.30' Road Formation to Sub-base CONS.RW.301 Construct Precast Road Kerbings Construct Precast Road Kerbings Road Works to Road Base and Base Course CONS.RW.30 Road Formation to Road Base CONS.RW.304 Road Formation to Base Course Road Formation to Base Course Installation of Railing and Fencing + Road Ligh Install Road Railing and Fencing CONS.RW.30! Install Road Railing and Fencing CONS.RW.30(Install Road Lighting and Signages Install Road Lighting and Signages **Final Paving and Road Markings** CONS.RW.29 Cleaning and Rectification Works ☐ Cleaning and Rectification Work CONS.RW.298 Final Road Paving (Wearing Course) Final Road Paving (Wearing C Road Markings and Road Sig CONS.RW.299 Road Markings and Road Signages Road SOL 101 / 105 (Phase 2) Kerbing and Footings for Railing, Fencing, Sign Road Formation to Sub-bas CONS.RW.36; Road Formation to Sub-base Construct Precast Road Kerbings CONS.RW.36 Construct Precast Road Kerbings Road Works to Road Base and Base Course CONS.RW.36! Road Formation to Road Base Road Formation to Road Base Road Formation to Base Course CONS.RW.36¢ Road Formation to Base Course Installation of Railing and Fencing + Road Ligh CONS.RW.36 Install Road Railing and Fencing Install Road Railing and Fencing CONS.RW.36 Install Road Lighting and Signages Install Road Lighting and \$igna **Final Paving and Road Markings** CONS.RW.35 Cleaning and Rectification Works Cleaning and Rectification Work Final Road Paving (Wearing C CONS.RW.36(Final Road Paving (Wearing Course) Road Markings and Road Sigha CONS.RW.36 Road Markings and Road Signages Road SOL 102 /106 /111 (Phase 1) Kerbing and Footings for Railing, Fencing, Sign and Construct Footings for Road Lightings / Railing / Fencing and Signage CONS.RW.32 Excavate and Construct Footings for Road Lightings / Railing / Fencing and Signages Road Formation to Sub-base CONS.RW.328 Road Formation to Sub-base CONS.RW.32 Construct Precast Road Kerbings Road Works to Road Base and Base Course CONS.RW.32 Road Formation to Road Base Road Formation to Base Course CONS.RW.32: Road Formation to Base Course Installation of Railing and Fencing + Road Ligh CONS.RW.32 Install Road Railing and Fencing nstall Road Railing and Fehcing CONS.RW.32 Install Road Lighting and Signages Install Road Lighting and Signage Final Paving and Road Markings CONS.RW.32 Final Road Paving (Wearing Course) Final Road Paving (Wearing Course) CONS.RW.32 Road Markings and Road Signages Road SOL 102 /106 /111 (Phase 2) Kerbing and Footings for Railing, Fencing, Sign CONS.RW.37 Excavate and Construct Footings for Road Lightings / Railing / Fencing and Signages / Railing / Fencing and Signages CONS.RW.37(Road Formation to Sub-base CONS.RW.37 Construct Precast Road Kerbings Construct Precast Road Kerbings Road Works to Road Base and Base Course CONS.RW.36 Road Formation to Road Base Road Formation to Road Base

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Page: 19 / 23 Print Date: 14-Dec-16 09:47 CONS.RW.37(Road Formation to Base Course Installation of Railing and Fencing + Road Ligh Install Road Railing and Fencing CONS.RW.37 Install Road Railing and Fencing CONS.RW.37. Install Road Lighting and Signages Install Road Lighting and Signages **Final Paving and Road Markings** Final Road Paving (Wearing Course) CONS.RW.37 Final Road Paving (Wearing Course) Road Markings and Road Signages CONS.RW.37 Road Markings and Road Signages Road SOL 104 (Phase 1) Kerbing and Footings for Railing, Fencing, Sign CONS.RW.332 Excavate and Construct Footings for Road Excavate and Construct Footings for Road Lightings Lightings / Railing / Fencing and Signages CONS.RW.33: Road Formation to Sub-base Road Formation to Sub-base CONS.RW.33 Construct Precast Road Kerbings Road Works to Road Base and Base Course CONS.RW.33 Road Formation to Road Base Road Formation to Road Base Road Formation to Base Course CONS.RW.33¢ Road Formation to Base Course Installation of Railing and Fencing + Road Ligh Install Road Railing and Fencing CONS.RW.33 Install Road Railing and Fencing CONS.RW.338 Install Road Lighting and Signages nstall Road Lighting and Signag **Final Paving and Road Markings** Final Road Paving (Wearing Course) CONS.RW.33(Final Road Paving (Wearing Course) CONS.RW.33 Road Markings and Road Signages Road Markings and Road Signages Road SOL 104 (Phase 2) Kerbing and Footings for Railing, Fencing, Sign CONS.RW.38(Excavate and Construct Footings for Road Excavate and Construct Footings for Road Lightings Lightings / Railing / Fencing and Signages CONS.RW.38 Road Formation to Sub-base Road Formation to Sub-base Construct Precast Road Kerbings CONS.RW.38: Construct Precast Road Kerbings Road Works to Road Base and Base Course CONS.RW.38 Road Formation to Road Base Road Formation to Base Course CONS.RW.38 Road Formation to Base Course Installation of Railing and Fencing + Road Ligh Install Road Railing and Fencing CONS.RW.38! Install Road Railing and Fencing CONS.RW.38 Install Road Lighting and Signages Install Road Lighting and Signages **Final Paving and Road Markings** CONS.RW.378 Final Road Paving (Wearing Course) inal Road Paving (Wearing Course) CONS.RW.37 Road Markings and Road Signages ■ Road Markings and Road Signages Area 2 (East of Pump House Portion C1, A1, A2 **Road Works** Road SOL 101 / 109 / 114 (Phase 1) Kerbing and Footings for Railing, Fencing, Sign CONS.RE.384 Excavate and Construct Footings for Road Lightings / Railing / Fencing and Signages Excavate and Construct Footings for Road Lightings / Railing / Fencing and Sign CONS.RE.385 Road Formation to Sub-base Road Formation to Sub-base Construct Precast Road Kerbings CONS.RE.386 Construct Precast Road Kerbings Road Works to Road Base and Base Course CONS.RE.372 Road Formation to Road Base Road Formation to Base Course CONS.RE.373 Road Formation to Base Course Installation of Railing and Fencing + Road Ligh ■ Install Road Railing and Fencing CONS.RE.374 Install Road Railing and Fencing ■ Install Road Lighting and Signag CONS.RE.375 Install Road Lighting and Signages Road SOL 101 / 109 / 114 (Phase 2) Kerbing and Footings for Railing, Fencing, Sigr CONS.RE.442 Excavate and Construct Footings for Road Lightings / Railing / Fencing and Signages Excavate and Construct Footings for Road Lightings / Railing / Fencing and Signages CONS.RE.443 Road Formation to Sub-base Road Formation to Sub-base CONS.RE.444 Construct Precast Road Kerbings Construct Precast Road Kerbing Road Works to Road Base and Base Course CONS.RE.438 Road Formation to Road Base CONS.RE.439 Road Formation to Base Course Road Formation to Base (Installation of Railing and Fencing + Road Ligh CONS.RE.440 Install Road Railing and Fencing Install Road Railing and Fencing CONS.RE.441 Install Road Lighting and Signages Install Road Lighting Road SOL 102 (Phase 1) Kerbing and Footings for Railing, Fencing, Sign CONS.RE.415 Excavate and Construct Footings for Road Lightings / Railing / Fencing and Signages nd Construct Footings for Road Lightings / Railing / Fencing and Signages CONS.RE.416 Construct Precast Road Kerbings Construct Precast Road Kerbings CONS.RE.417 Road Formation to Sub-base ad Formation to Sub-base Road Works to Road Base and Base Course CONS.RE.410 Road Formation to Road Base Road Formation to Road Base

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+ Bearings BRG.ES.1030 Bridges in Portion A & B - Decking / Segments Erection + Stitching Decking / Segments Erection BRG.ES.1040 Bridges in Portion A & B - Parapet + Ancillary n Portion A & B - Parapet Works Bridges in Portion C & D ridges in Portion C & D - Bored Piling BRG.ES.2010 Bridges in Portion C & D - Bored Piling + Pilecaps BRG.ES.2020 Bridges in Portion C & D - Column, Pier Head + Bridges in Portion € & D - Column, Pier Head + Bearings Bearings

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Appendix D. Event and Action Plan

Event/Action Plan for Air Quality Monitoring

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	Identify source, investigate the causes of exceedance and propose remedial measures; Inform IEC and ER; Repeat measurement to confirm finding; Increase monitoring frequency to daily.	 Check monitoring data submitted by ET; Check Contractor's working method. 	Notify Contractor.	Rectify any unacceptable practice; Amend working methods if appropriate.
Exceedance for two or more consecutive samples	 Identify source; Inform IEC and ER; Advise the ER on the effectiveness of the proposed remedial measures; Repeat measurement s to confirmfindings; Increase monitoring frequency to daily; Discuss with IEC and Contractor on remedial actions required; If exceedance continues, arrange meeting with IEC and ER; If exceedance stops, cease additional monitoring. 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ER on the effectiveness of the proposed remedial measures; Supervise Implementation of remedial measures. 	 Confirm receipt of notification of failure in writing; Notify Contractor; Ensure remedial measures properly implemented. 	 Submit proposals for remedial to ER within 3 working days of notification; Implement the agreed proposals; Amend proposal if appropriate.

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	Confirm receipt of notification of failure in writing; Notify Contractor; Ensure remedial measures properly implemented.	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Amend proposal if appropriate.
2. Exceedance for two or more consecutive samples	 Notify IEC, ER, Contractor and EPD; Identify source; Repeat measurement to confirm findings; Increase monitoring frequency to daily; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Arrange meeting with IEC and ER to discuss the remedial actions to be taken; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring. 	 Discuss amongst ER, ET, and Contractoron the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; Supervise the implementation of remedial measures. 	 Confirmreceipt of notification of failure in writing; Notify Contractor; In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; Ensure remedial measures properly implemented; If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Resubmit proposals if problem still not under control; Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event / Action Plan for Construction Noise Monitoring

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level	Contractor; 2. Identify source,		notification of failure in writing; 2. Notify Contractor;	1. Submit noise mitigation proposals to IEC; 2. Implement noise mitigation proposals.
Limit Level	and Contractor; 2. Identify source; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to	 Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; Supervise the implementation of remedial measures. 	to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Resubmit proposals if problem still not under control; Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event / Action Plan for Water Quality Monitoring

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action level being exceeded by one sampling day	 Repeat in situ measurement to confirm findings; Identify source(s) of impact; Inform IEC, contractor and ER; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Repeat measurement on next day of exceedance to confirm findings. 	 Check monitoring data submitted by ET and Contractor's working methods; Discuss with ET and Contractor on possible remedial actions; Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. 	 Confirm receipt of notification of noncompliance in writing; Discuss with IEC on the proposed mitigation measures; Make agreement on mitigation measures to be implemented; Ensure mitigation measures are properly implemented. 	 Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment and consider changes of working methods; Discuss with ET and IEC on possible remedial actions and propose mitigation measures to IEC and ER; Implement the agreed mitigation measures. Amend working methods if appropriate.
Action level being exceeded by two or more consecutive sampling days	 Repeat in situ measurement to confirm findings; Identify source(s) of impact; Inform IEC, Contractor and ER; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Action level; Repeat measurement on next day of exceedance to confirm findings. 	 Check monitoring data submitted by ET and Contractor's working method; Discuss with ET and Contractor on possible remedial actions; Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. 	 Confirm receipt of notification of noncompliance in writing; Discuss with IEC on the proposed mitigation measures; Make agreement on mitigation measures to be implemented; Ensure mitigation measures are properly implemented; Assess the effectiveness of the implemented mitigation measures. 	 Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment and consider changes of working methods; Discuss with ET and IEC on possible remedial actions and propose mitigation measures to IEC and ER within 3 working days of notification; Implement the agreed mitigation measures; Amend working methods if appropriate.

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Limit level being exceeded by one sampling day	 Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC, Contractor, ER and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level. 	mitigation measures submitted by Contractor and advise	proposed mitigation measures; 3. Request Contractor to critically review the working methods; 4. Ensure mitigation	 Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment and consider changes of working methods; Submit proposal of mitigation measures to ER within 3 working days of notification and discuss with ET, IEC and ER; Implement the agreed mitigation measures; Amend working methods if appropriate.
Limit level being exceeded by two or more consecutive sampling days	 Repeat <i>in-situ</i> measurement to confirm findings; Identify source(s) of impact; Inform IEC, contractor, ER and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days. 	Contractor's mitigation measures whenever necessary to assure their effectiveness and advise the ER accordingly.	 Confirm receipt of notification of failure in writing; Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Ensure mitigation measures are properly implemented; Assess the effectiveness of the implemented mitigation measures; Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level. 	avoid further exceedance; 3. Rectify unacceptable

Event / Action Plan for Dolphin Monitoring

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level	 Repeat statistical data analysis to confirm findings; Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences; Identify source(s) of impact; Inform the IEC, ER/SOR and Contractor; Check monitoring data. Review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary. 	 Check monitoring data submitted by ET and Contractor; Discuss monitoring results and finding with the ET and the Contractor. 	1. Discuss monitoring with the IEC and any other measures proposed by the ET; 2. If ER/SOR is satisfied with the proposal of any other measures, ER/SOR to signify the agreement in writing on the measures to be implemented.	

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Limit Level	 Repeat statistical data analysis to confirm findings; Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences; Identify source(s) of impact; Inform the IEC, ER/SOR and Contractor of findings; Check monitoring data; Repeat review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary. If ET proves that the source of impact is caused by any of the construction activity by the works contract, ET to arrange a meeting to discuss with IEC, ER/SOR and Contractor the necessity of additional dolphin monitoring and/or any other potential mitigation measures (e.g., consider to modify the perimeter silt curtain or consider to control/temporarily stop relevant construction activity etc.) and submit to IEC a proposal of additional dolphin monitoring and/or mitigation measures where necessary. 	Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures. 4. Review proposals for additional monitoring and any other mitigation measures submitted by ET and Contractor and advise ER/SOR of the results and findings accordingly. 5. Supervise / Audit the implementation of additional monitoring and/or any other mitigation measures and advise ER/SOR the results and findings accordingly.	additional dolphin monitoring and/or any other mitigation measures submitted by ET and Contractor and verified by IEC, ER/SOR to signify the agreement in writing on such	 Inform the ER/SOR and confirm notification of the non-compliance in writing; Attend the meeting to discuss with ET, IEC and ER/SOR the necessity of additional dolphin monitoring and any other potential mitigation measures. Jointly submit with ET to IEC a proposal of additional dolphin monitoring and/or any other mitigation measures when necessary. Implement the agreed additional dolphin monitoring and/or any other mitigation measures.

Appendix E. Waste Flow Table

Name of Department: Highways Department

Contract No.: HY/2013/04

Monthly Summary Waste Flow Table for 2017

	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Transported to other Projects (Note 2)	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (Note 1)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan	6.552	0	0	6.552	0	0	0	0	0	0	0.1068
Feb	1.38	0	0	1.38	0	0	0	0	0	0	0.3315
Mar	0	0	0	0	0	0	0	0	0	0	0.3025
Apr	0	0	0	0	0	0	0	0	0	0	0.5456
May	0	0	0	0	0	0	0	0	0	0	0.4774
Jun	0	0	0	0	0	0	0	0	0	0	0.7520
Sub-total	7.932	0	0	7.932	0	0	0	0	0	0	2.5158
Jul	0	0	0	0	0	0	0	0	0	0	0.6682
Aug	0	0	0	0	0	0	0	0	0	0	0.8258
Sep	0	0	0	0	0	0	0	0	0	0	0.7234
Oct	0	0	0	0	0	0	0	0	0	0	0.5821
Nov											
Dec											
Total	7.932	0	0	7.932	0	0	0	0	0	0	5.3153

Note:

⁽¹⁾ Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material

^{(2) &}quot;Other Projects" refers to HKBCF Contract No. HY/2013/03

Name of Department: Highways Department Contract No.: HY/2013/04

Monthly Summary of Excavated Marine Sediment for 2017

Month	a. Estimated Volume of Excavated Marine Sediment Generated	b. Estimate Volume of Accumulated Excavated Marine Sediment Treated	c. Reused in the Contract	d. Estimated Volume of Excavated Marine Sediment Transported to Other Projects (Note 1)	e. Estimated Volume of Treated Excavated Marine Sediment Stored on Site (Unused)
	(in m³)	(in m³)	(in m³)	(in m³)	(in m³)
Jan	6552	0	0	6552	0
Feb	1380	0	0	1380	0
Mar	0	0	0	0	0
Apr	0	0	0	0	0
May	0	0	0	0	0
Jun	0	0	0	0	0
Sub-total	7932	0	0	7932	0
Jul	0	0	0	0	0
Aug	0	0	0	0	0
Sep	0	0	0	0	0
Oct	0	0	0	0	0
Nov					
Dec					
Total	7932	0	0	7932	0

Note:

^{(1) &}quot;Other Projects" refers to HKBCF Contract No. HY/2013/03. The disposal of excavated marine sediments to allocated dumping site via Contract No. HY/2013/03 has been completed with the last batch disposal on 30 August 2017.

Appendix F. Environmental Licences and Permits

Environmental Licences and Permits

Item No.	Type of Permit / Licence	Reference No.	Application Date	Valid from	Valid until	Remark
1	Environmental Permit under EIAO	EP-353/2009/K	24 Mar 2016	11 Apr 2016	N/A	Issued
2	Construction Dust Notification (HKBCF Southern Portion)	387156	26 Mar 2015	1 Apr 2015	N/A	Notified
3	Construction Waste Disposal Account	7022038	16 Mar 2015	1 Apr 2015	N/A	Account approved
4	Registration as a Chemical Waste Producer (HKBCF Southern Portion)	Waste Producer Number (WPN): 5213-951-C3952-01	27 Mar 2015	27 Apr 2015	N/A	Registration completed
5	Discharge Licence under WPCO (Works Area WA3)	WT00022316-2015	1 Jun 2015	14 Aug 2015	31 Aug 2020	Issued
6	Discharge Licence under WPCO (HKBCF Works Area)	WT00028782-2017	25 May 2017	19 Jul 2017	31 Jul 2022	Issued
7	Construction Noise Permit	GW-RS0345-17	31 Mar 2017	1 May 2017	31 Oct 2017	Expired during reporting month
8	Construction Noise Permit	GW-RS0538-17	13 Jun 2017	29 Jun 2017	9 Dec 2017	Issued
9	Construction Noise Permit	GW-RS0945-17	16 Oct 2017	1 Nov 2017	30 Apr 2018	Issued by EPD on 30 Oct 2017

Appendix G. Implementation Schedule for Environmental Mitigation Measures (EMIS)

Appendix G – Implementation Schedule of Environmental Mitigation Measures (EMIS)

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
Air Quality	y			
\$5.5.6.1	A1	The Contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	All construction sites	V
5.5.6.2	A2	2) Proper watering of exposed spoil should be undertaken throughout the construction phase:	All construction sites	V
		 Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; 		
		 Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; 		
		• A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones;		
		 The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; 		
		Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;		
5.5.6.2	A2	When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period;	All construction sites	V
		• The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials;		
		 Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; 		
		 Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; 		
		 Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; 		
		 Any skip hoist for material transport should be totally enclosed by impervious sheeting; 		
		 Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides 		
5.5.6.2	A2	Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed;	All construction sites	V
		 Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and 		
		 Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies. 		
5.5.6.3	A3	3) The Contractor should undertake proper watering on all exposed spoil (with at least 8 times per day) throughout the construction phase.	All construction sites	V
5.5.6.4	A4	Engineer to incorporate the controlled measures into the Particular Specification (PS) for the civil work. The PS should also draw the Contractor's attention to the relevant latest Practice Notes issued by EPD.	All construction sites	V
5.5.6.4	A5	5) Implement regular dust monitoring under EM&A programme during the construction stage.	Selected representative dust monitoring station	V (covered by Contract No. HY/2013/01 & HY/2011/03)
5.5.7.1	A6	The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant:	Selected representative dust	N/A

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		 Loading, unloading, handling, transfer or storage of any dusty materials should be carried out in totally enclosed system; 	monitoring station	
		 All dust-laden air or waste gas generated by the process operations should be properly extracted and vented to fabric filtering system to meet the emission limits for TSP; 		
		Vents for all silos and cement/pulverised fuel ash (PFA) weighing scale should be fitted with fabric filtering system;		
		 The materials which may generate airborne dusty emissions should be wetted by water spray system; 		
		 All receiving hoppers should be enclosed on three sides up to 3m above unloading point; All conveyor transfer points should be totally enclosed; 		
		All access and route roads within the premises should be paved and wetted; and Vehicle cleaning facilities should be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body.		
S5.5.2.7	A7	The following mitigation measures should be adopted to prevent fugitive dust emissions at barging point:	All construction sites	N/A
		 All road surface within the barging facilities will be paved; Dust enclosures will be provided for the loading ramp; 		
		Vehicles will be required to pass through designated wheels wash facilities; and		
Construct	tion Noise (Continuous water spray at the loading points. Air borne		
S6.4.10	tion Noise (A	1) Use of good site practices to limit noise emissions by considering the following: • only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;	All construction sites	V
		 machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; 		
		• plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;		
		 silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; 		
		 mobile plant should be sited as far away from NSRs as possible and practicable; material stockpiles, mobile container site officer and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 		
S6.4.11	N2	2) Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	All construction sites	V
S6.4.12	N3	3) Install movable noise barriers (typically density @ 14kg/m²), acoustic mat or full enclosure close to noisy plants including air compressor, generators, saw.	For plant items listed in Appendix 6D of the EIA report at all construction sites	V
S6.4.13	N4	4) Select "Quiet plants" which comply with the BS 5228 Part 1 or TM standards.	For plant items listed in Appendix 6D of the EIA report at all construction sites	V
S6.4.14	N5	5) Sequencing operation of construction plants where practicable.	All construction sites where practicable	V
	N6	6) Implement a noise monitoring under EM&A programme.	Selected representative noise monitoring station	V (covered by Contract No. HY/2013/01)
Sediment				
S7.3	S1	The requirements as recommended in ETWB TC(W) 34/2002 Management of Dredged/Excavated Sediment shall be included in the Particular Specification as appropriate.	All construction sites	V
		Construction Noise)	All constants of the constants	1/
S8.3.8	WM1	Construction and Demolition Material The following mitigation measures should be implemented in handling the waste: • Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement; • Carry out on-site sorting; • Make provisions in the Contract documents to allow and promote the use of recycled	All construction sites	V

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		aggregates where appropriate; • Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible;		
		 Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified; and 		
		 Implement an enhanced Waste Management Plan similar to ETWB TC(W) No. 19/2005 – "Environmental Management on Construction Sites" to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction. 		
		 In addition, disposal of the C&D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and get its approval before implementation. 		
S8.3.9- S8.3.11	WM2	C&D Waste • Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage.	All construction sites	V
		• The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage.		
S8.2.12-	WM3	Chemical Waste	All construction sites	V
S8.3.15		 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. 		
S8.3.16	WM4	Sewage • Adequate numbers of portable toilets should be provided for the workers. The portable toilets should be maintained in a state, which will not deter the workers from utilizing these portable toilets. Night soil should be collected by licensed collectors regularly.	All construction sites	V
S8.3.17	WM5	General Refuse • General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes.	All construction sites	V
		 A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law. 		
		 Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. 		
		 Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. In addition, waste separation facilities for paper, aluminium cans, plastic bottles etc., should be provided. 		
		• Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes.		

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
Water Qua	ality (Const	ruction Phase)		

S9.11.1.1 W1

Mitigation during the marine works to reduce impacts to within acceptable levels have Marine works been recommended and will comprise a series of measures that restrict the method and sequencing of dredging/backfilling, as well as protection measures. Details of the measures are provided below.

• Floating type perimeter silt curtains shall be around the HKBCF site before the commencement of marine works.

· Silt curtain shall be fully maintained throughout the works.

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 W PCO 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;
- 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 W PCO 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 stormwater system.

Land-based works

areas

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
Ecology (Constructio	n Phase)		
S10.7	E2	 Install silt curtain during the construction. Limit dredging and works fronts. Good site practices. Site runoff control. 	Marine works and Land-based works areas	V
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	Land-based works areas	V
S10.7	E5	Good site practices, including strictly following the permitted works hours, using quieter machines where practicable, and avoiding excessive lightings during night time	Land-based works areas	V
S10.7	E6	Dolphin Exclusion Zone; Dolphin watching plan	Marine works	V
S10.7	E7	Decouple compressors and other equipment on working vesselsAvoidance of percussive piling	Marine works	V
S10.7	E8	Control vessel speedSkipper trainingPredefined and regular routes for working vessels; avoid Brother Islands.	Marine Traffic	V
S10.10	E9	Dolphin vessel monitoring	North Lantau and West Lantau	V (covered by Contract No. HY/2013/01)
Fisheries				
S11.7	F4	Maritime Oil Spill Response Plan (MOSRP); Contingency plan.	HKBCF	V
Landscap	e & Visual (Detailed Design Phase)		
		 Roadside planting and planting along the edge of the HKBCF Island is proposed; Transplanting of mature trees in good health and amenity value where appropriate and reinstatement of areas disturbed during construction by compensatory hydroseeding and planting; Protection measures for the trees to be retained during construction activities; Optimizing the sizes and spacing of the bridge columns; Fine-tuning the location of the bridge columns to avoid visually-sensitive locations; Maximizing new tree, shrub and other vegetation planting to compensate tree felled and vegetation removed; Providing planting area around peripheral of HKBCF for tree planting screening effect; Providing salt-tolerant native trees along the planter strip at affected seawall and newly reclaimed coastline; For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF; and Fine-tuning the sizes of the structural members to minimize the bulkiness of buildings and adjustment of building arrangement to minimise disturbance to surrounding vegetation in the HKBCF. 		
Landscap	e & Visual (Construction Phase)		
S14.3.3.3	LV2	Mitigate both Landscape and Visual Impacts G1. Grass-hydroseed bare soil surface and stock pile areas.	HKBCF	N/A
		G2. Add planting strip and automatic irrigation system if appropriate at some portions of bridge footbridge to screen bridge and traffic. G3. Not applicable as this is for HKLR. G4. For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF G5. Vegetation reinstatement and upgrading to disturbed areas G6. Maximizing new tree shrub and other vegetation planting to compensate tree felled and vegetation removed G7. Providing planting area around peripheral of HKBCF for tree planting screening		

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		effect;		
		${\sf G8.\ Plant\ salt-tolerant\ native\ and\ shrubs\ etc\ along\ the\ planter\ strip\ at\ affected\ seawall.}$		
		G9. Reserve of loose natural granite rocks for re-use. Provide new coastline to adopt "natural-look" by means of using armour rocks in the form of natural rock materials and planting strip area accommodating screen buffer to enhance "natural-look" of the new coastline.		
S14.3.3.3	LV3	Mitigate Visual Impacts		N/A
		V1. Minimize time for construction activities during construction period.		
		V2. Provide screen hoarding at the portion of the project site / works areas / storage areas near VSRs who have close low-level views to the Project during HKBCF construction.		
EM&A				
S15.2.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual.	All construction sites	V
S15.5 -	EM2	1) An Environmental Team needs to be employed as per the EM&A Manual.	All construction sites	V
S15.6		2) Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures.		
		 An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with. 		
Legend:	V = implen	nented; x = not implemented; N/A = not applicable		

Appendix H. Statistics on Environmental Complaints, Notification of Summons and Successful Prosecutions

Statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions

Reporting Period	Complaints	Notifications of Summons	Successful Prosecutions
This reporting period	1	0	0
From commencement date of construction to end of reporting month	6	0	0

Appendix I. Environmental Site Inspection Schedule

Environmental Site Inspection Schedule for October 2017

Mon	Tue	\A/I			
		Wed	Thu	Fri	Sat
2	3	4	5	6	7
				Weekly Audit	
0	10	11	12	12	14
9	10		12	13	14
		Weekly Addit			
16	17		19	20	21
		Weekly Audit			
23	24	25	26	27	28
	21	20	20	2,	20
,					
30					
	Weekly Audit				
	9 16 23 Weekly Audit	9 10 16 17 23 24 Weekly Audit	9 10 11 Weekly Audit 16 17 18 Weekly Audit 23 24 25 Weekly Audit 30 31	9 10 11 12 Weekly Audit 16 17 18 19 Weekly Audit 23 24 25 26 Weekly Audit	9 10 11 12 13 Weekly Audit 16 17 18 19 20 Weekly Audit 23 24 25 26 27 Weekly Audit

	Nov-17											
Sun	Mon	Tue	Wed	Thu	Fri	Sat						
			1	2	3	4						
5	6	7	8	9	10	11						
			Weekly Audit									
12	13	14	15	16	17	18						
			Weekly Audit									
19	20	21	22	23	24	25						
10	Weekly Audit			20		20						
	·											
26	27	28	20	30								
26	21	20	29 Weekly Audit	30								
			Weekly Addit									

Appendix J. Complaint Investigation Report

27 October 2017

Environmental Complaint Form

RECEIPT OF COMPLAINT Ref: ENPO-C0127

Date:

Time: N/A
Via: EPD

COMPLAINANT

Name: N/A Address: N/A

Contact no.: N/A

DETAILS OF COMPLAINT

Date: 20-27 October 2017 (approx.)

Time: N/A

Parameter: Water Quality Other (specify): N/A

Description: The complaint was about muddy water discharge from HZMB BCF Island works

site. According to the complainant, this had continued for one week and occurred at

C3 (HY/2013/03) site.

INVESTIGATION RESULT & RESPONSE

IEC and ER notified on: 27 October 2017

Investigation conducted on: 30 October 2017

Result of investigation:

As informed by the Contractor of HY/2013/04, there was no ongoing discharge of wastewater from the HY/2013/04 site during the period described in the complaint.

The Contractor has obtained a discharge licence under the WPCO for treatment and disposal of wastewater (Licence No. WT00028782-2017). The discharge licence and most recently-received results for monthly sampling under the licence are presented in **Attachment 1**.

During ET's regular weekly site inspection on 23 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected. Land-based works at the shoreline for Box Culverts C and D were in progress. Bunds were provided near the shoreline to contain potential site runoff. No surface runoff was observed near the shoreline. Wastewater treatment facilities were provided near Box Culverts C and D to treat site runoff before discharge from the contract site. No discharge was observed at the discharge points or along the same shoreline interfacing with open waters. Silt curtain was provided at each box culvert for marine work areas. Photos of these mitigation measures are presented in **Attachment 2**. A location plan showing the discharge points is presented in **Attachment 3**.

During the abovementioned site inspection, silty water was observed immediately outside the perimeter of a silt curtain for Box Culvert D, and the Contractor was reminded to inspect the silt curtain to ensure that its structural integrity is intact. Subsequently, the Contractor inspected the silt curtain to confirm its structural integrity and no silty water outside the silt curtain was observed. There were no other observations referring to water quality mitigation measures associated with that shoreline.

RECOMMENDATIONS / MITIGATION MEASURES / ACTIONS

The Contractor is reminded to observe all conditions stated in the relevant discharge licence and implement all necessary water quality mitigation measures identified in the EM&A Manual.

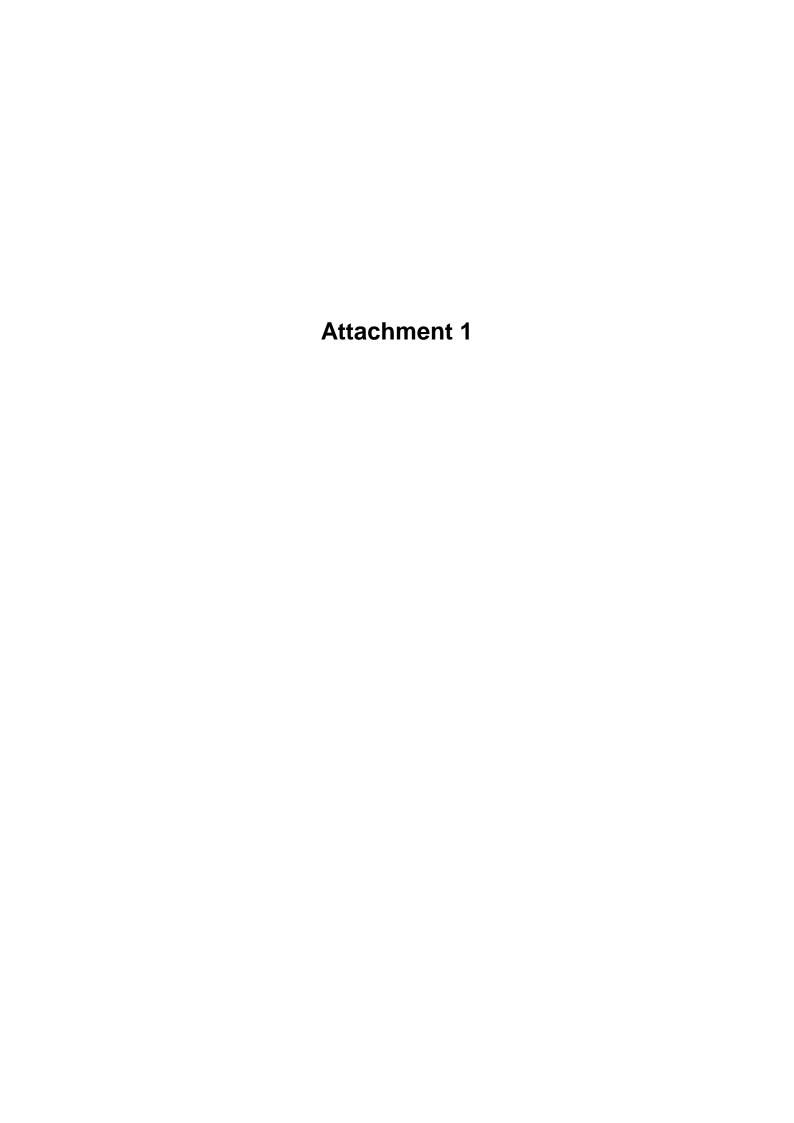
Prepared by: Gary Chow Title: Environmental Team Leader

Signature: Date: 10 November 2017

Environmental Monitoring and Audit

ATTACHMENTS

- 1. WPCO discharge licence and most recently-received results for monthly sampling under the licence.
- 2. Photos of site mitigation measures on 23 October 2017.
- 3. Location plan showing the discharge points.



本署檔案

OUR REF: WT00028782-2017

來函檔案 YOUR REF:

電 話 TEL. NO.: 2516 1810

圖文傳真

FAX NO: 2960 1761

電子郵件 E-MAIL:

HOMEPAGE: http://www.epd.gov.hk

Environmental Protection Department Environmental Compliance Division Regional Office (South)

2/F, Chinachem Exchange Square, 1 Hoi Wan Street, Quarry Bay, Hong Kong.



環境保護署 環保法規管理科 區域辦事處(南)

香港鰂魚涌 海灣街一號 華懋交易廣場一樓

2 1 JUL 2017

BY REGISTERED POST

掛號郵件

China State Construction Engineering (Hong Kong) Limited P.O. Box No. 1003 at Tsuen Wan Post Office

Dear Sir/Madam, 敬啟者:



Water Pollution Control Ordinance - North Western Water Control Zone 水污染管制條例 - 西北部水質管制區

Issue of Licence 發出排污牌照事宜

I refer to your application for the discharge/deposit from your premises. A licence pursuant to Section 20 is enclosed for your retention. Your attention is drawn to the details, terms and conditions of the licence and, particularly, to the sampling, treatment and disposal requirements for both trade effluent and sewage. You should also read the notes at the last page of the licence.

閣下就貴處所排放污水/沉積物而向本署遞交的牌照申請書(表格甲)已收悉。現寄上依據本條例第 20 條而簽發的牌照。敬請留意發牌的細則、條件及規定,尤須注意者,乃是有關工商業及生活污水取樣、處理及排放等事宜的各項規定。另請細閱牌照尾頁的附註。

If you are aggrieved by any of the terms and conditions, within 21 days after receipt of this Licence, you may appeal by lodging a notice of appeal under Section 29 in the prescribed manner and form to the Appeal Board.

倘若閣下對牌照內所載條件及規定有所不滿,可於收到本牌照後21天內,按本條例第29條的規定,以指定的方式及表格,向上訴委員會遞交上訴通知書,提出上訴。

The granting of this licence does not imply that the discharge/deposit from your premises has met the required standards as stipulated in the licence. You must take all necessary measures to ensure that the terms and conditions of the licence are being complied with.

閣下獲簽發此牌照,並非代表由貴處所排出的污水/沉積物已符合牌照規定的要求標準,你必須採取適當措施以確保能遵守牌照條款。

Should you have any query, please feel free to contact **our staff** at **2516 1891**. 如有疑問,請致電 **2516 1891** 與本署職員聯絡。

Yours faithfully.

(POON Ming-wa, Walter) Environmental Protection Officer for Director of Environmental Protection



Licence No.: WT00028782-2017 牌照編號 : WT00028782-2017

This Licence is Valid to: 31/07/2022 本牌照有效期至:二零二二年七月卅一日

ENVIRONMENTAL PROTECTION DEPARTMENT 環境保護署

WATER POLLUTION CONTROL ORDINANCE (CAP. 358) 水污染管制條例(第358章)

LICENCE PURSUANT TO SECTION 15/20/23A* 按第 15 / 20/ 23A*條簽發的牌照

The Director of Environmental Protection ("the Authority") grants this licence under the Water Pollution Control Ordinance ("the Ordinance") on the terms and conditions stated below.

環境保護署署長(「監督」)按下列的條款及條件,根據水污染管制條例(「本條例」)批給此牌照。

19/7/2017

Date 日期 (POON Ming-wa, Walter

For the Authority

監督(

潘明燁

代行)

PART A 甲部 : GENERAL TERMS 一般條款

Name of Licensee ("the Licensee") 持牌人名稱(「持牌人」)	China State Construction Engineering (Hong Kong) Limited 中國建築工程(香港)有限公司		
Discharge Premises ("the premises") 排放處所(「處所」)	Construction Site of Hong Kong–Zhuhai–Macao Bridge Hong Kong Boundary Crossing Facilities – Infrastructure Works Stage II (Southern Portion) (Highways Department Contract no. HY/2013/04)		
Water Control Zone 水 質 管 制 區	North Western Water Control Zone 西北部水質管制區		
Discharge Category 排放種類	Discharge of industrial trade effluent 工業污水排放		
Nature of Discharge and Wastewater Treatment Facilities 排放性質及廢水處理設施	Effluent, surface run-off, and all other wastewater discharges from the premises 上址排放的污水,地面徑流水及其他的廢水 Sedimentation tank 沉澱池		
Discharge Point(s) 排 放 點	Discharge into inshore waters 排放入沿岸水域		
Sampling Point(s) 取樣點	Sampling point(s) at discharging outlet(s) of the premises 取樣點位於上址的出水口		

*Delete as appropriate 將不適用者刪去

Reference No. 参考編號 EP/RS/0000375327

PART B 乙部 : SPECIFIC CONDITIONS 特別條件

B1. Limitations on Discharge 排放限制

The quantity and composition of any discharge from the premises shall not exceed the limits stated in the table below^(Note a). All figures are upper limits unless otherwise indicated. All units are expressed as concentration in milligramme per litre unless otherwise stated.

任何源自處所之排放的量和成份不得超過下表所列的限度^(附註 a)。除另予表明外,所有數字均為上限。除另予說明外,所有單位均以毫克/升的濃度表示。

Determinand 測量物	Limit 限度
Flow Rate (m³ / day) 流量(立方米/日)	4800
pH (pH units) 酸鹼值 (pH 單位)	6-9
Suspended Solids 懸浮固體	30
Chemical Oxygen Demand 化學需氧量	80

B2. Self-monitoring and Reporting 自行監測及報告

The Licensee shall perform self-monitoring as and when required by the Authority.
持牌人須在監督要求時進行自行監測。

☑ The Licensee shall sample the discharge at the Sampling Point(s) and, at his own expense carry out analyses in accordance with the sample type and measurement frequency specified for each determinand named below:-

持牌人須在取樣點為排放抽取樣本,並依照下列指定的測量物、取樣形式及頻率,自資予以分析。

Determinand 測量物	Unit 單位	Sample Type 取樣形式	Frequency 頻 率
Suspended Solids	mg/L	Grab	Monthly
懸浮固體	毫克/升	隨意取集	每一個月一次

Results of these monitoring shall be summarized in a report on a Monthly/Bi-monthly/Quarterly/Yearly* basis and shall be submitted to the Authority.

所有監測結果須以摘要形式,每一個月/兩個月/三個月/年*作出報告,並須呈交監督審閱。

^{*}Delete as appropriate 將不適用者刪去

PART C 丙部 : STANDARD CONDITIONS 標準條件

C1. The Discharge 排放

C1.1 The discharge shall not contain polychlorinated biphenyls (PCB), polyaromatic hydrocarbon (PAH), fumigant, pesticide or toxicant, chlorinated hydrocarbons, flammable or toxic solvents, calcium carbide; any substance likely to damage the sewer or to interfere with any of the treatment processes, or to be harmful to the health and safety of any personnel engaged in the operation or maintenance of a sewerage system; waste liable to form scum or deposits in any part of the drainage or sewerage system, or the waters of Hong Kong; waste liable to form discolouration in any parts of the waters of Hong Kong; sludge, floatable substances or solids larger than 10 mm; and sludge or solid refuse of any kind.

排放不得含有多氯聯苯、聚芳烴、薰蒸劑、殺蟲劑或毒劑、氯化烴、可燃的或有毒的溶劑、碳化鈣;會損毀污水渠結構或干擾任何處理程序的物質,或有損操作及維修排污系統人員健康及安全的任何物質;足以在排水或排污系統,或香港水域任何範圍內形成浮渣或沉積物的廢物;足以在香港水域任何範圍內形成變色的廢物;污泥、漂浮物質或體積超越 10 毫米的固體;及任何種類的污泥或固體垃圾。

C1.2 No discharge shall bypass the wastewater treatment facilities, the Sampling Point(s) or the Discharge Point(s) unless it is unavoidable to prevent loss of life, personal injury or severe property damage or no feasible alternative exists.

除非避免人命傷亡或嚴重財物損失或無其他可行代替辦法,排放不得繞流不經其廢水處理設施,取樣點或排放點。

C1.3 Dilution of the discharge to achieve compliance with the limits contained in this licence is prohibited. 不得將排放稀釋,以求達到本牌照內所訂的限度。

C2. Flow Measurement 量度流量

The Licensee shall determine the flow rate of the discharge by installing, operating and maintaining a continuous flow measuring device with an accuracy certified by its manufacturer to be within plus or minus 3 percent of the actual flow, and calibrating the flow measuring device regularly according to manufacturer's recommendations. If no such device is installed, the Licensee shall determine the flow rate through using calculation methods agreed by the Authority, by making reference to the amount of water used in the premises being served by mains supply and other sources, less process consumption and any other losses.

持牌人必須設置、操作及保養一個連續性流量計作為測定排放的流量率之方法,其準確程度須經製造商證實為不超逾或低於真正流量的3%,並應根據製造商建議的方法,定期校準流量計。如沒有設置該設備,持牌人須依照監督同意的計算方法,根據處所由自來水及其他水源供應的總用水量減去工序耗水量及其他耗水量來測定流量率。

C3. Treatment 處理

C3.1 The Licensee shall provide necessary wastewater treatment facilities, and shall engage personnel with adequate qualification and experience to properly operate and maintain all wastewater treatment facilities at all times. Standby equipment shall be provided to guard against failure of major treatment equipment.

持牌人須提供必需的廢水處理設施,並須僱用有足夠資格及經驗的人士,時常妥善操作及保養所有廢水處 理設施。主要處理設施須配有後備裝置,以應付故障發生。

C3.2 In the event of loss of efficiency of operation, or failure of all or part of the wastewater treatment facility, the Licensee shall take all reasonable steps to the extent necessary to maintain compliance with this licence. Such steps shall remain until operation of the wastewater treatment facility is restored or an alternative method of treatment is provided.

倘若部份或整個廢水處理設施操作失靈或發生故障,持牌人須採取所有必要的合理措施,以求達到符合本 牌照的規定。此等措施須維持至廢水處理設施恢復如常操作或有其他代替的處理方法可供採用為止。

C3.3 If the wastewater treatment facilities are not properly operated and maintained to the satisfaction of the Authority, the Licensee shall take immediate and effective remedial actions as required by the Authority.

倘若廢水處理設施的操作及保養未能令監督滿意,持牌人須按監督之規定,採取即時及有效的補救行動。

C4. Disposal 棄置

Sludges, screenings, solids, oil and grease, filter backwash, or other pollutants removed in the course of treatment shall be disposed of in a proper manner (Note b & c).

處理過程中所產生的污泥、隔濾物、固體、油脂、過濾器回洗或其他污染物,必須妥善地棄置(附註 b 及 c)。

C5. Monitoring 監測

- C5.1 The Licensee shall provide and maintain suitable facility such as an inspection chamber, manhole or sampling valve at each Sampling Point to enable duly authorized officer(s) of the Authority to take samples of the discharge at any time from the premises.
 - 持牌人須在每一個取樣點提供及保養適當的設施,例如檢查槽,沙井或取樣閥,以確保獲監督授權的人員隨時可在處所內抽取排放樣本。
- C5.2 For self-monitoring, "grab samples" shall be taken during the period when the determinand to be analyzed for is likely to be present in its maximum concentration. "Composite samples" shall include samples taken over daily duration of the discharge.
 - 在自行監測中,「隨意取集樣本」須在測量物的濃度很可能是最高的那段時間內抽取。「綜合樣本」須包含在每日排放期間不同時候所抽取的樣本。
- C5.3 For self-monitoring, all samples shall be analyzed in accordance with the most updated analytical methods used by the Government Chemist (Note d).

在自行監測中,所有樣本均須按照政府化驗師所採用的最新分析方法予以分析(附註d)。

C6. Records and Reporting 紀錄及報告

C6.1 The Licensee shall keep the following records in the premises for inspection by duly authorized officer(s) of the Authority:

持牌人須在處所內保存下列紀錄,以備獲監督授權的人員隨時查閱:

- records of flow rate, nature and composition of the discharge; 排放流量率、性質及成份的紀錄;
- (ii) updated records of all monitoring information, including all laboratory analytical results relating to samples taken, all original chart recordings for continuous flow and pH monitoring; and 所有最新監測資料的紀錄,包括所有關於已取樣本的檢驗分析結果、所有連續性流量及酸鹼值監測記錄圖表的正本;及
- (iii) records of all desludging and degreasing operation, and records of corresponding disposal operation.

所有清除污泥和清理隔油池廢物工序的紀錄,及其棄置工序的紀錄。

Copies of all such records shall be submitted to the Authority upon request.

在監督要求時,須向監督呈交所有該等紀錄的副本。

C6.2 The Licensee shall notify and explain to the Authority within 24 hours upon the occurrence of an accidental discharge or any emergency bypass or an overflow of untreated effluent or an operation upset which places the discharge in a temporary state of non-compliance with this licence. The Licensee shall within 7 days following the incident, submit to the Authority a detailed report in writing on the cause and duration of the non-compliance and steps taken or to be taken to reduce, eliminate, or prevent recurrence of such non-compliance. Reporting in accordance with this Condition does not relieve the Licensee of any obligations imposed by this licence.

倘若有未經處理的污水意外排放、緊急繞流或溢滿的事件或操作失靈,引至排放出現短暫不符合牌照規定的情況,持牌人須在事發後 24 小時內通知監督並予以解釋。持牌人須在事故發生後 7 天內,以書面報告,詳述事件的起因、違反牌照條件的時間及為減少、消除或防止類似事件再次發生所採取或將會採取的措施,送交監督審閱。然而,按照本條件的規定提交報告並不表示持牌人可獲免除承擔本牌照內所載的任何責任。

C7. Operation Manual 操作手册

The Licensee shall prepare an operation manual which shall include, as a minimum, operating procedures, inspection programme and repair and maintenance programme for the wastewater treatment facilities. The operation manual shall be kept at the aforesaid wastewater treatment facilities and a copy of the manual shall be submitted to the Authority upon request.

持牌人須擬備廢水處理設施的操作手冊。手冊內容須最低限度包括操作程序、檢查、維修及保養工作計劃表。該手冊須保存在上述廢水處理設施內。持牌人須在監督要求時,呈交手冊副本乙份。

C8. Notification of Change 更改通知

The Licensee shall notify the Authority in writing within 14 days of any changes or proposed changes in the processes of manufacture or the nature of the raw materials used or of any other circumstances which may alter the nature and composition of the discharge or may result in the permanent cessation of the discharge.

倘若持牌人更改或擬更改其生產程序、或所用原料的性質、或有其他足以改變其排放的性質及成份或可導致永久性終止排放的事情,必須在14日內以書面通知監督。

Notes 附註

(a) For the purposes of determining compliance with the limits stated in Specific Condition B1, samples shall be taken by the duly authorized officer(s) of the Authority at the Sampling Point(s) or any other points from which the samples so taken are regarded by the Authority as being representative of the quality of the discharge. When any single sample analyzed for a determinand is proved not complying with corresponding limit set out in the table, the discharge is deemed to have failed to comply with Specific Condition B1.

為確定排放是否符合特別條件第 B1 項內所列的限度,獲監督授權的人員須在取樣點或在監督認為可以抽取到具代表性的樣本的任何其他位置抽取樣本。只要在任何一個經分析的樣本中,證實任何一個測量物不符合表中所列的相應限度時,排放即被視為不符合特別條件第 B1 項。

- (b) An example of proper disposal method for sludge is sending dewatered sludge to landfill for disposal. 妥善棄置污泥方法中的一個例子是將脫水後的污泥運往堆填區棄置。
- (c) Proper disposal of grease trap waste includes but is not limited to employing any reputable firm or collector who will use the right equipment and dispose of the collected grease trap waste at West Kowloon Transfer Station. The updated list of grease trap waste collectors who are using the disposal service at West Kowloon Transfer Station is maintained in the EPD website and Green Restaurant website.

 妥善的隔油池廢物棄置方法包括卻不限於聘用任何信譽良好的公司/收集商使用適當的設備在西九龍廢物轉運站棄置所
- (d) The Licensee may make reference to Annex 1 of the <Technical Memorandum on Effluent Standards> for analytical methods used by the Government Chemist. 持牌人可參照「流出物標準技術備忘錄」附件 1 有關政府化驗師所採用的分析方法。

收集的隔油池廢物。環保署網站及環保食肆網均載有目前使用西九龍廢物轉運站棄置隔油池廢物的收集商最新名單。

- (e) The Licensee shall keep this licence in the premises and make it available at all times for inspection by duly authorized officer(s) of the Authority.

 持牌人須在處所內保存此牌照,以備獲監督授權的人員隨時查閱。
- (f) (i) The Licensee shall allow duly authorized officer(s) of the Authority to enter the premises for the purposes of inspection, sampling, records examination or any other duties authorized by Section 37 and Section 38 of the Ordinance. 持牌人須准許獲監督授權的人員進入處所內進行檢查、抽取樣本、審查紀錄或執行其他根據本條例第 37 及第 38 條所授權的職務。
 - (ii) Where the premises has security measures in force which would require proper identification and clearance before entry, the Licensee shall make necessary arrangements such that upon presentation of evidence of identity and of authorization, duly authorized officer(s) will be permitted to enter, without delay, for the purposes of performing duties. 倘若由於處所的保安理由而需先行鑑定來人的身份,持牌人必須作出必要的安排,以便獲授權人員在出示身份證明及授權文件後,即可內進執行其職務而不致受延誤。
- (g) (i) For a licence granted under Section 15 of the Ordinance, the Licensee may, not less than 2 months before expiry of the licence, apply under Section 19 of the Ordinance for a new licence. The Authority may grant the licence or otherwise. 持有根據本條例第 15 條所批給牌照的人士,可於牌照屆滿前不少於 2 個月內,根據本條例第 19 條的規定,申請一面新牌照。監督可批給或拒絕批給牌照。
 - (ii) For a licence granted under Section 20 or 23A of the Ordinance, the Licensee may, not more than 4 months and not less than 2 months before expiry of the licence, apply under Section 23 or 23A respectively of the Ordinance for renewal of licence. The Authority may renew the licence or otherwise. 持有根據本條例第 20 條或第 23 A 條所批給牌照的人士,可於牌照屆滿前不多於 4 個月及不少於 2 個月內,根據本條例的第 23 或 23 A 條的規定,申請牌照續期。監督可將牌照續期或拒絕將牌照續期。
- (h) Under Section 24 of the Ordinance, the Authority may by notice in writing, impose new or amended terms and conditions on this licence or cancel this licence. Under Section 25, 26 and 27 of the Ordinance, a Licensee whose licence has been so varied or cancelled may be entitled to compensation. 根據本條例第 24 條的規定,監督可以書面通知,向本牌照施加新訂或經修訂的條款及條件,或取消本牌照。根據本條例第 25、26 及 27 條的規定,被更改或取消牌照的持牌人可能會獲得補償。
- (i) Under Section 28 of the Ordinance, the Licensee may apply to the Authority for a variation of this licence. 根據本條例第 28 條的規定,持牌人可向監督申請更改本牌照。
- (j) Under Section 49 of the Ordinance, this licence shall not be construed as a dispensation from the requirements of any other Ordinance except where that other Ordinance so provides.
 根據本條例第 49 條的規定,本牌照並不得解釋為豁免符合任何其他條例的規定,除非該其他條例如此訂定。



東業德勤測試顧問有限公司 ETS-TESTCONSULT LTD.

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TEST REPORT

Environmental Testing of Water & Wastewater

Report No.

ENA76197

Date of issue

19 October 2017

Page No.

1 of 1

Information provided by Customer

Customer name

China State Construction Engrg (Hong Kong) Ltd

Customer address

29/F, China Overseas Building, 139 Hennessy Road, Wanchai, Hong Kong Contract No. HY/2013/04: Hong Kong-Zhuhai-Macao Hong Kong Boundary

Sample Source

Crossing Facilities - Infrastructure Works Stage II (Southern Portion) (CDG)

Sample Type

Wastewater

Date of sampling

12 October 2017

Sample Description

The sample was collected by the Customer.

The sample was stored in 1L plastic bottle (for pH and Total Suspended Solids) and

500ml plastic bottle (for Chemical Oxygen Demand). The sample was chilled after received.

Sample for Chemical Oxygen Demand was preserved by adding conc H₂SO₄ to pH<2.

Laboratory information

Date Received

12 October 2017

Result

Customer Sample ID	Lab Ref No	Test	Method Used	Result	Date Tested
Box C	W39991 (01)	рН	In house method TPE/003/W	7.1 (at 20°C)	12 October 2017
		Total Suspended Solids	In house method TPE/006/W	<2 mg/L *	14 October 2017
	W39991 (02)	Chemical Oxygen Demand	In house method TPE/002/W	<10 mgO₂/L	16 October 2017

Remark (if any)

(*) 500ml sample was used for Total Suspended Solids analysis. PQL of Total Suspended Solids reported less than 2 mg/L.

Checked by:

LAW, Sau Yee

(Senior Chemist)

Approved Signatory:

I All Chileung

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- END OF REPORT-



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TEST REPORT

Environmental Testing of Water & Wastewater

Report No.

ENA76198

Date of issue

19 October 2017

Page No.

1 of 1

Information provided by Customer

Customer name

China State Construction Engra (Hong Kong) Ltd

Customer address Sample Source

29/F, China Overseas Building, 139 Hennessy Road, Wanchai, Hong Kong Contract No. HY/2013/04: Hong Kong-Zhuhai-Macao Hong Kong Boundary Crossing Facilities - Infrastructure Works Stage II (Southern Portion) (CDG)

Sample Type

Wastewater

Date of sampling Sample Description 12 October 2017

The sample was collected by the Customer.

The sample was stored in 1L plastic bottle (for pH and Total Suspended Solids) and

500ml plastic bottle (for Chemical Oxygen Demand). The sample was chilled after received.

Sample for Chemical Oxygen Demand was preserved by adding conc H₂SO₄ to pH<2.

Laboratory information

Date Received

12 October 2017

Result

Customer Sample ID	Lab Ref No	Test	Method Used	Result	Date Tested
Box D	W39991 (03)	рН	In house method TPE/003/W	6.6 (at 20°C)	12 October 2017
		Total Suspended Solids	In house method TPE/006/W	<2 mg/L *	14 October 2017
	W39991 (04)	Chemical Oxygen Demand	In house method TPE/002/W	<10 mgO ₂ /L	16 October 2017

Remark (if any)

(*) 500ml sample was used for Total Suspended Solids analysis. PQL of Total Suspended Solids

reported less than 2 mg/L.

Checked by:

LAW, Sau Yee (Senior Chemist) Approved Signatory:

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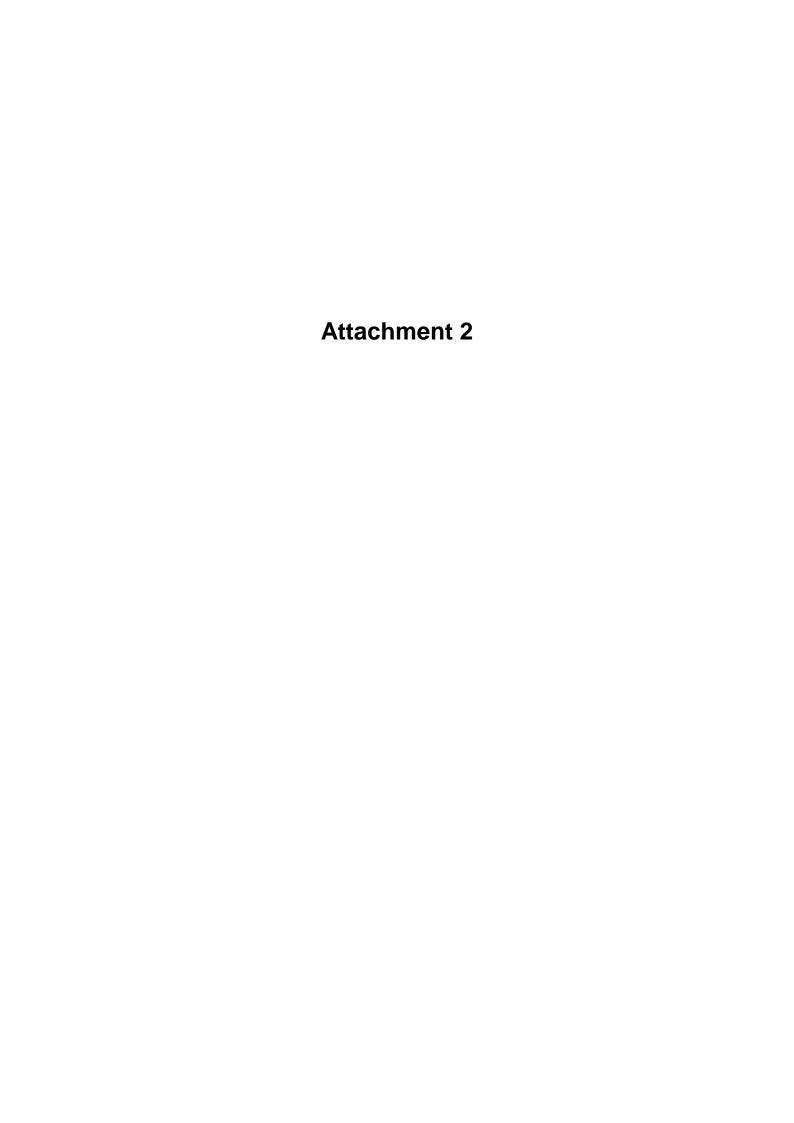


Photo record of site mitigation measures during weekly environmental site inspection on 23 October 2017



1. Bunds provided to contain potential surface runoff near the shoreline. No surface runoff was observed.



2. Wetsep provided near Box Culverts C and D to treat site runoff before discharge from the contract site. No discharge was observed at the discharge points or along the same shoreline interfacing with open waters.



3. Silt curtains provided for marine work areas at Box Culverts C and D.

