

Expansion of Hong Kong International Airport into a Three-Runway System

Construction Phase Monthly EM&A Report No.15 (For March 2017)

April 2017

Airport Authority Hong Kong

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This Monthly EM&A Report No. 15 has been reviewed and certified by the Environmental Team Leader (ETL) in accordance with Condition 3.5 of Environmental Permit No. EP-489/2014.

Certified by:

Terence Kong

Environmental Team Leader (ETL) Mott MacDonald Hong Kong Limited

Date 27 April 2017



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By Email

Airport Authority Hong Kong HKIA Tower, 1 Sky Plaza Road Hong Kong International Airport Lantau, Hong Kong

Attn: Mr. Lawrence Tsui, Principal Manager

27 April 2017

Dear Sir,

Contract No. 3102 3RS Independent Environmental Checker Consultancy Services

Submission of Monthly EM&A Report No.15 (March 2017)

Reference is made to the Environmental Team's submission of the Monthly EM&A Report No.15 under Condition 3.5 of the Environmental Permit No. EP-489/2014 certified by the ET Leader on 27 April 2017.

We would like to inform you that we have no adverse comment on the captioned submission. Therefore we write to verify the captioned submission in accordance with the requirement stipulated in Condition 3.5 of EP-489/2014.

Should you have any query, please feel free to contact our Roy Man at 3922 9365 or the undersigned at 3922 9376.

Yours faithfully, AECOM Asia Co. Ltd.

Jackel Law

Independent Environmental Checker

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Executive Summary

The "Expansion of Hong Kong International Airport into a Three-Runway System" (the Project) serves to meet the future air traffic demands at Hong Kong International Airport (HKIA). On 7 November 2014, the Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-185/2014) for the Project was approved and an Environmental Permit (EP) (Permit No.: EP-489/2014) was issued for the construction and operation of the Project.

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Airport Authority Hong Kong (AAHK) commissioned Mott MacDonald Hong Kong Limited (MMHK) to undertake the role of Environmental Team (ET) for carrying out the Environmental Monitoring & Audit (EM&A) works during the construction phase of the Project in accordance with the Updated EM&A Manual (the Manual).

This is the 15th Construction Phase Monthly EM&A Report for the Project which summarizes the monitoring results and audit findings of the EM&A programme during the reporting period from 1 to 31 March 2017.

Key Activities in the Reporting Period

The key activities of the Project carried out in the reporting period included five deep cement mixing (DCM) contracts, an advanced works contract and a reclamation contract. The DCM contracts involved DCM works and trials, site office establishment, laying of geotextile and sand blanket; the advanced works contract involved horizontal directional drilling (HDD) works and pipeline supporting works; and the reclamation contract involved site office establishment and laying of sand blanket.

EM&A Activities Conducted in the Reporting Period

The monthly EM&A programme was undertaken in accordance with Manual of the Project. During the reporting period, the ET conducted 36 sets of construction dust measurements, 24 sets of construction noise measurements, 13 events of water quality measurements, one round of terrestrial ecology monitoring on Sheung Sha Chau Island, two complete sets of small vessel line-transect surveys and five days of land-based theodolite tracking survey effort for Chinese White Dolphin (CWD) monitoring and waste monitoring.

Weekly site inspections of the construction works were carried out by the ET to audit the implementation of proper environmental pollution control and mitigation measures for the Project. Bi-weekly site inspections were also conducted by the Independent Environmental Checker (IEC). Observations have been recorded in the site inspection checklists and provided to the contractors together with the appropriate follow-up actions where necessary.

On the implementation of Marine Mammal Watching Plan (MMWP), silt curtains were in place by the contractors for sand blanket laying works and dolphin observers were deployed in accordance with the Plan. On the implementation of Dolphin Exclusion Zone (DEZ) Plan, dolphin observers were deployed by the contractors for continuous monitoring of the DEZ for DCM works in accordance with the DEZ Plan. Trainings for the proposed dolphin observers were provided by the ET prior to the aforementioned works, with the training records kept by the ET. From the contractors' MMWP observation records and DEZ monitoring records, no dolphin or other marine mammals were observed within or around the silt curtains or the DEZs in this reporting month. Audits of acoustic decoupling for construction vessels were also carried out by the ET.

On the implementation of the Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier (the SkyPier Plan), the daily movements of all SkyPier high speed ferries (HSFs) in March 2017 were in the range of 85 to 94 daily movements, which are within the maximum daily cap of 125 daily movements. A total of 860 HSF movements under the SkyPier Plan were recorded in the reporting period. All HSFs had travelled through the Speed Control Zone (SCZ) with average speeds under 15 knots (6.1 to 14.2 knots), which were in compliance with the SkyPier Plan. One ferry movement with minor deviation from the diverted route is under investigation by ET. The investigation result will be presented in the next monthly EM&A report. In summary, the ET and IEC have audited the HSF movements against the SkyPier Plan and conducted follow up investigation or actions accordingly.

On the implementation of the Marine Travel Routes and Management Plan for Construction and Associated Vessel (MTRMP-CAV), the upgraded Marine Surveillance System (MSS) was launched in March 2017. The MSS automatically recorded the deviation case such as speeding, entering no entry zone, not traveling through the designated gate. ET conducted cross checking with construction and associated vessel records provided by the contractors to ensure the MSS records all deviation cases accurately. Training has been provided for the concerned skippers to facilitate them in familiarising with the requirements of the MTRMP-CAV. 3-month rolling programmes for construction vessel activities were also received from contractors. ET reminded contractors that all vessels shall avoid entering the Brothers Marine Park, which has been designated since 30 December 2016.

Results of Impact Monitoring

The monitoring works for construction dust, construction noise, water quality, construction waste, terrestrial ecology and CWD were conducted during the reporting period in accordance with the Manual.

No exceedance of the Action or Limit Levels in relation to the construction dust, construction noise, construction waste and CWD monitoring was recorded in the reporting month.

The water quality monitoring results for DO, total alkalinity, and chromium obtained during the reporting period were in compliance with their corresponding Action and/or Limit Levels stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme if being exceeded. For turbidity, SS and nickel, some of the testing results exceeded the relevant Action or Limit Levels, and the corresponding investigations were conducted accordingly. The investigation findings concluded that the exceedances were not due to the Project.

The monthly terrestrial ecology monitoring on Sheung Sha Chau Island observed that HDD works were conducted at the daylighting location and there was no encroachment upon the egretry area nor any significant disturbance to the egrets at Sheung Sha Chau by the works. At the HDD daylighting location, neither nest or breeding activity of bird were found during the monthly ecological monitoring and weekly site inspection in the reporting month.

Summary of Upcoming Key Issues

Key activities anticipated in the next reporting period for the Project will include the following:

Advanced Works:

Contract P560 (R) Aviation Fuel Pipeline Diversion Works

- HDD works; and
- Stockpiling of excavated materials from HDD operation.

Contract 3212 11kV Submarine Cable Diversion

- Forming of marine approach trench; and
- Cable laying.

DCM Works:

Contract 3201 to 3205 DCM Works

- Laying of geotextile and sand blanket;
- Site office establishment; and
- DCM works and trials.

Reclamation Works:

Contract 3206 Main Reclamation Works

- · Site office establishment; and
- Laying of sand blanket.

The key environmental issues will be associated with construction dust, construction noise, water quality, construction waste management and CWD. The implementation of required mitigation measures by the contractor will be monitored by the ET.



Ecological Monitoring



Dolphin Observer Training



Toolbox Talk Training to Site Staff by Contractor

Summary Table

The following table summarizes the key findings of the EM&A programme during the reporting period from 1 to 31 March 2017:

	Yes	No	Details	Analysis / Recommendation / Remedial Actions
Exceedance of Limit Level [^]		✓	No exceedance of project-related limit level was recorded.	Nil
Exceedance of Action Level [^]		✓	No exceedance of project-related action level was recorded.	Nil
Complaints Received		✓	No construction activities related complaints were received.	Nil
Notification of any summons and status of prosecutions		✓	No notifications of summons or prosecution were received.	Nil
Changes that affect the EM&A		✓	There were no changes to the construction works that may affect the EM&A	Nil

Remarks: ^ only exceedance of action/ limit level related to Project works will be highlighted.

1 Introduction

1.1 Background

On 7 November 2014, the Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-185/2014) for the "Expansion of Hong Kong International Airport into a Three-Runway System" (the Project) was approved and an Environmental Permit (EP) (Permit No.: EP-489/2014) was issued for the construction and operation of the Project.

Airport Authority Hong Kong (AAHK) commissioned Mott MacDonald Hong Kong Limited (MMHK) to undertake the role of Environmental Team (ET) for carrying out the Environmental Monitoring & Audit (EM&A) works during the construction phase of the Project in accordance with the Updated EM&A Manual (the Manual) submitted under EP Condition 3.1. The Manual is available on the Project's dedicated website (accessible at: http://env.threerunwaysystem.com/en/index.html). AECOM Asia Company Limited (AECOM) was employed by AAHK as the Independent Environmental Checker (IEC) for the Project.

The Project covers the expansion of the existing airport into a three-runway system (3RS) with key project components comprising land formation of about 650 ha and all associated facilities and infrastructure including taxiways, aprons, aircraft stands, a passenger concourse, an expanded Terminal 2, all related airside and landside works and associated ancillary and supporting facilities. The existing submarine aviation fuel pipelines and submarine power cables also require diversion as part of the works.

Construction of the Project is to proceed in the general order of diversion of the submarine aviation fuel pipelines, diversion of the submarine power cables, land formation, and construction of infrastructure, followed by construction of superstructures.

The updated overall phasing programme of all construction works was presented in Appendix A of the Construction Phase Monthly EM&A Report No. 7 and the contract information was presented in **Appendix A**.

1.2 Scope of this Report

This is the 15th Construction Phase Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 to 31 March 2017.

1.3 Project Organisation

The Project's organization structure presented in Appendix B of the Construction Phase Monthly EM&A Report No.1 remained unchanged during the reporting month. Contact details of the key personnel have been updated and is presented in **Table 1.1**.

Table 1.1: Contact Information of Key Personnel

Party	Position	Name	Telephone	
Project Manager's Representative	Principal Manager, Environment	Lawrence Tsui	2183 2734	
(Airport Authority Hong Kong)				

Party	Position	Name	Telephone
Environmental Team (ET) (Mott MacDonald Hong Kong Limited)	Environmental Team Leader	Terence Kong	2828 5919
	Deputy Environmental Team Leader	Heidi Yu	2828 5704
	Deputy Environmental Team Leader	Keith Chau	2972 1721
Independent Environmental Checker (IEC) (AECOM Asia Company Limited)	Independent Environmental Checker	Jackel Law	3922 9376
	Deputy Independent Environmental Checker	Joanne Tsoi	3922 9423
Advanced Works:			
Contract P560(R) Aviation Fuel Pipeline Diversion Works (Langfang Huayuan Mechanical and Electrical Engineering Co., Ltd.)	Project Manager	Wei Shih	2117 0566
Engineering 66., Etc.)	Environmental Officer	Lyn Lau	5172 6543
DCM Works:			
Contract 3201 DCM (Package 1) (Penta-Ocean-China State- Dong-Ah Joint Venture)	Project Director	Tsugunari Suzuki	9178 9689
zong / in oom to maio/	Environmental Officer	Kanny Cho	9019 1962
Contract 3202 DCM (Package 2) (Samsung-BuildKing Joint Venture)	Project Manager	Ilkwon Nam	9643 3117
	Environmental Officer	Dickson Mak	9525 8408
Contract 3203 DCM (Package 3) (Sambo E&C Co., Ltd)	Project Manager	Seong Jae Park	9683 8693
	Environmental Officer	Calvin Leung	9203 5820
Contract 3204 DCM (Package 4) (CRBC-SAMBO Joint Venture)	Project Manager	Kyung-Sik Yoo	9683 8697
	Environmental Officer	Calvin So	9724 6254
Contract 3205 DCM (Package 5) (Bachy Soletanche - Sambo Joint Venture)	Deputy Project Director	Min Par	9683 0765
	Environmental Officer	Margaret Chung	9130 3696

Party	Position	Name	Telephone	
Reclamation Works:				
Contract 3206 (ZHEC-CCCC-CDC Joint Venture)	Project Manager	Kim Chuan Lim	3693 2288	
	Environmental Officer	Kwai Fung Wong	3693 2252	

1.4 Summary of Construction Works

The key activities of the Project carried out in the reporting period included five DCM contracts, an advanced works contract and a reclamation contract. The DCM contracts involved DCM works and trials, site office establishment, laying of geotextile and sand blanket; the advanced works contract involved HDD works and pipeline supporting works; and the reclamation contract involved site office establishment and laying of sand blanket.

The active construction site is around 3 km and 900m away from the nearest air and noise sensitive receivers in Tung Chung and the villages in North Lantau. The locations of the works areas are presented in **Figure 1.1** to **Figure 1.2**.

1.5 Summary of EM&A Programme Requirements

The status for all environmental aspects is presented **Table 1.2**. The EM&A requirements remained unchanged during the reporting period and details can be referred to Table 1.2 of the Construction Phase Monthly EM&A Report No. 1.

Table 1.2: Summary of status for all environmental aspects under the Updated EM&A Manual

Parameters	Status
Air Quality	
Baseline Monitoring	The baseline air quality monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.
Impact Monitoring	On-going
Noise	
Baseline Monitoring	The baseline noise monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.
Impact Monitoring	On-going
Water Quality	
General Baseline Water Quality Monitoring for reclamation, water jetting and field joint works	The baseline water quality monitoring result has been reported in Baseline Water Quality Monitoring Report and submitted to EPD under EP Condition 3.4.
General Impact Water Quality Monitoring for reclamation, water jetting and field joint works	On-going
Initial Intensive Deep Cement Mixing (DCM) Water Quality Monitoring	Initially started in late March 2017. Due to the changes in DCM works areas, the monitoring programme is subject to review.
Early/ Regular DCM Water Quality Monitoring	On-going
Waste Management	
Waste Monitoring	On-going
Land Contamination	
Supplementary Contamination Assessment Plan (CAP)	To be submitted with the relevant construction works.

Contamination Assessment Report Th (CAR) for Golf Course	e CAR for Golf Course was submitted to EPD.
Terrestrial Ecology	
	e revised Egretry Survey Plan was submitted and approved by EPD under Condition 2.14.
Ecological Monitoring Or	n-going
Marine Ecology	
	ne Coral Translocation Plan was submitted and approved by EPD under EP ondition 2.12.
Coral Translocation Th	e coral translocation was completed.
Post-Translocation Coral Monitoring Or	n-going
Chinese White Dolphins (CWD)	
Vessel Survey, Land-based Theodolite Tracking and Passive Acoustic Monitoring (PAM)	
	seline CWD results were reported in the CWD Baseline Monitoring Report d submitted to EPD in accordance with EP Condition 3.4.
Impact Monitoring Or	n-going
Landscape & Visual	
	ne baseline landscape & visual monitoring result has been reported in aseline Monitoring Report and submitted to EPD under EP Condition 3.4.
Impact Monitoring Or	n-going
Environmental Auditing	
Regular site inspection Or	n-going
Marine Mammal Watching Plan Or (MMWP) implementation measures	n-going
Dolphin Exclusion Zone Plan (DEZP) Or implementation measures	n-going
SkyPier High Speed Ferries (HSF) Or implementation measures	n-going
Construction and Associated Vessels Or Implementation measures	n-going
Complaint Hotline and Email channel Or	n-going
Environmental Log Book Or	n-going

Taking into account the construction works in this reporting month, impact monitoring of air quality, noise, water quality, waste management, ecology and CWD were carried out in the reporting month.

The EM&A programme also involved weekly site inspections and related auditing conducted by the ET for checking the implementation of the required environmental mitigation measures recommended in the approved EIA Report. In order to enhance environmental awareness and closely monitor the environmental performance of the contractors, environmental briefings and regular environmental management meetings were conducted.

The EM&A programme has been following the recommendations presented in the approved EIA Report and the Manual. A summary of implementation status of the environmental mitigation measures for the construction phase of the Project during the reporting period is provided in **Appendix B**.

2 Air Quality Monitoring

2.1 Monitoring Stations

Air quality monitoring was conducted at two representative monitoring stations in the vicinity of air sensitive receivers in Tung Chung and villages in North Lantau in accordance with the Manual. **Table 2.1** describes the details of the monitoring stations. **Figure 2.1** shows the locations of the monitoring stations.

Table 2.1: Locations of Impact Air Quality Monitoring Stations

Monitoring Station	Location
AR1A	Man Tung Road Park
AR2	Village House at Tin Sum

2.2 Monitoring Requirements and Schedule

In accordance with the Manual, baseline 1-hour total suspended particulate (TSP) levels at the two air quality monitoring stations were established as presented in the Baseline Monitoring Report. Impact 1-hour TSP monitoring was conducted for three times every 6 days. The Action and Limit Levels of the air quality monitoring stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme are provided in **Table 2.2**.

The air quality monitoring schedule involved in the reporting period is provided in **Appendix C**.

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

Monitoring Station	Action Level (μg/m³)	Limit Level (μg/m³)
AR1A	306	500
AR2	298	

2.3 Monitoring Equipment

Portable direct reading dust meter was used to carry out the 1-hour TSP monitoring. Details of equipment are given in **Table 2.3**.

Table 2.3: Air Quality Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date
Portable direct reading dust meter (Laser dust monitor)	SIBATA LD-3B-002 (Serial No. 974350)	26 Oct 2016

2.4 Monitoring Methodology

2.4.1 Measuring Procedure

The measurement procedures involved in the impact 1-hr TSP monitoring can be summarised as follows:

a. The portable direct reading dust meter was mounted on a tripod at a height of 1.2 m above the ground.

- b. Prior to the measurement, the equipment was set up for 1 minute span check and 6 second background check.
- c. The one hour dust measurement was started. Site conditions and dust sources at the nearby area were recorded on a record sheet.
- d. When the measurement completed, the "Count" reading per hour was recorded for result calculation.

2.4.2 Maintenance and Calibration

The portable direct reading dust meter is calibrated every year against high volume sampler (HVS) to check the validity and accuracy of the results measured by direct reading method. The calibration certificates of the portable direct reading dust meter and calibration record of the HVS provided in Appendix B of the Construction Phase Monthly EM&A Report No.11 are still valid. Any updates of calibration certificates will be reported in the Monthly EM&A report if necessary.

2.5 Analysis and Interpretation of Monitoring Results

The monitoring results for 1-hour TSP are summarized in **Table 2.4**. Detailed impact monitoring results are presented in **Appendix D**.

Table 2.4: Summary of 1-hour TSP Monitoring Results

Monitoring Station	1-hr TSP Concentration Range (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
AR1A	33 - 193	306	500
AR2	16 - 112	298	_

No exceedance of the Action / Limit Level was recorded at all monitoring stations in the reporting period.

General meteorological conditions throughout the impact monitoring period were recorded. Wind data for each monitoring day including wind speed and wind direction was collected from the Chek Lap Kok Wind Station.

3 Noise Monitoring

3.1 Monitoring Stations

Noise monitoring was conducted at five representative monitoring stations in the vicinity of noise sensitive receivers in Tung Chung and villages in North Lantau in accordance with the Manual. **Figure 2.1** shows the locations of the monitoring stations and these are described in **Table 3.1** below. As described in Section 4.3.3 of the Manual, monitoring at NM2 will commence when the future residential buildings in Tung Chung West Development become occupied.

Table 3.1: Locations of Impact Noise Monitoring Stations

Monitoring Station	Location	Type of measurement
NM1A	Man Tung Road Park	Free field
NM2 ⁽¹⁾	Tung Chung West Development	To be determined
NM3A	Site Office	Facade
NM4	Ching Chung Hau Po Woon Primary School	Free field
NM5	Village House in Tin Sum	Free field
NM6	House No. 1, Sha Lo Wan	Free field

Note: (1) As described in Section 4.3.3 of the Manual, noise monitoring at NM2 will only commence after occupation of the future Tung Chung West Development.

3.2 Monitoring Requirements and Schedule

In accordance with the Manual, baseline noise levels at the noise monitoring stations were established as presented in the Baseline Monitoring Report. Impact noise monitoring was conducted once per week in the form of 30-minute measurements of L_{eq} , L_{10} and L_{90} levels recorded at each monitoring station between 0700 and 1900 on normal weekdays. The Action and Limit levels of the noise monitoring stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme are provided in **Table 3.2**. The construction noise monitoring schedule involved in the reporting period is provided in **Appendix C**.

Table 3.2: Action and Limit Levels for Construction Noise

Monitoring Stations	Time Period	Action Level	Limit Level, L _{eq(30mins)} dB(A)
NM1A, NM2, NM3A, NM4, NM5 and NM6	0700-1900 hours on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	75 dB(A) ⁽ⁱ⁾

Note: (i) reduce to 70dB(A) for school and 65dB(A) during school examination periods.

3.3 Monitoring Equipment

Noise monitoring was performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was used to check the sound level meters by a known sound pressure level for field measurement. Details of equipment are given in **Table 3.3**.

Table 3.3: Noise Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date
Integrated Sound Level Meter	B&K 2238 (Serial No. 2800932)	19 Jul 2016
	B&K 2238 (Serial No. 2381580)	8 Sep 2016
Acoustic Calibrator	B&K 4231 (Serial No. 3003246)	16 May 2016
	B&K 4231 (Serial No. 3004068)	19 Jul 2016

3.4 Monitoring Methodology

3.4.1 Monitoring Procedure

The monitoring procedures involved in the noise impact monitoring can be summarised as follows:

- a. The sound level meter was set on a tripod at least a height of 1.2 m above the ground for free-field measurements at monitoring stations NM1A, NM4, NM5 and NM6. A correction of +3 dB(A) was applied to the free field measurements.
- b. Façade measurements were made at the monitoring station NM3A.
- c. Parameters such as frequency weighting, time weighting and measurement time were set.
- d. Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator. If the difference in the calibration level before and after measurement was more than 1 dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- e. During the monitoring period, L_{eq} , L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a record sheet.
- f. Noise measurement results were corrected with reference to the baseline monitoring levels.
- g. Observations were recorded when high intrusive noise (e.g. dog barking, helicopter noise) was observed during the monitoring.

3.4.2 Maintenance and Calibration

The maintenance and calibration procedures are summarised below:

- a. The microphone head of the sound level meter was cleaned with soft cloth at regular intervals.
- b. The meter and calibrator were sent to the supplier or laboratory accredited under Hong Kong Laboratory Accreditation Scheme (HOKLAS) to check and calibrate at yearly intervals.

Calibration certificates of the sound level meters and acoustic calibrators used in the noise monitoring provided in Appendix B of the Construction Phase Monthly EM&A Report No.8 & 9 are still valid. Any updates of calibration certificates will be reported in the Monthly EM&A report if necessary.

3.5 Analysis and Interpretation of Monitoring Results

The construction noise monitoring results are summarized in **Table 3.4** and the detailed monitoring data are provided in **Appendix D**.

Table 3.4: Summary of Construction Noise Monitoring Results

Monitoring Station	Noise Level Range, dB(A)	Limit Level, dB(A)	
	Leq (30 mins)	Leq (30 mins)	
NM1A ⁽ⁱ⁾	71 - 73	75	
NM3A	57 - 63	75	
NM4 ⁽ⁱ⁾	60 - 66	70 ⁽ⁱⁱ⁾	
NM5 ⁽ⁱ⁾	53 - 61	75	
NM6 ⁽ⁱ⁾	66 - 70	75	

Note: (i) +3 dB(A) Façade correction included;

(ii) Reduced to 65 dB(A) during school examination periods at NM4 from 27 to 31 March 2017.

As the construction activities were far away from the monitoring stations, major sources of noise dominating the monitoring stations observed during the construction noise impact monitoring were road traffic noise at NM1A, aircraft noise at NM3A, school activities at NM4, helicopter noise and dog barking at NM5, and aircraft, helicopter, and marine vessel noise at NM6 in this reporting month.

No exceedance of the Action/ Limit Level was recorded at all monitoring stations in the reporting period.

4 Water Quality Monitoring

4.1 Monitoring Stations

Water quality monitoring was conducted at a total of 22 water quality monitoring stations, comprising 12 impact stations, seven sensitive receiver stations and three control stations in the vicinity of water quality sensitive receivers around the airport island in accordance with the Manual. **Table 4.1** describes the details of the monitoring stations. **Figure 3.1** shows the locations of the monitoring stations.

Table 4.1: Monitoring Locations and Parameters for Impact Water Quality Monitoring

Monitoring	Description	Coordinates		Parameters
Stations		Easting	Northing	
C1	Control	804247	815620	DO, pH, Temperature,
C2	Control	806945	825682	Salinity, Turbidity, SS, Total Alkalinity, Heavy
C3 ⁽³⁾	Control	817803	822109	Metals ⁽²⁾
IM1	Impact	806458	818351	
IM2	Impact	806193	818852	
IM3	Impact	806019	819411	
IM4	Impact	805039	819570	
IM5	Impact	804924	820564	
IM6	Impact	805828	821060	
IM7	Impact	806835	821349	
IM8	Impact	807838	821695	
IM9	Impact	808811	822094	
IM10	Impact	809838	822240	
IM11	Impact	810545	821501	
IM12	Impact	811519	821162	
SR1 ⁽¹⁾	Future Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) Seawater Intake for cooling	812586	820069	DO, pH, Temperature, Salinity, Turbidity, SS
SR2 ⁽³⁾	Planned marine park / hard corals at The Brothers / Tai Mo To	814166	821463	
SR3	Sha Chau and Lung Kwu Chau Marine Park / fishing and spawning grounds in North Lantau	807571	822147	
SR4A	Sha Lo Wan	807810	817189	
SR5A	San Tau Beach SSSI	810696	816593	
SR6	Tai Ho Bay, Near Tai Ho Stream SSSI	814663	817899	
SR7	Ma Wan Fish Culture Zone (FCZ)	823742	823636	
SR8	Seawater Intake for cooling at Hong Kong International Airport (East)	811593	820417	

Notes:

⁽i) The seawater intakes of SR1 for the future HKBCF is not yet in operation, hence no water quality impact monitoring was conducted at this station. The future permanent location for SR1 during impact monitoring is subject to finalisation after the HKBCF seawater is commissioned.

4.2 **Monitoring Requirements and Schedule**

In accordance with the Manual, baseline water quality levels at the abovementioned representative water quality monitoring stations were established as presented in the Baseline Water Quality Monitoring Report.

General water quality monitoring were conducted three days per week, at mid-flood and mid-ebb tides, at the 22 water quality monitoring stations during the reporting period. The sea conditions varied from calm to rough, and the weather conditions varied from sunny to rainy during the monitoring period.

Early regular DCM water quality monitoring were conducted three days per week, at mid-flood and mid-ebb tides, at the 22 water quality monitoring stations from 1 to 21 March 2017. It was suspended after 21 March 2017 because initial intensive DCM monitoring was tentatively started in late March 2017.

The water quality monitoring schedule for the reporting period is provided in **Appendix C**.

Action and Limit Levels for Water Quality Monitoring

The Action and Limit Levels for general water quality monitoring and regular DCM monitoring stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme are presented in Table 4.2. The control and impact stations during flood tide and ebb tide for general water quality monitoring and regular DCM monitoring are presented in Table 4.3.

Table 4.2: Action and Limit Levels for General Water Quality Monitoring and Regular DCM Monitoring

Parameters	Action Level (A	ıL)	Limit Level	(LL)
Action and Limit Levels for gene (excluding SR1& SR8)	ral water quality mo	onitoring and regula	r DCM monitori	ng
DO in mg/L	Surface and Middle		Surface and M	liddle
(Surface, Middle & Bottom)	4.5 mg/L		4.1 mg/L	
			5 mg/L for Fish Culture Zone (SR7) only	
	Bottom		Bottom	
	3.4 mg/L		2.7 mg/L	
Suspended Solids (SS) in mg/L	23	or 120% of upstream control station at the same tide of the same day, whichever is higher	37	or 130% of
Turbidity in NTU	22.6		36.1	upstream control station at the
Total Alkalinity in ppm	95		99	same tide of the
Representative Heavy Metals for early regular DCM monitoring (Chromium)	0.2		0.2	same day, whichever is higher
Representative Heavy Metals for early regular DCM monitoring (Nickel)	3.2		3.6	

⁽²⁾ Details of selection criteria for the two heavy metals for early regular DCM monitoring refer to the Detailed Plan on Deep Cement Mixing available on the dedicated 3RS website http://env.threerunwaysystem.com/en/ep-submissions.html). DCM specific water quality monitoring parameters (total alkalinity and heavy metals) were only conducted at C1 to C3, SR2, and IM1 to IM12.

⁽³⁾ According to the Baseline Water Quality Monitoring Report, C3 station is not adequately representative as a control station of impact/ SR stations during the flood tide. The control reference has been changed from C3 to SR2 from 1 September 2016 onwards.

Parameters	Action Level (AL)	Limit Level (LL)
Action and Limit Levels	SR1	
SS (mg/l)	To be determined prior to its commissioning	To be determined prior to its commissioning
Action and Limit Levels	SR8	
SS (mg/l)	52	60

Notes

Table 4.3: The Control and Impact Stations during Flood Tide and Ebb Tide for General Water Quality Monitoring and Regular DCM Monitoring

Control Station	Impact Stations
Flood Tide	
C1	IM1, IM2, IM3, IM4, IM5, IM6, IM7, IM8, SR3
SR2 ^{^1}	IM7, IM8, IM9, IM10, IM11, IM12, SR1A, SR3, SR4A, SR5A, SR6, SR8
Ebb Tide	
C1	SR4A, SR5A, SR6
C2	IM1, IM2, IM3, IM4, IM5, IM6, IM7, IM8, IM9, IM10, IM11, IM12, SR1A, SR2, SR3, SR7, SR8

^{^1} As per findings of Baseline Water Quality Monitoring Report, the control reference has been changed from C3 to SR2 from 1 Sep 2016 onwards.

4.3 Monitoring Equipment

Table 4.4 summarises the equipment used for monitoring of specific water quality parameters under the impact water quality monitoring programme.

Table 4.4: Water Quality Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date
Multifunctional Meter (measurement	YSI 6920 V2 (serial no. 11F100014)	4 Jan 2017
of DO, pH, temperature, salinity and turbidity)	YSI 6920 V2 (serial no. 16G104518)	4 Jan 2017
(6.2.6.4)	YSI 6920 V2 (serial no. 0001C6A7)	4 Jan 2017
	YSI 6920 (serial no. 000109DF)	4 Jan 2017
Digital Titrator (measurement of total alkalinity)	Titrette Digital Burette 50ml Class A (serial no.10N65665)	5 Jan 2017

Other equipment used as part of the impact water quality monitoring programme are listed in **Table 4.5**

Table 4.5: Other Monitoring Equipment

Equipment	Brand and Model
Water Sampler	Van Dorn Water Sampler
Positioning Device (measurement of GPS)	Garmin eTrex Vista HCx
Current Meter (measurement of current speed and direction, and water depth)	Sontek HydroSurveyor

⁽¹⁾ For DO measurement, non-compliance occurs when monitoring result is lower than the limits.

⁽²⁾For parameters other than DO, non-compliance of water quality results when monitoring results is higher than the limits.

⁽³⁾Depth-averaged results are used unless specified otherwise.

⁽⁴⁾ Details of selection criteria for the two heavy metals for early regular DCM monitoring refer to the Detailed Plan on Deep Cement Mixing available on the dedicated 3RS website http://env.threerunwaysystem.com/en/ep-submissions.html)

⁽⁵⁾The action and limit levels for the two representative heavy metals chosen will be the same as that for the intensive DCM monitoring.

4.4 Monitoring Methodology

4.4.1 Measuring Procedure

Water quality monitoring samples were taken at three depths (at 1m below surface, at mid-depth, and at 1m above bottom) for locations with water depth >6m. For locations with water depth between 3m and 6m, water samples were taken at two depths (surface and bottom). For locations with water depth <3m, only the mid-depth was taken. Duplicate water samples were taken and analysed.

The water samples for all monitoring parameters were collected, stored, preserved and analysed according to the Standard Methods, APHA 22nd ed. and/or other methods as agreed by the EPD. In-situ measurements at monitoring locations including temperature, pH, DO, turbidity, salinity and water depth were collected by equipment listed in **Table 4.4** and **Table 4.5**. Water samples for heavy metals and SS analysis were stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4 °C without being frozen), delivered to the laboratory within 24 hours of collection.

4.4.2 Maintenance and Calibration

Calibration of In-situ Instruments

All in-situ monitoring instrument were checked, calibrated and certified by a laboratory accredited under HOKLAS before use. Responses of sensors and electrodes were checked with certified standard solutions before each use.

Wet bulb calibration for a DO meter was carried out before commencement of monitoring and after completion of all measurements each day. Calibration was not conducted at each monitoring location as daily calibration is adequate for the type of DO meter employed. A zero check in distilled water was performed with the turbidity probe at least once per monitoring day. The probe was then calibrated with a solution of known NTU. In addition, the turbidity probe was calibrated at least twice per month to establish the relationship between turbidity readings (in NTU) and levels of suspended solids (in mg/L). Accuracy check of the digital titrator was performed at least once per monitoring day.

Calibration certificates of the monitoring equipment used in the monitoring provided in Appendix B of the Construction Phase Monthly EM&A Report No.13 are still valid. Any updates of calibration certificates will be reported in the Monthly EM&A report if necessary.

4.4.3 Laboratory Measurement / Analysis

Analysis of SS and heavy metals have been carried out by a HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd (Reg. No. HOKLAS 066). Sufficient water samples were collected at all the monitoring stations for carrying out the laboratory SS and heavy metals determination. The SS and heavy metals determination works were started within 24 hours after collection of the water samples. The analysis of SS and heavy metals have followed the standard methods summarised in **Table 4.6.** The QA/QC procedures for laboratory measurement/ analysis of SS and heavy metals were presented in Appendix F of the Construction Phase Monthly EM&A Report No.8.

Table 4.6: Laboratory Measurement/ Analysis of SS and Heavy Metals

Parameters	Instrumentation	Analytical Method	Reporting Limit
Suspended Solid (SS)	Analytical Balance	APHA 2540D	2 mg/L
Heavy Metals			
Chromium (Cr)	ICP-MS	USEPA 6020A	0.2 μg/L
Nickel (Ni)	ICP-MS	USEPA 6020A	0.2 μg/L

4.5 Analysis and Interpretation of Monitoring Results

4.5.1 Summary of Monitoring Results

The water quality monitoring results for DO, total alkalinity, and chromium obtained during the reporting period were in compliance with their corresponding Action and Limit Levels. For turbidity, SS and nickel, some of the testing results exceeded the relevant Action or Limit Levels. Details of the exceedances are presented in **Section 4.5.2**.

4.5.2 Summary of Findings for Investigation of Exceedances

During the reporting month, water quality monitoring was conducted at 12 impact stations (IM), seven sensitive receiver (SR) stations and three control stations in accordance with the Manual. The purpose of water quality monitoring at the IM stations is to promptly capture any potential water quality impacts from the Project before the impacts could become apparent at sensitive receivers (represented by the SR stations).

During the monitoring period in March 2017, testing results exceeding the corresponding Action or Limit Levels were recorded on five monitoring days. Details of the exceedance cases are presented below.

Findings for Turbidity Exceedances (Mid-Flood Tide)

Table 4.7 presents a summary of the turbidity compliance status at IM and SR stations during mid-flood tide for the reporting month.

Table 4.7: Summary of Turbidity Compliance Status at IM and SR Stations (Mid-Flood Tide)

Date	IM1	IM2	IM3	IM4	IM5	IM6	IM7	IM8	IM9	IM10	IM11	IM12	SR2	SR3	SR4A	SR5A	SR6	SR7	SR8
02/03/2017												<i>///////</i>							
04/03/2017																			
07/03/2017																			
09/03/2017																			
11/03/2017																			
15/03/2017																			
17/03/2017																			
19/03/2017																			
21/03/2017																			
23/03/2017																			
25/03/2017																			
28/03/2017																			
30/03/2017																			
No. of Turbidity Exceedances	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0

Note: Detailed results are presented in **Appendix D**. Legend:

No exceedance of Action Level and Limit Level

Exceedance of Action Level recorded at monitoring station located downstream of the 3RS Project based on dominant tidal flow

Exceedance of Action Level recorded at monitoring station located upstream of the 3RS Project based on dominant tidal flow

Upstream station with respect to 3RS Project during the respective tide based on dominant tidal flow

IM Stations

As shown in **Table 4.7**, exceedances of Action Level at IM stations were recorded on 2 March 2017. Repeat turbidity measurement was conducted at IM10, IM11 and IM12 on 3 March 2017 during flood tide in accordance with the Event and Action Plan of the Manual. The exceedances recorded at IM11 and IM12 on 2 March 2017 were located upstream of the 3RS Project during flood tide. As such upstream stations would unlikely be affected by the Project, the investigation focused on the exceedance at IM station located downstream of the Project and hence might be affected by the Project's construction activities.

As part of the investigation on the downstream exceedance event, details of the Project's marine construction activities on that monitoring day were collected, as well as any observations during the monitoring. The findings are summarised in **Table 4.8**.

Table 4.8: Summary of Findings from Investigations of Turbidity Exceedances during Mid-Flood Tide

Date	Marine construction works nearby	Approximate distance from marine construction works*	Status of water quality measures (if applicable)	Construction vessels in the vicinity	Turbidity / Silt plume observed near the monitoring station	Exceedance due to Project
02/03/2017	DCM works	Around 1km	Silt curtain deployed	No	No	No

Note

According to the investigation findings summarized in **Table 4.8**, it was confirmed that silt curtains were deployed for DCM works as additional measures and the silt curtains were maintained properly. Besides, high levels of turbidity were also recorded at nearby upstream stations (IM11 and IM12) on the same monitoring period. Given that IM11 and IM12 are located upstream of the Project during flood tide, and high turbidity levels were recorded at IM11 and IM12 (which would unlikely be affected by the Project), the exceedance at IM10 was possibly due to natural fluctuation in this area. Furthermore, no exceedance was recorded at other downstream monitoring stations, including IM9, which was closer to the active DCM works during the same monitoring period. Based on these findings, this exceedance was considered not due to the Project. No exceedance was recorded during the repeat turbidity measurements.

SR Stations

There was no turbidity exceedance recorded at SR Stations during the reporting period.

Findings for SS Exceedances (Mid-Ebb Tide)

Table 4.9 presents a summary of the SS compliance status at IM and SR stations during mid-ebb tide for the reporting month.

^{*}This refers to the approximate distance between the DCM works and the nearest monitoring stations with exceedance

Date IM1 IM2 IM3 IM4 IM5 IM6 IM7 IM8 IM9 IM10 IM11 IM12 SR2 SR3 SR4A SR5A SR6 SR7 SR8 02/03/2017 04/03/2017 07/03/2017 09/03/2017 11/03/2017 15/03/2017 17/03/2017 19/03/2017 21/03/2017 23/03/2017 25/03/2017 28/03/2017 30/03/2017 No. of SS 0 0 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 Exceedances

Table 4.9: Summary of SS Compliance Status at IM and SR Stations (Mid-Ebb Tide)

Note: Detailed results are presented in Appendix D.

Legend:

No exceedance of Action Level and Limit Level

Exceedance of Action Level recorded at monitoring station located downstream of the 3RS Project based on dominant tidal flow

Exceedance of Action Level recorded at monitoring station located upstream of the 3RS Project based on dominant tidal flow

Upstream station with respect to 3RS Project during the respective tide based on dominant tidal flow

IM Stations

As shown in **Table 4.9**, exceedances of Action Levels at IM stations were recorded on two monitoring days. However, all of the exceedances occurred at monitoring stations which were located upstream of the 3RS Project during ebb tide and would unlikely be affected by the Project. Nevertheless as a prudent measure, the Project's activities on these monitoring days were investigated and it was confirmed that silt curtains were deployed and maintained properly.

SR Stations

17/03/2017

There was no SS exceedance recorded at SR stations during ebb tide in the reporting period.

Findings for SS Exceedances (Mid-Flood Tide)

Table 4.10 presents a summary of the SS compliance status at IM and SR stations during midflood tide for the reporting month.

Date IM1 IM2 IM3 IM4 IM5 IM6 IM7 IM8 IM9 IM10 IM11 IM12 SR2 SR3 SR4A SR5A SR6 SR7 SR8

02/03/2017

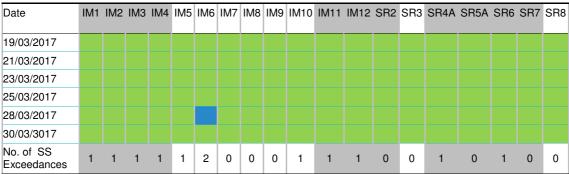
04/03/2017

09/03/2017

11/03/2017

15/03/2017

Table 4.10: Summary of SS Compliance Status at IM and SR Stations (Mid-Flood Tide)



Note: Detailed results are presented in Appendix D.

Legend:

No exceedance of Action Level and Limit Level

Exceedance of Action Level recorded at monitoring station located downstream of the 3RS Project based on dominant tidal flow

Exceedance of Action Level recorded at monitoring station located upstream of the 3RS Project based on dominant tidal flow

Exceedance of Limit Level recorded at monitoring station located downstream of the 3RS Project based on dominant tidal flow

Exceedance of Limit Level recorded at monitoring station located upstream of the 3RS Project based on dominant tidal flow

Upstream station with respect to 3RS Project during the respective tide based on dominant tidal flow

IM Stations

As shown in **Table 4.10**, exceedances of Action or Limit Levels at IM stations were recorded on four monitoring days. Some exceedances occurred at monitoring stations which were located upstream of the 3RS Project during flood tide. As such upstream stations would unlikely be affected by the Project, the investigation focused on the exceedances at IM stations located downstream of the Project and hence might be affected by the Project's construction activities.

As part of the investigation on the downstream exceedance events, details of the Project's marine construction activities on these monitoring days were collected, as well as any observations during the monitoring. The findings are summarised in **Table 4.11**.

Table 4.11: Summary of Findings from Investigations of SS Exceedances during Mid-Flood Tide

Date	Marine construction works nearby	Approximate distance from marine construction works*	Status of water quality measures (if applicable)	Construction vessels in the vicinity	Turbidity / Silt plume observed near the monitoring station	Exceedance due to Project
02/03/2017	DCM works	Around 1km	Silt curtain deployed	No	No	No
15/03/2017	DCM works	Around 1km	Silt curtain deployed	No	No	No
28/03/2017	DCM works	Around 1km	Silt curtain deployed	No	No	No

According to the investigation findings summarized in **Table 4.11**, it was confirmed that silt curtains were deployed for DCM works as additional measures and the silt curtains were maintained properly.

For the exceedance at IM10 on 2 March 2017, it is noted from **Table 4.10** that the exceedance appeared to be an isolated case with no observable temporal and spatial trend to indicate any effect due to Project activities. Furthermore, no exceedance was recorded at other downstream monitoring stations, including IM9, which was closer to active DCM works during the same

monitoring period. Based on these findings, the exceedance was considered not due to the Project.

For the exceedances at IM5 and IM6 on 15 March 2017, high level of SS was also recorded at nearby upstream station (IM4) on the same monitoring period. Given that IM4 is located upstream of the Project during flood tide, and high SS level was recorded at IM4 (which would unlikely be affected by the Project), the exceedances at IM5 and IM6 were possibly due to natural fluctuation in this area. Based on these findings, these exceedances were considered not due to the Project.

For the exceedance at IM6 on 28 March 2017, it is noted from **Table 4.10** that the exceedance appeared to be an isolated case with no observable temporal and spatial trend to indicate any effect due to Project activities. Furthermore, no exceedance was recorded at other downstream monitoring stations, including IM5, which was closer to active DCM works during the same monitoring period. Based on these findings, the exceedance was considered not due to the Project.

SR Stations

At SR stations, exceedances were observed at SR4A and SR6 on one monitoring day. However, these stations are located upstream of the Project during flood tide, and there were no project-related SS exceedances at any IM stations on that monitoring day, hence the exceedances at these stations were unlikely to be due to the Project. The exceedances at SR4A and SR6 might be due to natural fluctuation.

Findings for Nickel Exceedances (Mid-Flood Tide)

Table 4.12 presents a summary of the nickel compliance status at IM stations during mid-flood tide for the reporting month.

Date IM₂ IM₃ IM4 IM5 IM₆ IM7 IM8 IM9 IM10 **IM11** IM12 02/03/2017 04/03/2017 07/03/2017 09/03/2017 11/03/2017 15/03/2017 17/03/2017 19/03/2017 21/03/2017 No. of Nickel 0 0 0 0 0 0 n 1 0 n 0 0 Exceedances

Table 4.12: Summary of Nickel Compliance Status at IM Stations (Mid-Flood Tide)

Note: The initial intensive DCM monitoring was tentatively started in late March 2017 and since then the early regular DCM monitoring had been suspended according to the approved Detailed Plan on DCM. However, the initial intensive DCM monitoring could not be continued as planned due to changes in DCM works areas. Therefore, continuation of the initial intensive DCM monitoring is subject to review, and the early regular DCM monitoring will be resumed in April 2017. Detailed results are presented in **Appendix D**.

Legend:

No exceedance of Action Level and Limit Level

Exceedance of Action Level recorded at monitoring station located downstream of the 3RS Project based on dominant tidal flow

Exceedance of Action Level recorded at monitoring station located upstream of the 3RS Project based on dominant tidal flow

Upstream station with respect to 3RS Project during the respective tide based on dominant tidal flow

IM Stations

As shown in **Table 4.12**, an exceedance of Action Level at IM8 was recorded on one monitoring day. As it is a located downstream of the Project during flood tide which might be affected by the Project's construction activities, exceedance investigation was carried out.

As part of the investigation on the downstream exceedance events, details of the Project's marine construction activities on the monitoring day were collected, as well as any observations during the monitoring. The findings are summarised in **Table 4.13**.

Table 4.13: Summary of Findings from Investigations of Nickel Exceedances during Mid-Flood Tide

Date	Marine construction works nearby	Approximate distance from marine construction works*	Status of water quality measures (if applicable)	Construction vessels in the vicinity	Turbidity / Silt plume observed near the monitoring station	Exceedance due to Project
21/03/2017	DCM works	Around 500m	Silt curtain deployed	No	No	No

According to the investigation findings summarized in **Table 4.13**, it was confirmed that silt curtains were deployed for DCM works as additional measures and the silt curtains were maintained properly.

For the exceedance at IM8 on 21 March 2017, it is noted from **Table 4.12** that the exceedance appeared to be an isolated case with no observable temporal and spatial trend to indicate any effect due to Project activities. Furthermore, no exceedance was recorded at other downstream monitoring stations. Based on these findings, the exceedance was considered not due to the Project.

Conclusions

Based on the findings of the exceedance investigations, it is concluded that the exceedances were not due to the Project. Hence no SR stations were adversely affected by the Project. All required actions under the Event and Action Plan were followed. Exceedances appeared to be due to natural fluctuation (such as naturally high baseline SS levels at individual SR stations) or other sources not related to the Project.

Nevertheless, recognising that the IM stations represent a 'first line of defence', the non-project related exceedances identified at IM stations were attended to as a precautionary measure. As part of the EM&A programme, the construction methods and mitigation measures for water quality will continue to be monitored and opportunities for further enhancement will continue to be explored and implemented where possible, to strive for better protection of water quality and the marine environment.

In the meantime, the contractors were reminded to implement and maintain all mitigation measures during weekly site inspection and regular environmental management meetings. These include maintaining mitigation measures for DCM works and sand blanket laying works properly as recommended in the Manual.

5 Waste Management

5.1 Monitoring Requirements

In accordance with the Manual, the waste generated from construction activities was audited once per week to determine if wastes are being managed in accordance with the Waste Management Plan (WMP) prepared for the Project, contract-specific WMP, and any statutory and contractual requirements. All aspects of waste management including waste generation, storage, transportation and disposal were assessed during the audits. The Action and Limit levels of the construction waste are provided in **Table 5.1**.

Table 5.1: Action and Limit Levels for Construction Waste

Monitoring Stations	Action Level	Limit Level
Construction Area	When one valid documented complaint is received	Non-compliance of the WMP, contract-specific WMPs, any statutory and contractual requirements

5.2 Waste Management Status

Weekly monitoring on all works contracts were carried out by the ET to check and monitor the implementation of proper waste management practices during the construction phase.

Recommendations including provision and maintenance of spill kits and provision of chemical waste storage area for chemical waste. In addition, the relevant contractors were reminded to provide recycling bins for the segregation of recyclables from general refuse. The contractors had taken actions to implement the recommended measures.

Based on the Contractor's information, about 789m³ of excavated materials were produced from the HDD launching site and Sheung Sha Chau under P560(R) in March 2017. The generated excavated materials were temporarily stored at the stockpiling area. The excavated material will be reused in the Project.

Based on the updated information, around 185m³ of Construction and Demolition (C&D) material generated from the DCM contracts for site office establishment was disposed of as public fill in February 2017.

Around 27 tonnes of general refuse was disposed of to the WENT Landfill by the advanced works contract and DCM contracts in March 2017. Around 718m³ of Construction and Demolition (C&D) material generated from the DCM contracts for site office establishment was disposed of as public fill in the reporting month. No chemical waste was disposed off-site during the reporting month.

No exceedances of the Action or Limit Levels were recorded in the reporting period.

6 Chinese White Dolphin Monitoring

6.1 CWD Monitoring Requirements

In accordance with the Manual, Chinese White Dolphin (CWD) monitoring by small vessel line-transect survey supplemented by land-based theodolite tracking and passive acoustic monitoring should be conducted during construction phase.

The small vessel line-transect survey as proposed in the Manual should be conducted at a frequency of two full survey per month while land-based theodolite tracking should be conducted at a frequency of one day per month per station during the construction phase. In addition to the land-based theodolite tracking required for impact monitoring as stipulated in the Manual, supplemental theodolite tracking have also been conducted during the implementation for the SkyPier HSF diversion and speed control in order to assist in monitoring the effectiveness of these measures, i.e. in total twice per month at the Sha Chau station and three times per month at the Lung Kwu Chau station.

The Action Level (AL) and Limit Level (LL) for CWD monitoring were formulated by the action response approach using the running quarterly dolphin encounter rates STG and ANI derived from the baseline monitoring data, as presented in the CWD Baseline Monitoring Report. The derived values of AL and LL for CWD monitoring were summarized in **Table 6.1**.

Table 6.1: Derived Values of Action Level (AL) and Limit Level (LL) for Chinese White Dolphin Monitoring

NEL, I	NWL, A	W, WL	. and SWL	. as a	Whole
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Action Level	Running quarterly* STG < 1.86 & ANI < 9.35
Limit Level	Two consecutive running quarterly [^] (3-month) STG < 1.86 & ANI < 9.35

[Notes for Table 6.1 (referring to the baseline monitoring report):

*Action Level – running quarterly STG & ANI will be calculated from the three preceding survey months. For CWD monitoring for March 2017, data from 1 January 2017 to 31 March 2017 will be used to calculate the running quarterly encounter rates STG & ANI:

^Limit Level – two consecutive running quarters mean both the running quarterly encounter rates of the preceding month February 2017 (calculated by data from December 2016 to February 2017) and the running quarterly encounter rates of this month (calculated by data from January 2017 to March 2017).

AL and/or LL will be exceeded if both STG and ANI fall below the criteria.]

6.2 CWD Monitoring Transects and Stations

6.2.1 Small Vessel Line-transect Survey

Small vessel line-transect surveys were conduct along the transects covering Northeast Lantau (NEL), Northwest Lantau (NWL), Airport West (AW), West Lantau (WL) and Southwest Lantau (SWL) areas as proposed in the Manual, which are consistent with the Agriculture, Fisheries and Conservation Department (AFCD) long-term monitoring programme (except AW). The AW transect has not been previously surveyed in the AFCD programme due to the restrictions of HKIA Exclusion Zone, nevertheless, this transect was established during the EIA of the 3RS Project and refined in the Manual with the aim to collect project specific baseline information within the HKIA Approach Area to fill the data gap that was not covered by the AFCD programme. This provided a larger sample size for estimating the densities and patterns of movements in the broader study area of the project.

The planned vessel survey transect lines follow the waypoints set for construction phase monitoring as proposed in the Manual and depicted in **Figure 6.1** with the waypoint coordinates of all transect lines given in **Table 6.2**, which are subject to on-site refinement based on the actual survey conditions and constraints.

Table 6.2: Coordinates of Transect Lines in NEL, NWL, AW, WL and SWL Survey Areas

Vaypoint	Easting	Northing	Waypoint	Easting	Northing
		NE	L		
1S	813525	820900	6N	818568	824433
1N	813525	824657	7S	819532	821420
2S	814556	818449	7N	819532	824209
2N	814559	824768	8S	820451	822125
3S	815542	818807	8N	820451	823671
3N	815542	824882	9S	821504	822371
4S	816506	819480	9N	821504	823761
4N	816506	824859	10S	822513	823268
5S	817537	820220	10N	822513	824321
5N	817537	824613	118	823477	823402
6S	818568	820735	11N	823477	824613
		NV	۷L		
1S	804671	814577	5S	808504	821735
1N	804671	831404	5N	808504	828602
2Sb	805475	815457	6S	809490	822075
2Nb	805476	818571	6N	809490	825352
2Sa	805476	820770	7S	810499	822323
2Na	805476	830562	7N	810499	824613
3S	806464	821033	88	811508	821839
3N	806464	829598	8N	811508	824254
4S	807518	821395	9S	812516	821356
4N	807518	829230	9N	812516	824254
		A	W		
1W	804733	818205	2W	805045	816912
1E	806708	818017	2E	805960	816633
		W	L		
1W	800600	805450	7W	800400	811450
1E	801760	805450	7E	802400	811450
2W	800300	806450	8W	800800	812450
2E	801750	806450	8E	802900	812450
3W	799600	807450	9W	801500	813550
3E	801500	807450	9E	803120	813550
4W	799400	808450	10W	801880	814500
4E	801430	808450	10E	803700	814500
5W	799500	809450	11W	802860	815500
5E	801300	809450	12S/11E	803750	815500
6W	799800	810450	12N	803750	818500
6E	801400	810450			
		SV	VL .		
1S	802494	803961	6S	807467	801137
1N	802494	806174	6N	807467	808458
2S	803489	803280	7S	808553	800329

Waypoint	Easting	Northing	Waypoint	Easting	Northing
2N	803489	806720	7N	808553	807377
3S	804484	802509	8S	809547	800338
3N	804484	807048	8N	809547	807396
4S	805478	802105	9S	810542	800423
4N	805478	807556	9N	810542	807462
5S	806473	801250	108	811446	801335
5N	806473	808458	10N	811446	809436

6.2.2 Land-based Theodolite Tracking

Land-based theodolite tracking stations were set up at two locations, one facing east/south/west on the southern slopes of Sha Chau (SC), and the other facing north/northeast/northwest at Lung Kwu Chau (LKC). The stations (D and E) are depicted in **Figure 6.2** and shown in **Table 6.3** with position coordinates, height of station and approximate distance of consistent theodolite tracking capabilities for CWD.

Table 6.3: Land-based Survey Station Details

Stations	Location	Geographical Coordinates	Station Height (m)	Approximate Tracking Distance (km)
D	Sha Chau (SC)	22° 20' 43.5" N 113° 53' 24.66" E	45.66	2
E	Lung Kwu Chau (LKC)	22° 22' 44.83" N 113° 53' 0.2" E	70.40	3

6.3 CWD Monitoring Methodology

6.3.1 Small Vessel Line-transect Survey

Small vessel line-transect surveys provided data for density and abundance estimation and other assessments using distance-sampling methodologies, specifically, line-transect methods.

The surveys involved small vessel line-transect data collection and have been designed to be similar to, and consistent with, previous surveys for the AFCD for their long-term monitoring of small cetaceans in Hong Kong. The survey was designed to provide systematic, quantitative measurements of density, abundance and habitat use.

As mentioned in **Section 6.2.1**, the transects covered NEL, NWL covering the AW, WL and SWL areas as proposed in the Manual and are consistent with the AFCD long-term monitoring programme (except AW). There are two types of transect lines:

- Primary transect lines: the parallel and zigzag transect lines as shown in Figure 6.1; and
- Secondary transect lines: transect lines connecting between the primary transect lines and crossing islands.

All data collected on both primary and secondary transect lines were used for analysis of sighting distribution, group size, activities including association with fishing boat, and mother-calf pair. Only on-effort data collected under conditions of Beaufort 0-3 and visibility of approximately 1200 m or beyond were used for analysis of the CWD encounter rates.

A 15-20 m vessel with a flying bridge observation platform about 4 to 5 m above water level and unobstructed forward view, and a team of three to four observers were deployed to undertake the surveys. Two observers were on search effort at all times when following the transect lines with

a constant speed of 7 to 8 knots (i.e. 13 to 15 km per hour), one using 7X handheld binoculars and the other using unaided eyes and recording data.

During on-effort survey periods, the survey team recorded effort data including time, position (waypoints), weather conditions (Beaufort sea state and visibility) and distance travelled in each series with assistance of a handheld GPS device. The GPS device also continuously and automatically logged data including time, position (Latitude and longitude) and vessel speed throughout the entire survey.

When CWDs were seen, the survey team was taken off-effort, the dolphins were approached and photographed for photo-ID information (using a Canon 7D [or similar] camera and long 300 mm+ telephoto lens), then followed until they left the study area or were lost. At that point, the boat returned (off effort) to the next survey line and began to survey on effort again.

Focal follows of dolphins were conducted where practicable (i.e. when individual dolphins or small stable groups of dolphins with at least one member that could be readily identifiable with unaided eyes during observations and weather conditions are favourable). These involved the boat following (at an appropriate distance to minimize disturbance) an identifiable individual dolphin for an extended period of time, and collecting detailed data on its location, behaviour, response to vessels, and associates.

6.3.2 Photo Identification

CWDs can be identified by their unique features like presence of scratches, nick marks, cuts, wounds, deformities of their dorsal fin and distinguished colouration and spotting patterns.

When CWDs were observed, the survey team was taken off-effort, the dolphins were approached and photographed for photo-ID information (using a Canon 7D [or similar] camera and long 300 mm+ telephoto lens). The survey team attempted to photo both sides of every single dolphin in the group as the colouration and spotting pattern on both sides may not be identical. The photos were taken at the highest available resolution and stored on Compact Flash memory cards for transferring into a computer.

All photos taken were initially examined to sort out those containing potentially identifiable individuals. These sorted-out images would then be examined in detail and compared to the CWD photo-identification catalogue established for 3RS during the baseline monitoring stage.

6.3.3 Land-based Theodolite Tracking

Land-based monitoring obtains fine-scale information on the time of day and movement patterns of the CWDs. A digital theodolite (Sokkia/Sokkisha Model DT5 or similar equipment) with 30-power magnification and 5-s precision was used to obtain the vertical and horizontal angle of each dolphin and vessel position. Angles were converted to geographic coordinates (latitude and longitude) and data were recorded using *Pythagoras* software, Version 1.2. This method delivers precise positions of multiple spatially distant targets in a short period of time. The technique is fully non-invasive, and allows for time and cost-effective descriptions of dolphin habitat use patterns at all times of daylight.

Three surveyors (one theodolite operator, one computer operator, and one observer) were involved in each survey. Observers searched for dolphins using unaided eyes and handheld binoculars (7X50). Theodolite tracking sessions were initiated whenever an individual CWD or group of CWDs was located. Where possible, a distinguishable individual was selected, based on colouration, within the group. The focal individual was then continuously tracked via the theodolite, with a position recorded each time the dolphin surfaced. In case an individual could

not be positively distinguished from other members, the group was tracked by recording positions based on a central point within the group whenever the CWD surfaced. Tracking continued until animals were lost from view; moved beyond the range of reliable visibility (>1-3 km, depending on station height); or environmental conditions obstructed visibility (e.g., intense haze, Beaufort sea state >4, or sunset), at which time the research effort was terminated. In addition to the tracking of CWD, all vessels that moved within 2-3 km of the station were tracked, with effort made to obtain at least two positions for each vessel.

Theodolite tracking included focal follows of CWD groups and vessels. Priority was given to tracking individual or groups of CWD. The survey team also attempted to track all vessels moving within 1 km of the focal CWD.

6.4 Monitoring Results and Observations

6.4.1 Small Vessel Line-transect Survey

Survey Effort

Within this reporting month, two complete sets of small vessel line-transect surveys were conducted on the 6th,10th, 13th, 14th, 20th, 21st, 23rd and 24th March 2017, covering all transects in NEL, NWL, AW, WL and SWL survey areas for twice.

A total of 458.78 km of survey effort was collected from these surveys, with around 87.49% of the total survey effort being conducted under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility). Details of the survey effort are given in **Appendix D**.

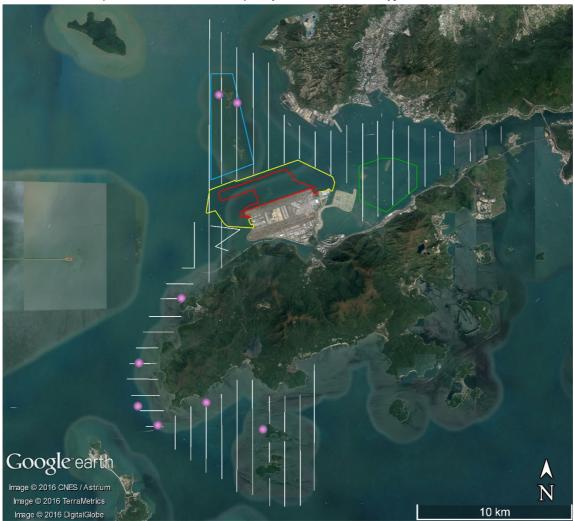
Sighting Distribution

In March 2017, 8 groups of CWDs with 36 individuals were sighted. All of these sightings were recorded during on-effort search under favourable weather conditions (i.e. Beaufort Sea State 3 or below with favourable visibility). Details of cetacean sightings are presented in **Appendix D**.

Distribution of all CWD sightings recorded in March 2017 is illustrated in **Figure 6.3**. In March 2017, CWDs were more frequently sighted in WL than in NWL and SWL. There were two sightings in NWL in this reporting month, both of them were located around Lung Kwu Chau. In WL survey area, CWD sightings scattered from waters near Tai O to Fan Lau. While in SWL, two CWD sightings were recorded in waters near Fan Lau Tung Wan and Soko Islands respectively. No sightings of CWDs were recorded in the vicinity of or within the 3RS land-formation footprint.

Figure 6.3: Sightings Distribution of Chinese White Dolphins

[Pink circle: Sighting locations of CWD, White line: Vessel survey transects, Blue polygon: Sha Chau and Lung Kwu Chau Marine Park (SCLKCMP), Green polygon: Brothers Marine Park (BMP) Red polygon: 3RS land-formation footprint, Yellow line: 3RS temporary works area boundary]



Encounter Rate

Two types of dolphin encounter rates were calculated based on the data from March 2017. They included the number of dolphin sightings per 100 km survey effort (STG) and total number of dolphins per 100 km survey effort (ANI) in the whole survey area (i.e. NEL, NWL, AW, WL and SWL). In the calculation of dolphin encounter rates, only survey data collected under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility) were used. The formulae used for calculation of the encounter rates are shown below:

Encounter Rate by Number of Dolphin Sightings (STG)

$$STG = \frac{Total\ No.\ of\ On-effort\ Sightings}{Total\ Amount\ of\ Survey\ Effort\ (km)}\ x\ 100$$

Encounter Rate by Number of Dolphins (ANI)

$$ANI = \frac{Total\ No.\ of\ Dolphins\ from\ On-effort\ Sightings}{Total\ Amount\ of\ Survey\ Effort\ (km)}\ x\ 100$$

(Notes: Only data collected under Beaufort 3 or below condition was used)

In March 2017, a total of 401.40 km of survey effort were conducted under Beaufort Sea State 3 or below with favourable visibility, whilst a total number of 8 on-effort sightings with a total number of 36 dolphins from on-effort sightings were obtained under such condition. Calculation of the encounter rates in March 2017 are shown in **Appendix D**.

For the running quarter of the reporting month (i.e., from January 2017 to March 2017), a total of 1144.90 km of survey effort were conducted under Beaufort Sea State 3 or below with favourable visibility, whilst a total number of 46 on-effort sightings and a total number of 170 dolphins from on-effort sightings were obtained under such condition. Calculation of the running quarterly encounter rates are shown in **Appendix D**.

The STG and ANI of CWD in the whole survey area (i.e. NEL, NWL, AW, WL and SWL) during the month of March 2017 and during the running quarter are presented in **Table 6.4** below and compared with the Action Level. The running quarterly encounter rates STG and ANI did not trigger the Action Level (i.e., remained above the Action Level).

Table 6.4: Comparison of CWD Encounter Rates of the Whole Survey Area with Action Levels

	Encounter Rate (STG)	Encounter Rate (ANI)
March 2017	1.99	8.97
Running Quarter from January 2017 to March 2017*	4.02	14.85
Action Level	1.86	9.35

^{*}Running quarterly encounter rates STG & ANI were calculated from data collected in the reporting month and the two preceding survey months, i.e. the data from January 2017 to March 2017, containing six sets of transect surveys for all monitoring areas.

Group Size

In March 2017, 8 groups of CWDs with 36 individuals were sighted, and the average group size of CWDs was 4.50 individuals per group. CWD groups with medium-sized (i.e. 3-9 individuals) were dominant. A large CWD group with 13 individuals was sighted in this reporting month in WL.

Activities and Association with Fishing Boats

Six out of eight sightings of CWDs were recorded engaging in feeding activities in March 2017. Four out of these six sightings were recorded in association with operating fishing boats. One of these sightings was associated with operating gill-netter in SWL survey area. The remaining three sightings were associated with operating purse seiners in WL. One CWD group sighted associated with purse seiner in WL had a large group size of 13 individuals.

Mother-calf Pair

In March 2017, no sightings of CWDs were recorded with the presence of neither mother-and-calf nor mother-and-unspotted juvenile pairs.

6.4.2 Photo Identification

In March 2017, a total number of 19 different CWD individuals were identified for totally 27 times. A summary of photo identification works is presented in **Table 6.5**. Representative photos of these individuals are given in **Appendix D**.

Table 6.5: Summary of Photo Identification

Individual ID	Date of Sighting (dd/mm/yyyy)	Sighting Group No.	Area	Individual ID	Date of Sighting (dd/mm/yyyy)	Sighting Group No.	Area
NLMM004	23/03/2017	1	NWL	SLMM021	21/03/2017	2	WL
		2	NWL			3	WL
NLMM015	21/03/2017	2	WL	SLMM028	21/03/2017	1	WL
NLMM017	23/03/2017	1	NWL	SLMM030	21/03/2017	1	WL
		2	NWL	SLMM031	21/03/2017	2	WL
NLMM019	21/03/2017	2	WL	SLMM036	21/03/2017	2	WL
NLMM020	21/03/2017	2	WL	SLMM037	21/03/2017	2	WL
NLMM037	23/03/2017	1	NWL	WLMM008	21/03/2017	2	WL
		2	NWL			3	WL
SLMM011	21/03/2017	2	WL	WLMM011	21/03/2017	1	WL
		3	WL	WLMM043	21/03/2017	1	WL
SLMM014	20/03/2017	1	SWL	WLMM074	21/03/2017	3	WL
		3	SWL			'	
SLMM015	21/03/2017	2	WL				
		3	WL				

6.4.3 Land-based Theodolite Tracking

Survey Effort

Land-based theodolite tracking surveys were conducted at LKC on 20th, 21st and 28th March 2017 and at SC on 24th and 29th March 2017, with a total of 5 days of land-based theodolite tracking survey effort accomplished in this reporting month. In total, 6 CWD groups were tracked at LKC station during the surveys. Information of survey effort and CWD groups sighted during these land-based theodolite tracking surveys are presented in **Table 6.6**. Details of the survey effort and CWD groups tracked are presented in **Appendix D**. The first sighting locations of CWD groups tracked at LKC station during land-based theodolite tracking surveys in March 2017 were depicted in **Figure 6.4**. No CWD group was sighted from SC station in this reporting month.

Table 6.6: Summary of Survey Effort and CWD Group of Land-based Theodolite Tracking

Land-based Station	No. of Survey Sessions	Survey Effort (hh:mm)	No. of CWD Groups Sighted	CWD Group Sighting per Survey Hour
Lung Kwu Chau	3	18:00	6	0.33
Sha Chau	2	12:00	0	0
TOTAL	5	30:00	6	0.2

Figure 6.4: Plots of First Sightings of All CWD Groups obtained from Land-based Stations [Green triangle: LKC station; Green square: CWD group off LKC; Blue line: SCLKCMP boundary]



Notes: A CWD group was sighted at a location to the northwest of LKC outside the HKSAR boundary on 28 March 2017. This group of sighting was beyond the usual tracking distance due to the good visibility and sea state condition (Beaufort ranged 2-3) on that day whilst this CWD group was spotted with surfacing for several times. Although this sighting was beyond the usual tracking distance and even outside the HKSAR boundary, it was recorded with the purpose of gathering more CWD information.

6.5 Progress Update on Passive Acoustic Monitoring

Underwater acoustic monitoring using Passive Acoustic Monitoring (PAM) should be undertaken during land formation related construction works. In this reporting month, the Ecological Acoustic Recorder (EAR) has been retrieved on 17 March 2017 and will be re-deployed and positioned at south of Sha Chau Island with 20% duty cycle (**Figure 6.5**). The EAR deployment is generally for 4-6 weeks prior to data retrieval for analysis. Acoustic data is reviewed to give an indication of CWDs occurrence patterns and to obtain anthropogenic noise information simultaneously. Analysis (by a specialized team of acousticians) involved manually browsing through every acoustic recording and logging the occurrence of dolphin signals. All data will be re-played by computer as well as listened to by human ears for accurate assessment of dolphin group presence. As the period of data collection and analysis takes more than two months, PAM results could not be reported in monthly intervals.

6.6 Site Audit for CWD-related Mitigation Measures

During the reporting period, silt curtains were in place by the contractors for sand blanket laying works, in which dolphin observers were deployed by each contractor in accordance with the Marine Mammal Watching Plan (MMWP). Teams of at least two dolphin observers were deployed by the contractors for continuous monitoring of the Dolphin Exclusion Zone (DEZ) for DCM works in accordance with the DEZ Plan. Trainings for the proposed dolphin observers on the implementation of MMWP and DEZ monitoring were provided by the ET prior to the aforementioned works, with a cumulative total of 252 individuals being trained and the training records kept by the ET. From the contractors' MMWP observation records and DEZ monitoring records, no dolphin or other marine mammals were observed within or around the silt curtains or

the DEZs in this reporting month. These contractors' records were also audited by the ET during site inspection.

Audits of acoustic decoupling for construction vessels were carried out during weekly site inspection and the observations are summarised in **Section 7.1**. Audits of SkyPier high speed ferries route diversion and speed control and construction vessel management are presented in **Section 7.2** and **Section 7.3** respectively.

6.7 Timing of Reporting CWD Monitoring Results

Detailed analysis of CWD monitoring results collected by small vessel line-transect survey will be provided in future quarterly reports. Detailed analysis of CWD monitoring results collected by land-based theodolite tracking and PAM will be provided in future annual reports after a larger sample size of data has been collected.

6.8 Summary of CWD Monitoring

Monitoring of CWD was conducted with two complete sets of small vessel line-transect surveys and five days of land-based theodolite tracking survey effort as scheduled. The running quarterly encounter rates STG and ANI in the reporting month did not trigger the Action Level for CWD monitoring.

7 Environmental Site Inspection and Audit

7.1 Environmental Site Inspection

Weekly site inspections of the construction works for the advanced works contract and DCM contracts were carried out by the ET to audit the implementation of proper environmental pollution control and mitigation measures for the Project. The weekly site inspection schedule of the construction works is provided in **Appendix C**. Bi-weekly site inspections were also conducted by the IEC. Observations have been recorded in the site inspection checklists and provided to the contractors together with the appropriate follow-up actions where necessary.

The key observations from site inspection and associated recommendations were related to improvement of dust suppression measures; provision of drip trays; and implementation of preventive measures for runoff and dark smoke emission. In addition, recommendations were also provided during site inspection on barges. These included display of NRMM labels on relevant mechanical equipment; display of relevant licences on barges; provision and maintenance of spill kits and chemical toilets; provision of storage area for inert and non-inert waste; implementation of acoustic decoupling measures, proper wastewater treatment, dust suppression measures, spill and runoff preventive measures, dark smoke preventive measures, as well as proper installation and maintenance of silt curtains.

A summary of implementation status of the environmental mitigation measures for the construction phase of the Project during the reporting period is provided in **Appendix B**.

7.2 Audit of Route Diversion and Speed Control of the SkyPier High Speed Ferries

The Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier (the SkyPier Plan) was submitted to the Advisory Council on the Environment (ACE) for comment and subsequently submitted to and approved by EPD in November 2015 under EP Condition 2.10. The approved SkyPier Plan is available on the dedicated website of the Project. In the SkyPier Plan, AAHK has committed to implementing the mitigation measure of requiring high speed ferries (HSFs) of SkyPier travelling between HKIA and Zhuhai / Macau to start diverting the route with associated speed control across the area, i.e. Speed Control Zone (SCZ), with high CWD abundance. The route diversion and speed restriction at the SCZ have been implemented since 28 December 2015.

Key audit findings for the SkyPier HSFs travelling to/from Zhuhai and Macau against the requirements of the SkyPier Plan during the reporting period are summarized in **Table 7.1**. The daily movements of all SkyPier HSFs in March 2017 (i.e., 85 to 94 daily movements) were within the maximum daily cap of 125 daily movements. Status of compliance with the annual daily average of 99 movements will be further reviewed in the annual EM&A Report.

In total, 860 ferry movements between HKIA SkyPier and Zhuhai / Macau were recorded in March 2017 and the data are presented in **Appendix G**. The time spent by the SkyPier HSFs travelling through the SCZ in March 2017 were presented in **Figure 7-1**. It will take 9.6 minutes to travel through the SCZ when the SkyPier HSFs adopt the maximum allowable speed of 15 knots within the SCZ. **Figure 7-1** shows that all the SkyPier HSFs spent more than 9.6 minutes to travel through the SCZ.

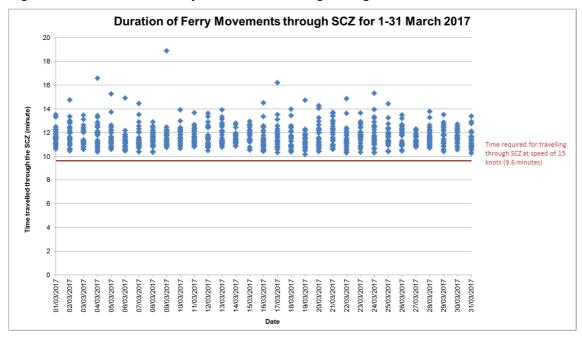


Figure 7-1 Duration of the SkyPier HSFs travelling through the SCZ for March 2017

Note: Data above the red line indicated that the time spent by the SkyPier HSFs travelling through the SCZ is more than 9.6 minutes, which is in compliance with the SkyPier Plan.

One ferry was recorded with minor deviation from the diverted route on 29 March 2017. A notice was sent to the ferry operator (FO) and the case is under investigation by ET. The investigation result will be presented in the next monthly EM&A report.

The case of minor deviation from the diverted route recorded on 25 February 2017 was followed up after receiving further information from the FO. ET's investigation found that the vessel captain had to give way to a vessel to ensure safety. After that, the HSF had returned to the normal route following the SkyPier Plan.

Table 7.1: Summary of Key Audit Findings against the SkyPier Plan

Requirements in the SkyPier Plan	1 March to 31 March 2017
Total number of ferry movements recorded and audited	860
Use diverted route and enter / leave SCZ through Gate Access Points	1 deviation, which is under investigation
Speed control in speed control zone	The average speeds taken within the SCZ of all HSFs were within 15 knots (6.1 knots to 14.2 knots), which complied with the SkyPier Plan. The time used by HSFs to travel through SCZ is presented in Figure 7-1 .
Daily Cap (including all SkyPier HSFs)	85 to 94 daily movements (within the maximum daily cap - 125 daily movements).

7.3 Audit of Construction and Associated Vessels

The updated Marine Travel Routes and Management Plan for Construction and Associated Vessel (MTRMP-CAV) was submitted and approved in November 2016 by EPD under EP Condition 2.9. The approved Plan is available on the dedicated website of the Project.

ET carried out the following actions during the reporting period:

- Five skipper training sessions were held for contractors' concerned skippers of relevant
 construction vessels to familiarize them with the predefined routes; general education on
 local cetaceans; guidelines for avoiding adverse water quality impact; the required
 environmental practices / measures while operating construction and associated vessels
 under the Project; and guidelines for operating vessels safely in the presence of CWDs.
 The list of all trained skippers was properly recorded and maintained by ET.
- Four skipper training sessions were held by contractor's Environmental Officer. Competency test was subsequently conducted with the trained skippers by ET.
- 79 skippers were trained by ET / contractor's Environmental Officer in March 2017. In total, 564 skippers were trained from August 2016 to March 2017.
- The upgraded Marine Surveillance System (MSS) was launched in March 2017. The MSS
 automatically recorded deviation cases such as speeding, entering no entry zone, not
 traveling through the designated gate. ET conducted cross checking of construction and
 associated vessel records as provided by the contractors to ensure the MSS records all
 deviation cases accurately.
- Deviations such as speeding in the works area, entering from non-designated gates and entering no-entry zones were identified. All the concerned contractors were reminded to comply with the requirements of the MTRMP-CAV during the weekly MTCC audit.
- 3-month rolling programmes (one month record and two months forecast) for construction vessel activities were received from the contractors in order to help maintain the number of construction and associated vessels on site to a practicable minimal level.

The IEC of the Project had performed audit on the compliance of the requirements as part of the EM&A programme.

7.4 Implementation of Dolphin Exclusion Zone

The Dolphin Exclusion Zone (DEZ) Plan was submitted in accordance with EP Condition 3.1 (v) requirement and Section 10.3 of the Updated EM&A Manual, and approved in April 2016 by EPD. The 24-hour DEZs with a 250m radius for marine works were established and implemented by the contractors for DCM works in accordance with the DEZ Plan.

During the reporting period, ET has been notified that no dolphins were sighted within the DEZ by the contractors. ET has checked the relevant records to audit the implementation of DEZ.

7.5 Ecological Monitoring

In accordance with the Updated EM&A Manual, ecological monitoring shall be undertaken monthly at the HDD daylighting location on Sheung Sha Chau Island to identify and evaluate any impacts with appropriate actions taken as required to address and minimise any adverse impact found. During the reporting month, the monthly ecological monitoring at the HDD daylighting location on Sheung Sha Chau observed that HDD works were ongoing under the Contract P560(R) at the daylighting location, and there was no encroachment of any works upon the egretry area nor any significant disturbance to the egrets on the island by the works. Sign of early breeding activities by Black-crowned Night Heron and Little Egret were observed on trees located at the previously identified egretry area where it is at the southern side of Sheung Sha Chau Island. At the HDD daylighting location, neither nest nor breeding activity of bird were found during the monthly ecological monitoring and weekly site inspections in the reporting month. The site photos and location map regarding the monthly ecological monitoring for the HDD works and egretry area are provided in **Appendix D** for reference. All works on Sheung Sha Chau had been retreated on 31 March 2017. No works will be conducted on Sheung Sha Chau Island during the ardeid's breeding season.

Status

7.6 Status of Submissions under Environmental Permits

The current status of submissions under the EP up to the reporting period is presented in **Table 7.2**.

Table 7.2: Status of Submissions under Environmental Permit

Cubmission

Condition	Submission	Status
Condition		
2.1	Complaint Management Plan	_
2.4	Management Organizations	
2.5	Construction Works Schedule and Location Plans	
2.7	Marine Park Proposal	
2.8	Marine Ecology Conservation Plan	
2.9	Marine Travel Routes and Management Plan for Construction and Associated Vessels	
2.10	Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier	
2.11	Marine Mammal Watching Plan	_Accepted / approved
2.12	Coral Translocation Plan	by EPD
2.13	Fisheries Management Plan	
2.14	Egretry Survey Plan	
2.15	Silt Curtain Deployment Plan	
2.17	Detailed Plan on Deep Cement Mixing	
2.16	Spill Response Plan	
2.19	Waste Management Plan	
3.1	Updated EM&A Manual	_
3.4	Baseline Monitoring Reports	_

7.7 Compliance with Other Statutory Environmental Requirements

During the reporting period, environmental related licenses and permits required for the construction activities were checked. No non-compliance with environmental statutory requirements was recorded. The environmental licenses and permits which are valid in the reporting month are presented in **Appendix E**.

7.8 Analysis and Interpretation of Complaints, Notification of Summons and Status of Prosecutions

7.8.1 Complaints

During the reporting period, no construction activities related complaints were received.

7.8.2 Notifications of Summons or Status of Prosecution

During the reporting period, neither notifications of summons nor prosecution were received.

7.8.3 Cumulative Statistics

Cumulative statistics on complaints, notifications of summons and status of prosecutions are summarized in **Appendix F**.

8 Future Key Issues and Other EIA & EM&A Issues

8.1 Construction Programme for the Coming Reporting Period

Key activities anticipated in the next reporting period for the Project will include the following:

Advanced Works:

Contract P560 (R) Aviation Fuel Pipeline Diversion Works

- HDD works on existing airport island; and
- Stockpiling of excavated materials from HDD operation on existing airport island.

Contract 3212 11kV Submarine Cable Diversion

- Forming of marine approach trench; and
- Cable laying.

DCM Works:

Contract 3201 to 3205 Deep Cement Mixing Works

- · Laying of geotextile and sand blanket;
- Site office establishment; and
- DCM works.

Reclamation Works:

Contract 3206 Main Reclamation Works

- Site office establishment; and
- Laying of sand blanket.

8.2 Key Environmental Issues for the Coming Reporting Period

The key environmental issues for the Project in the coming reporting period expected to be associated with the construction activities include:

- Generation of dust from construction works and stockpiles;
- Noise from operating equipment and machinery on-site;
- Generation of site surface runoffs and wastewater from activities on-site;
- Water quality from laying of sand blankets, DCM works and water jetting works for submarine cable diversion;
- DEZ monitoring for DCM works and implementation of MMWP for silt curtain deployment by the contractors' dolphin observers;

- Sorting, recycling, storage and disposal of general refuse and construction waste;
- Management of chemicals and avoidance of oil spillage on-site; and
- Acoustic decoupling measures for equipment on marine vessels.

The implementation of required mitigation measures by the contractors will be monitored by the ET.

8.3 Monitoring Schedule for the Coming Reporting Period

A tentative schedule of the planned environmental monitoring work in the next reporting period is provided in **Appendix C**.

9 Conclusion and Recommendation

The key activities of the Project carried out in the reporting period included five DCM contracts, an advanced works contract and a reclamation contract. The DCM contracts involved DCM works and trials, site office establishment, laying of geotextile and sand blanket; the advanced works contract involved HDD works and pipeline supporting works; and the reclamation contract involved site office establishment and laying of sand blanket.

All the monitoring works for construction dust, construction noise, water quality, construction waste, terrestrial ecology and CWD were conducted during the reporting period in accordance with the Updated EM&A Manual.

No exceedance of the Action or Limit Levels in relation to the construction dust, construction noise, construction waste and CWD monitoring was recorded in the reporting month.

The water quality monitoring results for DO, total alkalinity, and chromium obtained during the reporting period were in compliance with their corresponding Action and/or Limit Levels. For turbidity, SS and nickel, some of the testing results exceeded the relevant Action or Limit Levels. Investigations were carried out immediately for each of the exceedance cases. The investigation findings concluded that the exceedances were not due to the Project.

The monthly terrestrial ecology monitoring on Sheung Sha Chau Island observed that HDD works were conducted at the daylighting location and there was no encroachment upon the egretry area nor any significant disturbance to the egrets at Sheung Sha Chau by the works. At the HDD daylighting location, neither nest or breeding activity of bird were found during the monthly ecological monitoring and weekly site inspection in the reporting month.

Weekly site inspections of the construction works were carried out by the ET to audit the implementation of proper environmental pollution control and mitigation measures for the Project. Bi-weekly site inspections were also conducted by the IEC. Observations have been recorded in the site inspection checklists, including the observations on the conditions of silt curtains, which have been provided to the contractors together with the appropriate follow-up actions where necessary.

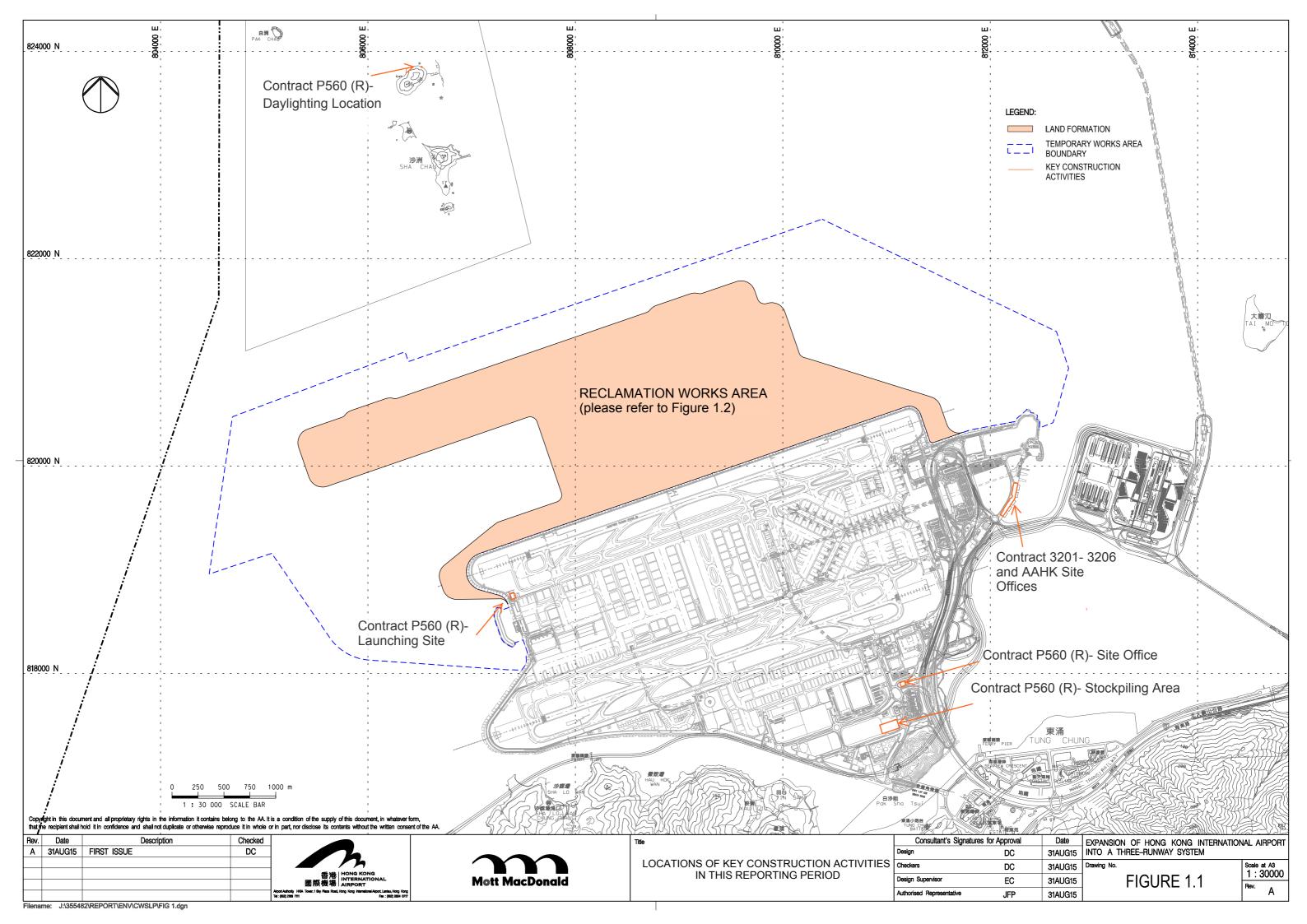
On the implementation of Marine Mammal Watching Plan, silt curtains were in place by the contractors for sand blanket laying works and dolphin observers were deployed in accordance with the Plan. On the implementation of DEZ Plan, dolphin observers were deployed by the contractors for continuous monitoring of the DEZ for DCM works in accordance with the DEZ Plan. Trainings for the proposed dolphin observers were provided by the ET prior to the aforementioned works, with the training records kept by the ET. From the contractors' MMWP observation records and DEZ monitoring records, no dolphin or other marine mammals were observed within or around the silt curtains, and no dolphins were sighted within the DEZ. These contractors' records were checked by the ET during site inspection. Audits of acoustic decoupling for construction vessels were also carried out by the ET.

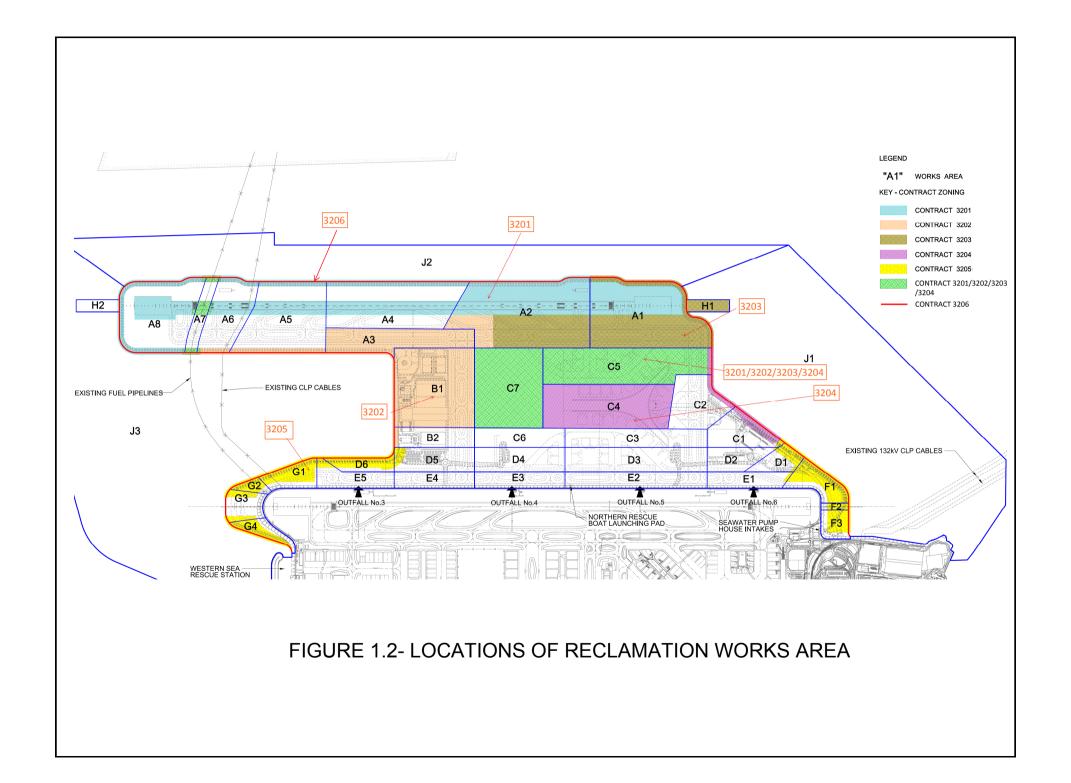
On the implementation of the SkyPier Plan, the daily movements of all SkyPier HSFs in March 2017 were in the range of 85 to 94 daily movements, which are within the maximum daily cap of 125 daily movements. A total of 860 HSF movements under the SkyPier Plan were recorded in the reporting period. All HSFs had travelled through the SCZ with average speeds under 15 knots (6.1 to 14.2 knots), which were in compliance with the SkyPier Plan. One ferry movement with

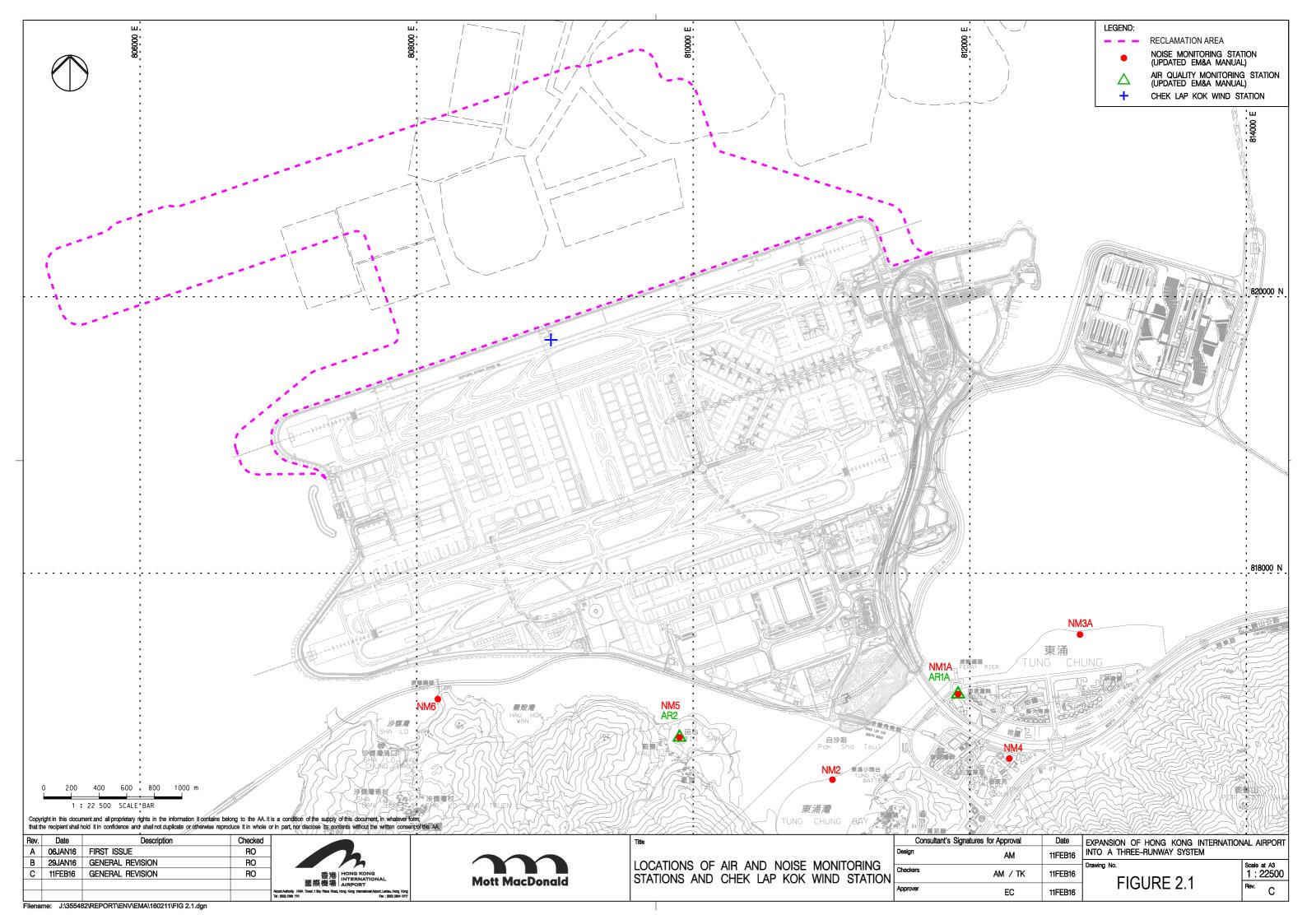
minor deviation from the diverted route is under investigation by ET. The investigation result will be presented in the next monthly EM&A report. In summary, the ET and IEC have audited the HSF movements against the SkyPier Plan and conducted follow up investigation or actions accordingly.

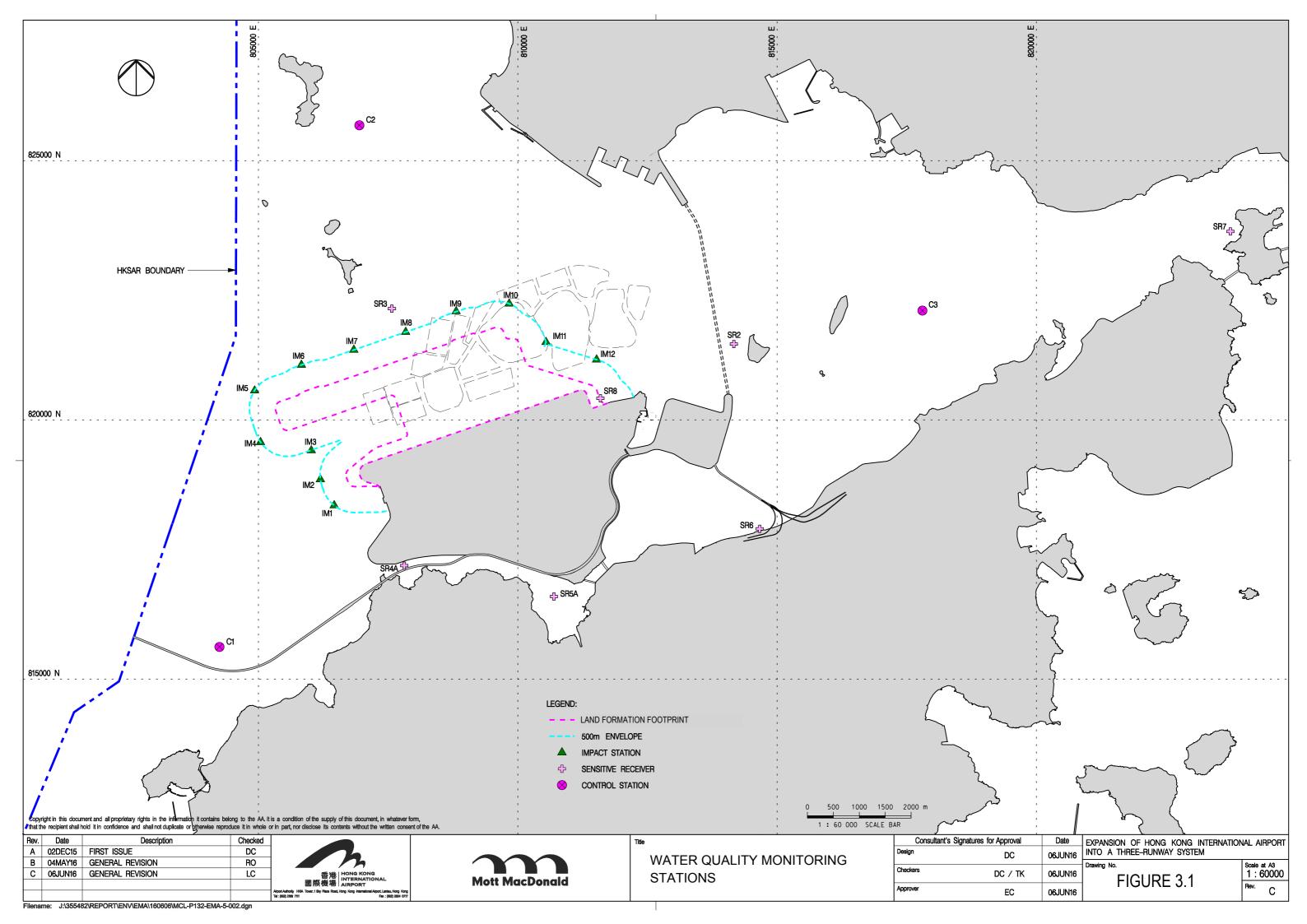
On the implementation of the MTRMP-CAV, the upgraded MSS was launched in March 2017. The MSS automatically recorded deviation cases such as speeding, entering no entry zone, not traveling through the designated gate. ET conducted cross checking with construction and associated vessel records provided by the contractors to ensure the MSS records all deviation cases accurately. Training has been provided for the concerned skippers to facilitate them in familiarising with the requirements of the MTRMP-CAV. 3-month rolling programmes for construction vessel activities were also received from contractors. ET reminded contractors that all vessels shall avoid entering the Brothers Marine Park, which has been designated since 30 December 2016.

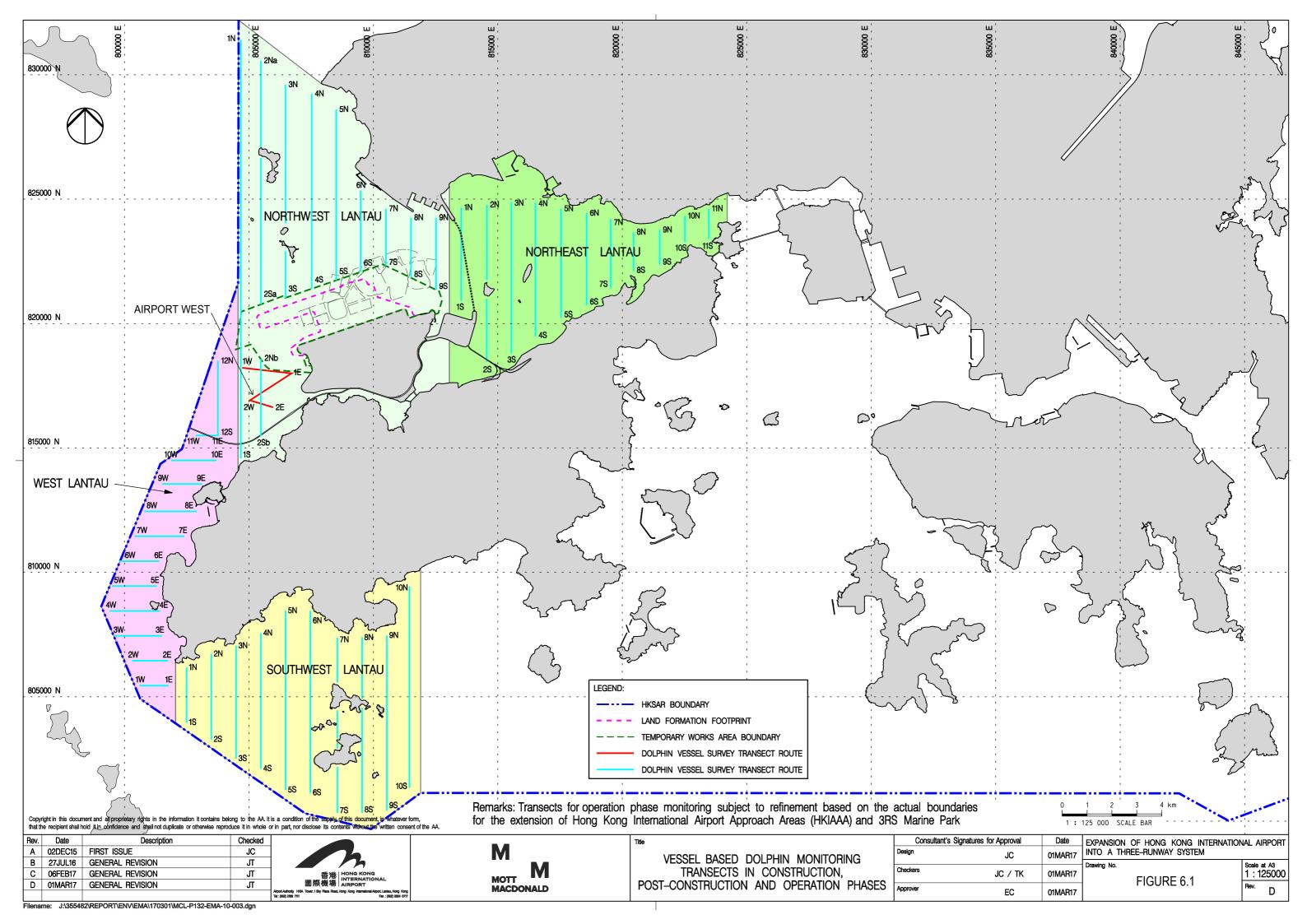
Figures

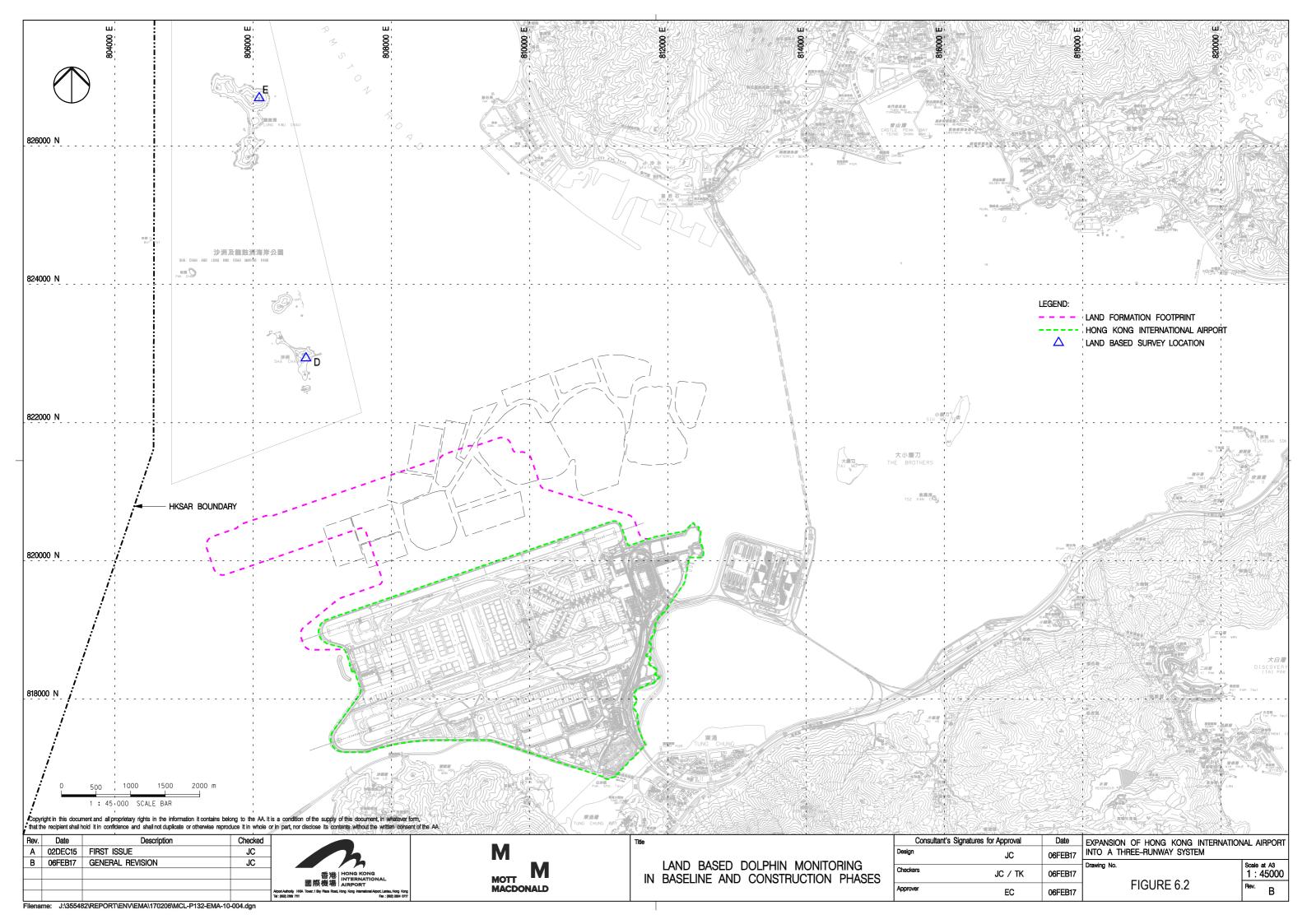


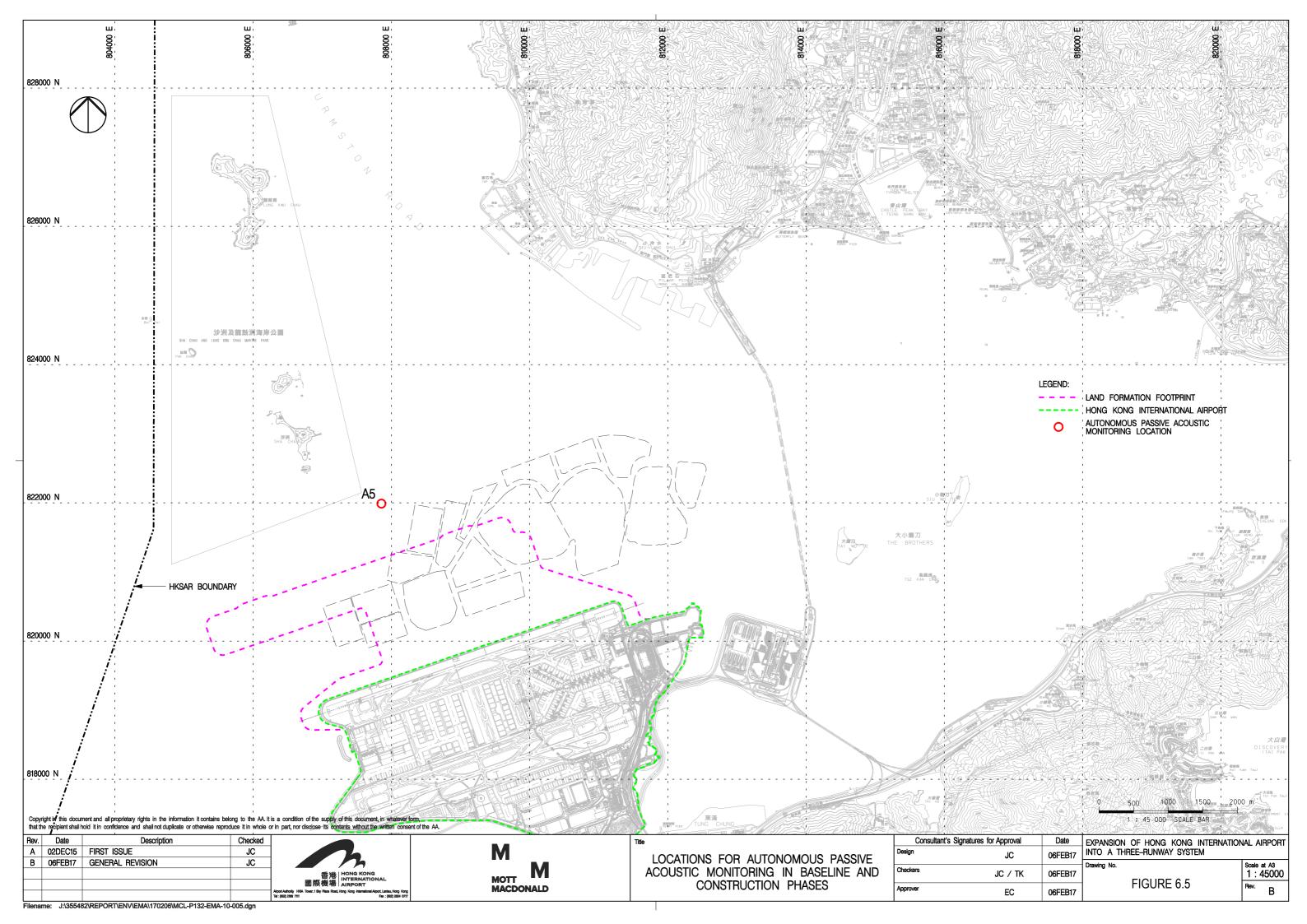












Appendix A. Contract Description

Contract Description

Contract No.	Contract Title	Contractor	Key Construction Activities
P560 (R)	Aviation Fuel Pipeline Diversion Works	Langfang Huayuan Mechanical and Electrical Engineering Co., Ltd.	Diversion of the existing submarine aviation fuel pipelines will use a horizontal directional drilling (HDD) method forming two rock drill holes by drilling through bedrock from a launching site located at the west of the airport island to a daylighting point adjacent to the offshore receiving platform at Sha Chau. Two new pipelines will be installed through the drilled tunnels. The total length is approximately 5 km. Drilling works will proceed from the HDD launching site at the airport island.
3201	Deep Cement Mixing (Package 1)	Penta-Ocean-China State- Dong-Ah Joint Venture	The works covered by the Contract 3201, 3202, 3203 and 3204 comprise ground improvement of seabed using Deep Cement Mixing (DCM) method, the major
3202	Deep Cement Mixing (Package 2)	Samsung-BuildKing Joint Venture	 construction activities including without limitation the following Geophysical surveys;
3203	Deep Cement Mixing (Package 3)	Sambo E&C Co.,Ltd	 Supply and placing of geotextile and sand blanket under seawalls; Supply, maintenance, installation and removal of silt curtain systems; Preliminary construction trails;
3204	Deep Cement Mixing (Package 4)	CRBC-SAMBO Joint Venture	 Supply and installation of DCM clusters within the works areas; and Coring, sampling and testing of DCM treated soils and reporting works.
3205	Deep Cement Mixing (Package 5)	Bachy Soletanche- Sambo Joint Venture	The works covered by the Contract 3205 comprise ground improvement of seabed using Deep Cement Mixing (DCM) method within or outside their contract boundary as outlined on the low headroom DCM zoning plan, the major construction activities including without limitation the following • Geophysical surveys; • Supply and placing of geotextile and sand blanket under seawalls; • Supply, maintenance, installation and removal of silt curtain systems; • Preliminary construction trails; • Supply and installation of DCM clusters within the works areas; and
			 Coring, sampling and testing of DCM treated soils and reporting works.

3206	Reclamation	ZHEC-CCCC-CDC Joint	The works covered by the Contract 3206 comprise the formation of approximately
	Contract	Venture	650 hectares of land north of the existing airport island for the project, the major
			construction activities including without limitation the following
			Site clearance and demolition;
			 Geotechnical and ground improvement works;
			Seawall construction;
			Marine and land filling works; and
			Civil works.
3212	11 kV Submarine	Hong Kong Marine	The works covered by the Contract 3212 comprise the submarine cable diversion,
	Cable Diversion	Contractors Limited	the major construction activities including without limitation the following
			 Forming a marine approach trench;
			 Conduct a diver survey;
			 Laying and burying the new 11kV submarine cable; and
			 Post-Laid Burial (PLB) and protection operations.
3213	CLP Cable Diversion	Wing Hing Construction	CLP cable diversion enabling works of Sha Chau South, Sheung Sha Chau and Lung
	Enabling Works	Company	Kwu Chau at Hong Kong International Airport Landside. The major construction
			activities including without limitation the following:
			 Geotechnical instrumentation and monitoring of the Works;
			 Temporary removal of armour rock and underlayers of existing seawall and
			subsequent reinstatement to its original condition;
			 Construction of the concrete cable trough embedded at about 3m below the
			surface of the existing seawall; and
			Supply, installation, maintenance, and subsequent removal of temporary
			generator sets for temporary power supply with associated fuel supply and
			pump system located at Sheung Sha Chau, Sha Chau South and Lung Kwu
			Chau Islands.

Appendix B. Environmental Mitigation Implementation Schedule (EMIS) for Construction Phase



Appendix B

Environmental Mitigation Implementation Schedule (EMIS) for Construction Phase

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Air Quality Impact – Construction Phase		
5.2.6.2	2.1	-	Dust Control Measures ■ Water spraying for 12 times a day or once every two hours for 24-hour working at all active works area.	Within construction site / Duration of the construction phase	I
5.2.6.3	2.1	-	 Covering of at least 80% of the stockpiling area by impervious sheets. Water spraying of all dusty materials immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling. 	Within construction site / Duration of the construction phase	I
5.2.6.4	2.1	-	Dust control practices as stipulated in the Air Pollution Control (Construction Dust) Regulation should be adopted. These practices include: Good Site Management Good site management is important to help reducing potential air quality impact down to an acceptable level. As a general guide, the Contractor should maintain high standard of housekeeping to prevent emission of fugitive dust. Loading, unloading, handling and storage of raw materials, wastes or byproducts should be carried out in a manner so as to minimise the release of visible dust emission. Any piles of materials accumulated on or around the work areas should be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimising generation of fugitive dust emissions. The material should be handled properly to prevent fugitive dust emission before cleaning.	Within construction site / Duration of the construction phase	I
			Each and every main temporary access should be paved with concrete, bituminous hardcore materials	Within construction site / Duration of the construction phase	I
			 Exposed Earth Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies. 	Within construction site / Duration of the construction phase	N/A



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Loading, Unloading or Transfer of Dusty Materials All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.	Within construction site / Duration of the construction phase	I
			Debris Handling Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides; and	Within construction site / Duration of the construction phase	1
			 Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped. Transport of Dusty Materials Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards. 	Within construction site / Duration of the construction phase	1
			Wheel washing Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.	Within construction site / Duration of the construction phase	I
			Use of vehicles The speed of the trucks within the site should be controlled to about 10km/hour in order to reduce adverse dust impacts and secure the safe movement around the site;	Within construction site / Duration of the construction phase	ı
			 Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels; and Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the 		
			vehicle. Site hoarding • Where a site boundary adjoins a road, street, service lane or other area accessible to the public,	Within construction site / Duration of the	1
5.2.6.5	2.1	-	hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit. Best Practices for Concrete Batching Plant	Within Concrete	N/A
			The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2 as well as in the future Specified Process licence should be adopted. The best practices are recommended to be applied to both the land based and floating concrete batching plants. Best practices include:	Batching Plant / Duration of the construction phase	
			Cement and other dusty materials		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?^
				Timing of completion of measures	
			■ The loading, unloading, handling, transfer or storage of cement, pulverised fuel ash (PFA) and/or other equally dusty materials shall be carried in a totally enclosed system acceptable to EPD. All dust-laden air or waste gas generated by the process operations shall be properly extracted and vented to fabric filtering system to meet the required emission limit;		
			• Cement, PFA and/or other equally dusty materials shall be stored in storage silo fitted with audible high level alarms to warn of over-filling. The high-level alarm indicators shall be interlocked with the material filling line such that in the event of the silo approaching an overfilling condition, an audible alarm will operate, and after 1 minute or less the material filling line will be closed;		
			 Vents of all silos shall be fitted with fabric filtering system to meet the required emission limit; 		
			 Vents of cement/PFA weighing scale shall be fitted with fabric filtering system to meet the required emission limit; and 		
			 Seating of pressure relief valves of all silos shall be checked, and the valves re-seated if necessary, before each delivery. 		
			Other raw materials	Within Concrete	N/A
			 The loading, unloading, handling, transfer or storage of other raw materials which may generate airborne dust emissions such as crushed rock, sand, stone aggregate, shall be carried out in such a manner to prevent or minimize dust emissions; 	Batching Plant / Duration of the construction phase	
			 The materials shall be adequately wetted prior to and during the loading, unloading and handling operations. Manual or automatic water spraying system shall be provided at all unloading areas, stock piles and material discharge points; 		
			 All receiving hoppers for unloading relevant materials shall be enclosed on three sides up to 3 m above the unloading point. In no case shall these hoppers be used as the material storage devices; 		
			• The belt conveyor for handling materials shall be enclosed on top and two sides with a metal board at the bottom to eliminate any dust emission due to wind-whipping effect. Other type of enclosure will also be accepted by EPD if it can be demonstrated that the proposed enclosure can achieve same performance;		
			 All conveyor transfer points shall be totally enclosed. Openings for the passage of conveyors shall be fitted with adequate flexible seals; 		
			 Scrapers shall be provided at the turning points of all conveyors to remove dust adhered to the belt surface; 		
			 Conveyors discharged to stockpiles of relevant materials shall be arranged to minimize free fall as far as practicable. All free falling transfer points from conveyors to stockpiles shall be enclosed with chute(s) and water sprayed; 		
			 Aggregates with a nominal size less than or equal to 5 mm should be stored in totally enclosed structure such as storage bin and should not be handled in open area. Where there is sufficient buffer area surrounding the concrete batching plant, ground stockpiling may be used; 		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion	Mitigation Measures Implemented?^
			The stockpile shall be enclosed at least on top and three sides and with flexible curtain to cover the entrance side:	of measures	
			 Aggregates with a nominal size greater than 5 mm should preferably be stored in a totally enclosed structure. If open stockpiling is used, the stockpile shall be enclosed on three sides with the enclosure wall sufficiently higher than the top of the stockpile to prevent wind whipping; and 		
			■ The opening between the storage bin and weighing scale of the materials shall be fully enclosed.		
			Loading of materials for batching	Within Concrete	N/A
			Concrete truck shall be loaded in such a way as to minimise airborne dust emissions. The following control measures shall be implemented:	Batching Plant / Duration of the	147.
			(a) Pre-mixing the materials in a totally enclosed concrete mixer before loading the materials into the concrete truck is recommended. All dust-laden air generated by the pre-mixing process as well as the loading process shall be totally vented to fabric filtering system to meet the required emission limit; and	construction phase	
			(b) If truck mixing batching or other types of batching method is used, effective dust control measures acceptable to EPD shall be adopted. The dust control measures must have been demonstrated to EPD that they are capable to collect and vent all dust-laden air generated by the material loading/mixing to dust arrestment plant to meet the required emission limit.		
			The loading bay shall be totally enclosed during the loading process.		
			Vehicles • All practicable measures shall be taken to prevent or minimize the dust emission caused by vehicle movement; and	Within Concrete Batching Plant / Duration of the	N/A
			 All access and route roads within the premises shall be paved and adequately wetted. 	construction phase	
			Housekeeping	Within Concrete	N/A
			A high standard of housekeeping shall be maintained. All spillages or deposits of materials on ground, support structures or roofs shall be cleaned up promptly by a cleaning method acceptable to EPD. Any dumping of materials at open area shall be prohibited.	Batching Plant / Duration of the construction phase	
.2.6.6	2.1	-	Best Practices for Asphaltic Concrete Plant	Within Concrete	N/A
			The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Tar and Bitumen Works (Asphaltic Concrete Plant) BPM 15 (94) as well as in the future Specified Process licence should be adopted. These include:	Batching Plant / Duration of the construction phase	
			Design of Chimney		
			• The chimney shall not be less than 3 metres plus the building height or 8 metres above ground level, whichever is the greater;		
			■ The efflux velocity of gases from the main chimney shall not be less than 12 m/s at full load condition;		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?
				Timing of completion of measures	•
			■ The flue gas exit temperature shall not be less than the acid dew point; and		
			 Release of the chimney shall be directed vertically upwards and not be restricted or deflected. 		
			Cold feed side	Within Concrete Batching Plant / Duration of the	N/A
			 The aggregates with a nominal size less than or equal to 5 mm shall be stored in totally enclosed structure such as storage bin and shall not be handled in open area; 		
			• Where there is sufficient buffer area surrounding the plant, ground stockpiling may be used. The stockpile shall be enclosed at least on top and three sides and with flexible curtain to cover the entrance side. If these aggregates are stored above the feeding hopper, they shall be enclosed at least on top and three sides and be wetted on the surface to prevent wind-whipping;	construction phase	
			• The aggregates with a nominal size greater than 5 mm should preferably be stored in totally enclosed structure. Aggregates stockpile that is above the feeding hopper shall be enclosed at least on top and three sides. If open stockpiling is used, the stockpiles shall be enclosed on three sides with the enclosure wall sufficiently higher than the top of the stockpile to prevent wind whipping;		
			 Belt conveyors shall be enclosed on top and two sides and provided with a metal board at the bottom to eliminate any dust emission due to the wind-whipping effect. Other type of enclosure will also be accepted by EPD if it can be demonstrated that the proposed enclosure can be achieve the same performance; 		
			 Scrapers shall be provided at the turning points of all belt conveyors inside the chute of the transfer points to remove dust adhered to the belt surface; 		
			 All conveyor transfer points shall be totally enclosed. Openings for the passages of conveyors shall be fitted with adequate flexible seals; and 		
			 All materials returned from dust collection system shall be transferred in enclosed system and shall be stored inside bins or enclosures. 	Within Concrete Batching Plant / Duration of the construction phase	
			Hot feed side		N/A
			• The inlet and outlet of the rotary dryer shall be enclosed and ducted to a dust extraction and collection system such as a fabric filter. The particulate and gaseous concentration at the exhaust outlet of the dust collector shall not exceed the required limiting values;		
			 The bucket elevator shall be totally enclosed and the air be extracted and ducted to a dust collection system to meet the required particulates limiting value; 		
			 All vibratory screens shall be totally enclosed and dust tight with close-fitted access inspection opening. Gaskets shall be installed to seal off any cracks and edges of any inspection openings; 		
			 Chutes for carrying hot material shall be rigid and preferably fitted with abrasion resistant plate inside. They shall be inspected daily for leakages; 		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			• All hot bins shall be totally enclosed and dust tight with close-fitted access inspection opening. Gaskets shall be installed to seal off any cracks and edges of any inspection openings. The air shall be extracted and ducted to a dust collection system to meet the required particulates limiting value; and		
			 Appropriate control measures shall be adopted in order to meet the required bitumen emission limit as well as the ambient odour level (2 odour units). 		
			Material transportation	Within Concrete Batching Plant / Duration of the construction phase	N/A
			 The loading, unloading, handling, transfer or storage of other raw materials which may generate airborne dust emissions such as crushed rocks, sands, stone aggregates, reject fines, shall be carried out in such a manner as to minimize dust emissions; 		
			 Roadways from the entrance of the plant to the product loading points and/or any other working areas where there are regular movements of vehicles shall be paved or hard surfaced; and 		
			 Haul roads inside the Works shall be adequately wetted with water and/or chemical suppressants by water trucks or water sprayers. 		
			Control of emissions from bitumen decanting	Within Concrete	N/A
			 The heating temperature of the particular bitumen type and grade shall not exceed the corresponding temperature limit of the same type listed in Appendix 1 of the Guidance Note; 	Batching Plant / Duration of the construction phase	
			 Tamper-free high temperature cut-off device shall be provided to shut off the fuel supply or electricity in case the upper limit for bitumen temperature is reached; 		
			 Proper chimney for the discharge of bitumen fumes shall be provided at high level; 		
			The emission of bitumen fumes shall not exceed the required emission limit; and	Within Concrete Batching Plant / Duration of the construction phase Within Concrete Batching Plant / Duration of the construction phase	
			The air-to-fuel ratio shall be properly controlled to allow complete combustion of the fuel. The fuel burners, if any, shall be maintained properly and free from carbon deposits in the burner nozzles.		
			Liquid fuel		N/A
			 The receipt, handling and storage of liquid fuel shall be carried out so as to prevent the release of emissions of organic vapours and/or other noxious and offensive emissions to the air. 		
			Housekeeping		N/A
			• A high standard of housekeeping shall be maintained. Waste material, spillage and scattered piles gathered beneath belt conveyors, inside and around enclosures shall be cleared frequently. The minimum clearing frequency is on a weekly basis.		
5.2.6.7	2.1	-	Best Practices for Rock Crushing Plants	Within Concrete	N/A
			The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Mineral Works (Stone Crushing Plant) BPM 11/1 (95) as well as in the future Specified Process licence should be adopted. These include:	Batching Plant / Duration of the construction phase	



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Crushers		
			• The outlet of all primary crushers, and both inlet and outlet of all secondary and tertiary crushers, if not installed inside a reasonably dust tight housing, shall be enclosed and ducted to a dust extraction and collection system such as a fabric filter;		
			• The inlet hopper of the primary crushers shall be enclosed on top and 3 sides to contain the emissions during dumping of rocks from trucks. The rock while still on the trucks shall be wetted before dumping;		
			 Water sprayers shall be installed and operated in strategic locations at the feeding inlet of crushers; and 		
			Crusher enclosures shall be rigid and be fitted with self-closing doors and close-fitting entrances and exits. Where conveyors pass through the crusher enclosures, flexible covers shall be installed at entries and exits of the conveyors to the enclosure.		
			Vibratory screens and grizzlies	Within Concrete	N/A
			• All vibratory screens shall be totally enclosed in a housing. Screenhouses shall be rigid and reasonably dust tight with self-closing doors or close-fitted entrances and exits for access. Where conveyors pass through the screenhouse, flexible covers shall be installed at entries and exits of the conveyors to the housing. Where containment of dust within the screenhouse structure is not successful then a dust extraction and collection system shall be provided; and	Batching Plant / Duration of the construction phase	
			 All grizzlies shall be enclosed on top and 3 sides and sufficient water sprayers shall be installed at their feeding and outlet areas. 		
			Belt conveyors	Within Concrete	N/A
			 Except for those conveyors which are placed within a totally enclosed structure such as a screenhouse or those erected at the ground level, all conveyors shall be totally enclosed with windshield on top and 2 sides; 	Batching Plant / Duration of the construction phase	
			• Effective belt scraper such as the pre-cleaner blades made by hard wearing materials and provided with pneumatic tensioner, or equivalent device, shall be installed at the head pulley of designated conveyor as required to dislodge fine dust particles that may adhere to the belt surface and to reduce carry-back of fine materials on the return belt. Bottom plates shall also be provided for the conveyor unless it has been demonstrated that the corresponding belt scraper is effective and well maintained to prevent falling material from the return belt; and		
			Except for those transfer points which are placed within a totally enclosed structure such as a screenhouse, all transfer points to and from conveyors shall be enclosed. Where containment of dust within the enclosure is not successful, then water sprayers shall be provided. Openings for any enclosed structure for the passage of conveyors shall be fitted with flexible seals.		



EIA Ref.	EM&A Ref.	CA EP Environmental Protection Measures Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
			Timing of completion of measures	Implemented?^	
			Storage piles and bins	Within Concrete	N/A
			 Where practicable, free falling transfer points from conveyors to stockpiles shall be fitted with flexible curtains or be enclosed with chutes designed to minimize the drop height. Water sprays shall also be used where required. 	Batching Plant / Duration of the construction phase	
			 The surface of all surge piles and stockpiles of blasted rocks or aggregates shall be kept sufficiently wet by water spraying wherever practicable; 		
			 All open stockpiles for aggregates of size in excess of 5 mm shall be kept sufficiently wet by water spraying where practicable; or 		
			• The stockpiles of aggregates 5 mm in size or less shall be enclosed on 3 sides or suitably located to minimize wind-whipping. Save for fluctuations in stock or production, the average stockpile shall stay within the enclosure walls and in no case the height of the stockpile shall exceed twice the height of the enclosure walls.		
			 Scattered piles gathered beneath belt conveyors, inside and around enclosures shall be cleared regularly. 		
			Rock drilling equipment	Within Concrete	N/A
			 Appropriate dust control equipment such as a dust extraction and collection system shall be used during rock drilling activities. 	Batching Plant / Duration of the construction phase	
			Hazard to Human Life – Construction Phase		
Table 6.40	3.2	-	■ Precautionary measures should be established to request barges to move away during typhoons.	Construction Site / Construction Period	I
Table 6.40	3.2	-	 An appropriate marine traffic management system should be established to minimize risk of ship collision. 	Construction Site / Construction Period	1
Table 6.40	3.2	-	• Location of all existing hydrant networks should be clearly identified prior to any construction works.	Construction Site / Construction Period	N/A
			Noise Impact – Construction Phase		
7.5.6	4.3	-	Good Site Practice Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during each phase of construction:	Within the Project site / During construction phase / Prior to	1
			 only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works; 	commencement of operation	
			 machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum; 		



EIA Ref.	EM&A Ref.	EP Condition		Location / Duration of measures	Mitigation Measures Implemented?^
				Timing of completion of measures	
			 plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs; 		
			 mobile plant should be sited as far away from NSRs as possible; and 		
			 material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities. 		
7.5.6	4.3	-	Adoption of QPME	Within the Project site /	1
			 QPME should be adopted as far as applicable. 	During construction phase / Prior to commencement of operation	
7.5.6	4.3	-	Use of Movable Noise Barriers	Within the Project site /	1
			 Movable noise barriers should be placed along the active works area and mobile plants to block the direct line of sight between PME and the NSRs. 	During construction phase / Prior to commencement of operation	
7.5.6	4.3	-	Use of Noise Enclosure/ Acoustic Shed	Within the Project site /	1
			 Noise enclosure or acoustic shed should be used to cover stationary PME such as air compressor and generator. 	During construction phase / Prior to commencement of operation	
			Water Quality Impact – Construction Phase		_



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
8.8.1.2 and	5.1	2.26	Marine Construction Activities	Within construction site / Duration of the construction phase	I
8.8.1.3			General Measures to be Applied to All Works Areas		
			 Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation; 		
			Use of Lean Material Overboard (LMOB) systems shall be prohibited;		
			 Excess materials shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessels are moved; 		
			 Plants should not be operated with leaking pipes and any pipe leakages shall be repaired quickly; 		
			 Adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action; 		
			 All vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; 		
			 The works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the works site; and 		
			• For ground improvement activities including DCM, the wash water from cleaning of the drilling shaft should be appropriately treated before discharge. The Contractor should ensure the waste water meets the WPCO/TM requirements before discharge. No direct discharge of contaminated water is permitted.		
			Specific Measures to be Applied to All Works Areas	Within construction	
			 The daily maximum production rates shall not exceed those assumed in the water quality assessment in the EIA report; 	site / Duration of the construction phase	1
			 A maximum of 10 % fines content to be adopted for sand blanket and 20 % fines content for marine filling below +2.5 mPD prior to substantial completion of seawall (until end of Year 2017) shall be specified in the works contract document; 	-	
			 An advance seawall of at least 200m to be constructed (comprising either rows of contiguous permanent steel cells completed above high tide mark or partially completed seawalls with rock core to high tide mark and filter layer on the inner side) prior to commencement of marine filling activities; 		N/A
			 Closed grab dredger shall be used to excavate marine sediment; 		N/A
			 Silt curtains surrounding the closed grab dredger shall be deployed in accordance with the Silt Curtain Deployment Plan; and 		*(The arrangement silt curtain has been modified. The detait can be referred to S Curtain Deployment Plan)
			The Silt Curtain Deployment Plan shall be implemented.		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			 Specific Measures to be Applied to Land Formation Activities prior to Commencement of Marine Filling Works Double layer 'Type III' silt curtains to be applied around the active eastern works areas prior to commencement of sand blanket laying activities. The silt curtains shall be configured to minimise SS release during ebb tides. A silt curtain efficiency test shall be conducted to validate the performance of the silt curtains; Double layer silt curtains to enclose WSRs C7a and silt screens installed at the intake points for both WSR C7a and C8 prior to commencement of construction; and 	Within construction site / Duration of the construction phase	NA *(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan) For C7a, I For C8, N/A *(The requirement of silt curtain / screen has been modified. The details can be referred to Silt Curtain Deployment Plan)
			■ The silt curtains and silt screens should be regularly checked and maintained.	-	I
			Specific Measures to be Applied to Land Formation Activities during Marine Filling Works Double layer 'Type II' or 'Type III' silt curtains to be applied around the eastern openings between partially completed seawalls prior to commencement of marine filling activities. The silt curtains shall be configured to minimise SS release during ebb tides;	Within construction site / Duration of the construction phase	N/A *(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan)
			 Double layer silt curtains to be applied at the south-western opening prior to commencement of marine filling activities; 		N/A *(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan)
			 Double layer silt curtain to enclose WSR C7a and silt screens installed at the intake points for both WSR C7a and C8 prior to commencement of marine filling activities; and 		N/A *(The requirement of silt curtain / screen has been modified. The details can be referred to Silt Curtain Deployment Plan)
			The silt curtains and silt screens should be regularly checked and maintained.		N/A



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
				Timing of completion of measures	Implemented?^
			Specific Measures to be Applied to the Field Joint Excavation Works for the Submarine Cable Diversion	Within construction	N/A
			 Only closed grabs designed and maintained to avoid spillage shall be used and should seal tightly when operated. Excavated materials shall be disposed at designated marine disposal area in accordance with the Dumping and Sea Ordinance (DASO) permit conditions; and 	site / Duration of the construction phase	
			 Silt curtains surrounding the closed grab dredger to be deployed as a precautionary measure. 		
8.8.1.4	5.1	-	Modification of the Existing Seawall	At the existing	N/A
			• Silt curtains shall be deployed around the seawall modification activities to completely enclose the active works areas, and care should be taken to avoid splashing of rockfill / rock armour into the surrounding marine environment. For the connecting sections with the existing outfalls, works for these connection areas should be undertaken during the dry season in order that individual drainage culvert cells may be isolated for interconnection works.	northern seawall / Duration of the construction phase	
8.8.1.5	5.1	-	Construction of New Stormwater Outfalls and Modifications to Existing Outfalls	Within construction	N/A
			 During operation of the temporary drainage channel, runoff control measures such as bunding or silt fence shall be provided on both sides of the channel to prevent accumulation and release of SS via the temporary channel. Measures should also be taken to minimise the ingress of site drainage into the culvert excavations. 	site / Duration of the construction phase	
8.8.1.6	5.1	2.27	Piling Activities for Construction of New Runway Approach Lights and HKIAAA Marker Beacons	Within construction	N/A
8.8.1.7			Silt curtains shall be deployed around the piling activities to completely enclose the piling works and care should be taken to avoid spillage of excavated materials into the surrounding marine environment.	site / Duration of the construction phase	
			For construction of the eastern approach lights at the CMPs		
			 Ground improvement via DCM using a close-spaced layout shall be completed prior to commencement of piling works; 		
			 Steel casings shall be installed to enclose the excavation area prior to commencement of excavation; 		
			The excavated materials shall be removed using a closed grab within the steel casings;		
			No discharge of the cement mixed materials into the marine environment will be allowed; and		
			 Excavated materials shall be treated and reused on-site. 		
8.8.1.8	5.1	-	Construction of Site Runoff and Drainage	Within construction	
			The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended:	site / Duration of the construction phase	
			 Install perimeter cut-off drains to direct off-site water around the site and implement internal drainage, erosion and sedimentation control facilities. Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site 	-	1



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?^
				Timing of completion of measures	
			drainage system should be undertaken by the Contractors prior to the commencement of construction (for works areas located on the existing Airport island) or as soon as the new land is completed (for works areas located on the new landform);		
			Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM-DSS standards under the WPCO. The design of efficient silt removal facilities should make reference to the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the Contractors prior to the commencement of construction;		1
			 All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly; 		1
			 Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities; 		N/A
			• In the event that contaminated groundwater is identified at excavation areas, this should be treated on- site using a suitable wastewater treatment process. The effluent should be treated according to the requirements of the TM-DSS standards under the WPCO prior to discharge to foul sewers or collected for proper disposal off-site. No direct discharge of contaminated groundwater is permitted; and	_	N/A
			• All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facility should be provided at construction site exits. Wash-water should have sand and silt settled out and removed regularly to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. All washwater should be treated according to the requirements of the TM-DSS standards under the WPCO prior to discharge.		1
8.8.1.9	5.1	-	Sewage Effluent from Construction Workforce	Within construction	I
			Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	site / During construction phase	
8.8.1.10	5.1		General Construction Activities	Within construction	1
8.8.1.11			 Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby storm water drain. Stockpiles of cement and other construction materials should be kept covered when not being used; and 	site / During construction phase	



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
			Timing of completion of measures	Implemented?^	
			Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.		
8.8.1.12	5.1	2.28	Drilling Activities for the Submarine Aviation Fuel Pipelines	Within construction	1
8.8.1.13			To prevent potential water quality impacts at Sha Chau, the following measures shall be applied:	site / During	
			 A 'zero-discharge' policy shall be applied for all activities to be conducted at Sha Chau; 	construction phase	
			 No bulk storage of chemicals shall be permitted; and 		
			 A containment pit shall be constructed around the drill holes. This containment pit shall be lined with impermeable lining and bunded on the outside to prevent inflow from off-site areas. 		
			At the airport island side of the drilling works, the following measures shall be applied for treatment of wastewater:	Within construction site / During	1
			 During pipe cleaning, appropriate desilting or sedimentation device should be provided on site for treatment before discharge. The Contractor should ensure discharge water from the sedimentation tank meet the WPCO/TM requirements before discharge; and 	construction phase	
			 Drilling fluid used in drilling activities should be reconditioned and reused as far as possible. Temporary enclosed storage locations should be provided on-site for any unused chemicals that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries. 		
			Waste Management Implication – Construction Phase		
10.5.1.1	7.1	-	Opportunities to minimise waste generation and maximise the reuse of waste materials generated by the project have been incorporated where possible into the planning, design and construction stages, and the following measures have been recommended:		
			• The relevant construction methods (particularly for the tunnel works) and construction programme have been carefully planned and developed to minimise the extent of excavation and to maximise the on-site reuse of inert C&D materials generated by the project as far as practicable. Temporary stockpiling areas will also be provided to facilitate on-site reuse of inert C&D materials;	Project Site Area / During design and construction phase	I
	 Priority should be given to collect and reuse suitable inert C&D materials generated from other 	 Priority should be given to collect and reuse suitable inert C&D materials generated from other concurrent projects and the Government's PFRF as fill materials for the proposed land formation works; 		1	
			 Only non-dredged ground improvement methods should be adopted in order to completely avoid the need for dredging and disposal of marine sediment for the proposed land formation work; 	•	I
			 Excavation work for constructing the APM tunnels, BHS tunnels and airside tunnels will not be down to the CMPs beneath the fill materials in order to avoid excavating any sediments; and 	_	N/A



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?
			■ For the marine sediments expected to be excavated from the piling works of TRC, APM & BHS tunnels, airside tunnels and other facilities on the proposed land formation area, piling work of marine sections of the approach lights and HKIAAA beacons, basement works for some of T2 expansion area and excavation works for the proposed APM depot should be treated and reused on-site as backfilling materials, although required treatment level / detail and the specific re-use mode are under development.		N/A
10.5.1.1	7.1	-	The following good site practices should be performed during the construction activities include:	Project Site Area /	I
			 Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; 	Construction Phase	
			 Training of site personnel in proper waste management and chemical waste handling procedures; 		
			 Provision of sufficient waste disposal points and regular collection for disposal; 		
			 Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks by tarpaulin/ similar material or by transporting wastes in enclosed containers. The cover should be extended over the edges of the sides and tailboards; 		
			 Stockpiles of C&D materials should be kept wet or covered by impervious sheets to avoid wind-blown dust; 		
			 All dusty materials including C&D materials should be sprayed with water immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling at the barging points/ stockpile areas; 		
			 C&D materials to be delivered to and from the project site by barges or by trucks should be kept wet or covered to avoid wind-blown dust; 		
			• The speed of the trucks including dump trucks carrying C&D or waste materials within the site should be controlled to about 10 km/hour in order to reduce the adverse dust impact and secure the safe movement around the site; and		
			To avoid or minimise dust emission during transport of C&D or waste materials within the site, each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials. Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.		
10.5.1.3	7.1	-	The following practices should be performed to achieve waste reduction include:	Project Site Area /	1
			 Use of steel or aluminium formworks and falseworks for temporary works as far as practicable; 	Construction Phase	
			 Adoption of repetitive design to allow reuse of formworks as far as practicable; 		
			 Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; 		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?^
				Timing of completion of measures	implemented : "
			 Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force; 		
			 Any unused chemicals or those with remaining functional capacity should be collected for reused as far as practicable; 		
			 Proper storage and site practices to minimise the potential for damage or contamination of construction materials; and 		
			 Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. 		
10.5.1.5	7.1		 Inert and non-inert C&D materials should be handled and stored separately to avoid mixing the two types of materials. 	Project Site Area / Construction Phase	1
10.5.1.5	7.1	-	 Any recyclable materials should be segregated from the non-inert C&D materials for collection by reputable licensed recyclers whereas the non-recyclable waste materials should be disposed of at the designated landfill site by a reputable licensed waste collector. 	Project Site Area / Construction Phase	I
10.5.1.6	7.1	-	 A trip-ticket system promulgated shall be developed in order to monitor the off-site delivery of surplus inert C&D materials that could not be reused on-site for the proposed land formation work at the PFRF and to control fly tipping. 	Project Site Area / Construction Phase	I
10.5.1.6	7.1	2.32	 The Contractor should prepare and implement a Waste Management Plan detailing various waste arising and waste management practices. 	Construction Phase	1
10.5.1.16	7.1	-	The following mitigation measures are recommended during excavation and treatment of the sediments:	Project Site Area /	N/A
			 On-site remediation should be carried out in an enclosed area in order to minimise odour/dust emissions; 	Construction Phase	
			 The loading, unloading, handling, transfer or storage of treated and untreated sediment should be carried out in such a manner to prevent or minimise dust emissions; 		
			 All practical measures, including but not limited to speed control for vehicles, should be taken to minimise dust emission; 		
			 Good housekeeping should be maintained at all times at the sediment treatment facility and storage area; 		
			 Treated and untreated sediment should be clearly separated and stored separately; and 		
			 Surface runoff from the enclosed area should be properly collected and stored separately, and then properly treated to levels in compliance with the relevant effluent standards as required by the Water Pollution Control Ordinance before final discharge. 		
10.5.1.18	7.1	-	The marine sediments to be removed from the cable field joint area would be disposed of at the designated disposal sites to be allocated by the MFC. The following mitigation measures should be strictly	Project Site Area / Construction Phase	N/A



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			followed to minimise potential impacts on water quality during transportation of the sediments requiring Type 1 disposal:		
			 Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material; 		
			 Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by EPD; and 		
			 Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation. 		
10.5.1.19	7.1	-	Contractor should register with the EPD as a chemical waste producer and to follow the relevant guidelines. The following measures should be implemented:	Project Site Area / Construction Phase	1
			 Good quality containers compatible with the chemical wastes should be used; 		
			Incompatible chemicals should be stored separately;		
			 Appropriate labels must be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc.; and 		
			 The contractor will use a licensed collector to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. 		
10.5.1.20	7.1	-	 General refuse should be stored in enclosed bins or compaction units separated from inert C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site for disposal at designated landfill sites. An enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material. 	Project Site Area / Construction Phase	I
10.5.1.21	7.1	-	 The construction contractors will be required to regularly check and clean any refuse trapped or accumulated along the newly constructed seawall. Such refuse will then be stored and disposed of together with the general refuse. 	Project Site Area / Construction Phase	N/A
			Land Contamination – Construction Phase		
11.10.1.2	8.1	2.32	For areas inaccessible during site reconnaissance survey	Project Site Area	
to 11.10.1.3			• Further site reconnaissance would be conducted once the areas are accessible in order to identify any land contamination concern for the areas.	inaccessible during site reconnaissance / Prior to Construction Phase	I
			 Subject to further site reconnaissance findings, a supplementary Contamination Assessment Plan (CAP) for additional site investigation (SI) (if necessary) may be prepared and submitted to EPD for endorsement prior to the commencement of SI at these areas. 	-	I



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			• After completion of SI, the Contamination Assessment Report (CAR) will be prepared and submitted to EPD for approval prior to start of the proposed construction works at the golf course, the underground and above-ground fuel storage tank areas, emergency power generation units, airside petrol filling station and fuel tank room.		N/A
			 Should remediation be required, Remediation Action Plan (RAP) and Remediation Report (RR) will be prepared for EPD's approval prior to commencement of the proposed remediation and any construction works respectively. 	-	N/A
11.8.1.2	8.1	-	If contaminated soil is identified, the following mitigation measures are for the excavation and transportation of contaminated materials (if any):	Project Site Area / Construction Phase	N/A
			 To minimize the incidents of construction workers coming in contact with any contaminated materials, bulk earth-moving excavation equipment should be employed; 		
			 Contact with contaminated materials can be minimised by wearing appropriate clothing and personal protective equipment such as gloves and masks (especially when working directly with contaminated material), provision of washing facilities and prohibition of smoking and eating on site; 		
			 Stockpiling of contaminated excavated materials on site should be avoided as far as possible; 		
			 The use of any contaminated soil for landscaping purpose should be avoided unless pre-treatment was carried out; 		
			 Vehicles containing any excavated materials should be suitably covered to reduce dust emissions and/or release of contaminated wastewater; 		
			Truck bodies and tailgates should be sealed to prevent any discharge;		
			 Only licensed waste haulers should be used to collect and transport contaminated material to treatment/disposal site and should be equipped with tracking system to avoid fly tipping; 		
			 Speed control for trucks carrying contaminated materials should be exercised. 8km/h is the recommended speed limit; 		
			 Strictly observe all relevant regulations in relation to waste handling, such as Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) and obtain all necessary permits where required; and 		
			 Maintain records of waste generation and disposal quantities and disposal arrangements. 		
			Terrestrial Ecological – Construction Phase		
12.10.1.1	9.2	2.14	Pre-construction Egretry Survey Conduct ecological survey for Sha Chau egretry to update the latest boundary of the egretry.	Breeding season (April - July) prior to commencement of HDD drilling works at HKIA	I



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?
12.7.2.3	9.1	2.30	Avoidance and Minimisation of Direct Impact to Egretry	During construction	1
and 12.7.2.6			 The daylighting location will avoid direct encroachment to the Sheung Sha Chau egretry. The daylighting location and mooring of flat top barge, if required, will be kept away from the egretry; 	phase at Sheung Sha Chau Island	
			 In any event, controls such as demarcation of construction site boundary and confining the lighting within the site will be practised to minimise disturbance to off-site habitat at Sheung Sha Chau Island; and 		
			The containment pit at the daylighting location shall be covered or camouflaged.		
12.7.2.5	9.1	2.30	Preservation of Nesting Vegetation	During construction	I
			 The proposed daylighting location and the arrangement of connecting pipeline will avoid the need of tree cutting, therefore the trees that are used by ardeids for nesting will be preserved. 	phase at Sheung Sha Chau Island	
12.7.2.4	9.1	2.30	Timing the Pipe Connection Works outside Ardeid's Breeding Season	During construction	1
and 12.7.2.6			 All HDD and related construction works on Sheung Sha Chau Island will be scheduled outside the ardeids' breeding season (between April and July). No night-time construction work will be allowed on Sheung Sha Chau Island during all seasons. 	phase at Sheung Sha Chau Island	
12.10.1.1	9.3	-	Ecological Monitoring	at Sheung Sha Chau	1
			 During the HDD construction works period from August to March, ecological monitoring will be undertaken monthly at the HDD daylighting location on Sheung Sha Chau Island to identify and evaluate any impacts with appropriate actions taken as required to address and minimise any adverse impact found. 	Island	
			Marine Ecological Impact – Pre-construction Phase		
13.11.4.1	10.2.2	-	■ Pre-construction phase Coral Dive Survey.	HKIAAA artificial seawall	I
			Marine Ecological Impact – Construction Phase		
13.11.1.3	-	-	Minimisation of Land Formation Area	Land formation	1
to 13.11.1.6			 Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for marine resources, especially the CWD population. 	footprint / during detailed design phase to completion of construction	
13.11.1.7	-	2.31	Use of Construction Methods with Minimal Risk/Disturbance	During construction	
to 13.11.1.10			 Use of non-dredge method for the main land formation and ancillary works including the diversion of the aviation fuel pipeline to the AFRF; 	phase at marine works area	I
			 Use of Deep Cement Mixing (DCM) method instead of conventional seabed dredging for the land formation works to reduce the risk of negative impacts through the elevation of suspended solids and contaminants on CWDs, fisheries and the marine environment; 		I



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			 Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; 		N/A
			 Avoid bored piling during CWD peak calving season (Mar to Jun); 	-	1
			■ Prohibition of underwater percussive piling; and	-	I
			 Use of horizontal directional drilling (HDD) method and water jetting methods for placement of submarine cables and pipelines to minimise the disturbance to the CWDs and other marine ecological resources. 	-	I
13.11.2.1	-	-	Mitigation for Indirect Disturbance due to Deterioration of Water Quality	All works area during	
to 13.11.2.7			 Water quality mitigation measures during construction phases include consideration of alternative construction methods, deployment of silt curtain and good site practices; 	the construction phase	1
			 Alternative construction methods including use of non-dredge methods for ground improvement (e.g. Deep Cement Mixing (DCM), prefabricated vertical drains (PVD), sand compaction piles, steel cells, stone columns and vertical sand drains); 	-	I
		 Use of bored piling in short duration to form the new approach lights and runway; and 	 Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and 	_	N/A
			Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to the CWDs and other marine ecological resources.		I
13.11.1.12	-	-	Strict Enforcement of No-Dumping Policy	All works area during	1
			 A policy prohibiting dumping of wastes, chemicals, oil, trash, plastic, or any other substance that would potentially be harmful to dolphins and/or their habitat in the work area; 	the construction phase	
			 Mandatory educational programme of the no-dumpling policy be made available to all construction site personnel for all project-related works; 		
			Fines for infractions should be implemented; and		
			 Unscheduled, on-site audits shall be implemented. 		
13.11.1.13	-	-	 Good Construction Site Practices Regular inspection of the integrity and effectiveness of all silt curtains and monitoring of effluents to ensure that any discharge meets effluent discharge guidelines; Keep the number of working or stationary vessels present on-site to the minimum anytime; and Unscheduled, on-site audits for all good site practice restrictions should be conducted, and fines or penalties sufficient to be an effective deterrent need to be levied against violators. 	All works area during the construction phase	I
13.11.1.3	-	-	Minimisation of Land Formation Area	Land formation	1
to 13.11.1.6			 Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for marine resources, especially the CWD population. 	footprint / during detailed design phase	



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
			Timing of completion of measures	Implemented?^	
				to completion of construction	
13.11.5.4	10.3.1	-	SkyPier High Speed Ferries' Speed Restrictions and Route Diversions	Area between the	1
to 13.11.5.13			SkyPier HSFs operating to / from Zhuhai and Macau would divert north of SCLKC Marine Park with a 15 knot speed limit to apply for the part-journeys that cross high CWD abundance grid squares as indicatively shown in Drawing No. MCL/P132/EIA/13-023 of the EIA Report. Both the alignment of the northerly route and the portion of routings to be subject to the speed limit of 15 knots shall be finalised prior to commencement of construction based on the future review of up-to-date CWD abundance and EM&A data and taking reference to changes in total SkyPier HSF numbers; and	footprint and SCLKC Marine Park during construction phase	
			• A maximum of 10 knots will be enforced through the designated SCLKC Marine Park area at all times.		
			Other mitigation measures	Area between the	1
			 The ET will audit various parameters including actual daily numbers of HSFs, compliance with the 15-knot speed limit in the speed control zone and diversion compliance for SkyPier HSFs operating to / from Zhuhai and Macau; and 	footprint and SCLKC Marine Park during construction phase	
			■ The effectiveness of the CWD mitigation measures after implementation of initial six month SkyPier HSF diversion and speed restriction will be reviewed.		
13.11.5.14	10.3.1	2.31	Dolphin Exclusion Zone	Marine waters around	
to 13.11.5.18			 Establishment of a 24 hr Dolphin Exclusion Zone (DEZ) with a 250 m radius around the land formation works areas; 	land formation works area during construction phase	I
			 A DEZ would also be implemented during ground improvement works (e.g. DCM), water jetting works for submarine cables diversion, open trench dredging at the field joint locations and seawall construction; and 		I
			 A DEZ would also be implemented during bored piling work but as a precautionary measure only. 		N/A
13.11.5.19	10.4	2.31	Acoustic Decoupling of Construction Equipment	Around coastal works	1
			 Air compressors and other noisy equipment that must be mounted on steel barges should be acoustically-decoupled to the greatest extent feasible, for instance by using rubber or air-filled tyres; and 	area during construction phase	
			 Specific acoustic decoupling measures shall be specified during the detailed design of the project for use during the land formation works. 		
13.11.5.20	10.6.1	2.29	Spill Response Plan	Construction phase	1
			 An oil and hazardous chemical spill response plan is proposed to be established during the construction phase as a precautionary measure so that appropriate actions to prevent or reduce risks to CWDs can be undertaken in the event of an accidental spillage. 		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
13.11.5.21 to 13.11.5.23	10.6.1	-	Construction Vessel Speed Limits and Skipper Training A speed limit of 10 knots should be strictly observed for construction vessels at areas with the highest CWD densities; and Vessels traversing through the work areas should be required to use predefined and regular routes (which would presumably become known to resident dolphins) to reduce disturbance to cetaceans due to vessel movements. Specific marine routes shall be specified by the Contractor prior to construction commencing.	All areas north and west of Lantau Island during construction phase	I
			Fisheries Impact – Construction Phase		
14.9.1.2 to 14.9.1.5	-		Minimisation of Land Formation Area Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for fisheries resources.	Land formation footprint / during detailed design phase to completion of construction	I
14.9.1.6	-	-	Use of Construction Methods with Minimal Risk/Disturbance Use of non-dredge method for the main land formation and ancillary works including the diversion of the aviation fuel pipeline to the AFRF;	During construction phase at marine works area	1
			 Use of Deep Cement Mixing (DCM) method instead of conventional seabed dredging for the land formation works to reduce the risk of negative impacts through the elevation of suspended solids and contaminants on fisheries and the marine environment; 	-	1
			 Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and 	_	N/A
			 Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to fisheries resources. 	-	I
14.9.1.11	-		Strict Enforcement of No-Dumping Policy • A policy prohibiting dumping of wastes, chemicals, oil, trash, plastic, or any other substance that would potentially be harmful to dolphins and/or their habitat in the work area;	All works area during the construction phase	I
			 Mandatory educational programme of the no-dumpling policy be made available to all construction site personnel for all project-related works; 		
			Fines for infractions should be implemented; and		
			 Unscheduled, on-site audits shall be implemented. 		
14.9.1.12	-		 Good Construction Site Practices Regular inspection of the integrity and effectiveness of all silt curtains and monitoring of effluents to ensure that any discharge meets effluent discharge guidelines; Keep the number of working or stationary vessels present on-site to the minimum anytime; and 	All works area during the construction phase	l



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			 Unscheduled, on-site audits for all good site practice restrictions should be conducted, and fines or penalties sufficient to be an effective deterrent need to be levied against violators. 		
14.9.1.13	-		Mitigation for Indirect Disturbance due to Deterioration of Water Quality	All works area during	
to 14.9.1.18			 Water quality mitigation measures during construction phases include consideration of alternative construction methods, deployment of silt curtain and good site practices; 	the construction phase	1
			Alternative construction methods including use of non-dredge methods for ground improvement (e.g. Deep Cement Mixing (DCM), prefabricated vertical drains (PVD), sand compaction piles, steel cells, stone columns and vertical sand drains);		I
			 Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and 	-	N/A
			 Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to fisheries resources. 		I
			Landscape and Visual Impact – Construction Phase		
Table 15.6	12.3	-	CM1 - The construction area and contractor's temporary works areas should be minimised to avoid impacts on adjacent landscape.	All works areas for duration of works;	1
				Upon handover and completion of works.	
Table 15.6	12.3	-	CM2 - Reduction of construction period to practical minimum.	All works areas for duration of works;	1
				Upon handover and completion of works.	
Table 15.6	12.3	-	CM3 - Phasing of the construction stage to reduce visual impacts during the construction phase.	All works areas for duration of works;	1
				Upon handover and completion of works.	
Table 15.6	12.3	CM4 - Construction traffic (land and sea) including construction plants, construction vessels and be should be kept to a practical minimum.	CM4 - Construction traffic (land and sea) including construction plants, construction vessels and barges should be kept to a practical minimum.	All works areas for duration of works;	I
				Upon handover and completion of works.	
Table 15.6	12.3	-	CM5 - Erection of decorative mesh screens or construction hoardings around works areas in visually unobtrusive colours.	All works areas for duration of works;	I
				Upon handover and completion of works. –	



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
				Timing of completion of measures	Implemented?^
				may be disassembled in phases	
Table 15.6	12.3	-	CM6 - Avoidance of excessive height and bulk of site buildings and structures.	New passenger concourse, terminal 2 expansion and other proposed airport related buildings and structures under the project;	N/A
				Upon handover and completion of works.	
Table 15.6 12.3 -		-	CM7 - Control of night-time lighting by hooding all lights and through minimisation of night working periods.	All works areas for duration of works;	I
				Upon handover and completion of works. – may be disassembled in phases	
Table 15.6	12.3	-	CM8 - All existing trees shall be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall	All existing trees to be retained;	I
			be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas.	Upon handover and completion of works.	
Table 15.6	12.3	-	CM9 - Trees unavoidably affected by the works shall be transplanted where practical. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, if applicable. Sufficient time for	All existing trees to be affected by the works;	N/A
			necessary tree root and crown preparation periods shall be allowed in the project programme.	Upon handover and completion of works.	
Table 15.6	12.3	-	CM10 - Land formation works shall be followed with advanced hydroseeding around taxiways and runways as soon as practical.	All affected existing grass areas around runways and verges/Duration of works;	N/A
				Upon handover and completion of works.	
			Cultural Heritage Impact – Construction Phase		
			Not applicable.		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Health Impact – Aircraft Emissions		
			Not applicable.		
			Health Impact – Aircraft Noise		_
	•		Not applicable.		

Notes:

I= implemented where applicable;

N/A= not applicable to the construction works implemented during the reporting month.

[^] Checked by ET during site inspection

Appendix C. Monitoring Schedule

1

Monitoring Schedule of This Reporting Period

Mar-17

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		100000	1	2	3	4
			Site Inspection	Site Inspection		•
			NM1A/AR1A	NM5/AR2		
			NM4	NM3A		
				WQ General & Regular DCM		WQ General & Regular DCM
				mid-ebb: 15:34		mid-ebb: 17:18
_		_		mid-flood: 09:24		mid-flood: 10:35
5	6	7	8	9	10	11
	014/5 1/	Site Inspection	Site Inspection	Site Inspection	OWD V	
	CWD Vessel Survey NM6	NM1A/AR1A	NM5/AR2		CWD Vessel Survey	
	INIVIO	NM4	NM3A			
		TVIVIT	NIVIOA			
		WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 08:53		mid-ebb: 11:19		mid-ebb: 12:40
		mid-flood: 13:59		mid-flood: 16:32	2	mid-flood: 06:59
12	13	14	15	16	17	18
		Site Inspection	Site Inspection	Site Inspection	Site Inspection	
	CWD Vessel Survey	CWD Vessel Survey				
	NM1A/AR1A	NM5/AR2		NM6	AR1A	
	NM4	NM3A	WO Conserved a Dominion DOM		Ecological Monitoring	
			WQ General & Regular DCM mid-ebb: 14:38		WQ General & Regular DCM mid-ebb: 15:	16
			mid-flood: 08:40		mid-flood: 09:	
19	20	21	22	23	24	25
.0	20	Site Inspection	Site Inspection	Site Inspection		20
	CWD Vessel Survey	CWD Vessel Survey	One mopestion	CWD Vessel Survey	CWD Vessel Survey	
	CWD Land-based Survey	CWD Land-based Survey		NM1A/AR1A	CWD Land-based Survey	
	NM5/AR2	•		NM4	AR2	
	NM3A					
WQ General & Regular DCM	NM6	WQ General & Regular DCM		WQ General Monitoring		WQ General Monitoring
mid-ebb: 17:16 mid-flood: 10:27		mid-ebb: 19:45 mid-flood: 06:55		mid-ebb: 10:25 mid-flood: 15:02		mid-ebb: 16:27 mid-flood: 09:57
	07		00	30	-	IIIId-1100d. 09:57
26	27	28	29		31	
	Site Inspection	Site Inspection CWD Land-based Survey	CWD Land-based Survey	Site Inspection NM5/AR2	Site Inspection	
		NM6	NM1A/AR1A	NM3A		
			NM4			
		WQ General Monitoring		WQ General Monitoring		
		mid-ebb: 13:18		mid-ebb: 14:32		
		mid-flood: 07:17	1	mid-flood: 08:15	5	
		Notes:				
			NM1A/AR1A - Man Tung Road Park			
		Air quality and Noise Monitoring	NM3A - Site Office			
		Station	NM4 - Ching Chung Hau Po Woon Prir NM5/AR2 - Village House, Tin Sum	mary School		
			NM5/AH2 - Village House, Tin Sum NM6 - House No. 1, Sha Lo Wan			
		CWD - Chinese White Dolphin	ININIO - HOUSE INO. 1, SHA LO WAII			
		WQ - Water Quality				
		DCM - Deep Cemenet Mixing				
		* Rescheduled due to adverse weather				
		^ Cancelled due to adverse weather				

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Tentative Monitoring Schedule of Next Reporting Period

Apr-17

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						W0.0 10.0 1.00M
						WQ General & Regular DCM mid-ebb: 16:04
						mid-flood: 09:23
2	3	4	5	6	7	8
			Site Inspection	Site Inspection	Site Inspection	
	NM1A/AR1A		CWD Vessel Survey NM5/AR2	CWD Land-based Survey NM6	CWD Land-based Survey AR1A	
	NM4		NM3A			
		WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 06:55		mid-ebb: 10:19		mid-ebb: 11:47
		mid-flood: 11:58		mid-flood: 15:26		mid-flood: 17:24
9	10	11	12	13	14	15
	CWD Vessel Survey	Site Inspection CWD Vessel Survey	CWD Vessel Survey	Site Inspection CWD Land-based Survey		
	NM5/AR2	NM6	NM1A/AR1A	AR2		
	NM3A		NM4			
		WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 13:13		mid-ebb: 14:14		mid-ebb: 15:19
- 10		mid-flood: 07:07		mid-flood: 07:56		mid-flood: 08:47
16	17	18	19	20 Site Inspection	21	22
		Site Inspection CWD Vessel Survey	CWD Vessel Survey	Site Inspection CWD Vessel Survey	Site Inspection CWD Land-based Survey	
		NM1A/AR1A	NM5/AR2	,	,	
		NM4 NM6	NM3A			
		WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 17:31		mid-ebb: 19:56		mid-ebb: 10:34
23	24	mid-flood: 10:11 25	26	mid-flood: 12:58	28	mid-flood: 15:43 29
23	CWD Vessel Survey	Site Inspection	20	Site Inspection	Site Inspection	29
	CWD Land-based Survey	NM5/AR2		AR1A	AR2	
	NM1A/AR1A NM4	NM3A				
	NM6					
		WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 12:17 mid-flood: 18:24		mid-ebb: 13:34 mid-flood: 07:07		mid-ebb: 15:02 mid-flood: 08:18
30		Notes: 18.24	<u> </u>	11110-1100d. 07:07		1111G-1100G. 06.16
			NM1A/AR1A - Man Tung Road Park			
		Air quality and Noise Monitoring	NM3A - Site Office			
		Station	NM4 - Ching Chung Hau Po Woon Prin NM5/AR2 - Village House, Tin Sum	nary School		
			NM6 - House No. 1, Sha Lo Wan			
		CWD - Chinese White Dolphin				
		WQ - Water Quality DCM - Deep Cemenet Mixing				
		* Rescheduled due to adverse weather				
		^ Cancelled due to adverse weather				

Appendix D. Monitoring Results

Air Quality Monitoring Results

1-hour TSP Results

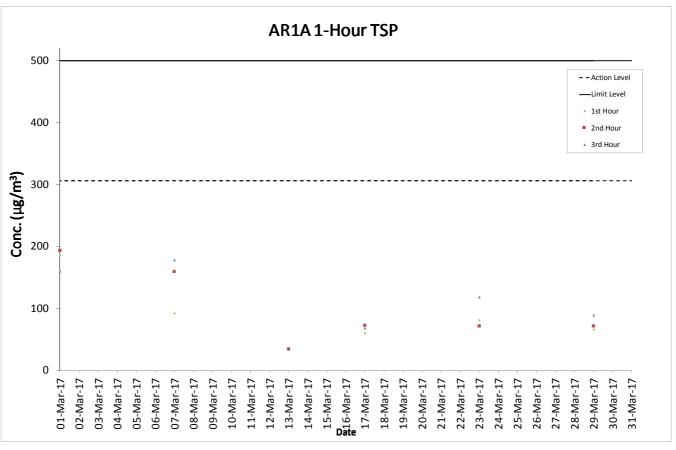
Station: AR1A- Man Tung Road Park

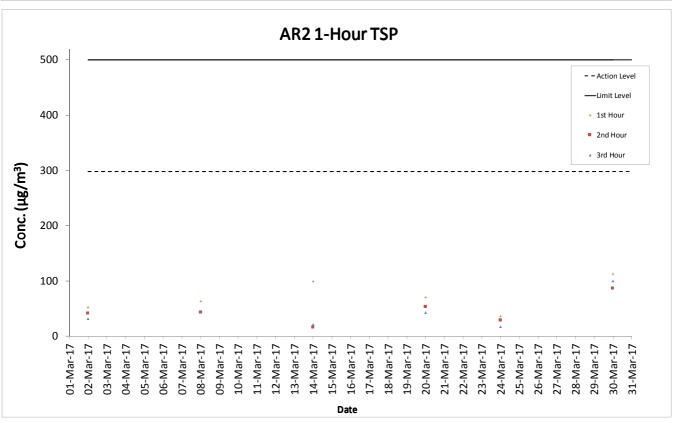
Station. Anta- Wall Tung Noad Fark							
Date	Time	Weather	Wind Speed (m/s)	Wind Direction (deg)	1-hr TSP (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
01-Mar-17	14:10	Fine	4.2	305	186	306	500
01-Mar-17	15:10	Fine	5.9	306	193	306	500
01-Mar-17	16:10	Fine	3.3	321	160	306	500
07-Mar-17	14:10	Cloudy	4.6	329	92	306	500
07-Mar-17	15:10	Cloudy	3.8	335	159	306	500
07-Mar-17	16:10	Cloudy	3.0	70	178	306	500
13-Mar-17	14:05	Fine	4.3	164	33	306	500
13-Mar-17	15:05	Fine	5	156	34	306	500
13-Mar-17	16:05	Fine	4.8	163	36	306	500
17-Mar-17	13:00	Cloudy	6.6	78	60	306	500
17-Mar-17	14:00	Cloudy	5.9	85	72	306	500
17-Mar-17	15:00	Cloudy	6.6	94	68	306	500
23-Mar-17	09:14	Cloudy	3.2	95	81	306	500
23-Mar-17	10:14	Cloudy	3.1	267	71	306	500
23-Mar-17	11:14	Cloudy	3.9	262	118	306	500
29-Mar-17	14:25	Fine	8.8	91	66	306	500
29-Mar-17	15:25	Fine	7.1	82	71	306	500
29-Mar-17	16:25	Fine	7.3	89	89	306	500

1-hour TSP Results

Station: AR2- Village House, Tin Sum

		,					
Date	Time	Weather	Wind Speed (m/s)	Wind Direction (deg)	1-hr TSP (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
02-Mar-17	09:00	Sunny	7.1	60	52	298	500
02-Mar-17	10:00	Sunny	5.0	48	41	298	500
02-Mar-17	11:00	Sunny	6.6	55	32	298	500
08-Mar-17	09:05	Cloudy	5.0	58	63	298	500
08-Mar-17	10:05	Cloudy	4.3	56	43	298	500
08-Mar-17	11:05	Cloudy	4.9	58	44	298	500
14-Mar-17	09:10	Drizzle	10.6	108	99	298	500
14-Mar-17	10:10	Drizzle	8.6	108	16	298	500
14-Mar-17	11:10	Drizzle	8.2	111	21	298	500
20-Mar-17	9:08	Sunny	5.8	65	70	298	500
20-Mar-17	10:08	Sunny	4.9	54	53	298	500
20-Mar-17	11:08	Sunny	4.9	56	43	298	500
24-Mar-17	09:00	Sunny	8.8	92	36	298	500
24-Mar-17	10:00	Sunny	9.9	87	29	298	500
24-Mar-17	11:00	Sunny	9.0	84	17	298	500
30-Mar-17	08:50	Fine	9.8	93	112	298	500
30-Mar-17	09:50	Fine	8.3	92	86	298	500
30-Mar-17	10:50	Fine	9.0	101	100	298	500





Noise Monitoring Results

Noise Measurement Results

Station: NM1A- Man Tung Road Park

Date	Weather	Time	Measured L ₁₀ dB(A)	Measured L ₉₀ dB(A)	L _{eq(30mins)} dB(A)	
01-Mar-17	Fine	14:25	71.0	56.5		
01-Mar-17	Fine	14:30	71.0	57.0		
01-Mar-17	Fine	14:35	71.0	58.0	74	
01-Mar-17	Fine	14:40	70.5	56.5	71	
01-Mar-17	Fine	14:45	73.0	56.0		
01-Mar-17	Fine	14:50	71.5	55.5		
07-Mar-17	Fine	14:40	72.0	54.0		
07-Mar-17	Fine	14:45	72.0	54.0		
07-Mar-17	Fine	14:50	71.0	54.0	74	
07-Mar-17	Fine	14:55	72.0	54.0	71	
07-Mar-17	Fine	15:00	72.0	54.0		
07-Mar-17	Fine	15:05	72.5	54.5		
13-Mar-17	Fine	14:18	70.5	53.5		
13-Mar-17	Fine	14:23	70.5	53.0		
13-Mar-17	Fine	14:28	74.0	54.5	71	
13-Mar-17	Fine	14:33	71.0	53.5	71	
13-Mar-17	Fine	14:38	71.0	55.0		
13-Mar-17	Fine	14:43	72.0	54.0		
23-Mar-17	Cloudy	09:35	72.0	57.5		
23-Mar-17	Cloudy	09:40	72.0	57.0		
23-Mar-17	Cloudy	09:45	72.5	57.5	71	
23-Mar-17	Cloudy	09:50	71.5	54.0	/1	
23-Mar-17	Cloudy	09:55	68.5	53.0		
23-Mar-17	Cloudy	10:00	72.0	54.0		
29-Mar-17	Fine	15:14	70.5	54.5		
29-Mar-17	Fine	15:19	73.0	54.0		
29-Mar-17	Fine	15:24	74.0	54.0	73	
29-Mar-17	Fine	15:29	73.5	56.0	/3	
29-Mar-17	Fine	15:34	73.5	57.5		
29-Mar-17	Fine	15:39	74.0	54.5		

Remarks

Noise Measurement Results Station: NM3A- Site Office

			Measured	Measured	1 45/4)	
Date	Weather	Time	L ₁₀ dB(A)	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)	
02-Mar-17	Sunny	14:15	65.5	57.5		
02-Mar-17	Sunny	14:20	64.0	58.0		
02-Mar-17	Sunny	14:25	69.5	58.0	62	
02-Mar-17	Sunny	14:30	67.5	58.0	- 63	
02-Mar-17	Sunny	14:35	65.5	58.5		
02-Mar-17	Sunny	14:40	66.5	58.0		
08-Mar-17	Cloudy	13:45	73.0	59.5		
08-Mar-17	Cloudy	13:50	67.0	58.0		
08-Mar-17	Cloudy	13:55	69.0	56.5		
08-Mar-17	Cloudy	14:00	68.0	56.0	61	
08-Mar-17	Cloudy	14:05	63.5	57.0		
08-Mar-17	Cloudy	14:10	69.5	57.0		
14-Mar-17	Cloudy	14:55	62.5	56.0		
14-Mar-17	Cloudy	15:00	68.0	55.5		
14-Mar-17	Cloudy	15:05	68.0	56.0		
14-Mar-17	Cloudy	15:10	65.0	55.0	63	
14-Mar-17	Cloudy	15:15	69.5	55.5		
14-Mar-17	Cloudy	15:20	68.0	56.0		
20-Mar-17	Sunny	14:45	63.0	59.5		
20-Mar-17	Sunny	14:50	61.5	59.5		
20-Mar-17	Sunny	14:55	63.5	60.0	61	
20-Mar-17	Sunny	15:00	63.5	60.0	01	
20-Mar-17	Sunny	15:05	61.5	59.0		
20-Mar-17	Sunny	15:10	60.5	59.0		
30-Mar-17	Fine	13:16	69.0	58.0		
30-Mar-17	Fine	13:21	67.0	58.0		
30-Mar-17	Fine	13:26	67.0	58.0	57	
30-Mar-17	Fine	13:31	67.0	57.5	5/	
30-Mar-17	Fine	13:36	68.5	59.0		
30-Mar-17	Fine	13:41	69.5	58.0		

⁺³dB (A) correction was applied to free-field measurement

Noise Measurement Results

Station: NM4- Ching Chung Hau Po Won Primary School

Date	Weather	Time	Measured L ₁₀ dB(A)	Measured L ₉₀ dB(A)	L _{eq(30mins)} dB(A)	
01-Mar-17	Fine	13:34	63.5	60.0		
01-Mar-17	Fine	13:39	65.5	60.0		
01-Mar-17	Fine	13:44	67.5	61.5	60	
01-Mar-17	Fine	13:49	65.5	60.0	60	
01-Mar-17	Fine	13:54	65.0	59.5		
01-Mar-17	Fine	13:59	68.5	57.5		
07-Mar-17	Cloudy	13:23	65.5	59.0		
07-Mar-17	Cloudy	13:28	63.0	59.5		
07-Mar-17	Cloudy	13:33	62.5	59.0	65	
07-Mar-17	Cloudy	13:38	64.5	59.0	03	
07-Mar-17	Cloudy	13:43	64.0	59.5		
07-Mar-17	Cloudy	13:48	64.0	59.5		
13-Mar-17	Fine	13:15	69.5	65.0		
13-Mar-17	Fine	13:20	64.5	59.0		
13-Mar-17	Fine	13:25	62.5	58.0	66	
13-Mar-17	Fine	13:30	63.0	58.0	00	
13-Mar-17	Fine	13:35	63.0	59.0		
13-Mar-17	Fine	13:40	65.0	59.0		
23-Mar-17	Cloudy	10:50	65.5	58.5		
23-Mar-17	Cloudy	10:55	64.0	59.0		
23-Mar-17	Cloudy	11:00	65.0	59.0	66	
23-Mar-17	Cloudy	11:05	65.5	60.0	00	
23-Mar-17	Cloudy	11:10	65.0	59.5		
23-Mar-17	Cloudy	11:15	66.5	59.5		
29-Mar-17	Fine	11:15	62.5	58.0		
29-Mar-17	Fine	11:20	62.5	58.5		
29-Mar-17	Fine	11:25	63.5	58.5	65	
29-Mar-17	Fine	11:30	64.0	58.5	65	
29-Mar-17	Fine	11:35	67.0	59.5		
29-Mar-17	Fine	11:40	64.0	58.5		

Remarks: +3dB (A) correction was applied to free-field measurement. The examination period at NM4 was from 27 to 31 March 2017.

Noise Measurement Results

Station: NM5- Village House, Tin Sum

Date	Weather	Time	Measured	Measured	L _{eq(30mins)} dB(A)
Date	vveatilei	111116	L ₁₀ dB(A)	L ₉₀ dB(A)	Leq(30mins)
02-Mar-17	Sunny	09:20	58.0	52.5	
02-Mar-17	Sunny	09:25	62.5	52.5	
02-Mar-17	Sunny	09:30	56.5	50.5	53
02-Mar-17	Sunny	09:35	62.0	51.0	33
02-Mar-17	Sunny	09:40	58.0	52.0	
02-Mar-17	Sunny	09:45	60.0	52.0	
08-Mar-17	Cloudy	11:10	63.0	52.5	
08-Mar-17	Cloudy	11:15	63.0	57.5	
08-Mar-17	Cloudy	11:20	63.0	54.0	61
08-Mar-17	Cloudy	11:25	62.0	55.5	61
08-Mar-17	Cloudy	11:30	61.5	49.5	
08-Mar-17	Cloudy	11:35	59.5	48.5	
14-Mar-17	Cloudy	09:40	62.0	51.5	
14-Mar-17	Cloudy	09:45	64.5	50.5	
14-Mar-17	Cloudy	09:50	66.0	51.0	61
14-Mar-17	Cloudy	09:55	60.0	51.0	01
14-Mar-17	Cloudy	10:00	59.5	51.0	
14-Mar-17	Cloudy	10:05	63.5	50.0	
20-Mar-17	Sunny	9:20	63.5	51.5	
20-Mar-17	Sunny	09:25	62.0	52.0	
20-Mar-17	Sunny	09:30	60.5	52.5	59
20-Mar-17	Sunny	09:35	58.0	51.5	39
20-Mar-17	Sunny	09:40	57.5	49.5	
20-Mar-17	Sunny	09:45	55.0	48.5	
30-Mar-17	Fine	09:43	55.5	48.0	
30-Mar-17	Fine	09:48	56.5	49.0	
30-Mar-17	Fine	09:53	54.5	49.5	56
30-Mar-17	Fine	09:58	56.5	47.5	30
30-Mar-17	Fine	10:03	55.0	48.0	
30-Mar-17	Fine	10:08	52.5	48.0	

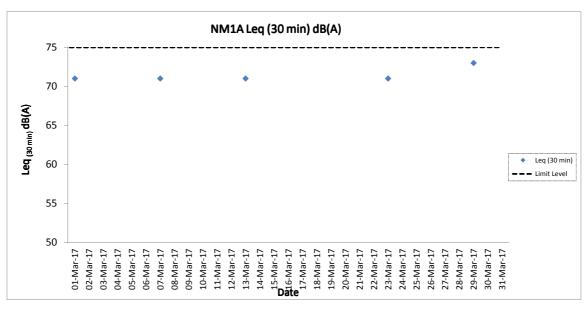
⁺³dB (A) correction was applied to free-field measurement

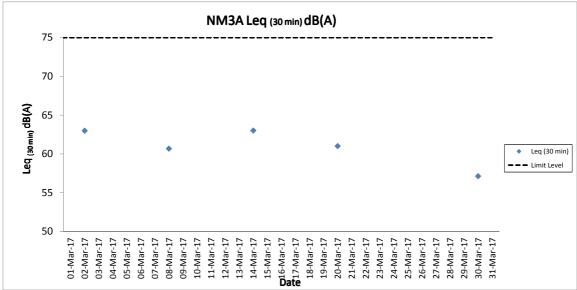
Noise Measurement Results

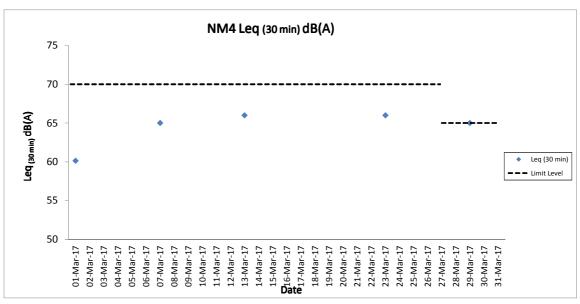
Station: NM6- House No.1 Sha Lo Wan

Date	Weather	Time	Measured L ₁₀ dB(A)	Measured L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
06-Mar-17	Cloudy	09:38	72.0	61.5	
06-Mar-17	Cloudy	09:43	71.0	63.0	1
06-Mar-17	Cloudy	09:48	75.0	64.0	70
06-Mar-17	Cloudy	09:53	73.0	63.5	70
06-Mar-17	Cloudy	09:58	67.5	59.5	1
06-Mar-17	Cloudy	10:03	71.0	60.5	1
16-Mar-17	Cloudy	09:38	72.0	60.0	
16-Mar-17	Cloudy	09:43	73.5	59.5	1
16-Mar-17	Cloudy	09:48	71.0	61.0	66
16-Mar-17	Cloudy	09:53	69.0	61.5	- 66
16-Mar-17	Cloudy	09:58	66.5	62.0	
16-Mar-17	Cloudy	10:03	69.5	60.0	
20-Mar-17	Sunny	9:41	74.0	57.0	
20-Mar-17	Sunny	09:46	69.0	56.5	
20-Mar-17	Sunny	09:51	68.5	55.5	66
20-Mar-17	Sunny	09:56	75.0	55.5	00
20-Mar-17	Sunny	10:01	71.0	54.5	
20-Mar-17	Sunny	10:06	66.0	52.5	
28-Mar-17	Sunny	09:38	68.5	54.5	
28-Mar-17	Sunny	09:43	75.0	56.5	
28-Mar-17	Sunny	09:48	68.5	55.5	68
28-Mar-17	Sunny	09:53	71.0	56.0	٥٥
28-Mar-17	Sunny	09:58	72.0	55.5	
28-Mar-17	Sunny	10:03	71.0	55.5	

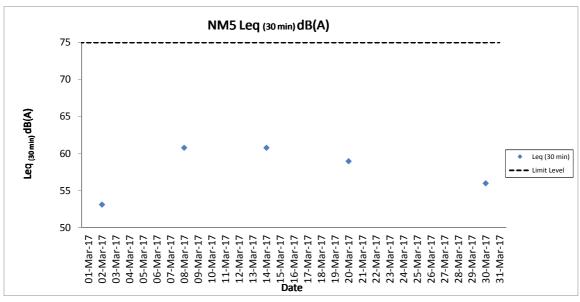
Remarks: +3dB (A) correction was applied to free-field measurement

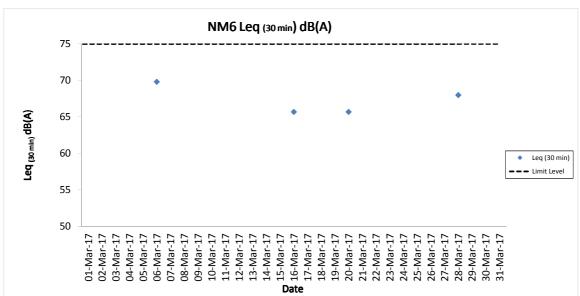






Note: The examination period at NM4 was from 27 March to 31 March.





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Water Quality Monitoring Results

Water Quality Monitoring Results on 02 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value nα 14.9 37.8 45 1.0 116 32.7 96.9 8.0 Surface 149 7.8 32.7 96.9 1.0 1.0 110 1/1 0 7.8 32.7 96.9 8.0 37.8 40 70 < 0.2 1.1 55 an 1.2 4.1 1.0 94 1/1 0 7.8 32.7 96.8 8.0 39.5 √n 2 C1 09:27 8.2 Middle 7.8 32.7 96.8 47.9 58 815623 804265 1.3 Sunny Rough 80 4.1 1.0 97 14.9 7.8 32.7 96.8 8.0 39.6 59 80 <0.2 1.1 7.2 1.0 96 14.9 7.8 66.2 72 67 81 <0.2 1.6 Bottom 14.9 7.8 32.7 97.0 8.0 1.1 14.9 7.8 32.7 97.0 8.0 66.2 1.4 1.0 0.9 193 17.7 7.9 27.4 7.6 17.6 20 76 1.7 94.0 <0.2 Surface 17.7 7.9 27.4 94.0 27.4 1.0 1.0 209 17.7 7.9 94.0 7.6 17.6 18 27 77 < 0.2 1.7 0.9 1.7 6.3 193 17.6 7.9 27.6 7.6 22.7 81 < 0.2 93.4 C2 Sunny Moderate 11:00 12.6 Middle 17.6 7.9 27.6 93.4 23.1 24 81 825677 806961 6.3 0.9 206 17.6 79 27.6 93.4 7.6 22.7 26 27 82 < 0.2 1.6 11.6 0.8 138 17.6 7.9 27.8 93.4 7.5 7.5 29.0 83 <0.2 1.5 Bottom 17.6 7.9 27.8 93.4 7.5 11.6 0.8 145 17.6 7.9 27.8 93.4 29.0 27 84 <0.2 1.3 8.0 8.7 10 80 <0.2 0.7 29.5 96.4 Surface 17.6 8.0 29.5 96.4 1.0 0.8 265 17.6 8.0 29.5 96.4 7.7 8.8 12 80 <0.2 0.7 5.8 0.7 17.6 7.7 11.6 83 0.8 264 8.0 11 < 0.2 29.7 96.1 822095 C3 Cloudy Moderate 08:21 11.5 Middle 17.6 8.0 29.7 96.1 12 83 817811 0.8 5.8 7.7 0.8 265 17.6 8.0 29.7 96.1 12.3 13 83 <0.2 0.9 10.5 0.7 258 17.6 8.0 29.7 96.8 7.7 19.5 12 85 <0.2 0.7 Bottom 8.0 29.7 97.0 7.8 10.5 0.7 261 17.6 8.0 29.7 97.2 19.4 12 85 <0.2 0.9 1.0 0.8 83 15.1 7.8 32.4 95.8 37.0 56 <0.2 32.4 7.9 80 0.8 Surface 15.1 7.8 95.8 7.8 32.4 95.8 7.9 80 1.0 8.0 15.1 37.0 53 <0.2 57 1.0 3.9 0.8 76 15.1 7.8 32.3 95.6 7.9 52.2 81 < 0.2 IM1 Sunny Rough 09:44 7.7 Middle 15.1 7.8 32.3 95.6 63 82 818357 806467 1.0 7.8 32.3 95.6 7.9 82 <0.2 0.9 3.9 0.8 77 15.1 51.8 54 77 6.7 0.6 112 15.1 7.8 32.3 95.9 7.9 7.9 64.3 83 < 0.2 1.1 Bottom 32.3 95.9 7.9 6.7 0.7 120 15.1 7.8 32.3 95 g 64.5 82 83 -n 2 1.1 1.0 0.9 106 15.1 32.5 39.3 46 81 <0.2 0.9 Surface 15.1 7.8 32.5 96.0 1.0 1.0 109 15.1 7.8 32.5 96.0 7.9 38.7 49 81 <0.2 0.8 79 1.2 4.2 0.9 15.1 7.8 32.5 95.9 7.9 52.3 68 72 82 82 < 0.2 IM2 09:51 8.4 7.8 95.9 51.3 64 82 818860 806184 nφ Sunny Rough Middle 15.1 32.5 4.2 0.9 104 15.1 52.5 < 0.2 83 0.8 7 4 1.1 128 15.1 7.8 32.5 96.3 7.9 62.6 73 76 -02 Bottom 7.8 32.5 96.3 7.9 7.9 7.4 32.5 12 140 7.8 96.3 62.5 83 15.1 √n 2 0.6 1.0 1.0 109 15.1 7.8 32.6 96.3 7.9 25.2 32 82 <0.2 0.9 32.6 Surface 7.8 96.3 1.0 1.1 110 15.1 7.8 32.6 96.3 7.9 25.2 30 82 <0.2 0.9 4.4 35.1 83 83 1.0 1.0 15.1 7.8 32.6 7.9 38 <0.2 IM3 09:59 8.8 Middle 15.1 7.8 32.6 96.4 32.1 36 83 819403 806009 Sunny Rough 1.0 15.1 7.8 32.6 96.4 35.3 39 <0.2 1.0 37 7.8 0.9 84 1.0 120 15.1 7.8 32.6 97.1 8.0 36.2 < 0.2 32.6 97.2 8.0 Bottom 15.1 7.8 97.2 7.8 8.0 32.6 35.8 40 84 < 0.2 1.1 7.8 0.9 124 15.1 1.0 0.8 79 78 15.1 7.8 32.7 7.9 28.9 44 < 0.2 0.8 Surface 7.8 32.7 96.2 7.9 1.0 0.9 81 15.1 7.8 32.7 28.9 41 80 <0.2 0.9 0.8 4.1 0.8 66 15.0 7.8 32.6 7.9 48.0 54 81 <0.2 IM4 10:10 8.2 Middle 15.0 7.8 32.6 96.0 43.5 819568 805022 0.9 Sunny Rough 4.1 0.9 68 15.0 7.8 32.6 96.0 7.9 48.5 53 <0.2 8.0 15.0 7.8 8.0 53.3 80 82 <0.2 0.9 32.6 96.7 Bottom 15.0 7.8 32.6 96.8 7.2 0.9 88 15.0 7.8 32.6 96.8 8.0 53.2 76 82 <0.2 0.8 1.0 0.9 78 15.1 7.8 32.7 95.9 7.9 31.8 47 80 < 0.2 1.1 Surface 32.7 95.9 79 45 1.0 0.9 83 15.1 7.8 32.7 95.9 31.9 80 <0.2 1.1 1.0 3.6 0.8 82 15.0 7.8 32.7 95.7 7.9 49.6 50 81 <0.2 IM5 Rough 10:19 7.2 Middle 7.8 32.7 95.7 52.3 820575 804926 Sunny 3.6 0.9 82 15.0 7.8 32.7 95.7 7.9 49.6 53 82 <0.2 1.0 8.0 80 6.2 96 15.0 7.8 32.7 96.3 7.9 75.4 82 <0.2 1.1 32.7 Bottom 15.0 7.8 96.4 7.9 7.8 75.4 83 6.2 0.8 15.0 32.7 85 <0.2 1.1 1.0 0.9 107 15.1 7.8 32.6 32.6 54 81 1.2 7.9 40.8 <0.2 Surface 15.1 7.8 32.6 95.8 7.8 95.7 7.9 55 1.0 0.9 107 15.1 40.8 81 <0.2 3.6 0.8 116 15.1 7.8 32.6 95.8 7.9 44.5 51 82 < 0.2 1.0 10:33 Middle 95.8 46.9 821070 805828 1.3 IM6 Sunny Rough 7.1 82 3.6 8.0 15.1 7.8 32.6 95.8 7.9 44.8 55 82 <0.2 0.9 82 15.1 32.6 7.9 55.5 73 83 <0.2 1.8 7.8 Bottom 15.1 7.8 32.6 96.3 7.9 6.1 1.0 84 15.1 7.8 32.6 96.3 7.9 55.2 74 <0.2 1.6 83 1.0 110 15.1 7.8 32.5 38.3 40 82 < 0.2 1.3 1.0 95.4 7.9 7.9 95.5 Surface 15.1 7.8 32.5 1.0 1.0 115 7.8 32.5 38.6 42 83 1.5 15.1 95.5 <0.2 47 1 83 44 46 1.1 1.0 104 15.1 7.8 32.6 96.0 79 -02 IM7 10:41 8.7 Middle 32.6 96.0 44.9 48 84 821334 806828 1.3 Sunny Rough 11 1.1 104 15.1 7.8 32.6 96.0 7.9 47.3 48 84 <0.2 1.2 7.7 1.0 109 15.1 7.8 32.6 97.2 8.0 49.0 54 84 <0.2 1.4 Bottom 15.1 7.8 32.6 97.3 8.0 77 1.1 113 15.1 7.8 32.6 97.3 8.0 49.1 56 85 <0.2 1.4 1.0 0.8 177 17.8 16.4 19 77 2.0 8.1 28.1 94.3 7.6 <0.2 17.8 8 1 28 1 94.3 Surface 94.3 7.6 77 189 17.8 8.1 28.1 16.4 20 <0.2 1.9 1.0 0.8 21 4.3 0.9 172 17.7 8.0 28.4 7.6 17.1 81 1.6 94.5 < 0.2 28.4 IM8 Sunny Moderate 10:29 8.5 Middle 17.7 8.0 94.5 22.6 21 81 821686 807857 1.8 8.0 28.4 94.5 17.1 82 4.3 0.9 185 17.7 7.6 22 22 <0.2 7.5 1.0 144 17.6 8.0 29.1 94.8 7.6 34.3 84 <0.2 1.9 29.1 8.0 94.8 7.6 7.5 1.0 151 17.6 34.0 22 83 1.7

DA: Depth-Average

Water Quality Monitoring Results on 02 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Average Value Value Value Value (Northing) (Fasting) Value 0.8 17.7 8.0 28.5 19.0 1.0 207 94.5 7.6 1.5 Surface 17.7 8.0 28.5 94.5 17.7 78 1.0 0.8 211 8.0 28.5 94.5 7.6 19.0 18 < 0.2 15 82 177 7.6 24 1.4 3.8 0.8 21/ 8.0 28.6 946 24.4 √n 2 IM9 10:19 7.5 Middle 28.6 94.6 23.3 24 822107 808798 Sunny Moderate 81 3.8 0.8 217 17.7 8.0 28.6 94.6 7.6 24.3 22 82 <0.2 1.4 6.5 0.7 210 8.0 26.5 32 83 <0.2 1.6 Bottom 17.7 8.0 28.7 94.9 7.6 0.7 17.7 8.0 28.7 94.9 26.6 84 1.4 1.0 0.9 276 17.7 8.0 29.2 7.7 18.2 29 77 <0.2 1.1 96.1 Surface 17.7 8.0 29.2 96.2 96.2 7.7 1.0 0.9 289 17.7 8.0 29.2 18.1 28 39 77 < 0.2 1.2 7.7 4.1 0.9 276 17.6 82 < 0.2 1.3 8.0 29.4 96.1 30.3 IM10 Sunny Moderate 10:10 8.2 Middle 17.6 29.4 96.1 30.0 38 81 822228 809847 1.2 96.1 7.7 4 1 1.0 286 17.6 8.0 29.4 30.3 40 81 <0.2 1.2 72 0.9 276 17.6 8.0 29.6 7.7 7.7 41.5 46 84 <0.2 1.1 Bottom 8.0 29.6 96.1 7.2 0.9 289 17.6 8.0 29.6 96.1 41.5 48 83 <0.2 1.1 8.0 20.1 20 78 <0.2 29.2 Surface 17.6 8.0 29.2 96.2 7.7 1.0 0.9 265 17.6 8.0 29.2 96.2 20.1 21 78 <0.2 1.0 4.2 0.7 269 17.6 7.7 22.0 27 82 1.1 8.0 < 0.2 29.4 96.2 821487 IM11 Sunny Moderate 10:01 8.3 Middle 17.6 8.0 29.4 96.2 23.6 25 810535 77 27 42 0.8 291 17.6 8.0 29.4 96.2 22.0 81 <0.2 1.1 7.3 0.6 252 17.6 8.0 29.5 98.2 7.9 28.7 26 84 <0.2 1.0 Bottom 8.0 29.5 98.2 7.9 7 0 27 7.3 0.7 260 17.6 8.0 29.5 98.2 28.7 84 <0.2 0.9 1.0 0.7 253 17.6 8.0 25.8 30 78 <0.2 1.0 29.4 96.2 7.7 Surface 17.6 8.0 29.4 96.2 8.0 29.4 96.2 78 <0.2 1.1 0.7 17.6 25.8 31 4.4 0.8 252 17.6 8.0 29.6 96.2 23.6 34 82 <0.2 0.9 IM12 Sunny Moderate 09:54 8.7 Middle 17.6 8.0 29.6 96.2 25.7 32 82 821149 811524 1.0 8.0 96.2 7.7 82 <0.2 0.9 44 0.8 276 17.6 29.6 23.6 33 7.7 1.0 0.7 258 17.6 8.0 29.6 96.0 7.7 7.7 27.7 32 85 < 0.2 Bottom 17.6 29.6 7.7 0.8 17.6 8.0 29.6 96.0 27.7 33 84 -n 2 1.0 1.0 0.5 83 17.6 8.0 29.2 7.8 18.3 20 80 <0.2 1.4 Surface 17.6 8.0 29.2 97.7 1.0 0.5 88 17.6 8.0 29.2 97.7 7.8 18.3 22 79 <0.2 1.4 7.8 2.3 SR2 Cloudy Moderate 08:41 46 Middle 21 82 821466 814152 -02 16 74 17.6 20.6 20 85 <0.2 3.6 0.6 8.0 29.2 100.5 8 1 Bottom 17.6 8.0 29.2 100.5 8.1 21 3.6 0.6 17.6 8.0 29.2 100.5 8.1 20.6 81 84 √n 2 1.0 1.1 145 17.8 8.0 28.9 96.2 7.7 10.8 14 28.9 96.2 Surface 8.0 1.0 1.2 151 17.8 8.0 28.9 96.2 7.7 10.8 13 4.6 1.3 14.2 148 17.8 8.0 28.9 96.2 16 SR3 10:38 92 Middle 17.8 8.0 28.9 96.3 14 822144 807557 Sunny Moderate 1.3 17.8 8.0 96.3 14.4 15 7.7 8.2 1.1 17.6 163 8.0 29.5 96.5 27.8 14 29.5 96.5 7.7 Bottom 17.6 8.0 96.5 1.1 8.0 29.5 27.8 8.2 168 17.6 14 1.0 0.3 226 27 15.1 7.8 32.0 7.9 20.9 Surface 32.0 95.2 7.9 1.0 0.3 226 15.1 7.8 32.0 20.7 26 4.1 0.3 213 15.1 7.8 32.0 7.9 21.5 27 SR4A 08:59 8.1 Middle 15.1 7.8 32.0 95.0 817188 807817 Sunny Calm 28 4.1 0.3 230 15.1 7.8 32.0 95.0 7.9 21.6 26 0.2 220 15.1 7.8 7.9 21.7 33 30 32.0 95.1 Bottom 15.1 7.8 32.0 95.1 7.1 0.3 225 15.1 7.8 32.0 95.1 7.9 21.7 1.0 0.3 255 15.0 7.7 31.3 95.3 7.9 13.6 16 Surface 7.7 31.3 95.3 1.0 275 77 0.3 15.0 31.3 95.3 79 13.7 18 21 SR5A Calm 08:41 4.2 Middle 17 816604 810712 Sunny 3.2 0.3 254 15.0 14.5 17 31.3 95.7 0.8 7.7 31.3 95.7 8.0 Bottom 15.0 7.7 14.5 3.2 0.3 276 15.0 31.3 8.0 18 1.0 0.2 244 17.2 14.8 7.9 29.7 8.1 26 Surface 14.8 7.9 29.7 95.9 7.9 95.8 1.0 0.2 244 14.8 29.7 8.1 25 19 08:16 Middle 16.9 817889 814674 SR6 Sunny Calm 3.8 27 1.9 2.8 0.2 242 14.8 7.9 29.7 8.2 16.7 28 Bottom 14.8 7.9 29.7 97.1 8.2 2.8 0.2 258 14.8 7.9 29.7 97.4 8.2 16.4 27 1.0 0.3 110 17.5 8.0 29.9 7.6 7.6 95.4 7.0 17.5 95.4 Surface 8.0 29.9 1.0 17.5 8.0 7.0 116 29.9 95.4 9 7.6 8 1 17.5 10 0.3 70 79 30.1 95 1 7.6 SR7 Cloudy Moderate 07:53 16.2 Middle 17.5 30.1 95.1 7.5 10 823640 823743 8.1 0.3 75 17.5 7.9 30.1 95.1 7.6 7.6 9 15.2 0.3 67 17.5 7.9 30.1 95.5 7.6 7.8 14 Bottom 17.5 7.9 30.1 95.9 15.2 0.3 69 17.5 7.9 30.1 96.3 77 7.8 12 1.0 0.5 179 17.8 8.0 28.9 17.1 20 97.4 7.8 Surface 17.8 8.0 28.9 974 8.0 28.9 97.4 7.8 22 187 17.8 17.1 1.0 0.5 2.7 SR8 Sunny Moderate 09:45 5.3 Middle 20.1 26 820406 811611 2.7 30 4.3 0.5 208 17.6 8.0 29.2 100.1 8.0 23.1 29.2 100.1 17.6 8.0 8.0 4.3 0.5 208 17.6 8.0 100.1 30

DA: Depth-Average

Water Quality Monitoring Results on 02 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.6 15.2 34 0 1.0 175 99.9 7.5 80 1.0 8 1 Surface 15.2 7.9 34.0 99.9 178 7.5 1.0 0.6 15.2 7 Q 34.0 aa a 8.1 81 < 0.2 1.0 7.5 3.2 0.5 7 Q 82 12 101 15.1 34.1 gg 7 8.1 9 √n 2 C1 14:55 8.4 Middle 7.9 34.2 99.7 82 815625 804253 1.7 Sunny Moderate 4.2 0.5 191 15.1 7.9 34.2 99.7 8.1 7.5 8 82 <0.2 3.0 7.4 0.6 14.8 7.9 7.8 9 83 <0.2 0.8 Bottom 14.8 7.9 34.7 99.5 0.6 14.8 7.9 34.7 99.5 7.8 83 1.0 0.6 151 18.0 8.0 27.7 7.6 12.9 11 76 <0.2 2.2 95.0 Surface 18.0 8.0 27.7 95.0 27.7 1.0 0.6 155 18.0 8.0 95.0 7.6 12.9 10 77 < 0.2 2.3 24 7.1 0.5 155 82 17.9 27.8 7.6 < 0.2 1.9 8.0 94.7 14.9 C2 Cloudy Moderate 13:49 14.2 Middle 17.9 27.8 94.7 17.8 20 81 825679 806944 2.0 94.7 82 2.1 7 1 0.5 156 17 9 8.0 27.8 7.6 14 9 24 <0.2 13.2 0.5 199 17.8 8.0 28.2 94.9 7.6 25.6 24 84 <0.2 1.9 Bottom 8.0 28.2 94.9 7.6 7.6 13.2 0.5 217 17.8 8.0 28.2 94.9 25.6 25 84 <0.2 1.8 8.0 6.7 80 <0.2 1.2 29.8 95.2 Surface 17.9 8.0 29.8 95.2 1.0 0.8 95 17.8 8.0 29.8 95.1 7.6 6.8 8 80 <0.2 1.4 6.2 0.7 17.6 7.5 7.7 83 1.0 101 8.0 < 0.2 30.2 94.0 9 822112 C3 Cloudy Moderate 15:25 12.3 Middle 17.6 8.0 30.2 94.0 83 817790 7.5 77 7 6.2 0.7 104 17.6 8.0 30.2 94.0 82 <0.2 0.9 11.3 0.7 111 17.5 8.0 30.4 94.3 7.5 11 4 8 85 <0.2 1.1 Bottom 8.0 30.4 94.3 7.5 7.5 11.3 0.7 114 17.5 8.0 30.4 94.3 11.4 9 85 <0.2 1.1 1.0 0.4 15.5 7.9 34.0 100.1 10 <0.2 190 34.0 8.1 9.9 81 1.0 Surface 15.5 7.9 100.1 7.9 34.0 100.1 <0.2 1.1 0.4 15.5 8.1 10.0 11 81 3.9 0.4 157 15.3 7.9 34.2 99.8 8.1 8.8 11 82 < 0.2 1.1 IM1 Sunny Moderate 14:35 7.7 Middle 15.3 7.9 34.2 99.9 82 818364 806472 1.0 79 34.2 99.9 8 1 83 <0.2 1.0 3.9 0.5 158 15.3 8.8 11 6.7 0.4 142 15.0 7.9 34.6 99.9 8.1 9.5 10 83 < 0.2 0.9 Bottom 15.0 7.9 34.6 99.9 6.7 0.5 148 15.0 7 Q 34.6 aa a 8 1 9.5 11 83 -n 2 0.8 1.0 0.5 147 15.4 34.1 8.0 11 80 <0.2 1.0 100.0 34.1 Surface 15.4 7.9 100.0 1.0 0.5 154 15.3 7.9 34.1 100.0 8.0 12 81 <0.2 0.9 13 0.5 14.9 7.9 34.5 99.1 8.1 9.4 81 < 0.2 1.0 IM2 Moderate 14:30 8.3 Middle 7.9 34.5 99.2 12 81 818855 806178 1.0 Sunny 149 4.2 0.5 174 14.9 7.9 99.2 8.1 9.5 81 < 0.2 82 0.9 7.3 0.5 181 14.8 79 34.6 99.5 8 1 9.8 12 -02 Bottom 14.8 7.9 34.6 99.5 7.3 0.5 107 13 7 Q 34.6 99.5 8.1 82 1/1/8 0.8 √n 2 1 0 1.0 0.6 139 15.0 7.9 34.3 99.2 8.1 9.4 10 78 <0.2 1.2 34.3 Surface 7.9 99.2 1.0 0.6 145 15.0 7.9 34.3 99.2 8.1 9.4 11 78 <0.2 1.1 4.5 10.8 11 79 1.0 0.6 14.9 7.9 34.4 8.1 <0.2 IM3 14:22 9 0 Middle 149 7.9 34.4 98.9 11.3 13 an 819406 806018 Sunny Moderate 14.9 7.9 34.4 98.9 10.8 12 80 <0.2 0.9 8.0 0.6 157 34.6 99.5 18 81 <0.2 0.9 14.8 7.9 34.6 8.1 13.7 7.9 99.5 Bottom 14.8 99.5 7.9 8.1 14.8 34.6 13.8 17 81 < 0.2 1.0 8.0 0.6 172 1.0 0.6 7.9 174 15.4 33.5 8.1 11.2 14 82 <0.2 1.1 Surface 33.5 1.2 1.0 0.7 176 15.4 7.9 33.5 99.1 8.1 13 82 <0.2 1.6 4.1 0.6 173 15.3 7.9 8.1 11.1 14 83 <0.2 IM4 14:14 8.1 Middle 15.3 7.9 33.7 99.1 83 819552 805040 1.3 Sunny Moderate 4.1 0.6 186 15.3 7.9 33.7 14 83 <0.2 0.6 185 15.0 7.9 34.3 12.0 26 84 <0.2 1.2 99.3 8.1 Bottom 15.0 7.9 34.3 99.4 7.1 0.6 193 15.0 7.9 34.2 99.4 8.1 12.0 24 84 <0.2 1.3 1.0 0.5 152 15.0 7.8 33.5 98.8 8.1 13.5 14 79 < 0.2 1.4 Surface 33.5 15 1.0 0.5 162 15.0 7.8 33.5 98.8 8.1 13.6 80 <0.2 1.5 1.3 3.6 0.4 180 147 7.8 34.0 98.3 8.1 19.2 22 80 <0.2 IM5 Moderate 14:07 7.2 Middle 7.8 34.0 98.3 21 80 820567 804919 Sunny 3.6 0.4 185 14.7 7.8 34.0 98.3 19.2 23 81 <0.2 1.3 6.2 0.5 34.5 98.7 24 191 14.5 7.8 34.5 8.1 21.3 81 <0.2 1.2 98.7 Bottom 14.5 7.8 7.8 21.1 1.2 6.2 0.5 14.5 26 81 <0.2 1.0 0.6 135 7.9 33.4 33.4 8.1 8.1 13.6 15 1.3 15.3 80 <0.2 33.4 Surface 15.3 7.9 98.7 7.9 98.7 1.0 0.7 145 15.3 13.7 16 81 <0.2 3.7 0.5 135 15.0 7.9 33.9 98.3 8.1 16.7 22 81 < 0.2 1.5 13:59 Middle 33.9 98.3 17 4 821068 805822 IM6 Sunny Moderate 7.3 21 3.7 0.6 147 15.0 7.9 33.9 98.3 16.7 22 82 <0.2 6.3 0.5 153 14.7 7.9 34.3 22.0 25 82 <0.2 1.1 Bottom 14.7 7.9 34.3 98.8 6.3 0.6 160 14.7 7.9 34.3 98.8 21.8 23 82 <0.2 1.2 1.0 0.5 15.0 7.9 34.1 14.7 20 82 <0.2 1.2 98 99.1 8.1 Surface 15.0 7.9 34.1 99.1 1.0 0.5 107 7.9 15.0 34 1 99 1 8 1 147 19 82 -02 4.3 0.5 96 14.9 7.9 34.2 98.9 8.1 15.0 19 83 <0.2 1.6 34.2 821337 806847 IM7 Moderate 13:50 8.6 Middle 14.9 7.9 98.9 20.6 29 83 Sunny 4.3 0.5 100 14.9 7.9 34.2 98.9 8.1 15.1 21 84 <0.2 1.6 7.6 0.6 118 14.7 7.9 34.2 98.5 8.1 31.9 44 84 <0.2 1.4 34.2 98.5 Bottom 14.7 7.9 34.2 98.5 14.7 7.9 8.1 32.1 48 85 < 0.2 1.4 7.6 0.6 129 1.0 0.6 124 17.9 8.0 28.9 14.7 14 <0.2 2.3 Surface 17.9 8.0 28.9 99.2 1.0 0.7 133 17.9 8.0 28.9 99.2 7.9 14.7 14 77 <0.2 2.4 4.1 0.6 106 17.6 8.0 30.0 98.8 7.9 19.0 23 82 <0.2 1.6 821691 807856 IM8 Cloudy Moderate 14.14 8.2 Middle 17.6 8.0 30.0 98.8 198 21 81 1.9 1.8 4.1 0.6 114 17.6 8.0 98.7 7.9 23 81 < 0.2 30.0 19.1 7.2 0.5 96 17.5 8.0 30.2 98.4 7.9 25.7 26 84 <0.2 1.6 Bottom 17.5 8.0 30.2 98.4 7.9 7.2 0.5 104 17.5 8.0 30.2 98.4 7.9 25.7 28 84 <0.2 1.7

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Water Quality Monitoring Results on 02 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.7 17.9 28 9 13.7 1.0 8.0 98.3 79 Surface 17.9 8.0 28.9 98.3 0.7 77 1.0 111 17.9 8.0 28.0 98.3 7 Q 13.8 12 < 0.2 1.2 0.6 7 Q 18 81 1.8 3.8 91 17.6 8.0 30.0 98.8 18.3 √n 2 IM9 14:21 7.6 Middle 8.0 30.0 98.8 20.5 18 822107 808805 Cloudy Moderate 3.8 0.6 94 17.6 8.0 30.0 98.8 7.9 18.3 17 82 <0.2 2.0 6.6 0.5 92 17.5 8.0 30.2 29.5 23 83 <0.2 1.6 Bottom 17.5 8.0 30.2 98.8 7.9 0.6 17.5 8.0 98.8 7.9 29.5 24 84 1.5 1.0 0.6 96 18.0 8.0 28.7 7.8 12.0 10 78 <0.2 2.0 98.2 Surface 18.0 8.0 28.7 98.2 28.7 98.2 1.0 0.7 100 18.0 8.0 7.8 12.0 10 78 < 0.2 2.1 31 3.9 0.5 88 17.8 7.9 82 < 0.2 1.5 8.0 29.3 98.5 19.1 IM10 Cloudy Moderate 14:30 7.7 Middle 17.8 29.3 98.5 18.4 24 81 822223 809823 98.5 79 1 4 3.9 0.6 89 17.8 8.0 29.3 191 31 82 <0.2 6.7 0.5 97 17.8 8.0 29.6 97.6 7.8 24.2 30 83 <0.2 1.3 Bottom 17.8 8.0 29.6 97.6 7.8 7.8 6.7 0.5 104 17.8 8.0 29.6 97.6 24.2 29 84 <0.2 1.3 18.2 8.0 9.9 10 <0.2 1.5 29.2 99.4 Surface 18.2 8.0 29.2 99.4 1.0 0.7 137 18.2 8.0 29.2 99.4 7.9 9.9 11 78 <0.2 1.5 4.4 0.6 7.9 11.6 12 82 1.4 121 18.0 8.0 < 0.2 29.5 99.4 821506 IM11 Cloudy Moderate 14:37 8.7 Middle 18.0 8.0 29.5 99.4 12.3 12 810547 79 44 0.7 128 18.0 8.0 29.5 99.4 11.6 12 82 <0.2 1 4 77 0.9 116 17.7 8.0 30.0 98.9 7.9 15.3 13 83 <0.2 1.3 Bottom 8.0 30.0 98.9 7.9 7.7 7 0 0.9 126 177 8.0 30.0 98.9 15.3 14 84 <0.2 1.1 1.0 0.9 113 18.2 8.0 9.6 78 <0.2 1.2 29.2 98.6 7.8 8 Surface 18.2 8.0 29.2 98.6 8.0 98.6 7.8 78 <0.2 1.2 1.0 18.2 29.2 9.6 8 4.6 0.9 113 17.8 8.0 29.4 97.0 17.1 16 82 <0.2 2.0 IM12 Cloudy Moderate 14:43 9.2 Middle 17.8 8.0 29.4 97.0 14 81 821173 811521 8.0 7.7 17.3 82 <0.2 1.8 4.6 0.9 123 17.8 29.4 97 N 14 8.2 1.0 141 17.7 8.0 29.6 96.9 7.7 7.7 27.5 18 84 < 0.2 1.6 Bottom 17.7 29.6 7.7 8.2 1.0 177 8.0 29.6 96.9 27.5 18 84 -n 2 1.4 1.0 0.4 101 17.9 8.0 29.5 7.8 9.3 12 80 <0.2 1.4 Surface 17.9 8.0 29.5 97.5 1.0 0.4 105 17.9 8.0 29.5 97.5 7.8 9.3 11 79 <0.2 1.4 7.8 2.5 SR2 Cloudy Moderate 15:06 49 Middle 82 821480 814154 -02 15 131 17.8 10.4 85 <0.2 39 0.3 8.0 29.6 97.2 7.7 10 Bottom 17.8 8.0 29.6 97.2 7.7 7.7 0.3 10 3 0 140 17.8 8.0 97.2 10.4 85 -n 2 20 6 15 1.0 0.6 171 17.9 8.0 28.6 97.3 7.8 13.4 13 28.6 97.3 Surface 8.0 1.0 0.6 175 17.9 8.0 28.6 97.3 7.8 13.4 11 4.6 15.3 17 0.6 17.8 8.0 28.8 97.6 7.8 SR3 14:08 92 Middle 17.8 8.0 28.8 97.6 16 822166 807577 Cloudy Moderate 0.6 17.8 8.0 97.6 15.3 15 8.2 0.6 7.8 7.8 19 111 17.6 8.0 30.1 98.3 23.4 30.1 98.3 7.8 Bottom 17.6 8.0 98.3 8.0 30.1 23.4 8.2 0.6 121 17.6 19 1.0 0.6 15.1 7.9 34.4 8.1 10.9 17 Surface 34.4 1.0 0.6 100 15.1 7.9 34.4 99.1 8.1 10.9 16 4.2 0.5 88 15.0 7.9 34.4 99.0 8.1 11.9 16 SR4A 15:17 8.3 Middle 15.0 7.9 34.4 99.0 17 817187 807810 Sunny Moderate 4.2 0.5 95 15.0 7.9 34.4 98.9 12.0 17 0.5 94 14.9 7.9 11.9 16 34.5 99.3 8.1 Bottom 14.9 7.9 34.5 99.4 7.3 0.5 102 14.9 7.9 34.5 99.4 8.1 11.9 17 1.0 0.1 197 16.0 7.9 34.1 101.8 8.2 9.3 10 Surface 16.0 7.9 34.1 101.8 1.0 197 10 0.1 16.0 79 34.1 101 7 8.1 9.4 26 SR5A Calm 15:33 5.2 Middle 12 816593 810684 Sunny 2.6 4.2 0.1 157 15.6 7.9 12 34.1 101.0 8.2 9.9 34.1 101.0 8.2 Bottom 15.6 7.9 7.9 8.2 9.9 14 0.1 15.6 34.0 1.0 0.2 155 7.8 16.1 34.0 101.5 8.1 9.4 11 Surface 16.1 7.8 34.0 101.5 7.8 34.0 1.0 0.2 156 16.1 8 1 9.3 9 21 16.2 7.8 34.0 102.1 8.2 8.5 15:57 Middle 817891 814677 SR6 Sunny Calm 4.1 2.1 0.2 153 27 Bottom 8.2 3.1 0.2 155 16.2 7.8 33.9 102.1 8.2 8.6 26 1.0 0.5 0.5 17.8 8.0 95.2 7.6 7.6 5.6 5.6 30.1 6 17.8 8.0 95.2 Surface 30.1 1.0 8.0 30.1 95.2 17.8 79 17.6 6.3 0.4 80 8.0 30.2 94 1 7.5 8 SR7 Cloudy Moderate 15:51 15.7 Middle 17.6 30.2 94.1 823652 823760 7.9 0.4 83 17.6 8.0 30.2 94.1 7.5 6.3 14.7 0.3 209 17.6 8.0 30.3 93.4 7.4 8.9 10 Bottom 17.6 8.0 30.3 93.4 7.4 14.7 0.3 223 17.6 8.0 30.3 93.4 74 9.0 1.0 0.3 145 18.2 8.0 29.4 29.4 14.3 13 Surface 18.2 8.0 29 4 97.1 8.0 97.1 7.7 13 149 14.3 1.0 0.3 18.2 2.6 SR8 Cloudy Moderate 14:52 5.2 Middle 15 820434 811578 2.6 7.7 18 4.2 0.3 149 17.8 8.0 29.3 96.4 14.9 29.3 17.8 8.0 96.4 7.7 4.2 0.3 152 17.8 8.0 96.4 16

DA: Depth-Average

Water Quality Monitoring Results on 04 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxvaen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.6 14.9 33.0 1.0 100 98.9 8.2 0.6 Surface 149 7.8 33.0 98.9 0.7 1.0 102 1/1 0 7.8 33 N ag a 8.2 7.6 10 a۸ < 0.2 0.8 8.2 81 0.7 10.6 12 0.6 11 108 1/1 0 7.8 33.0 98.6 8.1 √n 2 C1 10:23 8.8 Middle 7.8 33.0 98.6 12.9 815622 804229 0.7 Cloudy Moderate 14 44 0.7 111 14.9 7.8 33.0 98.5 8.1 10.7 14 81 <0.2 0.6 7.8 0.7 14.8 7.9 33.2 20.3 17 82 <0.2 0.7 Bottom 7.9 33.2 97.9 14.8 0.7 14.8 7.9 97.9 20.5 19 83 0.8 1.0 0.5 269 18.0 7.9 7.6 6.7 78 <0.2 2.0 26.9 94.4 3 Surface 18.0 7.9 26.9 94.4 1.0 0.5 279 18.0 7.9 26.9 94.4 7.6 6.7 3 78 < 0.2 1.9 7.5 3 6.6 0.6 314 17.9 7.9 11.5 83 < 0.2 2.3 28.1 93.6 Cloudy C2 Moderate 10:58 13.2 Middle 17.9 7.9 28.1 93.6 13.8 82 825699 806931 2.0 7.5 6.6 0.6 321 17 9 79 28.1 93.6 11.5 3 82 <0.2 2.1 12.2 0.6 283 17.9 7.9 28.4 93.3 7.5 7.5 23.2 3 84 <0.2 1.8 Bottom 7.9 28.4 93.3 7.5 12.2 0.6 292 17.9 7.9 28.4 93.3 23.2 84 <0.2 1.9 7.9 29.4 6.4 80 <0.2 1.0 Surface 17.8 7.9 29.4 96.0 1.0 0.5 260 17.8 7.9 29.4 96.0 7.7 6.4 5 80 <0.2 1.0 6.2 2.3 257 17.7 7.6 9.3 83 1.1 7.9 < 0.2 29.8 94.8 4 822102 C3 Cloudy Moderate 09:22 12.4 Middle 17.7 7.9 29.8 94.8 83 817815 7.6 6.2 23 264 17.7 79 29.8 94.8 9.4 4 83 <0.2 1.0 11.4 0.4 236 17.7 79 29.8 94.7 7.6 14.8 6 84 <0.2 0.8 Bottom 7.9 29.8 94.7 11.4 0.4 255 177 7.9 29.8 94.7 76 14.5 85 <0.2 0.9 1.0 0.6 15.1 7.9 32.5 98.3 4 78 <0.2 0.7 32.5 8.1 3.6 Surface 15.1 7.9 98.3 7.9 98.2 79 0.7 0.7 15.1 32.5 8.1 3.6 <0.2 4.0 0.6 169 14.9 7.9 33.2 8.1 8.2 10 80 < 0.2 0.5 IM1 Cloudy Moderate 10:41 7.9 Middle 14.9 7.9 33.2 97.7 8.0 10 80 818359 806474 0.5 79 33.2 8 1 80 <0.2 0.4 4 0 0.6 172 14 9 97.7 8.2 11 6.9 0.5 166 14 9 7.9 33.3 97.4 8.0 12.2 15 81 < 0.2 0.4 Bottom 14.9 7.9 33.3 97.4 8.0 6.9 0.5 171 1/1 0 7 Q 33.3 97.4 8 0 11 0 15 81 -n 2 0.4 1.0 0.8 160 15.0 32.8 6.2 81 <0.2 0.7 8.1 Surface 15.0 7.9 32.8 98.1 1.0 0.9 161 15.0 7.9 32.8 98.1 8.1 6.1 80 <0.2 0.6 0.7 4.6 15.0 7.9 32.7 97.9 8.1 5.3 82 82 < 0.2 8 IM2 Cloudy Moderate 10:46 9.2 97.9 10 82 818852 806176 0.6 Middle 15.0 7.9 32.7 82 4.6 0.7 145 15.0 7.9 8.1 5.3 < 0.2 83 0.5 8.2 0.6 141 14 9 79 33.2 97.5 8.0 13.2 14 -02 Bottom 14.9 7.9 33.2 97.5 8.0 8.2 0.6 154 7 Q 33.3 97.4 8.0 15 83 0.7 1/1 0 13.1 √n 2 1.0 0.6 97 15.1 7.9 32.5 97.6 8.1 3.8 5 80 <0.2 1.2 32.5 97.6 Surface 7.9 1.0 0.6 106 15.1 7.9 32.5 97.6 8.1 3.8 4 80 <0.2 1.2 4.3 2.6 0.5 15.0 7.9 32.9 8.0 81 <0.2 8 IM3 10:54 8.6 Middle 15.0 7.9 32.9 97.4 9 0 819410 806031 1.7 Cloudy Moderate 0.5 15.0 7.9 97.4 8.0 9.8 82 <0.2 7.6 20 82 <0.2 1.2 0.4 123 14.9 7.9 33.1 97.3 8.0 13.4 7.9 33.1 97.3 8.0 Bottom 14.9 97.3 7.9 33.1 8.0 13.5 83 < 0.2 1.2 7.6 0.5 125 14.9 22 1.0 0.7 161 15.2 7.9 32.1 97.8 8.1 3.6 6 81 < 0.2 1.2 Surface 97.8 1.0 0.7 161 15.2 7.9 32.1 8.1 3.6 6 81 <0.2 1.1 1.2 4.2 0.7 138 15.1 7.9 32.6 8.1 4.8 82 <0.2 IM4 11:02 Middle 15.1 7.9 32.6 97.8 819582 805050 Cloudy Moderate 8.4 4.2 0.7 15.1 7.9 32.6 97.8 4.8 82 <0.2 7.4 0.6 120 14.9 7.9 8.0 16.1 20 83 <0.2 1.2 33.4 97.6 Bottom 14.9 7.9 33.4 97.6 7.4 0.7 126 14.9 7.9 33.4 97.6 8.0 16.0 19 83 <0.2 1.0 1.0 0.6 86 15.2 7.8 32.1 97.3 8.0 4.7 6 80 < 0.2 1.4 Surface 32.1 97.3 79 1.0 0.6 90 15.2 7.8 32.1 97.3 8.0 47 5 <0.2 1.4 7.0 1.5 3.7 0.7 64 15.1 7.9 32.4 97.3 8.0 6 81 <0.2 IM5 Cloudy Moderate 11:09 7.3 Middle 7.9 32.4 97.4 10 820567 804934 0.7 69 15.1 7.9 32.4 97.4 8.0 7.1 81 <0.2 1.3 6.3 0.6 7.9 33.2 97.2 97.2 17 66 14.9 33.2 0.8 20.6 82 <0.2 0.8 97.2 Bottom 14.9 7.9 8.0 7.9 8.0 20.8 82 6.3 0.6 14.9 33.2 18 <0.2 0.9 1.0 0.6 57 7.8 32.3 32.3 8.0 82 1.2 15.2 5.0 <0.2 Surface 15.2 7.8 32.3 96.7 7.8 96.7 1.0 0.6 62 15.2 5.0 81 <0.2 3.6 0.5 60 15.1 7.8 32.6 96.4 8.0 8.3 10 82 < 0.2 1.0 11:16 Middle 32.6 96.4 821054 805828 IM6 Cloudy Moderate 7.1 82 3.6 0.6 15.1 7.8 32.6 96.4 8.0 8.3 11 82 <0.2 0.5 83 15.0 7.8 8.0 10.4 12 83 <0.2 0.9 96.6 Bottom 15.0 7.8 32.8 96.7 8.0 6.1 0.5 89 15.0 7.8 32.8 96.7 8.0 10.4 14 83 <0.2 0.9 1.0 15.2 7.8 32.5 82 <0.2 1.0 0.9 8.0 5.4 97.2 97.2 Surface 15.2 7.8 32.5 1.0 0.9 7.8 32.5 8.0 83 1.1 15.2 5.5 <0.2 44 100 10.3 84 1.0 0.8 15.0 79 33.2 96.6 8.0 11 -02 IM7 Cloudy Moderate 11:24 8.8 Middle 7.9 33.3 96.6 9.4 10 84 821332 806828 0.9 11 0.9 107 15.0 7.9 33.3 96.6 8.0 10.4 84 <0.2 0.9 7.8 0.7 95 15.0 7.9 33.3 97.0 8.0 12.2 16 84 <0.2 0.8 Bottom 15.0 7.9 33.3 97.0 8.0 7.8 0.7 103 15.0 7.9 33.3 97 N 8.0 12.3 14 85 <0.2 0.8 1.0 0.4 208 17.9 7.9 78 1.5 28.1 6.9 <0.2 179 79 28.2 96.5 Surface 7.9 96.5 7.7 77 1.4 0.4 17.9 28.2 7.1 <0.2 1.0 228 7.7 4.3 0.4 211 17.9 8.0 28.3 8.2 5 82 1.4 96.2 < 0.2 IM8 Cloudy Moderate 10:34 8.6 Middle 17.9 8.0 28.3 96.2 9.5 81 821707 807847 1.5 7.7 81 1.6 4.3 0.4 217 17.9 8.0 28.3 96.2 8.3 5 7 < 0.2 7.6 0.4 235 17.8 8.0 28.8 96.2 7.7 13.0 84 <0.2 1.6 17.8 8.0 28.8 96.2 7.7 7.6 0.4 246 17.8 96.2 13.2 9 84

DA: Depth-Average

Water Quality Monitoring Results on 04 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.7 273 17.9 28.6 1.0 74 Surface 17.9 7.9 28.6 96.7 277 7.5 77 1.0 0.8 17.9 7 Q 28.6 96.7 < 0.2 1.2 7.7 10.7 7 Q 81 1.2 3.8 0.6 261 17.0 28.8 96.2 4 √n 2 IM9 10:25 7.5 Middle 7.9 28.8 96.2 822095 808809 1.2 Cloudy Moderate 3.8 0.6 280 17.9 7.9 28.8 96.2 77 10.9 5 82 <0.2 1.3 6.5 0.6 17.8 7.9 7.7 16.3 83 <0.2 1.1 Bottom 17.8 7.9 28.9 95.9 7.7 0.7 17.8 7.9 28.9 95.9 16.3 84 1.0 1.0 0.7 268 17.9 7.9 28.7 7.8 5.7 77 <0.2 1.1 97.2 Surface 17.9 7.9 28.7 97.2 28.7 1.0 0.8 287 17.9 7.9 97.2 7.8 5.6 4 77 < 0.2 1.1 7.7 3.7 0.7 265 17.8 7.9 28.9 4 81 < 0.2 0.9 96.7 6.8 IM10 Cloudy Moderate 10:18 7.4 Middle 17.8 7.9 28.9 96.7 81 822227 809830 1.0 96.7 77 0.9 3.7 0.7 272 17.8 79 28.9 7.2 3 82 <0.2 6.4 0.6 272 17.7 8.0 29.3 96.3 7.7 7.7 15.1 4 83 <0.2 1.2 Bottom 8.0 29.3 96.3 6.4 0.7 292 17.7 8.0 29.3 96.3 15.2 84 <0.2 1.0 8.0 28.8 6.9 <0.2 7.8 97.3 Surface 17.8 8.0 28.8 1.0 0.8 280 17.8 8.0 28.8 97.3 7.8 6.9 3 78 <0.2 1.2 4.3 0.7 285 17.7 7.8 8.2 82 1.2 8.0 < 0.2 29.0 97.0 5 821481 IM11 Cloudy Moderate 10:13 8.5 Middle 17.7 8.0 29.0 97.0 9.3 810532 1.2 7.8 4.3 0.8 306 17.7 8.0 29.0 97.0 8.3 3 82 <0.2 12 7.5 0.6 289 17.6 8.0 29.7 96.7 7.7 12.8 4 84 <0.2 1.2 Bottom 8.0 29.7 96.7 7.5 0.6 310 17.6 8.0 29.7 96.7 12.8 6 84 <0.2 1.2 1.0 0.7 269 17.8 8.0 28.8 97.8 7.0 4 78 <0.2 1.2 28.8 7.8 Surface 17.8 8.0 97.8 8.0 28.8 97.8 7.8 79 <0.2 1.1 8.0 17.8 7.0 4.7 0.8 267 17.6 8.0 29.7 97.1 7.8 10.3 82 < 0.2 1.2 4 IM12 Cloudy Moderate 10:04 9.4 Middle 17.6 8.0 29.7 97.1 10.4 82 821156 811509 47 8.0 7.8 82 <0.2 1.1 0.8 270 17.6 29.7 97 1 10.4 8.4 0.6 266 17.6 8.0 29.8 96.8 7.7 7.7 13.8 4 84 < 0.2 1.0 Bottom 17.6 29.8 96.8 7.7 8.4 0.6 17.6 8.0 29.8 96.8 13.0 84 -n 2 1.1 1.0 0.4 245 17.7 8.0 29.4 9.4 80 <0.2 1.0 Surface 17.7 8.0 29.4 96.7 1.0 0.4 269 17.7 8.0 29.4 96.7 7.7 9.4 8 80 <0.2 1.1 77 2.5 SR2 Moderate 09:43 5.0 Middle 82 821462 814168 Cloudy -02 1.0 220 13.2 85 <0.2 1.0 4.0 0.3 8.0 29 6 96.5 77 8 Bottom 17.7 8.0 29.6 96.5 7.7 7.7 0.3 17.7 4.0 238 8.0 96.5 13.1 -n 2 20 6 a 84 na 1.0 0.6 222 18.0 7.9 28.0 96.4 7.7 5.5 2 28.0 96.4 Surface 7.9 1.0 0.6 237 18.0 7.9 28.0 96.4 7.7 5.5 4.5 7.7 7.7 0.5 216 17.9 7.9 28.2 8.0 SR3 10:38 8.9 Middle 179 7.9 28.2 95.5 7.8 822133 807561 Cloudy Moderate 0.5 17.9 7.9 8.1 7.9 0.6 17.8 7.6 7.6 160 8.0 28.5 95.2 9.8 5 28.5 95.2 7.6 Bottom 17.8 8.0 28.5 8.0 95.2 9.8 7.9 0.6 168 17.8 1.0 0.3 233 15.1 7.8 32.6 97.4 8.0 12.3 14 Surface 32.6 97.4 1.0 0.3 240 15.1 7.8 32.6 8.0 12.4 15 4.5 0.3 231 15.0 7.8 32.6 8.0 12.0 15 SR4A Cloudy 09:59 8.9 Middle 15.0 7.8 32.6 97.1 817206 807803 Calm 4.5 0.3 242 15.0 7.8 32.6 12.1 14 0.3 234 15.0 7.8 13.4 15 32.6 97.0 8.0 Bottom 15.0 7.8 32.6 97.0 8.0 7.9 0.3 239 15.0 7.8 32.6 97.0 8.0 13.5 14 1.0 0.4 257 15.1 7.8 31.6 96.7 8.0 10.1 10 Surface 7.8 31.6 96.7 1.0 0.4 270 15.1 7.8 31.6 96.7 8.0 10.1 11 2.2 SR5A Cloudy Calm 09:43 4.3 Middle 13 816596 810702 2.2 3.3 0.3 253 15.1 13.1 17 7.8 31.6 96.6 0.8 31.6 96.6 8.0 Bottom 15.1 7.8 7.8 13.3 3.3 0.3 262 15.1 31.6 8.0 15 1.0 0.2 176 7.9 27.7 27.7 19 14.7 95.0 8.1 13.0 Surface 14.7 7.9 27.7 95.0 7.9 95.0 1.0 0.2 191 147 8.1 13.1 19 2.0 09:20 Middle 22 817883 814666 SR6 Cloudy Calm 4.0 2.0 3.0 0.2 175 14.6 7.9 26.0 95.8 8.3 14.9 25 Bottom 14.6 7.9 26.0 95.8 8.3 3.0 0.2 176 14.6 7.9 26.0 95.8 8.3 14.8 26 1.0 0.2 17.6 7.9 164 29.9 94.7 7.6 4.9 6 176 94.7 Surface 7.9 29.9 1.0 7.9 7.6 176 17.6 29.9 94.6 4.9 5.5 7.6 0.2 17.6 177 79 30.2 93.3 74 5 SR7 Cloudy Moderate 08:53 15.2 Middle 17.6 30.2 93.3 5.6 5 823631 823757 7.6 0.2 184 17.6 7.9 30.2 93.3 7.4 5.4 6 14.2 0.2 156 17.6 7.9 30.2 93.0 7.4 6.3 4 Bottom 17.6 7.9 30.2 93.0 7.4 14.2 0.3 162 17.6 7.9 30.2 93.0 74 6.3 1.0 0.6 224 17.8 7.9 28.7 96.9 7.8 8.2 8 Surface 17.8 7.9 28.7 96.9 7.9 28.7 96.9 7.8 0.7 244 17.8 8.2 1.0 8 2.7 SR8 Cloudy Moderate 09:58 5.3 Middle 10.5 820428 811599 2.7 7.7 4.3 0.5 230 17.8 7.9 29.0 96.8 13.2 6 17.8 7.9 29.0 96.8 7.7 4.3 0.6 233 17.8 7.9 96.8

DA: Depth-Average

Water Qua Water Qua	•	-	lts on		04 March 17 during N	lid-Ebb tide	•																	
Monitoring	Weather	Sea	Sampling	Water		Current Speed	Current	Water Temperature	e (°C)	рН	Sali	nity (ppt)	DO Sat		Disso		rbidity(NTI	J) Suspended (mg/l		Total Alkalinit	Coordinate		Chromiun (μg/L)	n Nickel (μg/L
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)	(m/s)	Direction	Value Averag	ge Val	ue Average	e Value	Average	1	,	Value		alue D		DA	Value DA	HK Grid (Northing)	HK Grid (Easting)	Value D/	A Value DA
					Surface 1.0 1.0	0.5 0.5	193 198	15.6 15.6	7.		34.4 34.4	34.4	103.0	103.0	8.3 8.3	-	3.3	4 5		80 80			<0.2 <0.2	0.7
C1	Cloudy	Moderate	16:35	8.9	Middle 4.5	0.4	208	15.1	8.	0 8.0	34.7	34.7	100.8	100.8	8.2	0.3	3.5	4	5	81 82	815627	804253	<0.2	2 0.7
					4.5 Bottom 7.9	0.5 0.5	223 222	15.0	8.	0 80	34.7 35.0		100.8 98.1	98.1	8.2 8.0	80 3	3.5 3.5	5		82 83			<0.2	0.5 0.4
					7.9 Surface 1.0	0.5	226 174	18.1	7.	9 70	35.0 28.5		98.1 95.9	95.9	8.0 7.7	10	0.0	5		83 76			<0.2	1.4
C2	Oleverto	Moderate	15:40	11.3	1.0 Middle 5.7	0.4	176 166	18.1 17.8 17.8	7.	9	28.5	29.2	95.9 95.0	95.0	7.7 7.6		0.0	.6	8	77 82 81	825698	806957	<0.2	.2 1.4 1.4
62	Cloudy	Moderate	15:40	11.3	5.7	0.4	177 168	17.8	7.	2	29.2 29.5		95.0 94.5		7.6 7.5	- 4-	0.3 7.5	.b 9 9	8	81 84	825698	806957	<0.2 <0.2	1.4
					Bottom 10.3	0.3	171 66	17.8	8.	0.8.0	29.5	29.5	94.5 96.3	94.5	7.5 7.6	7.5	7.5	7		84			<0.2	1.4
					Surface 1.0	0.5	66	17.9	8.	0.0	29.7	29.7	96.2	96.3	7.6	76 6	6.7	5		80			<0.2	1.0
C3	Cloudy	Moderate	17:32	12.3	Middle 6.2 6.2	0.3	76 76	17.8 17.8	8.	0.8	30.1	30.1	93.9 93.9	93.9	7.5 7.5	9	9.5	- 6	7	83 82 82	822121	817793	<0.2	1.0
					Bottom 11.3	0.3	96 101	17.7 17.7	8.		30.1	30.1	93.3	93.3	7.4 7.4	7.4	3.3	8		84 84			<0.2	1.0
					Surface 1.0 1.0	0.3	168 177	15.7 15.7	7.		34.4 34.4	34.4	102.0	102.0	8.2 8.2		3.7 3.7	3		82 83			<0.2	0.8
IM1	Cloudy	Moderate	16:16	7.8	Middle 3.9 3.9	0.3	178 194	15.2 15.2	7.		34.5 34.5	34.5	99.6 99.6	99.6	8.1 8.1	5	5.2 5.	1 4 4	5	83 84	818368	806465	<0.2	.2 0.8 0.8
					Bottom 6.8	0.3	162 165	15.2 15.2	0	0 00	34.5	34.5	97.7	97.7	7.9	70 6	5.4	6 7		84 85			<0.2	0.7
					Surface 1.0 1.0	0.3	161 172	15.7 15.7 15.7	0	0 8.0	34.3 34.3	34.3	101.8	101.8	8.2 8.2	3	3.7	4 5		82 83			<0.2	0.6 0.7
IM2	Cloudy	Moderate	16:11	8.7	Middle 4.4	0.3	181	15.3	, 8.	0 00	34.5	34.5	99.7	99.7	8.1	8.2	1.7	. 5	5	83 02	818841	806191	<0.2	0.6
					80ttom 4.4	0.3	194 168	15.3 15.1 15.1	8.	0 8.0	34.5 34.5		99.7 97.5	97.5	8.1 7.9	70 5	i.8 i.9	6 5		83 84			<0.2	0.8
					7.7 Surface 1.0	0.3	173 144	15.1 15.7 15.7	8.)	34.5 34.1		97.5 100.7	100.7	7.9 8.1	5	5.9 I.0	7 4		84 81	1		<0.2 <0.2	0.6
18.40	Oleverto	Madasata	10:01	0.0	1.0	0.4	144 151	15.7	8.)	34.1		100.7 98.4	98.5	8.1 8.0		3.9 5.0 4	4 6	6	82 83 83	040004	806026	<0.2	.2 0.6 0.7
IM3	Cloudy	Moderate	16:04	8.9	Middle 4.5 4.5 7.9	0.4 0.3	161 169	15.2 15.2 15.2	8.	n	34.4 34.4	34.4	98.5 97.7		8.0	- 5	5.0	6 6	ь	83 84	819391	806026	<0.2	0.6
					Bottom 7.9	0.3	174	15.2	8.	0 8.0	34.4	34.4	97.8	97.8	8.0	8.0	5.0	7 5		84	1		<0.2	0.7
					Surface 1.0	0.5	160	15.9	8.	0.0	34.1		101.9	101.9	8.2	0.0	1.2	4 7		80			<0.2	0.6
IM4	Cloudy	Moderate	15:57	8.3	Middle 4.2 4.2	0.4	155 157	15.3 15.3	7.	9 7.9	34.1 34.1		100.8	100.8	8.2 8.2	5	5.0 4	7	6	81 82 81	819568	805049	<0.2	0.5
					Bottom 7.3 7.3	0.3 0.4	180 193	15.2 15.2	7.	9 7.9	34.3 34.3	34.3	100.6	100.7	8.2 8.2	8.2	l.5 l.5	6		82 82			<0.2	0.6
					Surface 1.0 1.0	0.4	158 161	16.0 16.0	7.		33.4		100.5	100.5	8.1 8.1		5.8 5.8	6 7		80 80			<0.2	1.0
IM5	Cloudy	Moderate	15:50	7.3	Middle 3.7 3.7	0.4 0.4	149 161	15.0 15.0	7.		34.0 34.0	34.0	98.1 98.1	98.1	8.0	9	9.6	6 10 9	9	81 81	820562	804942	<0.2	.2 0.8 0.9
					Bottom 6.3 6.3	0.3	162 164	15.0 15.0	0	0 8.0	34.2	24.2	97.1 97.1	97.1	7.9 7.9	79 10	0.5	12		82 82			<0.2	0.8
					Surface 1.0 1.0	0.4	128	15.7 15.7 15.7	7	9 70	33.6 33.6		100.5	100.5	8.1 8.1	6	5.3	8		81			<0.2	0.8
IM6	Cloudy	Moderate	15:41	7.4	Middle 3.7	0.4	156	15.2	7.	9 70	33.8	33.8	98.9	98.9	8.1	7	7.9	2 10	10	82 00	821044	805844	<0.2	0.8
	,				3.7 Bottom 6.4	0.4 0.4	157 156	15.1	7.	9 70	33.8 34.1		98.9 97.7	97.7	8.1 8.0	0.0 7	7.9	10		82 83			<0.2	0.7
					6.4 Surface 1.0	0.4	161 144	15.1	7.	9 79	34.1 34.0		97.7 101.1	101.1	8.0 8.2	4	7.5 I.6	11		83 82		1	<0.2	0.7
			45.00		1.0	0.3 0.4	145 132	15.0	7.	9	34.0 34.1		101.1 99.8		8.2 8.1		i.6	6 7	_	82 83	00405-		<0.2	0.7
IM7	Cloudy	Moderate	15:33	8.8	Middle 4.4	0.4	144	15.2	7.	9 7.9	34.1	34.1	99.8	99.8	8.1	5	5.8	7 10	7	84 84	821333	806835	<0.2	.2 0.6 0.7
					Bottom 7.8	0.4	155	14.9	7.	9 7.9	34.3		98.5	98.5	8.1	8.1	3.5	8		85			<0.2	0.8
					Surface 1.0 1.0	0.6 0.6	164 178	18.2 18.2	8.	0.8	29.0 29.0	29.0	100.4	100.4	8.0	e n 7	7.3 7.3	6		77 77			<0.2	1.1
IM8	Cloudy	Moderate	16:12	8.6	Middle 4.3 4.3	0.6 0.6	126 137	18.0 18.0	8.		29.8 29.8	29.8	100.0	100.0	7.9 7.9	8	3.9 3.9	5 7	7	81 81	821689	807849	<0.2	.2 1.3 1.3
					Bottom 7.6 7.6	0.5	124	17.8 17.8	0	0 00	30.2	30.2	98.5 98.5	98.5	7.8	70 9	0.2	8		84			<0.2	1.4
DA: Depth-Ave	l l		1		7.6	0.5	130	17.0	8.	<i>-</i> 1	30.2		30.3		1.0	9	,. <u>c</u>	0		UU	1	1	₹∪.∠	11.6

Water Quality Monitoring Results on 04 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.5 140 18.3 8.0 29.0 1.0 95.9 76 8.0 1.3 Surface 18.3 8.0 29.0 95.9 77 1.0 0.6 144 18.3 8.0 29.0 95.8 7.6 8.1 < 0.2 1.1 82 7 Q 122 1.4 12 0.6 124 17.0 8.0 29.6 aa n 4 √n 2 IM9 16:20 8.3 Middle 29.6 99.0 822093 808799 Cloudy Moderate 4.2 0.6 124 17.9 8.0 29.6 99.0 7.9 12.3 5 81 <0.2 1.4 7.3 0.5 17.7 8.0 30.0 14.9 4 84 <0.2 1.4 Bottom 17.7 8.0 30.0 97.9 7.8 0.5 17.7 8.0 30.0 97.8 7.8 14.9 83 1.5 1.0 0.6 120 18.2 8.0 29.0 8.0 9.2 77 <0.2 1.8 100.7 Surface 18.2 8.0 29.0 100.7 2.0 1.0 0.6 127 18.2 8.0 29.0 100.7 8.0 9.3 6 78 < 0.2 0.7 4.0 109 17.9 6 82 < 0.2 1.4 8.0 29.8 100.6 8.0 16.8 IM10 Cloudy Moderate 16:30 8.0 Middle 17.9 100.6 16.9 81 822252 809850 1.5 1 4 4.0 0.8 112 17 9 8.0 29.8 100.6 8.0 16.9 6 82 <0.2 7.0 0.6 104 17.8 8.0 30.2 100.4 8.0 24.4 14 84 <0.2 1.1 Bottom 17.8 8.0 30.2 100.4 8.0 7.0 0.6 108 17.8 8.0 30.2 100.4 8.0 24.6 14 84 <0.2 1.1 18.2 8.0 6.5 <0.2 29.6 8.1 102.8 102.8 Surface 18.2 8.0 29.6 1.0 0.5 124 18.2 8.0 29.6 102.8 8.1 6.5 6 78 <0.2 1.0 4.8 0.5 8.0 9.4 82 0.9 102 18.0 8.0 < 0.2 30.0 100.9 821495 IM11 Cloudy Moderate 16:40 9.5 Middle 18.0 8.0 30.0 100.9 9.3 810535 4.8 0.6 107 18.0 8.0 30.0 100.8 8.0 9.5 5 82 <0.2 0.9 8.5 0.4 131 17 9 8.0 30.2 98.3 7.8 12.0 84 <0.2 0.9 Bottom 8.0 30.2 98.3 7.8 8.5 0.5 136 17.9 8.0 30.2 98.3 7.8 12.0 84 <0.2 0.9 1.0 0.7 127 18.1 8.0 7.8 79 <0.2 0.9 29.7 101.6 8.0 6 Surface 18.1 8.0 29.7 101.6 8.0 101.6 8.0 7.9 78 <0.2 0.8 8.0 18.1 8 5.3 0.7 117 18.0 8.0 30.0 100.5 8.0 9.4 82 <0.2 1.1 6 IM12 Cloudy Moderate 16:46 10.5 Middle 18.0 8.0 30.0 100.4 82 821165 811536 8.0 82 <0.2 0.9 5.3 0.8 122 18.0 30.0 100.3 79 9.4 9.5 0.6 135 18.0 8.0 30.1 98 1 7.8 7.8 11.7 84 < 0.2 1.2 Bottom 18.0 98.1 7.8 9.5 0.6 140 18.0 8.0 30.1 98.1 84 -n 2 1.1 1.0 0.4 85 18.2 8.0 29.3 98.4 7.8 8.2 79 <0.2 29.3 Surface 18.2 8.0 98.4 1.0 0.4 89 18.2 8.0 29.3 98.3 7.8 8.2 6 79 <0.2 1.1 7.8 2.6 SR2 Moderate 17:12 5.2 Middle 82 821471 814157 1.0 Cloudy -02 2.6 18.0 11.7 84 <0.2 1.0 42 0.3 94 8.0 29.5 96.0 7.6 6 Bottom 18.0 8.0 29.5 96.0 7.6 0.3 7.6 12 Q/I 8.0 20.5 96.0 11.8 -n 2 18.0 84 na 177 1.0 0.7 18.1 8.0 28.9 99.2 7.9 8.8 28.9 99.2 Surface 8.0 1.0 0.7 183 18.1 8.0 28.9 99.1 7.9 8.9 6 4.7 0.7 11.1 17.9 8.0 29.4 98.8 7.9 7.9 SR3 16:04 94 Middle 17.9 8.0 29.4 98.8 6 822131 807574 Cloudy Moderate 8.0 17.9 8.0 29.4 98.8 8.4 0.6 17.7 7.8 7.8 130 8.0 30.0 97.8 13.4 6 30.0 97.8 7.8 Bottom 17.7 8.0 97.8 17.7 8.0 30.0 13.3 8.4 0.6 142 6 1.0 0.3 107 15.3 7.9 34.6 100.4 8.1 8.7 10 Surface 34.6 1.0 0.3 110 15.3 7.9 34.6 100 4 8.1 8.7 11 4.3 0.4 111 15.3 7.9 34.6 99.0 8.0 9.0 11 SR4A 16:57 8.6 Middle 15.3 7.9 34.6 99.0 817196 807801 Cloudy Moderate 4.3 0.4 118 15.3 7.9 34.6 99.0 9.0 10 0.3 120 15.3 7.9 8.5 11 34.6 97.5 7.9 Bottom 15.3 7.9 34.6 97.5 7.6 0.3 122 15.3 7.9 7.9 8.5 12 34.6 1.0 0.3 149 15.9 7.9 34.4 102.0 8.2 10.0 10 Surface 15.9 7.9 34.4 102.0 1.0 0.3 162 15.9 79 34.4 102.0 8.2 10.1 11 26 SR5A Cloudy Calm 17:14 5.2 Middle 10 816578 810703 2.6 4.2 0.2 15.5 12.4 10 7.9 34.7 98.6 0.8 34.7 98.6 8.0 Bottom 15.5 7.9 7.9 12.5 4.2 0.3 152 15.5 34.7 8.0 10 0.2 1.0 111 7.9 15.6 34.0 7.9 9.4 Surface 15.6 7.9 34.0 97.7 7.9 97.7 7.9 1.0 0.2 113 15.6 34.0 9.4 10 22 17:37 4.3 Middle 817917 814663 SR6 Cloudy Calm 2.2 3.3 0.2 124 15.4 7.9 34.2 7.9 16.1 12 Bottom 15.4 7.9 34.2 96.9 7.9 3.3 0.2 15.4 7.9 34.2 96.9 7.9 16.3 11 129 1.0 0.5 0.5 17.9 8.0 30.1 5.9 6.0 65 94.9 7.5 7.5 4 179 94.9 Surface 8.0 30.1 1.0 17.9 8.0 94.8 4 74 77 0.4 67 17.7 8.0 30.3 93.3 74 4 SR7 Cloudy Moderate 17:59 15.3 Middle 30.3 93.3 823635 823748 7.7 0.5 71 17.7 8.0 30.3 93.3 7.4 7.4 4 14.3 0.3 98 17.7 8.0 30.3 92.9 7.4 7.6 5 Bottom 17.7 8.0 30.3 92.9 7.4 14.3 0.3 102 17.7 8.0 30.3 92.9 74 77 1.0 0.3 209 18.3 8.0 29.4 29.4 11.1 11 97.8 Surface 18.3 8.0 29 4 979 8.0 97.9 7.7 222 18.3 11.1 11 1.0 0.3 2.8 SR8 Cloudy Moderate 16:54 5.5 Middle 13.2 11 820425 811603 2.8 7.7 10 4.5 0.3 152 17.8 8.0 29.8 97.0 15.2 29.8 17.8 8.0 97.0 7.7 4.5 0.3 152 17.8 8.0 96.9 10

DA: Depth-Average

Water Quality Monitoring Results on 07 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxvaen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Fasting) Value 0.5 15.5 34.2 1.0 118 8.5 0.7 82 0.9 104 9 Surface 15.5 7.9 34.2 104.9 15.5 1.0 0.6 121 7 Q 3/1/2 104.9 8.5 0.7 1 83 < 0.2 0.8 0.5 7 Q 0.5 83 0.7 11 116 15.3 34.5 104.0 8.4 4 √n 2 C1 13:20 8.8 Middle 7.9 34.5 104.0 815621 804263 0.7 Cloudy Moderate 44 0.6 121 15.3 7.9 34.5 104.0 8.4 0.5 3 84 <0.2 0.8 7.8 0.5 15.3 7.9 35.2 102.1 8.3 0.9 6 84 <0.2 0.6 Bottom 7.9 35.2 102.1 8.3 15.3 0.5 15.3 7.9 102.1 0.9 85 1.0 0.3 202 18.7 7.9 27.2 7.8 3.7 75 2.6 97.9 <0.2 Surface 18.7 7.9 27.2 97.9 27.2 97.9 1.0 0.3 210 18.7 7.9 7.8 3.7 3 75 < 0.2 2.5 0.3 6.2 262 7.9 7.6 4 81 < 0.2 1.8 18.5 28.1 95.6 4.1 Cloudy C2 Moderate 12:16 12.4 Middle 18.5 7.9 28.1 95.6 80 825677 806940 2.0 95.6 19 6.2 0.3 266 18.5 79 28.1 7.6 41 3 81 <0.2 7.5 7.5 11 4 0.2 161 18.3 7.9 29.0 95.0 47 84 <0.2 1.7 Bottom 18.3 7.9 29.0 95.0 7.5 11.4 0.2 163 18.3 7.9 29.0 95.0 4.7 84 <0.2 1.6 18.2 8.0 3.0 81 <0.2 0.7 30.0 Surface 18.2 8.0 30.0 96.2 1.0 0.3 264 18.2 8.0 30.0 96.2 7.6 3.0 <2 80 <0.2 0.7 6.5 270 7.3 5.4 82 0.7 0.3 18.2 8.0 < 0.2 30.1 93.1 6 822118 C3 Cloudy Moderate 14:12 12.9 Middle 18.2 8.0 30.1 93.1 83 817797 0.7 6.5 7.3 0.3 289 18.2 8.0 30.1 93.1 5.4 4 83 <0.2 0.8 11 9 0.2 262 18.0 8.0 30.5 91.8 7.2 14 6 6 85 <0.2 0.6 Bottom 8.0 30.5 91.8 7.2 72 11 0 0.3 271 18.0 8.0 30.5 91.8 14.6 85 <0.2 0.8 1.0 0.4 158 15.5 7.9 2.8 <0.2 33.9 8.3 5 82 0.6 Surface 15.5 7.9 33.9 101.8 7.9 33.9 101.8 82 <0.2 0.7 0.4 15.5 8.3 2.8 6 8.3 3.9 0.3 164 15.5 7.9 34.0 101.5 8.2 2.8 83 < 0.2 0.8 6 IM1 Cloudy Moderate 13:00 7.8 Middle 15.5 7.9 34.0 101.5 3.0 83 818339 806471 0.7 79 34.0 82 84 <0.2 0.9 3.9 0.4 167 15.5 101.5 2.8 6.8 0.4 171 15.2 7.9 35.0 100.2 8.1 3.4 6 84 < 0.2 0.5 Bottom 15.2 7.9 35.0 100.2 6.8 0.4 15.2 7 Q 35.0 100.2 8 1 3.4 84 -n 2 0.4 1.0 0.3 189 15.7 32.9 2.3 82 <0.2 1.2 8.2 Surface 15.7 7.8 32.9 101.2 1.0 0.3 205 15.7 7.8 32.9 101.2 8.2 2.4 82 <0.2 1.3 82 1.0 0.4 15.5 7.8 33.8 101.0 8.2 2.6 83 83 < 0.2 IM2 Cloudy Moderate 12:55 8.6 101.0 83 818851 806190 1.0 Middle 15.5 7.8 33.8 25 4.3 0.4 175 15.5 8.2 2.6 < 0.2 84 0.8 7.6 0.4 97 15.2 79 34.5 100.0 8 1 24 10 -02 Bottom 15.2 7.9 34.5 100.0 7.6 100 34.5 2.5 0.4 7 Q 8.1 15.2 100.0 84 √n 2 0.8 1.0 0.4 143 15.7 7.8 32.5 100.7 8.2 1.7 6 81 <0.2 1.3 32.5 100.7 Surface 7.8 1.0 0.4 156 15.7 7.8 32.5 100.7 8.2 1.7 4 81 <0.2 1.1 4.3 82 82 0.3 15.5 7.8 33.0 100.4 8.2 8.2 2.8 <0.2 1.2 8 IM3 12:48 8.5 Middle 15.5 7.8 33.0 100.5 24 82 819397 806024 1.2 Cloudy Moderate 0.3 15.5 7.8 33.0 100.5 2.6 <0.2 1.2 7.5 118 83 1.1 0.4 15.4 7.8 33.6 99.8 8.1 2.9 9 < 0.2 7.8 33.6 99.8 Bottom 15.4 7.8 33.6 99.8 8.1 2.9 83 < 0.2 1.3 7.5 0.4 123 15.4 1.0 0.5 172 7.8 15.7 32.4 8.2 1.8 81 < 0.2 1.5 Surface 101.1 1.4 1.0 0.5 186 15.7 7.8 32.4 101 1 8.2 1.9 5 81 <0.2 1.3 4.1 0.5 123 15.5 7.8 33.0 100.4 8.2 2.5 82 <0.2 IM4 12:40 8.2 Middle 15.5 7.8 33.1 100.4 819589 805038 1.3 Cloudy Moderate 4.1 0.5 15.5 7.8 33.1 100.4 2.5 82 <0.2 0.5 140 15.3 7.8 4.0 83 <0.2 1.1 34.2 99.5 8.1 9 Bottom 15.3 7.8 34.2 99.5 7.2 0.5 144 15.3 7.8 34.1 99.5 8.1 4.0 8 83 <0.2 1.0 1.0 0.3 223 15.7 7.8 32.1 101.1 8.3 1.7 80 < 0.2 1.4 Surface 32.1 101.1 1.0 0.3 235 15.7 7.8 32.1 101 1 8.3 17 6 80 <0.2 1.5 1.4 3.6 0.3 196 15.6 7.8 32.5 100.8 8.2 2.0 5 81 <0.2 IM5 Cloudy Moderate 12:32 7.1 Middle 7.8 32.5 100.8 2.0 820544 804929 3.6 0.3 207 15.6 7.8 32.5 100.8 8.2 2.0 81 <0.2 1.3 0.3 6.1 182 15.5 7.8 32.7 100.0 8.2 2.4 8 82 <0.2 1.4 32.7 100.0 Bottom 15.5 7.8 8.2 7.8 8.2 2.4 82 1.3 6.1 0.3 15.5 <0.2 1.0 0.4 232 15.8 7.8 31.8 31.8 8.2 8.2 81 1.5 99.9 1.5 <0.2 Surface 15.8 7.8 31.8 99.9 7.8 99.9 1.0 0.4 241 15.8 1.5 6 82 <0.2 3.6 0.4 203 15.6 7.8 32.2 99.9 8.2 2.1 7 83 < 0.2 1.3 12:25 Middle 32.2 99.9 821051 805827 IM6 Cloudy Moderate 7.1 83 3.6 0.4 15.6 7.8 32.2 99.9 1.9 83 <0.2 0.3 15.4 3.3 84 <0.2 1.2 99.4 Bottom 15.4 7.8 32.7 99.4 6.1 0.3 15.4 7.8 32.7 99.4 3.3 84 <0.2 1.2 1.0 0.3 195 15.7 7.8 31.7 2.0 82 83 <0.2 1.6 98.5 8.1 15.7 98.5 Surface 7.8 31.7 1.0 15.7 7.8 1.5 205 98.5 8.1 <0.2 4 15.5 2.0 84 1.3 4 1 0.4 196 7.8 32.0 99 1 8 1 5 -02 IM7 Cloudy Moderate 12:16 8.2 Middle 15.5 32.0 99.1 2.5 84 821348 806839 4.1 0.4 198 15.5 7.8 32.0 99.1 8.1 2.0 4 83 <0.2 1.3 7.2 0.3 165 15.4 7.8 32.5 98.5 8.1 3.4 5 84 <0.2 1.4 Bottom 15.4 7.8 32.5 98.5 72 0.3 15.4 7.8 32.5 98.5 8.1 3.5 85 <0.2 12 1.0 0.2 176 18.6 8.0 101.5 101.5 3.5 76 1.5 28.2 8.0 <0.2 18.6 8.0 28.2 101 5 Surface 8.0 28.2 76 18.6 8.0 3.5 <0.2 1.6 1.0 0.3 188 6 1.5 4.3 0.2 197 18.4 8.0 28.4 8.0 3.6 6 81 101.0 < 0.2 IM8 Cloudy Moderate 12:46 8.6 Middle 18.4 8.0 28.4 101.0 81 821686 807851 1.5 82 4.3 0.3 206 18.4 8.0 28.4 101 0 8.0 3.6 5 < 0.2 7.6 0.3 194 18.3 8.0 29.0 99.6 7.9 5.1 6 84 <0.2 1.4 18.3 8.0 29.0 99.6 7.9 7.6 0.3 196 18.3 84 1.6

DA: Depth-Average

Water Quality Monitoring Results on 07 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.3 214 18.4 28.4 1.0 8.0 100.6 8.0 5.6 Surface 18.4 8.0 28.4 100.6 77 1.0 0.3 227 18.4 8.0 28.4 100.6 8.0 5.6 < 0.2 1.8 82 1.7 3 0 U 3 183 7 Q 9.2 8 18.4 8.0 28.7 QQ / √n 2 IM9 12:57 7.7 Middle 8.0 28.7 99.4 822105 808828 1.7 Cloudy Moderate 3.9 0.3 189 18.4 8.0 28.7 99.4 7.9 9.2 9 81 <0.2 1.6 6.7 0.3 18.3 8.0 29.1 7.0 10 84 <0.2 1.6 Bottom 8.0 29.1 98.5 7.8 18.3 0.3 18.3 8.0 29.1 98.5 7.8 7.0 83 1.6 1.0 0.3 226 18.6 8.0 28.4 7.7 5.0 4 78 <0.2 1.6 97.8 Surface 18.6 8.0 28.4 97.8 97.8 7.7 1.0 0.3 246 18.6 8.0 28.4 5.0 5 77 < 0.2 1.5 0.3 7.6 1.7 4.0 221 28.7 6 81 < 0.2 18.4 8.0 96.2 6.2 IM10 Cloudy Moderate 13:07 8.0 Middle 18.4 28.7 96.2 7.2 81 822246 809850 96.2 7.6 4.0 0.4 226 18.4 8.0 28.7 6.2 7 82 <0.2 1.6 7.5 7.5 7.0 0.3 212 18.3 7.9 29.1 94.2 10.4 5 84 <0.2 1.6 Bottom 18.3 7.9 29.1 94.2 7.5 7.0 0.3 216 18.3 7.9 29.1 94.2 10.4 84 <0.2 1.6 0.4 18.5 8.0 28.8 78 <0.2 1.2 Surface 18.5 8.0 28.8 96.3 1.0 0.4 243 18.5 8.0 28.8 96.3 7.6 8.7 11 78 <0.2 1.4 4.2 7.5 13.5 82 1.3 0.4 229 18.4 7.9 28.9 10 < 0.2 95.2 821515 IM11 Cloudy Moderate 13:15 8.4 Middle 18.4 7.9 28.9 95.2 12.9 12 810525 1.2 7.5 82 42 0.4 243 18.4 79 28 9 95.2 13.5 11 <0.2 1 4 74 0.4 216 18.3 79 29.0 94.8 7.5 16.5 14 84 <0.2 1.1 Bottom 7.9 29.0 94.8 7.5 7.5 7.4 0.5 231 18.3 7.9 29.0 94.8 16.5 15 84 <0.2 0.9 1.0 0.3 250 18.4 7.9 7.9 10 79 <0.2 1.2 29.0 95.2 7.5 Surface 18.4 7.9 29.0 95.2 7.9 29.0 95.2 7.5 79 <0.2 1.0 0.3 18.4 7.9 8 4.5 0.4 242 18.2 7.9 29.3 93.4 7.4 5.9 12 82 <0.2 1.0 IM12 Cloudy Moderate 13:23 9.0 Middle 18.2 7.9 29.3 93.4 82 821151 811530 79 7.4 81 <0.2 1.0 4.5 0.4 262 18.2 29.3 93.4 5.9 13 8.0 0.3 243 18.2 7.9 29.6 93.6 7.4 8.0 13 84 < 0.2 1.2 Bottom 18.2 29.6 93.6 7.4 8.0 0.3 18.2 7 Q 29.6 93.6 8 0 11 84 -n 2 1.0 1.0 0.1 187 18.4 7.9 29.3 7.6 4.6 80 <0.2 1.0 Surface 18.4 7.9 29.3 95.7 1.0 0.1 197 18.4 7.9 29.3 95.6 7.6 4.6 5 81 <0.2 0.8 76 2.6 SR2 Moderate 13:47 5.1 Middle 83 821459 814184 nφ Cloudy 2.6 156 18.3 5.7 85 <0.2 0.8 4 1 0.1 79 29.5 95.0 7.5 q Bottom 18.3 7.9 29.5 95.2 7.5 7.5 7.0 95.4 4.1 0.1 163 20.5 5.8 18.3 84 √n 2 1 0 1.0 0.3 176 18.6 8.0 28.2 100.3 7.9 3.9 28.2 100.3 Surface 8.0 1.0 0.3 183 18.6 8.0 28.2 100.3 7.9 4.0 8 4.7 0.3 178 18.3 8.0 28.6 7.9 5.0 6 SR3 12:36 9.3 Middle 18.3 8.0 28.6 99.5 5.0 822138 807579 Cloudy Moderate 0.3 18.3 8.0 5.1 8.3 0.3 129 18.2 8.0 29.0 99.0 7.8 5.9 29.0 7.9 Bottom 18.2 8.0 99.1 7.9 8.0 29.0 99.1 5.8 8.3 0.3 137 18.2 1.0 0.3 153 15.7 7.8 33.3 100.1 8.1 4.2 8 Surface 33.3 1.0 0.3 163 15.7 7.8 33.3 100.1 8.1 4.2 8 4.6 0.3 144 15.6 7.8 33.4 99.9 8.1 4.4 9 SR4A 13:40 9.1 Middle 15.6 7.8 33.5 99.9 817207 807823 Cloudy Moderate 4.6 0.3 149 15.6 7.8 33.5 99.9 4.5 8.1 0.3 15.5 7.8 34.0 4.6 12 99.6 8.1 Bottom 15.5 7.8 34.0 99.7 8.1 0.3 123 15.5 7.8 34.0 99.7 8.1 4.6 10 1.0 0.1 195 15.9 7.8 33.4 99.4 8.0 5.7 8 Surface 15.9 7.8 33.4 99.4 1.0 10 0.1 195 15.9 7.8 33.4 99.4 8.0 5.7 2.5 SR5A Cloudy Calm 13:58 4.9 Middle 816582 810687 2.5 3.9 0.1 199 15.9 7.8 33.4 100.1 8.1 6.1 33.4 100.2 8.1 Bottom 16.0 7.8 7.8 3.9 0.1 211 16.0 33.3 100.2 6.1 8 1.0 0.2 194 7.8 15.8 32.8 96.1 7.8 1.9 4 Surface 15.8 7.8 32.8 96.1 7.8 96.1 7.8 1.0 0.2 213 15.8 32.8 1.9 5 22 14:22 4.3 Middle 817908 814672 SR6 Cloudy Calm 2.2 3.3 0.2 201 15.8 7.8 32.8 7.8 2.8 Bottom 15.8 7.8 32.8 96.3 7.8 3.3 0.2 211 15.8 7.8 32.8 96.3 7.8 2.8 1.0 0.2 18.0 8.0 30.5 92.5 7.3 7.3 3.8 8 92.5 Surface 18.0 8.0 30.5 1.0 247 8.0 30.5 18.0 92.5 3.8 9 8.3 0.2 18.0 41 146 8.0 30.7 92 1 7.3 9 SR7 Cloudy Moderate 14:47 16.5 Middle 30.7 92.1 4.4 823624 823741 8.3 0.2 149 18.0 8.0 30.7 92.1 7.3 4.2 15.5 0.1 140 18.0 8.0 30.8 91.6 7.2 5.3 10 Bottom 18.0 8.0 30.8 91.6 7.2 15.5 0.1 141 18.0 8.0 30.8 91.6 72 5.3 1.0 0.3 196 18.7 8.0 7.5 28.8 96.0 7.6 Surface 18.7 8.0 28.8 96.0 8.0 96.0 7.6 7.6 210 18.7 28.8 1.0 0.3 4 2.9 SR8 Cloudy Moderate 13:31 5.8 Middle 820429 811595 2.9 4.8 0.3 212 18.3 7.9 29.3 94.9 7.5 9.4 29.3 18.3 7.9 94.9 7.5 4.8 0.3 224 18.3 7.9 94.9 5

DA: Depth-Average

Water Qua Water Qua	•	<i>oring</i> oring Resul	lts on		07 March 17 during	/lid-Ebb tide	•																
Monitoring	Weather	Sea	Sampling	Water		Current Speed	Current	Water Temperati	ture (°C)	pН	Sali	nity (ppt)	DO Satur (%)		Dissolved Oxygen	d Turbidity		ded Solids g/L)	Total Alkalinit	Coordinate		Chromium (µg/L)	n Nickel (μg/L
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)	(m/s)	Direction	Value Ave	erage	Value Averag	e Value	Average	1 1		alue D	A Value	DA Value	DA	Value DA	HK Grid (Northing)	HK Grid (Easting)	Value DA	A Value DA
					Surface 1.0 1.0	0.3 0.4	164 178	15.2 15.2	5.2	7.8 7.8	33.0 33.0	33.0	103.0 103.0		8.5	1.2	3		82			<0.2	0.7
C1	Cloudy	Moderate	09:20	8.6	Middle 4.3	0.3	152	15.2	5.2	7.8	33.1	33.1	102.8	102.8	8.5 8.4	1.4	16 3	3	82 83 83	815609	804244	<0.2	2 0.7
	,				80ttom 4.3	0.4	158 178	15.2	5.1	7.8 7.0 7.9 7.9	33.1 34.1		102.7		8.4 8.3 8.	1.4	4		83 84			<0.2	0.8
					7.6	0.5	192 175	15.1		7.9	34.1 27.3		101.4		8.3 °. 7.6	2.2	3		84 76			<0.2	0.5 1.8
					Surface 1.0 6.1	0.5	175 172	18.5	8.5	7.9 7.9 7.9	27.3	27.3	95.9 93.8	96.0	7.6 7.4	4.4	4 4		77			<0.2	1.8
C2	Cloudy	Moderate	10:02	12.2	Middle 6.1	0.3	173	18.3	8.3	7.9	29.0	29.0	93.8	93.8	7.4	5.6	5.5	- 5	81 82 81	825668	806964	<0.2	.2 2.0 1.7
					Bottom 11.2	0.3	129 135	18.2	8.2	7.9 7.9	29.6 29.6	29.6	94.1		7.4 7.4	.4 6.6	8	-	84 84			<0.2	1.2
					Surface 1.0 1.0	0.3 0.3	112 115	18.0 18.0	8.0	7.9 7.9	29.9 29.9	29.9	93.7 93.6	93.7	7.4 7.4	3.3	3		79 80			<0.2 <0.2	0.7
C3	Cloudy	Moderate	08:01	12.5	Middle 6.3	0.2	106	18.0	8.0	7.9	30.2	30.2	92.3	00.0	7.3	3.5	4.0 5	4	81 00	822120	817809	<0.2	2 0.7
					6.3 Bottom 11.5	0.3 0.2	110 140	18.0	8.0	7.9	30.2 30.6		92.3 91.8	01.0	7.3 7.2 7.	3.5	4.0 3 4		82 84			<0.2 <0.2	0.8
					11.5	0.2	149 208	18.0		7.9 7.8 7.8 7.8	30.6		91.8		7.2 ^{7.}	5.1 4.1	4		85 79			<0.2	0.8
					Surface 1.0 3.7	0.3 0.3	217 176	15.4	5.4	7.8	32.7 33.0	32.7	100.1	100.1	8.2 8.2	.2 4.1	4		79			<0.2	0.6
IM1	Cloudy	Moderate	09:40	7.4	Middle 3.7	0.3	182	15.3	5.3	7.8	33.0	33.0	100.0	100.0	8.2	3.6	4.0 5	5	81	818368	806450	<0.2	0.9
					Bottom 6.4 6.4	0.3	150 151	15.1	5.1	7.8 7.8	33.9 33.9	33.9	98.9	90.9	8.1 8.1	4.3	5 7		81 82			<0.2 <0.2	0.7
					Surface 1.0 1.0	0.3	219 220	15.5 15.5	5.5	7.8 7.8	32.1 32.1	32.1	99.9	99.9	8.2 8.2 8.	2.7	3 4	-	80 80			<0.2	1.1
IM2	Cloudy	Moderate	09:46	8.3	Middle 4.2 4.2	0.3 0.3	157 162	15.4 15.4	5.4	7.8 7.8	32.6 32.6	32.6	99.8 99.8	99.8	8.2 8.2	3.2	3.6 3	- 5	80 81	818853	806202	<0.2	.2 1.1 1.0
					Bottom 7.3	0.2	141	1E 1	5.1	7.8 7.8	33.8		99.2	00.2	8.1 8.	EΛ	6		82 82			<0.2	0.8
					7.3 Surface 1.0	0.3	145 217	15.7	5.7	7.8	31.9		99.1	99.7	8.2	2.9	3		81			<0.2	1.4
IM3	Cloudy	Moderate	09:56	7.6	1.0 Middle 3.8	0.4	223 179	15.7	5.6	7.8 7.8 7.8 7.8	31.9 32.3		99.7		8.2 8.1	.2 2.9	3.6	٠,	81 82 82 82	819406	806021	<0.2	.2 1.6
livio	Cioday	Woderate	09.30	7.0	3.8	0.4	189 156	15.6		7.8	32.3 33.1		99.3		8.1	3.4	5	- "	82 83	819400	000021	<0.2	1.0
					Bottom 6.6	0.3	159 230	15.5	5.5	7.8	33.0 32.2		98.8	98.8	8.1 8.2	4.3	6 4	1	84 79			<0.2	1.0
					Surrace 1.0	0.4	243	15.7	5.7	7.8	32.2	32.2	100.3	100.3	8.2	2.8	4		80			<0.2	1.1
IM4	Cloudy	Moderate	10:02	8.0	Middle 4.0 4.0	0.3	212 215	15.6 15.6	5.6	7.8 7.8	32.5 32.5		100.0 99.9		8.2 8.2	3.5	3.5 6 5	- 5	81 81	819558	805033	<0.2	1.0
					Bottom 7.0 7.0	0.3	192 206	15.4 15.4	5.4	7.8 7.8	33.1		98.9 98.9		8.1 8.1	.1 4.1	5		82 82			<0.2	1.2
					Surface 1.0 1.0	0.4	208 225	15.5	5.5	7.8 7.8	32.3 32.3	32.3	00.6	99.6	8.2	2.7	3 5		79 79			<0.2 <0.2	1.5 1.5
IM5	Cloudy	Moderate	10:10	6.9	Middle 3.5	0.4	198	15.5	5.5	7.8	32.3	22.2	99.4	00.4	8.2	3.2	2.1 4	5	80 00	820579	804919	<0.2	2 1.2
	,				3.5 Bottom 5.9	0.4	210 194	15.5	5.4	7.8	32.3 32.5	22.5	99.4	99.0	8.1 8.1 8.	3.2	6		80			<0.2	1.4
					5.9	0.4	212 203	15.4		7.8	32.5 31.8		99.0		8.1 °. 8.1	3.2	8 5		82 82			<0.2	1.4
					1.0	0.4	214 184	15.6	5.6	7.8	31.8 32.0	31.0	98.5	96.5	8.1 8.1	2.7	4		82			<0.2	1.7
IM6	Cloudy	Moderate	10:19	7.0	Middle 3.5	0.4	199	15.6	5.6	7.8	32.0	32.0	98.4	98.4	8.1	8.8	9.6	10	83	821078	805828	<0.2	1.4
	L				Bottom 6.0	0.4	170 185	15.5	5.5	7.8 7.8	32.2 32.2	32.2	98.8	98.8	8.1 8.1	16.1	13 12		84 84			<0.2	1.3
					Surface 1.0 1.0	0.3	204 205	15.8 15.8	5.8	7.7	31.5 31.5	31.5	97.6 97.6		8.0	2.4	4		82			<0.2	1.6
IM7	Cloudy	Moderate	10:25	8.2	Middle 4.1	0.3	187	15.6	5.6	7.8 7.8 7.8	31.8 31.8	31.8	00.7	006	8.1	.1 4.9	2.7 6	5	83	821342	806836	<0.2	2 1.6
					80ttom 4.1	0.3	189 188	15.6	5.6	7.8	31.9	31.0	98.8	988	8.1 8.1 8.	4.9	5 6	1	84 84			<0.2	1.6
					7.2	0.3	206 194	15.6		7.8	31.9 28.6		98.8		8.1 °.	3.7	7		85 77	1	1	<0.2	1.4
					Surface 1.0	0.4	201	18.3	8.3	8.0	28.6	28.6	100.4	100.4	8.0	3.9	2	1	77			<0.2	1.6
IM8	Cloudy	Moderate	09:32	8.4	Middle 4.2 4.2	0.3 0.3	184 186	18.3	8.3	8.0	28.6 28.6	28.6	99.9	99.9	7.9 7.9	4.3	4.6	4	81 81	821694	807838	<0.2 <0.2	1.4
					Bottom 7.4 7.4	0.3	196 211	18.3	8.3	8.0	28.7	28.7	99.3		7.9 7.9	.9 5.5	3 4	-	83 84			<0.2	1.2
DA: Depth-Ave					1.4	0.0				0.0		1	55.5			0.0					1	~~.L	

Water Quality Monitoring Results on 07 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.4 188 18.4 28.4 44 1.0 8.0 79 Surface 18.4 8.0 28.4 99.7 77 1.0 0.4 190 18.4 8.0 28.4 aa 7 7.0 11 < 0.2 1.3 5.4 82 7 Q 5 1.4 3.8 0.4 182 18.3 8.0 28.5 QQ 1 √n 2 IM9 09:25 7.6 Middle 8.0 28.5 99.1 822092 808805 1.3 Cloudy Moderate 3.8 0.4 197 18.3 8.0 28.5 99.1 7.9 5.4 6 81 <0.2 1.2 6.6 0.4 177 18.3 8.0 7.1 84 <0.2 1.2 Bottom 8.0 28.9 98.7 7.8 18.3 0.4 18.3 8.0 28.9 98.7 7.8 7.0 84 1.2 1.0 0.3 163 18.4 8.0 28.5 7.8 4.8 77 <0.2 1.5 98.6 Surface 18.4 8.0 28.5 98.6 28.5 98.6 1.0 0.4 175 18.4 8.0 7.8 4.8 77 < 0.2 1.7 7.7 3.9 0.3 5 82 174 5.3 < 0.2 1.5 18.4 8.0 28.6 97.6 IM10 Cloudy Moderate 09:17 7.7 Middle 18.4 28.6 97.6 81 822236 809841 97.6 77 3.9 0.3 186 18.4 8.0 28.6 5.3 4 82 <0.2 1.6 6.7 0.3 157 18.3 7.9 29.0 96.5 7.6 7.2 5 84 <0.2 1.7 Bottom 18.3 7.9 29.0 96.5 7.6 7.6 6.7 0.3 158 18.3 7.9 29.0 96.5 7.2 84 <0.2 1.8 0.3 18.4 8.0 5.4 <0.2 1.5 28.6 Surface 18.4 8.0 28.6 96.7 77 1.0 0.4 189 18.4 8.0 28.6 96.6 7.7 5.4 3 <0.2 1.6 4.2 167 7.6 5.7 82 1.4 0.4 18.3 7.9 28.8 95.7 < 0.2 5 821502 IM11 Cloudy Moderate 09:09 8.4 Middle 18.3 7.9 28.8 95.7 6.3 810552 7.6 82 42 0.4 168 18.3 79 28.8 95.7 5.7 5 <0.2 1.3 74 0.3 140 18.3 79 29.0 95.2 7.5 7.8 5 84 <0.2 1.5 Bottom 7.9 29.0 95.3 7.5 77 7.4 0.4 145 18.3 7.9 29.0 95.3 84 <0.2 1.4 1.0 0.6 127 18.4 8.0 28.4 97.5 4.8 78 <0.2 1.4 28.4 7.7 5 Surface 18.4 8.0 97.5 8.0 28.4 4.9 77 <0.2 1.3 0.6 18.4 4.5 0.5 129 18.4 8.0 28.5 96.4 7.6 4.8 81 < 0.2 1.5 IM12 Cloudy Moderate 08:54 9.0 Middle 18.4 8.0 28.5 96.4 5.6 81 821168 811505 1.5 8.0 28.5 96.3 76 82 <0.2 1.6 4.5 0.6 138 18.4 49 4 8.0 0.5 151 18.3 7.9 29.2 93.9 7.4 7.0 6 84 < 0.2 1.5 Bottom 18.3 7.9 29.2 93.9 7.4 8.0 0.6 154 18.3 7 Q 29.2 03 Q 7 1 84 -n 2 16 1.0 0.2 136 18.3 7.9 29.0 7.6 5.3 81 <0.2 1.2 Surface 18.3 7.9 29.0 95.4 1.0 0.2 146 18.3 7.9 29.0 95.3 7.6 5.3 6 80 <0.2 1.2 76 SR2 Cloudy Moderate 08:26 3.8 Middle 83 821475 814150 12 -02 1.9 151 18.2 10.1 85 <0.2 1.3 2.8 0.2 79 29.5 93 1 74 6 Bottom 18.2 7.9 29.5 93.2 7.4 165 93.2 7.4 2.8 0.2 7 Q 20.5 10.1 -n 2 18.2 1 84 12 1.0 0.4 176 18.5 7.9 28.1 98.6 7.8 4.8 3 28.1 98.6 Surface 7.9 1.0 0.4 189 18.5 7.9 28.1 98.6 7.8 4.8 4.6 0.4 18.3 8.0 28.6 7.8 5.9 SR3 09:38 92 Middle 18.3 8.0 28.6 98.4 5.8 822129 807580 Cloudy Moderate 0.4 18.3 8.0 98.4 5.9 8.2 0.4 149 18.2 8.0 29.0 98.0 7.8 6.8 4 29.0 98.0 7.8 Bottom 18.2 8.0 7.8 98.0 8.0 29.0 6.8 8.2 0.4 152 18.2 4 1.0 0.3 151 15.4 7.8 32.2 8.2 5.9 Surface 7.8 32.2 99.2 1.0 0.3 162 15.4 7.8 32.2 8.2 5.9 4.2 0.3 150 15.4 7.8 32.2 99.0 8.1 6.3 SR4A 08:58 8.3 Middle 15.4 7.8 32.2 99.0 817189 807803 Cloudy Moderate 4.2 0.3 164 15.4 7.8 32.2 99.0 6.3 0.3 158 15.2 7.8 6.9 10 32.7 98.5 8.1 Bottom 15.2 7.8 32.7 98.5 7.3 0.3 160 15.2 7.8 32.7 98.5 8.1 6.9 11 1.0 0.2 215 15.6 7.9 31.6 96.6 7.9 6.1 8 Surface 7.9 31.6 96.6 1.0 0.2 226 15.6 79 31.6 96.6 7.9 6.1 9 2.0 SR5A Cloudy Calm 08:41 3.9 Middle 816582 810685 2.0 2.9 0.2 203 15.6 7.1 7.8 31.6 96.8 7.9 8 31.6 96.9 8.0 Bottom 15.6 7.8 7.8 96.9 8.0 7.2 2.9 0.2 219 15.6 31.6 1.0 0.1 150 15.3 8.0 29.8 96.5 8.1 2.6 4 Surface 15.3 8.0 29.8 96.5 96.5 1.0 0.1 162 15.3 8.0 29.8 8.1 2.6 4 21 08:16 4.2 Middle 817916 814678 SR6 Cloudy Calm 2.1 3.2 0.1 140 15.3 30.1 8.1 5.6 10 Bottom 15.3 7.9 30.1 96.8 3.2 0.2 15.3 7.9 30.1 96.8 5.7 11 1.0 0.2 18.0 7.9 30.5 30.5 113 92.9 7.3 7.3 3.7 4 92.9 Surface 18.0 7.9 30.5 1.0 7.9 3.7 118 18.0 92.9 4 7.8 0.2 3.8 126 18.0 79 30.5 926 7.3 5 SR7 Cloudy Moderate 07:27 15.6 Middle 30.5 92.6 3.7 5 823625 823746 7.8 0.2 134 18.0 7.9 30.5 92.6 7.3 3.8 14.6 0.2 243 17.9 7.9 30.8 93.3 7.4 3.5 Bottom 17.9 7.9 30.8 93.3 7.4 14.6 0.2 255 17.9 7.9 30.8 93.3 74 3.5 1.0 0.9 148 18.5 7.9 6.7 28.9 95.9 7.6 Surface 18.5 7.9 28 9 95.9 7.9 28.9 95.9 7.6 160 18.5 6.7 1.0 1.0 5 2.6 SR8 Cloudy Moderate 08:42 5.2 Middle 820404 811608 2.6 4.2 1.0 209 18.4 7.9 29.0 95.4 7.5 7.8 5 29.0 18.4 7.9 95.4 7.5 4.2 1.1 227 18.4 7.9 95.4

DA: Depth-Average

Water Quality Monitoring Results on 09 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxvaen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.5 15.2 1.0 89 35.4 8.3 1.8 82 1.3 Surface 15.2 7.9 35.4 102.6 1.0 0.5 Q3 15.2 7 Q 35.4 1026 8.3 1.8 82 < 0.2 1.2 2.0 83 0.6 11 0.4 94 15.2 7 Q 35.3 102 1 83 3 √n 2 C1 15:56 8.8 Middle 7.9 35.3 102.1 815634 804248 0.8 Cloudy Moderate 44 0.4 99 15.2 7.9 35.3 102.0 8.3 2.0 2 84 <0.2 0.5 7.8 0.4 95 15.3 7.9 100.6 2.2 4 85 <0.2 0.5 Bottom 7.9 35.7 100.6 15.3 0.4 15.2 7.9 35.7 100.6 2.2 85 0.4 1.0 0.2 201 18.1 7.9 28.4 4.7 76 <0.2 90.6 7.2 1.6 Surface 18.1 7.9 28.4 90.6 90.6 1.0 0.2 217 18.1 7.9 28.4 7.2 4.7 4 77 < 0.2 1.8 7.2 5.4 0.2 7.1 82 191 7.9 4.4 5 < 0.2 1.6 18.2 28.9 89.4 Cloudy C2 Moderate 14:47 10.7 Middle 18.2 7.9 28.9 89.4 81 825692 806932 5.4 0.2 194 18.2 79 28.9 89.4 7 1 44 5 82 < 0.2 1.8 0.7 0.3 186 18.2 7.9 29.5 81.6 6.5 4.6 4 84 <0.2 1.9 Bottom 18.2 7.9 29.5 81.6 6.5 9.7 0.3 194 18.2 7.9 29.5 81.6 6.5 4.6 4 84 <0.2 1.9 18.0 8.0 3.2 80 <0.2 0.6 30.5 88.8 Surface 18.0 8.0 30.5 88.8 1.0 0.5 280 18.0 8.0 30.5 7.0 3.2 80 <0.2 0.6 6.4 258 6.9 5.4 82 0.4 0.5 18.0 8.0 < 0.2 30.8 87.2 3 822090 C3 Cloudy Moderate 16:48 12.8 Middle 18.0 8.0 30.8 87.2 5.0 83 817800 0.5 6.4 0.5 282 18.0 8.0 30.8 87.2 69 5.5 2 83 <0.2 0.5 11.8 0.4 256 18.0 8.0 30.8 85.3 6.7 6.2 5 85 <0.2 0.6 Bottom 8.0 30.8 85.3 11.8 0.4 258 18.0 8.0 30.8 85.2 6.7 6.3 85 <0.2 0.4 1.0 0.4 222 15.2 7.9 2.6 4 <0.2 35.2 100.8 8.2 80 0.5 Surface 15.2 7.9 35.2 100.8 7.9 100.8 8.2 <0.2 0.5 0.4 15.2 35.2 2.6 5 81 8.2 4.1 0.4 218 15.2 7.9 35.2 100.5 8.1 3.2 82 < 0.2 0.9 4 IM1 Cloudy Moderate 15:36 8.2 Middle 15.2 7.9 35.2 100.5 3.3 82 818335 806469 0.8 79 35.2 82 <0.2 0.8 41 0.4 234 15.2 100.5 8 1 3.3 72 0.4 162 15.2 7.9 35.6 99.9 8.1 4.3 7 83 < 0.2 0.8 Bottom 15.2 7.9 35.6 99.9 7.2 0.4 173 15.2 7 Q 35.6 aa a 8 1 4.0 83 -n 2 1.0 1.0 0.3 234 15.3 33.8 2.0 81 <0.2 1.4 33.8 Surface 15.3 7.9 99.6 1.0 0.3 247 15.3 7.9 33.8 99.6 8.1 1.9 4 80 <0.2 1.3 1.2 0.3 180 15.2 7.9 34.7 99.9 8.1 2.3 81 < 0.2 6 IM2 Cloudy Moderate 15:27 8.2 34.7 100.0 818832 806202 12 Middle 15.2 7.9 25 81 4.1 0.4 189 15.2 7.9 34.6 100.0 8.1 2.3 81 < 0.2 82 0.9 72 0.3 156 15.2 79 35.1 99.5 8 1 3.1 6 -02 Bottom 15.2 7.9 35.1 99.6 7.2 0.4 171 7 Q 99.6 8.1 3.1 83 15.2 35.1 √n 2 11 1.0 0.3 220 15.2 7.8 33.6 99.7 8.1 1.9 81 <0.2 1.6 33.6 Surface 15.2 7.8 99.7 1.0 0.3 239 15.2 7.8 33.6 99.7 8.1 2.0 86 <0.2 1.7 82 82 1.9 4.2 0.3 15.2 7.9 34.4 8.1 2.2 <0.2 IM3 15:19 84 Middle 15.2 7.9 34.4 99.9 22 83 819401 806027 Cloudy Moderate 0.3 15.2 7.9 34.4 99.8 2.2 <0.2 1.9 7.4 0.3 177 83 <0.2 1.5 15.2 7.9 34.9 99.1 8.1 2.4 4 34.9 7.9 99.1 Bottom 15.2 8.0 7.9 34.9 99.1 2.4 83 < 0.2 1.7 7.4 0.3 193 15.2 1.0 0.4 221 7.8 15.3 33.4 98.9 8.1 2.3 81 < 0.2 1.8 Surface 7.8 98.9 1.0 0.4 238 15.3 7.8 33.4 8.1 2.2 6 80 <0.2 1.9 1.3 4.0 0.4 199 15.3 7.9 33.9 8.1 3.0 81 <0.2 IM4 15:11 Middle 15.3 7.9 33.9 99.9 2.9 819557 805037 Cloudy Moderate 8.0 4.0 0.4 206 15.3 7.9 33.9 99.9 3.0 82 <0.2 0.5 15.2 7.9 34.8 3.5 82 <0.2 1.2 99.7 8.1 Bottom 15.2 7.9 34.8 99.7 7.0 0.6 175 15.2 7.9 34.8 99.7 8.1 3.5 6 82 <0.2 1.4 1.0 0.4 228 15.3 7.8 33.2 98.3 8.0 2.5 5 80 < 0.2 1.6 Surface 33.2 98.3 79 1.0 0.5 245 15.3 7.8 33.2 98.3 8.0 2.5 4 <0.2 1.5 1.7 3.5 0.3 216 15.3 7.9 33.6 99.2 8.1 3.0 7 81 <0.2 IM5 Cloudy Moderate 15:04 6.9 Middle 7.9 33.6 99.2 3.5 820562 804910 3.5 0.4 221 15.3 7.9 33.6 99.2 3.0 81 <0.2 1.9 5.9 0.4 7.9 178 15.2 34.9 99.1 0.8 4.9 81 <0.2 1.0 34.9 Bottom 7.9 99.1 8.0 15.2 7.9 99.1 4.9 82 1.1 5.9 0.4 15.2 34 9 <0.2 1.0 0.4 245 7.8 33.2 33.2 8.0 82 1.4 15.3 98.2 3.5 <0.2 Surface 15.3 7.8 33.2 98.2 7.8 98.2 1.6 1.0 0.4 246 15.3 3.5 82 <0.2 3.3 0.4 229 15.2 7.9 33.7 99.1 8.1 5.3 7 83 < 0.2 1.2 14:56 Middle 33.7 99.1 821055 805811 IM6 Cloudy Moderate 6.6 83 3.3 0.4 15.2 7.9 33.7 99.1 5.3 83 <0.2 5.6 0.4 15.1 7.9 34.9 99.0 8.0 9.5 84 <0.2 0.7 Bottom 15.1 7.9 34.9 99.0 8.0 5.6 0.4 15.1 7.9 34.9 99.0 8.0 9.3 84 <0.2 0.6 222 1.0 0.3 218 15.2 7.8 2.9 83 83 <0.2 1.6 32.8 8.0 97.1 97.1 Surface 15.2 7.8 32.8 1.0 7.8 8.0 1.5 15.2 32.8 <0.2 4.0 0.2 179 3.2 10 84 1.4 15.2 7.8 33.1 97.9 8.0 -02 IM7 Cloudy Moderate 14:49 7.9 Middle 15.2 33.1 97.9 3.2 84 821342 806838 4.0 0.3 185 15.2 7.8 33.1 97.9 8.0 3.2 10 84 <0.2 1.3 6.9 0.3 135 15.0 7.9 34.2 98.2 8.0 3.3 10 84 <0.2 1.3 Bottom 15.0 7.9 34.2 98.2 8.0 6.9 0.3 143 15.0 7.9 34.2 98.2 8.0 3.3 85 <0.2 1.4 1.0 0.4 239 18.1 8.0 4.1 77 1.6 28.8 7.6 <0.2 18 1 8.0 28.8 95.8 Surface 8.0 28.8 95.8 7.6 77 18.1 4.1 <0.2 1.8 1.0 0.4 252 4.2 0.3 225 18.1 8.0 29.2 7.6 4.6 5 82 1.6 1.5 95.9 < 0.2 IM8 Cloudy Moderate 15:20 8.4 Middle 18.1 8.0 29.2 95.9 81 821699 807834 1.6 81 4.2 0.3 226 18.1 8.0 29.2 95.9 7.6 4.6 6 < 0.2 7.4 0.4 191 18.0 8.0 30.1 95.3 7.5 4.8 8 83 <0.2 1.6 18.0 8.0 30.2 89.5 7.1 7.4 0.4 194 18.0 8.0 83.7 5.2 10 84 1.6

DA: Depth-Average

Water Quality Monitoring Results on 09 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.4 234 18.1 29 0 1.0 8.0 5.4 7.6 1.3 Surface 18.1 8.0 29.0 96.1 2/12 78 1.0 0.4 18 1 8.0 20 N 96.1 7.6 5.4 < 0.2 1 / 82 0.4 7.7 5.8 1.6 3.6 235 18 1 8.0 29.3 96.6 4 √n 2 IM9 15:29 7.2 Middle 8.0 29.3 96.6 822111 808806 1.3 Cloudy Moderate 3.6 0.4 243 18.1 8.0 29.3 96.6 77 5.8 6 81 <0.2 1.6 6.2 0.4 18.1 8.0 29.7 7.6 7.4 6 84 <0.2 1.0 Bottom 8.0 29.7 96.5 7.6 18 1 0.4 18.1 8.0 29.7 96.5 7.6 7.4 84 1.0 1.0 0.4 274 18.2 8.0 29.0 7.5 4.5 78 <0.2 1.3 94.6 4 Surface 18.2 8.0 29.0 94.6 94.6 1.0 0.4 284 18.2 8.0 29.0 7.5 4.5 4 78 < 0.2 1.2 7.5 7.4 3.6 0.4 271 3 82 < 0.2 1.1 18.1 8.0 29.5 94.3 IM10 Cloudy Moderate 15:39 7.1 Middle 18.1 29.5 94.3 81 822251 809834 1.2 7.5 3.6 0.4 285 18 1 8.0 29.5 94.2 7.4 3 82 <0.2 1.3 6.1 0.3 247 18.0 8.0 30.1 90.6 7.2 7.2 8.3 9 84 <0.2 1.1 Bottom 18.0 8.0 30.1 90.6 7.2 6.1 0.4 249 18.0 8.0 30.1 90.5 8.4 84 <0.2 1.1 0.6 18.1 8.0 29.2 29.2 3.8 79 <0.2 7.6 Surface 18.1 8.0 29.2 96.2 1.0 0.6 272 18.1 8.0 96.2 7.6 3.9 5 79 <0.2 1.2 4.1 270 7.5 5.2 82 1.4 0.4 18.1 8.0 95.0 < 0.2 29.7 3 821514 IM11 Cloudy Moderate 15:49 8.1 Middle 18.1 8.0 29.7 95.0 82 810525 1.2 7.5 41 0.4 279 18 1 8.0 29.7 95.0 5.3 3 82 <0.2 12 7 1 0.3 256 18.0 8.0 30.1 929 7.3 6.2 4 84 <0.2 12 Bottom 8.0 30.1 92.9 7.3 7 1 0.3 261 18.0 8.0 30.1 92.8 73 6.2 84 <0.2 1.1 1.0 0.6 274 18.0 8.0 6.9 79 <0.2 1.0 29.8 93.4 7.4 9 Surface 18.0 8.0 29.8 93.4 8.0 29.8 93.3 7.4 10 78 <0.2 1.3 0.6 18.0 6.9 7.3 4.8 0.5 266 18.0 8.0 29.9 91.3 7.2 9.8 83 < 0.2 1.1 9 IM12 Cloudy Moderate 15:58 9.5 Middle 18.0 8.0 29.9 91.3 82 821155 811519 8.0 7.2 82 <0.2 1.1 4.8 0.5 266 18.0 29 9 91 2 99 q 8.5 0.4 257 18.0 8.0 30.0 85.6 6.8 11.5 8 84 < 0.2 1.1 Bottom 18.0 30.0 85.5 8.5 0.4 18.0 8.0 30.0 85.4 6.8 116 84 -n 2 0.9 1.0 0.5 217 18.0 8.0 30.2 6.9 8.2 10 79 <0.2 0.9 87.4 Surface 18.0 8.0 30.2 87.4 1.0 0.5 232 18.0 8.0 30.1 87.3 6.9 8.0 8 80 <0.2 0.8 69 2.5 SR2 Moderate 16:23 5.0 Middle 82 821478 814157 nφ Cloudy -02 201 18.0 10.7 85 <0.2 11 4.0 0.4 8.0 30.1 822 6.5 8 Bottom 18.0 8.0 30.1 82.2 6.5 10 4.0 0.4 217 8.0 30.1 82.2 6.5 10.7 18.0 84 √n 2 na 1.0 0.3 215 18.1 7.9 28.6 93.4 7.4 4.2 4 28.6 93.4 Surface 7.9 1.0 0.4 227 18.1 7.9 28.6 93.4 7.4 4.2 3 4.6 0.3 18.1 8.0 29.3 90.8 7.2 7.2 5.1 6 SR3 15:15 92 Middle 18 1 8.0 29.3 90.8 49 5 822155 807573 Cloudy Moderate 0.3 18.1 8.0 29.3 90.8 5.1 8.2 0.4 139 18.0 8.0 30.6 79.1 79.1 6.2 5.4 4 30.6 79.1 6.2 Bottom 18.0 8.0 6.2 18.0 8.0 30.6 5.4 8.2 0.4 146 1.0 0.3 214 15.1 7.9 35.1 99.4 8.1 8.4 11 Surface 35.1 1.0 0.3 219 15.1 7.9 35.1 99.4 8.1 8.3 10 4.3 0.3 214 15.1 7.9 99.3 8.1 7.9 11 SR4A 16:15 8.5 Middle 15.1 7.9 35.1 99.3 817186 807825 Cloudy Moderate 4.3 0.3 215 15.1 7.9 35.1 99.3 7.9 12 0.2 15.1 7.9 8.0 10 35.2 99.2 8.0 Bottom 15.1 7.9 35.2 99.2 7.5 0.3 217 15.1 7.9 35.2 99.2 8.1 8.1 11 1.0 0.3 219 15.3 7.8 33.9 96.7 7.9 7.0 9 Surface 7.8 33.9 96.8 1.0 0.3 226 15.3 7.8 33.9 96.9 7.9 6.6 9 26 SR5A Cloudy Calm 16:34 5.1 Middle 816575 810704 2.6 4.1 0.3 15.2 10 7.8 33.9 98.5 0.8 6.9 33.9 98.5 8.0 Bottom 15.2 7.8 7.8 0.3 172 15.2 33.9 8.0 6.8 0.2 1.0 199 7.8 19 15.2 34.1 96.6 7.9 13.6 Surface 15.2 7.8 34.1 96.7 7.8 96.7 7.9 1.0 0.2 215 15.2 34.1 13.7 21 2.5 16:59 Middle 21 817915 814679 SR6 Cloudy Calm 4.9 2.5 3.9 0.2 206 15.2 7.8 34.0 96.6 7.9 15.5 20 Bottom 15.2 7.8 34.0 96.6 7.9 3.9 0.2 207 15.2 7.8 34.0 96.6 7.9 15.3 22 1.0 0.3 18.0 8.0 3.2 30.9 85.2 6.7 85.2 Surface 18.0 8.0 30.9 1.0 133 8.0 30.9 6.7 18.0 85.2 8 1 6.5 3.3 0.3 105 18.0 8.0 30.9 829 6 SR7 Cloudy Moderate 17:22 16.2 Middle 30.9 82.9 3.4 823622 823761 8.1 0.3 105 18.0 8.0 30.9 82.9 6.5 3.3 15.2 0.3 124 18.0 8.0 30.9 6.1 3.6 Bottom 18.0 8.0 30.9 77.7 15.2 0.3 134 18.0 8.0 30.9 77.7 6.1 3.6 1.0 0.6 234 18.0 8.0 29.8 13.1 17 92.1 7.3 Surface 18.0 8.0 29.8 92.1 8.0 29.8 92.1 7.3 249 18.0 13.1 16 1.0 0.6 2.8 SR8 Cloudy Moderate 16:06 5.6 Middle 13.9 17 820433 811605 2.8 16 4.6 0.5 246 18.0 8.0 29.8 6.9 14.7 29.8 18.0 8.0 86.7 6.9 4.6 0.5 260 18.0 8.0 86.7 17

DA: Depth-Average

Water Qua Water Qua	•	-	lts on		09 March 17 during N	id-Ebb tide																		
Monitoring	Weather	Sea	Sampling	Water	1	Current Speed	Current	Water Temperatur	ire (°C)	рН	Sali	nity (ppt)	DO Sat		Dissol		lity(NTU)	Suspended S (mg/L)	Solids T	otal Alkalinity (ppm)	Coordinate		Chromium (µg/L)	n Nickel (μg/L
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)	(m/s)	Direction	Value Avera	rage	Value Avera	ge Value	Average	1	,	Value	DA Value	. DA	T	DA \	Value DA	HK Grid (Northing)	HK Grid (Easting)	Value DA	A Value DA
					Surface 1.0 1.0	0.4 0.4	174 176	15.2 15.2	i.2	7.9 7.9	34.6 34.6		103.4 103.4	103.4	8.4 8.4	2.9		6 5		82 82			<0.2 <0.2	0.3 0.5
C1	Cloudy	Moderate	11:20	8.4	Middle 4.2	0.4	210	15.2	i.2	7.9	34.5	34.5	102.9	102.9	8.4	3.1	3.1	4	6	83	815623	804261	<0.2	2 0.4
					80ttom 4.2	0.4	220 207	15.2 15.2 15.2	.2	7.9	34.5	34.5	102.9 99.9	99.9	8.4 8.1	3.1 8.1		9		83			<0.2	0.2
					7.4 Surface 1.0	0.4	215 166	15.2 18.1 18.1		7.9 7.3 8.0 8.0	34.5		99.9 95.8	95.8	7.6	3.2 5.2		9 5		85 77			<0.2 <0.2	0.5 1.4
	0		44.50	44.0	1.0	0.4	179 163	18.1		8.0	28.8		95.8 95.7		7.6 7.6	7.6 5.2	_	5	_	76 82	005004		<0.2	0.8
C2	Cloudy	Moderate	11:58	11.8	Middle 5.9 10.8	0.3 0.2	168 168	18.1 18.1		8.0	30.0		95.7 95.3	95.7	7.6 7.5	4.5		5 5	5	81 83	825691	806952	<0.2 <0.2 <0.2	.2 0.8 1.0
					Bottom 10.8	0.2	174	18.1		8.0	30.2	30.2	95.3	95.3	7.5	7.5 4.7 2.9		4		83			<0.2	0.7
					Surface 1.0 1.0	0.3	95 99	18.0 18.0	1.0	7.9 7.9	30.7	30.7	91.8	91.8	7.2	7.2 2.9		2		80			<0.2	0.5
C3	Cloudy	Moderate	10:11	12.4	Middle 6.2 6.2	0.3	101 108	18.0 18.0	.0	7.9 7.9	30.7	30.7	91.6 91.6	91.6	7.2 7.2	3.0	3.2	3		82 83	822121	817803	<0.2	0.4
					Bottom 11.4 11.4	0.2	107 108	18.0 18.0	.0	7.9 7.9	30.8		91.9 91.9	91.9	7.2	7.2 3.7		3		84 85			<0.2	0.5
					Surface 1.0 1.0	0.3	168 170	15.0 15.0	i.0	7.9 7.9	34.4 34.4		100.7 100.6	100.7	8.2 8.2	4.1		4		80 80			<0.2	0.2
IM1	Cloudy	Moderate	11:39	7.2	Middle 3.6 3.6	0.3	152 157	15.1 15.1	i.1	7.9 7.9	34.5 34.5		99.8 99.8	99.8	8.1 8.1	8.2 4.0 4.0		3		81 81	818337	806464	<0.2	.2 0.4 0.3
					Bottom 6.2 6.2	0.3	154 158	15.1 15.1 15.1	i.1	7.9 7.9 7.9	24.6	24.6	98.3	98.3	8.0	8.0 3.9		5		82 82			<0.2	0.4
					Surface 1.0	0.3	194	15.1	i.1	7.8	33.7		99.7	99.7	8.2	2.2		3		80			<0.2	0.5
IM2	Cloudy	Moderate	11:45	8.3	1.0 Middle 4.2	0.3	194 173	15.0		7.8	34.4		99.7 99.8	99.8	8.2 8.2	8.2 2.2	2.2	4 6	_	81 81	818837	806212	<0.2	.2 0.5
	,				80ttom 4.2	0.3	180 180	15.0		7.9	34.4	24.5	99.8 98.5	98.5	8.2 8.0	8.0 3.4		7 5		81			<0.2	0.7
					7.3	0.3	185 214	15.0		7.9	34.5	1	98.5 98.7		8.0	3.4		5 4		83			<0.2 <0.2	1.0
					1.0	0.3 0.3	228 173	15.2		7.8	33.2	33.2	98.8 100.0	98.8	8.1 8.2	8.2 2.7		3 4		81			<0.2	1.0
IM3	Cloudy	Moderate	11:53	8.5	Middle 4.3 4.3 7.5	0.3	175 166	15.1 15.1 15.1	.1	7.9 7.9 7.9	34.2	34.2	100.0	100.0	8.2	4.0	5.8	4	,	82 82 83	819406	806038	<0.2 <0.2 <0.2	.2 1.0 1.0
					Bottom 7.5	0.3	169	15.1	.1	7.9	34.3	34.3	98.0	98.0	8.0	8.0		7		83			<0.2	1.2
					Surface 1.0 1.0	0.3	185 199	15.1 15.1	.1	7.9 7.9	34.0	34.0	100.9	100.9	8.3 8.2	3.2 3.2		4		82 82			<0.2 <0.2	0.7
IM4	Cloudy	Moderate	12:00	7.8	Middle 3.9 3.9	0.3	182 196	15.1 15.1	i.1 -	7.9 7.9	34.1 34.1		100.1	100.1	8.2	3.4		5	5	83 83	819580	805042	<0.2	1.0
					Bottom 6.8 6.8	0.3	185 202	15.1 15.1	i.1	7.9 7.9	34.5 34.5		98.9 98.9	98.9	8.1 8.1	8.1 3.8		7		84			<0.2	1.0
					Surface 1.0 1.0	0.3 0.4	183 186	15.1 15.1	i.1	7.9 7.9	33.6 33.6		100.2 100.2	100.2	8.2 8.2	4.3		5 4		79 79			<0.2	1.7
IM5	Cloudy	Moderate	12:09	6.6	Middle 3.3 3.3	0.3	176 193	15.1 15.1	i.1	7.9 7.9	22.0	22.0	100.1	100.1	8.2	8.2 5.8 5.8	6.2	5	6	80 80	820544	804921	<0.2	0.0
					Bottom 5.6 5.6	0.3	163 172	15.1 15.1 15.1	i.1	7.9 7.9 7.9	24.2	24.2	99.8	99.8	8.1	8.1		7		81			<0.2	0.6
					Surface 1.0	0.4	163	15.1	i.1	7.8	33.4	22.4	99.0	99.0	8.1	3.2		5		80			<0.2	1.0
IM6	Cloudy	Moderate	12:17	6.8	1.0 Middlo 3.4	0.4	172 155	15.1		7.8	33.9	22.0	99.0 99.3	99.3	8.1 8.1	8.1 3.2		5		81 81 82	821064	805841	<0.2	.2 0.8
	Cloudy	Modorato	12	0.0	3.4	0.4	163 151	15.1 15.1 15.1 15.		7.8 7.8 7.9 7.9	34.2	24.0	99.3 99.0	99.0	8.1 8.1	3.9 8.1		5		82 82	02.001	000011	<0.2	0.9
					Bottom 5.8	0.4	151 165	15.1		7.9	34.2		98.9 97.2		8.1	8.1 4.4 3.3		5 4		83 82			<0.2	0.8 1.8
					Surrace 1.0	0.4	172 147	15.3		7.8	32.5	32.5	97.2 98.3	97.2	8.0	8.1 3.3		3		83			<0.2	1.8
IM7	Cloudy	Moderate	12:25	7.9	Middle 4.0	0.3	149	15.3	i.3	7.8	33.0	33.0	98.3	98.3	8.1	3.9	3.9	5	5	83	821358	806824	<0.2	1.5
					Bottom 6.9 6.9	0.3	152 161	15.2 15.2	i.2	7.9 7.9	34.3	34.3	97.9 97.9	97.9	8.0	8.0 4.6		7		84 84			<0.2	1.1
					Surface 1.0 1.0	0.4	157 169	18.1 18.1	1.1	8.0	28.6 28.6		99.1 99.1	99.1	7.9 7.9	5.4		5 6		77 77			<0.2 <0.2	2.6
IM8	Cloudy	Moderate	11:30	8.1	Middle 4.1 4.1	0.4	129	18.0 18.0	3.0	8.1 8.1	20.4	20.4	100.5	100.5	7.9	7.9 6.3 6.3		5 4		82 81	821714	807822	<0.2	1.6
					Rottom 7.1	0.3	141	18.0	.0	8.1	30.8	20.0	99.9	99.9	7.9	7.0 6.6		5		84			<0.2	1.2
DA: Depth-Ave					7.1	0.4	153	18.0	-	8.1	30.8	1	99.9		7.9	6.6		6		83	1	<u> </u>	<0.2	1.1

Water Quality Monitoring Results on 09 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.5 18.1 8.0 29.0 1.0 135 7.8 5.6 16 Surface 18.1 8.0 29.0 97.9 76 1.0 0.5 144 18 1 8.0 29.0 97 Q 7.8 5.6 < 0.2 1.6 3.5 0.5 7.8 81 1.4 1/18 18.0 8.0 29.8 aa n 6.0 5 √n 2 IM9 11:22 7.0 Middle 8.0 29.8 99.0 822087 808796 Cloudy Moderate 3.5 0.5 159 18.0 8.0 29.8 99.0 7.8 6.0 6 82 <0.2 1.4 6.0 0.4 18.0 8.0 30.4 7.1 83 <0.2 1.2 Bottom 8.0 30.4 98.8 7.8 18.0 0.5 18.0 8.0 30.4 98.8 7.8 7 1 84 1.4 1.0 0.4 146 18.0 8.0 29.5 7.8 6.0 77 <0.2 1.5 97.8 Surface 18.0 8.0 29.5 97.8 29.5 97.8 1.0 0.4 159 18.0 8.0 7.8 6.0 4 77 < 0.2 1.6 3.9 82 0.4 145 7.8 4 < 0.2 1.1 18.0 8.0 29.8 97.9 6.8 IM10 Cloudy Moderate 11:14 7.8 Middle 18.0 29.8 97.9 81 822235 809836 1.3 97 9 3.9 0.4 148 18.0 8.0 29.8 7.8 6.8 5 82 < 0.2 1.2 6.8 0.4 148 18.0 8.0 30.2 98.0 7.8 8.8 5 84 <0.2 1.2 Bottom 18.0 8.0 30.2 98.0 7.8 7.8 6.8 0.4 151 18.0 8.0 30.2 98.0 8.8 84 <0.2 1.2 0.4 18.0 8.0 8.0 78 <0.2 1.6 29.9 Surface 18.0 8.0 29.9 96.9 1.0 0.4 146 18.0 8.0 29.9 96.9 7.7 8.0 6 78 <0.2 1.6 4.0 7.7 7.8 82 1.7 0.4 141 18.0 8.0 < 0.2 30.0 96.7 821516 IM11 Cloudy Moderate 11:06 8.0 Middle 18.0 8.0 30.0 96.7 810547 7.7 7 4.0 0.4 149 18.0 8.0 30.0 96.7 7.8 81 <0.2 1.8 7.0 0.4 136 18.0 8.0 30.0 97.3 7.7 7.8 9 84 <0.2 1 4 Bottom 8.0 30.0 97.3 7.0 0.4 148 18.0 8.0 30.0 973 7.8 9 84 <0.2 15 1.0 0.4 120 18.0 8.0 29.8 96.6 6.0 4 78 <0.2 1.6 29.8 7.7 Surface 18.0 8.0 96.6 8.0 29.8 96.6 79 <0.2 1.8 0.4 18.0 6.0 4.4 0.4 123 18.0 8.0 30.0 96.0 7.6 6.4 83 < 0.2 1.0 6 IM12 Cloudy Moderate 10:58 8.8 Middle 18.0 8.0 30.0 96.0 82 821173 811528 1.3 8.0 96.0 7.6 82 <0.2 1.2 44 0.4 126 18.0 30.0 6.4 7.8 0.4 105 18.0 8.0 30.0 95.7 7.6 7.6 6.7 84 < 0.2 0.9 Bottom 18.0 30.0 95.7 7.6 7.8 0.5 113 18.0 8.0 30.0 95.7 6.7 84 -n 2 1.0 1.0 0.3 116 18.0 8.0 29.9 94.7 5.6 81 <0.2 1.4 Surface 18.0 8.0 29.9 94.7 1.0 0.3 119 18.0 8.0 29.9 94.7 7.5 5.6 5 80 <0.2 1.4 7.5 2.0 SR2 Moderate 10:35 3.9 Middle 83 821474 814147 Cloudy -02 15 2.0 155 18.0 85 <0.2 1.5 29 0.2 8.0 30.0 946 7.5 59 6 Bottom 18.0 8.0 30.0 94.6 7.5 7.5 157 20 0.2 8.0 30.0 946 5.0 -n 2 15 18.0 84 1.0 0.4 183 18.1 7.9 28.7 97.3 7.7 5.8 6 28.7 97.3 Surface 7.9 1.0 0.5 191 18.1 7.9 28.7 97.3 7.7 5.9 6 4.4 7.9 7.7 0.3 148 18.0 8.0 29.9 99.3 SR3 11:36 8.7 Middle 18.0 8.0 29.9 99.4 7.3 6 822159 807555 Cloudy Moderate 0.3 18.0 8.0 29.8 99.4 7.7 0.3 172 18.0 8.1 30.5 99.9 7.9 8.3 6 30.5 99.9 7.9 Bottom 18.0 8.1 7.9 99.9 8.1 30.5 8.3 7.7 0.4 184 18.0 1.0 117 7.2 0.4 15.0 7.8 33.5 8.2 Surface 33.5 1.0 0.4 125 15.0 7.8 33.5 99.3 8.2 7.3 9 4.6 0.4 105 15.0 7.8 33.5 8.1 7.5 10 SR4A 10:59 9.2 Middle 15.0 7.8 33.5 99.1 817174 807815 Cloudy Moderate 4.6 0.4 106 15.0 7.8 33.5 7.5 8 8.2 0.3 122 15.0 7.8 33.5 7.4 98.6 8.1 9 Bottom 15.0 7.8 33.5 98.6 8.2 0.4 124 15.0 7.8 33.5 98.6 8.1 7.4 9 1.0 0.1 233 15.3 7.7 31.5 94.7 7.8 4.8 5 Surface 7.7 31.5 94.7 1.0 77 0.2 251 15.3 31.5 94.7 7.8 4.8 6 21 SR5A Cloudy Calm 10:41 4.1 Middle 816608 810676 3.1 0.1 210 15.2 31.6 94.9 7.8 8.3 8 7.7 31.6 94.9 7.8 Bottom 15.2 7.7 7.8 8.4 3.1 0.2 223 15.2 31.6 1.0 0.1 99 15.1 28.0 93.8 8.0 6.0 6 Surface 15.1 7.8 28.0 93.8 7.8 93.8 1.0 0.2 99 15.1 27 9 8.0 6.0 6 8.0 21 10:15 4.2 Middle 817909 814653 SR6 Cloudy Calm 2.1 3.2 0.2 89 14.9 26.6 8.2 7.2 13 Bottom 14.9 7.8 26.6 95.8 8.2 3.2 0.2 90 14.9 7.8 26.6 95.8 8.2 7.2 14 1.0 0.2 200 18.0 7.9 3.3 30.9 90.6 7.1 90.6 Surface 18.0 7.9 30.9 1.0 7.9 7.1 202 18.0 30.9 90.6 4 8 1 0.2 142 18.0 72 3.2 79 31.0 90.8 4 SR7 Cloudy Moderate 09:37 16.2 Middle 7.9 31.0 90.8 3.2 5 823637 823737 8.1 0.2 149 18.0 7.9 31.0 90.8 7.2 3.2 15.2 0.2 180 18.0 7.9 31.1 91.1 7.2 3.2 Bottom 18.0 7.9 31.1 91.1 7.2 15.2 0.2 181 18.0 7.9 31.1 91 1 72 3.2 6 1.0 0.1 192 18.0 8.0 30.0 6.3 Surface 18.0 8.0 30.0 97.2 8.0 30.0 97.2 7.7 0.1 195 18.0 6.3 1.0 5 2.6 SR8 Cloudy Moderate 10:51 5.1 Middle 820405 811582 2.6 4.1 0.1 244 18.0 8.0 30.0 7.9 5.7 6 18.0 8.0 30.0 99.6 7.9 4.1 0.1 260 18.0 8.0 99.6

DA: Depth-Average

Water Quality Monitoring Results on 11 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxvaen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.6 15.3 32.5 6.5 1.0 98.3 0.8 8 1 Surface 15.3 7.9 32.5 98.3 0.7 15.3 0.7 1.0 96 7 Q 32.5 98.2 8.1 6.6 a۸ < 0.2 81 10 0 16 0.6 11 0.6 QR 15.3 7 Q 32 Q 97.7 8.0 √n 2 C1 07:07 8.7 Middle 7.9 32.9 97.7 815620 804242 0.6 Cloudy Moderate 18 44 0.6 99 15.3 7.9 32.9 97.7 8.0 11.0 18 81 <0.2 0.7 0.6 75 15.3 7.9 33.5 97.2 17.2 25 81 <0.2 0.5 Bottom 7.9 33.5 97.2 7.9 15.3 0.6 15.3 7.9 33.5 97.1 7.9 16.8 82 0.5 1.0 0.3 164 18.2 7.9 27.3 7.5 7.8 76 <0.2 2.0 93.5 6 Surface 18.2 7.9 27.3 93.5 27.3 1.0 0.3 166 18.2 7.9 93.5 7.5 7.8 77 < 0.2 2.1 7.5 0.2 2.1 6.2 131 7.9 6 81 < 0.2 18.2 28.0 93.7 10.5 Cloudy C2 Moderate 07:28 12.4 Middle 18.2 7.9 28.0 93.7 15.2 81 825690 806951 7.5 6.2 0.2 137 18.2 79 28.0 93.7 10.5 6 82 <0.2 2.0 11 4 0.3 265 18.2 8.0 29.9 7.7 7.7 27.2 11 83 <0.2 1.6 Bottom 18.2 8.0 29.9 97.0 7.7 11.4 0.3 284 18.2 8.0 29.9 97.0 27.2 11 84 <0.2 1.8 0.3 18.1 8.0 10 80 <0.2 0.6 30.9 91.2 Surface 18.1 8.0 30.9 91.2 1.0 0.4 253 18.1 8.0 30.9 91.2 7.2 7.9 10 80 <0.2 0.5 6.2 7.2 7.2 83 0.5 0.3 248 18.1 8.0 < 0.2 30.9 91.1 9 822113 C3 Cloudy Moderate 05:41 12.3 Middle 18.1 8.0 30.9 91.1 82 817819 7.2 6.2 0.3 255 18 1 8.0 30.9 91 1 72 11 82 <0.2 0.6 11.3 0.3 256 18 1 8.0 30.9 91.0 7.2 92 12 84 <0.2 0.5 Bottom 8.0 30.9 91.0 7.2 72 11.3 0.4 276 18.1 8.0 30.9 91.0 9.2 14 85 <0.2 0.6 1.0 0.4 15.4 7.9 33.3 98.2 12.1 16 79 <0.2 165 33.3 8.0 0.6 Surface 15.4 7.9 98.2 7.9 33.3 98.2 8.0 12.2 79 0.8 0.4 15.4 18 <0.2 27 3.9 0.4 148 15.4 7.9 33.4 97.9 8.0 19.8 80 < 0.2 0.6 IM1 Cloudy Moderate 07:26 7.8 Middle 15.4 7.9 33.4 97.9 18 7 81 818363 806468 0.7 79 33.4 8.0 81 <0.2 0.7 39 0.5 162 15.4 97.9 20.0 28 37 6.8 0.4 134 15.4 7.9 33.5 98.0 8.0 24.2 82 < 0.2 0.7 Bottom 15.4 33.5 98.0 8.0 6.8 0.4 15.4 7 Q 33.5 98 N 8 0 24.0 35 82 -n 2 0.7 1.0 0.4 161 15.4 33.4 8.0 13.3 19 81 <0.2 0.6 Surface 15.4 7.9 33.4 97.9 1.0 0.4 166 15.4 7.9 33.4 97.9 8.0 13.4 20 80 <0.2 0.6 8.0 20 0.6 4.4 0.4 15.4 7.9 33.4 8.0 16.2 81 < 0.2 IM2 Cloudy Moderate 07:31 8.8 7.9 97.7 82 818840 806193 0.6 Middle 15.4 33.4 24 4.4 0.4 103 15.4 7.9 33.4 8.0 16.2 82 < 0.2 7.8 82 0.3 57 15.4 79 33.5 974 7.9 24 0 34 -02 0.7 Bottom 15.4 7.9 33.5 97.4 7.9 7.9 7.8 34 0.4 60 7 Q 33.5 973 23.0 83 0.7 15.4 √n 2 1.0 0.5 157 15.4 7.9 33.4 97.8 8.0 15.5 21 80 <0.2 0.7 33.4 97.8 Surface 7.9 1.0 0.5 162 15.4 7.9 33.4 97.8 8.0 15.5 22 81 <0.2 0.7 0.4 19.8 82 82 0.7 4.5 15.4 7.9 33.4 8.0 21 <0.2 IM3 07:39 9 0 Middle 15.4 79 33.4 97.6 20.5 82 819395 806000 0.7 Cloudy Moderate 25 0.5 15.4 7.9 33.4 8.0 20.0 22 <0.2 8.0 0.5 31 83 0.7 114 15.4 7.9 33.4 97.4 8.0 7.9 26.2 < 0.2 33.4 97.4 8.0 Bottom 15.4 7.9 97.4 7.9 33.4 83 < 0.2 0.9 8.0 0.5 114 15.4 26.1 33 1.0 0.5 153 7.8 15.3 33.0 98.0 8.0 6.2 10 81 < 0.2 0.9 Surface 7.8 33.0 98.0 1.0 1.0 0.5 156 15.3 7.8 33.0 8.0 6.3 11 82 <0.2 0.8 4.2 0.5 126 15.3 7.8 33.0 8.0 8.3 10 83 <0.2 IM4 07:48 8.3 Middle 15.3 7.8 33.0 97.7 83 819569 805057 0.8 Cloudy Moderate 4.2 0.5 132 15.3 7.8 33.0 97.7 8.4 11 83 <0.2 0.5 169 15.3 7.9 97.5 19.1 22 21 84 <0.2 0.5 34.2 7.9 Bottom 15.3 7.9 34.2 97.5 7.3 0.6 181 15.3 7.9 34.2 97.5 7.9 19.2 84 <0.2 0.5 1.0 0.5 153 15.3 7.9 33.2 97.8 8.0 11.2 13 80 < 0.2 0.8 Surface 33.2 97.8 157 1.0 0.5 15.3 79 33.2 97.8 8.0 11.2 11 81 <0.2 0.9 3.6 0.5 159 15.3 7.9 33.3 97.4 8.0 16.5 23 81 <0.2 0.9 IM5 Cloudy Moderate 07:55 7.2 Middle 7.9 33.3 97.4 23 820583 804942 0.8 3.6 0.6 163 15.4 7.9 33.3 97.4 8.0 16.4 23 82 <0.2 0.7 0.5 32 6.2 156 15.3 7.8 33.3 33.3 97.4 97.4 0.8 19.3 82 <0.2 0.8 97.4 8.0 Bottom 7.8 15.3 7.8 8.0 19.0 33 6.2 0.5 15.3 33.3 82 <0.2 0.8 1.0 0.5 129 7.8 33.3 33.3 8.0 14 82 0.9 15.4 9.6 <0.2 Surface 15.4 7.8 33.3 97.8 7.8 97.8 1.0 0.5 129 15.4 9.6 14 82 <0.2 3.6 0.5 120 15.4 7.8 33.3 97.6 8.0 10.2 13 83 < 0.2 8.0 08:03 Middle 33.3 97.6 10.3 821040 805831 IM6 Cloudy Moderate 7.1 83 3.6 0.5 15.4 7.8 33.3 97.6 8.0 10.2 14 83 <0.2 0.8 0.4 120 15.3 7.8 33.3 8.0 11.0 17 84 <0.2 0.7 Bottom 15.3 7.8 33.3 97.6 8.0 6.1 0.5 15.3 7.8 33.3 97.6 8.0 11.1 17 84 <0.2 0.7 1.0 15.4 7.9 33.5 10.6 82 83 <0.2 0.6 0.5 133 8.0 13 13 97.8 97.8 Surface 15.4 7.9 33.5 1.0 7.9 33.5 8.0 0.6 135 15.4 10.7 <0.2 4.3 0.5 11.2 15 83 0.7 106 15.4 79 33.5 97.7 8.0 -02 IM7 Cloudy Moderate 08:10 8.6 Middle 15.4 33.5 97.7 84 821360 806816 0.6 0.7 4.3 0.5 111 15.4 7.9 33.5 97.7 8.0 11.1 16 84 <0.2 7.6 0.4 117 15.4 7.9 33.5 97.6 8.0 12.3 18 84 <0.2 0.6 Bottom 15.4 7.9 33.5 97.6 7.6 0.5 119 15.4 7.8 33.5 97.6 8.0 12.4 20 85 <0.2 0.6 1.0 0.3 131 18.2 8.0 29.7 29.7 15.3 15 77 0.9 <0.2 18.2 8.0 29.7 96.9 Surface 8.0 96.9 7.7 77 15.3 <0.2 0.8 1.0 0.3 131 18.2 16 17 4.4 0.3 137 18.2 8.0 29.8 7.6 19.1 82 1.1 96.8 < 0.2 IM8 Cloudy Moderate 07:03 8.7 Middle 18.2 8.0 29.8 96.8 19.3 17 81 821701 807844 1.0 81 1.1 11 0.4 138 18.2 8.0 29.8 96.8 7.6 19.1 18 < 0.2 77 0.3 128 18.2 8.0 29.8 96.8 7.6 23.4 18 84 <0.2 0.9 18.2 8.0 29.8 96.8 7.6 7.7 0.3 131 18.2 8.0 29.8 96.8 23.4 18 83 1.0

DA: Depth-Average

Water Quality Monitoring Results on 11 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.4 18.2 10.4 1.0 161 8.0 29.4 -02 0.9 Surface 18.2 8.0 29.4 97.3 175 77 77 1.0 0.4 18.2 8.0 29.4 973 10.4 11 < 0.2 0.9 7.7 82 3 0 177 14 0.4 18.2 8.0 29.7 97.6 11.1 √n 2 1.0 IM9 06:53 7.8 Middle 8.0 29.8 97.6 13 822100 808800 1.0 Cloudy Moderate 3.9 0.4 190 18.2 8.0 29.8 97.6 77 11.1 14 82 <0.2 1.0 6.8 0.3 18.2 8.0 30.0 7.8 14.0 14 84 <0.2 1.0 Bottom 18.2 8.0 30.0 98.3 7.8 7.8 0.3 18.2 8.0 30.0 98.3 14.0 84 1.0 1.0 0.5 245 18.2 8.0 7.7 11.5 16 77 <0.2 0.7 30.1 97.3 Surface 18.2 8.0 30.1 97.3 1.0 0.5 252 18.2 8.0 30.1 97.3 7.7 11.5 15 14 78 < 0.2 0.7 7.7 0.5 0.7 4.4 250 30.1 11.7 82 < 0.2 18.2 8.0 97.4 IM10 Cloudy Moderate 06:44 8.7 Middle 18.2 30.1 97.4 12.0 15 81 822246 809841 0.7 7.7 0.7 44 0.5 252 18.2 8.0 30.1 97.4 11.7 15 82 <0.2 77 0.4 230 18.2 8.0 30.1 98.9 7.8 7.8 12.8 15 84 <0.2 0.7 Bottom 18.2 8.0 30.1 98.9 7.8 7.7 0.5 247 18.2 8.0 30.1 98.9 12.8 16 83 <0.2 0.7 0.4 18.2 8.0 10.8 <0.2 0.8 30.3 97.7 Surface 18.2 8.0 30.3 7.7 1.0 0.4 228 18.2 8.0 30.3 10.8 12 78 <0.2 0.8 4.2 7.7 11.7 13 82 0.6 0.4 235 18.2 8.0 < 0.2 30.4 98.1 821516 IM11 Cloudy Moderate 06:35 8.3 Middle 18.2 8.0 30.4 98.1 12 810538 0.7 77 82 42 0.4 241 18.2 8.0 30.4 98 1 11 7 11 <0.2 0.5 7.3 0.3 205 18.2 8.0 30.4 99.5 7.8 13.0 12 84 <0.2 0.6 Bottom 8.0 30.4 99.5 7.3 0.3 221 18.2 8.0 30.4 99.5 7.8 13.0 13 84 <0.2 0.6 1.0 0.5 247 18.2 8.0 30.3 97.9 8.5 79 <0.2 0.7 30.3 7.7 8 Surface 18.2 8.0 97.9 8.0 78 <0.2 0.6 0.5 18.2 30.3 8.5 4.7 0.4 242 18.2 8.0 30.4 98.0 10.1 82 <0.2 0.6 IM12 Cloudy Moderate 06:27 9.3 Middle 18.2 8.0 30.4 98.0 82 821167 811502 0.6 47 8.0 98.0 7.7 83 <0.2 0.6 0.5 251 18.2 30.4 10.1 8.3 0.4 238 18.2 8.0 30.4 98.5 7.7 7.7 10.5 9 84 < 0.2 0.6 Bottom 18.2 30.4 98.5 7.7 8.3 0.4 261 18.2 8.0 30.4 98.5 10.5 10 85 -n 2 0.6 1.0 0.3 275 18.1 8.0 30.3 96.8 7.6 11.0 12 81 <0.2 0.6 Surface 18.1 8.0 30.3 96.8 1.0 0.3 276 18.1 8.0 30.3 96.8 7.6 11.0 11 80 <0.2 0.5 76 2.5 SR2 Cloudy Moderate 06:03 49 Middle 12 83 821461 814153 0.6 275 18 1 11.8 12 85 <0.2 0.6 39 0.3 8.0 30.3 97.6 7.7 Bottom 18.1 8.0 30.3 97.6 7.7 7.7 0.3 12 3 0 8.0 30.3 97.6 11.8 -n 2 300 18 1 84 0.7 1.0 0.4 87 18.2 8.0 29.9 97.6 7.7 13.0 14 29.9 97.6 Surface 8.0 1.0 0.4 95 18.2 8.0 29.9 97.6 7.7 13.0 13 4.6 0.4 14.5 14 18.2 8.0 29.9 SR3 07:10 92 Middle 18.2 8.0 29.9 97.5 15.9 14 822162 807581 Cloudy Moderate 0.5 18.2 8.0 29.9 14.5 14 7.7 8.2 0.4 78 15 18.2 8.0 29.9 97.5 20.1 29.9 97.5 7.7 Bottom 18.2 8.0 97.5 0.4 8.0 29.9 20.1 8.2 85 18.2 15 1.0 0.4 106 15.4 7.9 32.4 8.0 9.0 12 Surface 1.0 0.4 114 15.4 7.9 32.4 97.7 8.0 9.1 13 47 0.4 98 15.4 7.9 32.4 8.0 10.7 14 SR4A 06:44 9.4 Middle 15.4 7.9 32.4 97.5 10.2 817191 807813 Cloudy Moderate 4.7 0.4 99 15.4 7.9 32.4 97.5 10.7 14 8.4 0.4 15.4 7.9 10.7 15 32.4 97.3 8.0 Bottom 15.4 7.9 32.4 97.3 8.0 8.4 0.4 95 15.4 7.9 32.4 97.3 8.0 10.8 15 1.0 0.1 127 15.4 7.8 31.7 95.5 7.9 7.8 11 Surface 15.4 7.8 31.7 95.6 1.0 127 0.1 15.4 7.8 31.7 95.6 7.9 7.8 11 2.2 SR5A Cloudy Calm 06:25 4.4 Middle 11 816603 810678 2.2 3.4 0.2 126 15.4 7.1 11 7.8 31.7 96.1 7.9 31.7 96.1 7.9 Bottom 15.4 7.8 7.8 7.9 7.1 3.4 0.2 128 15.4 31.7 11 1.0 0.2 192 7.8 4.7 14.8 30.3 94.6 8.0 Surface 14.8 7.8 30.3 94.6 7.8 94.6 1.0 0.2 201 14.8 30.3 8.0 4.6 8.0 22 06:00 4.4 Middle 817912 814646 SR6 Cloudy Calm 2.2 3.4 0.2 134 14.7 30.3 8.1 4.4 96.2 Bottom 14.7 7.7 30.3 96.2 8.1 3.4 0.2 139 14.7 7.7 30.3 96.2 4.4 1.0 0.2 18.1 7.9 30.7 30.7 7.2 5.6 5.6 91.9 Surface 18.1 7.9 30.7 91.9 1.0 7.9 222 18.1 91.9 72 0.2 115 72 8 1 18 1 79 30.8 916 8 SR7 Cloudy Moderate 05:15 16.2 Middle 30.8 91.6 6.7 823642 823751 8.1 0.2 116 18.1 7.9 30.8 91.6 7.2 7.2 15.2 0.2 132 18.1 7.9 30.9 92.4 7.3 7.3 Bottom 18.1 7.9 30.9 92.4 7.3 15.2 0.2 139 18.1 7.9 30.9 92.4 7.3 7.3 8 1.0 0.3 151 18.2 8.0 10 29.9 98.1 8.6 Surface 18.2 8.0 29.9 98.1 8.0 29.9 98.1 7.7 8.7 160 10 1.0 0.3 18.2 2.6 SR8 Cloudy Moderate 06:19 5.2 Middle 10 820428 811577 2.6 4.2 0.3 169 18.2 8.0 30.2 7.8 9.2 11 18.2 8.0 30.2 99.1 7.8 4.2 0.3 177 18.2 8.0 99.1 9

DA: Depth-Average

Water Quality Monitoring Results on 11 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.4 199 15.4 33.8 1.0 98.5 8.0 46 82 0.8 Surface 15.4 7.9 33.8 98.5 1.0 0.5 211 15.4 7 Q 33.8 98.5 8.0 4.6 81 < 0.2 0.6 5.5 U 3 5 83 0.9 13 103 15.4 7 Q 34.5 98.2 8.0 √n 2 C1 12:07 8.6 Middle 7.9 34.5 98.2 83 815610 804265 0.7 Cloudy Moderate 4.3 0.4 208 15.4 7.9 34.5 98.1 8.0 5.5 5 83 <0.2 0.8 7.6 0.3 15.3 7.9 6.6 8 84 <0.2 0.5 Bottom 15.3 7.9 34.7 98.1 7.9 7.9 0.4 15.3 7.9 34.7 98.1 6.3 84 1.0 0.2 157 18.3 8.0 27.7 95.9 7.7 11.2 75 <0.2 2.0 8 Surface 18.3 8.0 27.7 95.9 27.7 7.7 1.0 0.3 162 18.3 8.0 95.9 11.2 76 < 0.2 1.9 0.3 7.6 6.3 163 29.7 8 81 < 0.2 1.8 18.2 8.0 96.1 12.6 C2 Cloudy Moderate 11:05 12.5 Middle 18.2 29.7 96.1 12.5 80 825687 806952 1.7 7.6 17 6.3 0.3 178 18.2 8.0 29.7 96.1 12.6 9 82 < 0.2 11.5 0.2 200 18.1 8.0 30.0 7.6 7.6 13.8 10 83 <0.2 1.2 Bottom 8.0 30.0 96.1 7.6 11.5 0.2 204 18.1 8.0 30.0 96.1 13.8 11 84 <0.2 1.3 0.4 18.2 8.0 6.3 81 <0.2 0.8 30.4 93.2 Surface 18.2 8.0 30.4 93.2 1.0 0.4 91 18.2 8.0 30.4 93.2 7.3 6.4 4 81 <0.2 0.9 6.3 0.4 102 7.3 6.9 82 0.7 18.1 8.0 < 0.2 30.7 92.5 5 822109 C3 Cloudy Moderate 12:54 12.6 Middle 18.1 8.0 30.7 92.5 83 817792 0.7 7.3 7 83 6.3 0.4 108 18 1 8.0 30.7 92.5 6.9 <0.2 0.6 11.6 0.4 120 18 1 8.0 30.8 93.6 74 8.3 6 85 <0.2 0.7 Bottom 8.0 30.8 93.6 7.4 7.4 116 0.4 121 18.1 8.0 30.8 93.6 8.3 6 84 <0.2 0.6 1.0 0.3 15.4 7.9 33.5 98.1 4 <0.2 0.9 162 33.5 8.0 5.4 81 Surface 15.4 7.9 98.1 7.9 33.5 8.0 <0.2 0.8 0.3 15.4 5.4 81 8.0 3.8 0.3 156 15.4 7.9 34.1 97.9 8.0 6.1 82 <0.2 0.7 IM1 Cloudy Moderate 11:49 7.6 Middle 15.4 7.9 34.1 97.9 82 818357 806472 0.7 79 34.1 8.0 82 <0.2 0.6 3.8 0.3 168 15.4 97 9 6.1 6.6 0.3 161 15.4 7.9 34.2 98.2 8.0 6.9 8 83 < 0.2 0.7 Bottom 15.4 7.9 34.2 98.2 8.0 6.6 0.3 167 15.4 7 Q 3/1/2 98.2 8 0 6.0 83 -n 2 0.6 1.0 0.4 179 15.4 33.6 8.0 4.4 82 <0.2 0.6 33.6 Surface 15.4 7.9 98.3 1.0 0.4 186 15.4 7.9 33.6 98.3 8.0 4.5 82 <0.2 0.7 8.0 4.5 0.6 0.3 148 15.4 7.9 33.6 98.1 8.0 83 83 < 0.2 IM2 Cloudy Moderate 11:44 8.5 Middle 7.9 98.1 83 818836 806176 0.7 15.4 33.6 5.0 4.3 0.4 15.4 7.9 33.6 8.0 4.5 < 0.2 84 7.5 0.3 133 15.3 79 34.3 98.2 8.0 6.0 8 -02 0.6 Bottom 15.3 7.9 34.3 98.3 8.0 7.5 0.3 136 7 Q 3/1/3 98.3 8.0 6.0 -n 2 15.3 84 0.6 1.0 0.4 183 15.4 7.9 33.0 98.5 8.1 4.2 80 <0.2 1.1 33.0 Surface 7.9 98.5 1.0 0.4 189 15.4 7.9 33.0 98.4 8.1 4.2 81 <0.2 1.0 4.4 0.4 1.0 15.3 7.9 33.6 8.0 5.1 82 <0.2 IM3 11:37 8.8 Middle 15.3 7.9 33.6 98.1 5.3 819417 806010 0.9 Cloudy Moderate 0.4 15.3 7.9 33.6 8.0 5.2 81 <0.2 0.8 7.8 167 82 <0.2 0.7 0.4 15.4 7.9 34.4 98.0 7.9 6.6 9 34.4 7.9 98.0 8.0 Bottom 15.4 98.0 8.0 0.4 7.9 34.4 6.5 82 < 0.2 0.7 7.8 176 15.4 1.0 7.9 0.4 164 15.4 33.1 8.1 4.6 81 <0.2 0.9 Surface 98.5 1.0 1.0 0.4 176 15.4 7.9 33.1 8.1 47 4 81 <0.2 1.0 4.1 0.4 174 15.4 7.9 33.6 98.0 8.0 6.1 6 82 <0.2 IM4 11:29 8.2 Middle 15.4 7.9 33.6 98.1 819578 805023 0.9 Cloudy Moderate 4.1 0.4 185 15.4 7.9 33.6 6.1 82 <0.2 0.4 180 15.4 7.9 7.9 10.6 83 <0.2 0.6 34.7 97.9 9 Bottom 15.4 7.9 34.7 97.9 7.2 0.4 197 15.4 7.9 34.7 97.9 7.9 10.6 11 83 <0.2 0.7 1.0 0.4 194 15.4 7.9 33.5 98.1 8.0 8.0 8 80 < 0.2 0.8 Surface 33.5 1.0 0.4 212 15.4 79 33.5 98.2 8.0 8.0 q 80 <0.2 0.9 3.6 0.4 203 15.4 7.9 33.5 98.0 8.0 9.1 7 81 <0.2 1.0 IM5 Cloudy Moderate 11:20 7.1 Middle 7.9 33.5 98.0 12 820564 804941 0.8 3.6 0.4 222 15.4 7.9 33.5 98.0 8.0 9.1 81 <0.2 0.8 0.4 7.9 33.8 97.9 97.9 19 6.1 195 15.4 33.8 0.8 13.1 82 <0.2 0.7 97.9 8.0 Bottom 15.4 7.9 7.9 8.0 13.0 82 0.7 0.4 15.4 18 <0.2 1.0 0.5 162 7.9 33.6 33.6 8.0 7.8 81 0.8 15.4 <0.2 Surface 15.4 7.9 33.6 97.9 7.9 97.9 7.8 1.0 0.6 174 15.4 g 81 <0.2 3.5 0.5 168 15.4 7.9 33.6 97.8 8.0 8.7 9 81 < 0.2 0.8 11:13 Middle 97.8 821077 805831 0.8 IM6 Cloudy Moderate 7.0 82 3.5 0.5 15.4 7.9 33.6 97.8 8.0 8.7 11 82 <0.2 6.0 0.5 168 15.3 7.9 33.6 8.0 9.3 10 82 <0.2 0.8 Bottom 15.3 7.9 33.6 97.8 8.0 6.0 0.5 15.3 7.9 33.6 97.8 8.0 9.4 11 83 <0.2 0.8 175 1.0 0.6 182 15.3 7.9 33.6 8.0 83 <0.2 0.8 98.0 8.0 8 Surface 15.3 7.9 33.6 98.0 7.9 0.8 1.0 0.6 185 15.3 33.6 98.0 8.0 8 1 83 -02 4.1 0.6 128 15.2 7.9 33.7 97.9 8.0 9.7 11 84 <0.2 0.7 33.7 821332 806817 IM7 Cloudy Moderate 11:06 8.2 Middle 15.2 7.9 98.0 9.2 4.1 0.7 131 15.2 7.9 33.7 98.0 8.0 9.7 12 84 <0.2 0.8 7.2 0.6 140 15.1 7.9 33.7 98.2 8.0 9.8 12 85 <0.2 0.7 33.7 98.2 8.0 Bottom 15.1 7.9 33.7 98.2 7.9 8.0 10.1 85 < 0.2 0.6 7.2 0.6 145 15.1 12 1.0 0.4 114 18.3 8.1 30.1 7.8 8.4 76 <0.2 0.6 Surface 18.3 8.1 30.1 99.4 1.0 0.4 114 18.3 8.1 30.1 99.4 7.8 8.6 7 77 <0.2 0.7 4.3 0.4 107 18.2 8.1 30.1 99.3 7.8 9.8 6 81 <0.2 0.6 821692 807844 IM8 Cloudy Moderate 11:34 8.5 Middle 18.2 8.1 30.1 99.3 81 0.7 0.6 4.3 114 8.1 30.1 7.8 82 < 0.2 0.4 18.2 99.3 9.8 7.5 0.4 120 18.2 8.1 30.2 99.6 7.8 10.0 7 84 <0.2 0.9 Bottom 18.2 8.1 30.2 99.6 7.8 7.5 0.4 120 18.2 8.1 30.2 99.6 7.8 10.0 84 <0.2 0.7

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Water Quality Monitoring Results on 11 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.5 18.3 11.0 1.0 100 8 1 30.2 994 7.8 -02 0.6 Surface 18.3 8.1 30.2 99.4 78 1.0 0.5 108 18.3 8.1 30.2 aa a 7.8 11.0 < 0.2 0.6 0.5 7.8 8 81 0.6 3.8 95 18.3 8.1 30.2 99.2 11.8 < 0.2 IM9 11:43 7.6 Middle 8.1 30.2 99.2 822105 808821 0.6 Cloudy Moderate 3.8 0.5 95 18.3 8.1 30.2 99.2 7.8 12.0 8 82 <0.2 0.6 6.6 0.4 103 18.3 8.1 30.2 20.3 8 83 <0.2 0.6 Bottom 8.1 30.2 99.4 7.8 18.3 7.8 0.4 18.3 8.1 99.4 20.6 84 1.0 0.5 105 18.2 8.0 29.7 7.7 9.9 77 <0.2 1.1 97.7 Surface 18.2 8.0 29.7 97.7 29.7 0.9 1.0 0.5 114 18.2 8.0 97.7 7.7 9.9 77 < 0.2 7.7 0.5 82 3.4 106 9 < 0.2 1.2 18.2 8.0 29.8 97.7 14.1 IM10 Cloudy Moderate 11:53 6.7 Middle 18.2 29.8 97.7 13.9 81 822255 809829 1.0 7.7 <0.2 1.0 34 0.5 108 18.2 8.0 29.8 97.7 14 1 9 82 5.7 0.5 108 18.2 8.0 29.8 7.7 7.7 17.7 10 84 <0.2 0.9 Bottom 18.2 8.0 29.8 97.8 17.7 5.7 0.5 109 18.2 8.0 29.8 97.8 9 83 <0.2 0.8 18.2 8.0 6.7 <0.2 0.9 29.5 97.6 97.6 Surface 18.2 8.0 29.5 7.7 1.0 0.5 109 18.2 8.0 29.5 97.6 6.7 6 78 <0.2 0.9 4.4 0.5 7.7 9.3 82 0.8 98 18.2 8.1 < 0.2 29.9 97.3 6 821484 IM11 Cloudy Moderate 12:01 8.8 Middle 18.2 29.9 97.3 8.9 810552 0.9 7.7 44 0.5 98 18.2 8.1 29 9 97.3 9.3 5 82 <0.2 0.8 7.8 0.4 111 18.2 8.0 30.2 97.8 7.7 10.6 8 84 <0.2 1.0 Bottom 8.0 30.2 97.8 7.8 0.4 115 18.2 8.0 30.2 97.8 10.6 84 <0.2 1.0 1.0 0.5 98 18.2 8.0 29.6 97.2 78 <0.2 0.9 29.6 7.7 8.1 9 Surface 18.2 8.0 97.2 8.0 29.6 79 <0.2 1.0 0.5 18.2 8.1 4.6 0.5 108 18.2 8.0 29.9 97.2 8.5 82 < 0.2 1.0 8 IM12 Cloudy Moderate 12:10 9.2 Middle 18.2 8.0 29.9 97.2 9.0 82 821156 811532 8.0 7.7 83 <0.2 1.1 4.6 0.5 115 18.2 29 9 97.2 8.5 8.2 0.4 119 18.2 8.0 30.2 97.8 7.7 7.7 10.4 84 < 0.2 0.9 Bottom 18.2 30.2 97.8 7.7 8.2 0.4 122 18.2 8.0 30.2 97.8 10.4 84 -n 2 0.9 1.0 0.5 73 18.2 8.0 29.6 6.9 80 <0.2 1.1 Surface 18.2 8.0 29.6 97.2 1.0 0.5 75 18.2 8.0 29.6 97.2 7.7 6.9 4 80 <0.2 1.2 77 2.4 SR2 Moderate 12:32 4.8 Middle 82 821471 814175 Cloudy 1.0 2.4 18.2 84 <0.2 0.8 3.8 0.4 8.0 30.3 98 1 7.7 6.4 Bottom 18.2 8.0 30.3 98.1 7.7 7.7 3.8 0.4 8.0 30.3 98.1 6.4 85 -n 2 18.2 1 0 152 1.0 0.4 18.3 8.0 28.5 97.1 7.7 9.7 28.5 97.1 Surface 8.0 1.0 0.5 164 18.3 8.0 28.5 97 1 7.7 9.7 8 4.6 0.4 11.7 18.2 8.0 29.1 7.8 7.8 SR3 11:26 9 1 Middle 18.2 8.0 29.1 97.8 12.1 822148 807551 Cloudy Moderate 0.4 18.2 8.0 29.1 97.8 11.7 8.1 125 14.7 12 0.4 18.2 8.0 30.0 98.6 7.8 30.0 98.6 7.8 Bottom 18.2 8.0 7.8 98.6 0.4 8.0 30.0 15.0 8.1 126 18.2 12 1.0 0.4 114 15.5 7.9 34.2 7.9 7.0 12 Surface 34.2 97.8 1.0 0.4 119 15.5 7.9 34.2 7.9 7.1 12 4.2 0.4 112 15.5 7.9 34.2 7.9 7.8 12 SR4A Moderate 12:29 8.4 Middle 15.5 7.9 34.2 97.8 12 817198 807794 Cloudy 4.2 0.4 120 15.5 7.9 34.2 97.8 7.9 7.8 12 7.4 0.3 102 15.4 7.9 8.0 8.2 12 34.3 98.3 Bottom 15.4 7.9 34.3 98.3 7.4 0.3 104 15.4 7.9 34.3 98.3 8.0 8.1 12 1.0 0.1 218 15.5 7.8 34.1 96.1 7.8 9.6 9 Surface 7.8 34.1 96.1 1.0 0.2 224 15.5 7.8 34.1 96.1 7.8 9.8 9 24 SR5A Cloudy Calm 12:46 4.8 Middle 816585 810677 2.4 3.8 0.2 220 15.5 10.5 7.8 34.1 96.3 7.8 34.1 96.4 7.8 Bottom 15.5 7.8 7.8 7.8 10.6 3.8 0.2 15.5 34.1 10 1.0 0.2 133 7.8 15.4 34.1 7.8 Surface 15.4 7.8 34.1 95.7 7.8 95.6 7.8 7.7 1.0 0.2 134 15.4 34.1 10 2.0 13:10 Middle 817880 814661 SR6 Cloudy Calm 3.9 2.0 2.9 0.1 171 15.2 34.2 7.9 9.3 12 Bottom 15.3 7.8 34.2 97.4 7.9 2.9 0.1 15.3 7.8 34.2 97.4 7.9 9.3 12 1.0 0.4 144 18.1 8.0 30.7 30.7 4.6 7.3 7.3 93.1 93.1 Surface 18.1 8.0 30.7 1.0 8.0 0.4 152 18.1 93.1 6 4.6 47 8.3 0.3 147 18 1 8.0 30.9 924 7.3 6 SR7 Cloudy Moderate 13:23 16.5 Middle 30.9 92.4 4.7 823653 823760 8.3 0.3 157 18.1 8.0 30.9 92.4 7.3 4.7 15.5 0.2 235 18.1 8.0 30.9 94.0 7.4 4.8 5 Bottom 18.1 8.0 30.9 94.0 7.4 15.5 0.2 241 18.1 8.0 30.9 94.0 74 4.8 1.0 0.3 197 18.2 8.0 14.5 15 30.0 Surface 18.2 8.0 30.0 979 8.0 97.9 7.7 210 30.0 14.5 14 1.0 0.3 18.2 2.7 SR8 Cloudy Moderate 12:18 5.3 Middle 13.7 14 820410 811593 2.7 4.3 0.3 209 18.2 8.0 30.0 98.6 7.8 12.9 14 18.2 8.0 30.0 98.6 7.8 4.3 0.3 229 18.2 8.0 98.6 14

DA: Depth-Average

Water Quality Monitoring Results on 15 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Weather Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.6 15.5 33.4 17.5 1.0 94.8 81 1.0 Surface 15.5 33.4 94.8 0.7 15.5 7.7 77 17.5 1.0 33.4 94.8 14 81 < 0.2 1.1 7.7 7.7 0.7 18.0 11 82 1.0 15 68 15.5 33.4 94.8 √n 2 C1 08:54 8.9 Middle 7.7 33.4 94.8 82 815610 804263 Cloudy Moderate 4.5 0.7 71 15.5 7.7 33.4 94.8 77 18.0 12 82 <0.2 1.1 7.9 0.6 67 15.4 7.7 33.3 7.7 23.1 24 83 <0.2 1.2 Bottom 7.7 33.3 94.7 7.7 15.4 0.6 15.4 77 33.3 94.7 23.1 22 83 1.2 1.0 0.5 268 18.6 7.9 7.1 4.6 76 <0.2 2.4 26.9 89.6 8 Surface 18.6 7.9 26.9 89.6 89.6 1.0 0.5 281 18.6 7.9 26.9 7.1 4.6 77 < 0.2 2.5 0.7 7.1 82 6.3 318 27.1 6.5 8 < 0.2 2.4 18.7 8.0 89.0 C2 Cloudy Rough 09:14 12.6 Middle 18.7 27.1 89.0 81 825672 806946 2.4 7 1 2.3 6.3 0.7 324 18.7 8.0 27 1 89.0 6.5 10 82 <0.2 11.6 0.6 279 18.7 8.0 27.9 89.6 7.1 7.1 10.7 8 84 <0.2 2.3 Bottom 8.0 27.9 89.6 27.0 11.6 0.6 282 18.7 8.0 89.6 10.7 10 83 <0.2 2.4 7.8 4.1 79 <0.2 28.3 91.4 Surface 15.7 7.8 28.3 91.4 1.0 0.7 281 15.7 7.8 28.3 91.4 7.6 4.1 6 80 <0.2 1.8 5.8 0.7 15.7 7.6 4.9 81 1.9 262 7.8 < 0.2 28.4 91.4 6 822091 C3 Cloudy Calm 07:23 11.6 Middle 15.7 7.8 28.4 91.4 817810 5.8 7.6 0.7 276 15.7 7.8 28.4 91.4 49 6 81 <0.2 19 10.6 0.4 262 15.7 7.8 27.8 93.1 7.8 6.4 6 82 <0.2 1.6 Bottom 7.8 27.8 93.2 7.8 10.6 0.5 280 15.7 7.8 27.8 93.2 7.8 6.3 6 83 <0.2 16 1.0 0.5 191 15.5 7.7 9.2 12 79 <0.2 31.7 95.0 7.8 1.3 Surface 15.5 7.7 31.7 95.0 7.8 12 80 1.3 0.5 15.5 9.2 <0.2 4.1 0.5 91 15.5 31.7 95.2 7.8 10.6 12 81 < 0.2 1.1 IM1 Cloudy Moderate 09:12 8.1 Middle 15.5 7.7 31.7 95.2 146 13 81 818331 806466 1.3 7.7 31.7 7.8 81 <0.2 1.3 41 0.5 96 15.5 95.2 10.7 14 7 1 0.4 91 15.5 7.7 32.1 97.0 8.0 24 1 12 82 < 0.2 1.2 Bottom 15.5 32.1 97.0 8.0 7.7 7 1 0.5 15.5 32.1 97 N 23.8 13 81 -n 2 13 1.0 0.6 167 15.5 32.4 7.8 10.8 12 80 <0.2 1.4 Surface 15.5 7.7 32.4 95.2 1.0 0.6 174 15.5 7.7 32.4 95.2 7.8 10.8 12 81 <0.2 1.2 7.8 12 4.6 0.5 15.5 32.4 95.5 7.8 18.1 81 < 0.2 1.0 IM2 Cloudy Moderate 09:21 9.1 7.7 95.6 18.8 13 82 818835 806184 Middle 15.5 32.4 -02 4.6 0.6 83 15.5 32.4 18.3 82 < 0.2 27.4 82 8 1 0.5 89 15.5 32 2 97.6 8.0 13 -02 1.0 Bottom 15.5 7.7 32.2 97.7 8.0 0.5 7.7 97.7 27.1 8.1 15.5 32.1 8.0 1/ 83 √n 2 0.8 1.0 0.6 122 15.5 7.7 32.8 94.5 7.7 20.8 16 81 <0.2 1.1 32.8 94.5 Surface 15.5 7.7 1.0 0.6 131 15.5 77 32.8 94.5 7.7 21.0 17 80 <0.2 1.1 4.6 7.7 22.6 0.6 15.5 32.8 7.8 16 81 <0.2 1.1 IM3 09:32 9 1 Middle 15.5 7.7 32.8 94.8 22.0 18 82 819422 806032 Cloudy Moderate 18 0.6 15.5 94.8 22.5 82 <0.2 1.0 8.1 0.6 15.5 7.7 20 82 <0.2 1.1 84 32.5 97.4 8.0 22.1 7.7 32.5 97.5 8.0 Bottom 15.5 7.7 32.5 97.5 8.0 22.9 83 < 0.2 1.2 8.1 0.6 88 15.5 22 1.0 0.6 123 22 15.4 7.7 33.0 7.8 16.3 81 < 0.2 2.1 Surface 33.0 77 95.2 1.9 1.0 0.6 124 15.4 33.0 7.8 16.3 20 82 <0.2 1.7 4.3 0.5 106 15.4 33.0 7.8 20.2 22 83 <0.2 IM4 09:41 8.5 Middle 15.4 7.7 33.0 95.7 83 819579 805024 Cloudy Moderate 25 4.3 0.6 116 15.4 7.7 33.0 95.7 7.8 20.2 23 83 <0.2 0.5 103 15.4 7.7 7.9 27.1 32 32 84 <0.2 1.4 32.9 96.5 Bottom 15.4 7.7 32.9 96.5 7.5 0.6 104 15.4 7.7 32.9 96.5 7.9 27.1 83 <0.2 1.5 16.4 1.0 0.6 174 15.5 7.7 32.8 95.8 7.8 22 80 < 0.2 1.2 Surface 15.5 32.8 95.8 77 7.8 23 1.0 0.6 177 15.5 32.8 95.8 16.4 81 <0.2 1.3 1.5 3.8 0.6 107 15.5 7.7 32.8 96.5 7.9 20.8 24 82 <0.2 IM5 Cloudy Moderate 09:51 7.5 Middle 7.7 32.8 96.5 27 82 820554 804907 1.2 3.8 0.6 110 15.5 7.7 32.8 96.5 7.9 20.8 26 82 <0.2 1.5 6.5 7.7 32 0.6 120 15.5 32.7 97.6 0.8 25.0 83 <0.2 0.9 32.7 97.7 8.0 Bottom 15.5 7.7 7.7 33 83 6.5 0.7 126 15.5 32.7 25.0 <0.2 1.0 1.0 0.5 148 7.8 32.5 32.5 7.8 7.8 17.0 24 82 1.4 15.6 94.9 <0.2 Surface 15.6 7.8 32.5 94.9 7.8 1.3 94 9 17.0 1.0 0.5 162 15.5 24 82 <0.2 3.7 0.5 116 15.5 7.7 32.5 96.0 7.9 22.1 25 83 < 0.2 1.4 10:02 Middle 32.5 96.1 821063 805834 1.3 IM6 Cloudy Moderate 7.3 26 83 3.7 0.6 15.5 7.7 32.5 96.1 7.9 22.1 25 27 83 <0.2 6.3 0.5 114 15.5 32.5 8.0 24.3 84 <0.2 1.2 Bottom 15.5 7.7 32.5 97.8 8.0 6.3 0.6 15.5 7.7 32.5 97.8 8.0 24.3 29 84 <0.2 1.3 124 1.0 15.5 7.7 7.7 15.5 14 82 83 < 0.2 1.0 0.6 102 32.5 95.5 7.8 7.8 7.7 95.5 Surface 15.5 32.5 1.0 0.6 104 32.5 15.4 16 1.0 15.5 <0.2 4.5 0.5 15.5 20 84 1.2 82 77 32.5 95 9 7.8 -02 IM7 Cloudy Moderate 10:16 8.9 Middle 15.5 32.5 95.9 16.7 19 84 821363 806838 7.7 4.5 0.6 85 15.5 32.5 95.9 7.9 17.2 22 84 <0.2 1.1 7.9 0.5 81 15.5 7.7 32.4 97.7 8.0 17.8 21 84 <0.2 1.0 Bottom 15.5 7.7 32.4 97.7 8.0 79 0.5 82 15.5 77 32.4 97.7 8.0 17.0 21 85 <0.2 1.0 1.0 0.8 175 18.6 8.0 9.0 10 77 28.2 7.3 <0.2 Surface 18.6 8.0 28.2 922 8.0 92.2 7.3 77 18.6 28.2 9.0 11 <0.2 1.7 1.0 0.8 188 4.3 0.8 174 18.6 8.0 28.4 7.3 10.0 10 82 1.8 92.2 < 0.2 821708 IM8 Cloudy Rough 08:51 8.5 Middle 18.6 8.0 28.4 92.2 12.9 10 81 807837 1.7 81 4.3 8.0 190 18.6 8.0 28.4 92.2 7.3 10.0 9 <0.2 10 7.5 1.0 147 18.5 8.0 29.0 92.7 7.3 19.6 83 <0.2 1.8 18.5 8.0 29.0 92.7 7.3 7.5 1.0 157 18.5 8.0 92.7 19.6 10 84

DA: Depth-Average

Water Quality Monitoring Results on 15 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.8 205 18.6 28.4 12.0 1.0 8.0 923 7.3 16 Surface 18.6 8.0 28.4 92.3 77 1.0 nα 221 18.6 8.0 28.4 923 7.3 12.0 16 17 < 0.2 1.8 7.3 83 1.7 4.0 0.8 218 18.6 8.0 28.4 92.4 12.4 √n 2 IM9 08:43 7.9 Middle 8.0 28.4 92.4 17 822099 808800 1.7 Cloudy Rough 4.0 0.9 228 18.6 8.0 28.4 92.4 7.3 12.4 17 82 <0.2 1.7 6.9 0.7 213 18.6 8.0 28.4 93.5 13.6 17 84 <0.2 1.7 Bottom 8.0 28.4 93.5 7.4 18.6 7.4 0.8 18.6 8.0 28.4 93.5 13.6 83 1.6 1.0 1.0 249 18.6 8.0 29.0 7.3 13.7 16 77 <0.2 <0.2 92.4 Surface 18.6 8.0 29.0 92.4 1.0 1.1 250 18.6 8.0 29.0 92.4 7.3 13.7 17 78 < 0.2 1.5 0.8 7.3 4.4 260 15.5 18 82 < 0.2 1.5 18.6 8.0 29.0 92.4 IM10 Cloudy Rough 08:34 8.8 Middle 18.6 29.0 92.4 17.5 18 81 822249 809818 92.4 1.5 44 0.9 266 18.6 8.0 29.0 7.3 15.6 19 81 <0.2 7.3 7.3 7.8 0.7 237 18.6 8.0 29.1 93.3 23.2 19 84 <0.2 1.5 Bottom 18.6 8.0 29.1 93.3 7.3 7.8 0.8 257 18.6 8.0 29.1 93.3 23.2 19 84 <0.2 1.6 0.4 18.6 8.0 29.3 29.3 21.2 22 21 <0.2 1.4 91.4 Surface 18.6 8.0 29.3 91.4 1.0 0.5 270 18.6 8.0 91.4 7.2 21.2 78 <0.2 1.5 4.3 272 7.2 23.2 83 1.5 0.4 18.6 8.0 26 < 0.2 29.3 91.2 821518 IM11 Cloudy Rough 08:26 8.5 Middle 18.6 8.0 29.3 91.2 22.5 25 82 810550 7.2 82 4.3 0.4 279 18.6 8.0 29.3 91.2 23.2 28 <0.2 1.6 7.5 0.4 271 18.6 8.0 29.3 91.4 7.2 23.0 28 85 <0.2 1.5 Bottom 8.0 29.3 91.4 7.2 72 27 7.5 0.4 283 18.6 8.0 29.3 91.4 23.0 84 <0.2 15 1.0 0.6 262 18.6 8.0 16.2 20 80 <0.2 1.5 29.2 91.7 7.2 Surface 18.6 8.0 29.2 91.7 8.0 7.2 80 <0.2 1.4 0.7 18.6 29.2 16.2 19 7.2 7.2 4.7 0.6 270 18.6 8.0 29.2 19.2 20 82 < 0.2 1.4 91.6 IM12 Cloudy Rough 08:19 9.4 Middle 18.6 8.0 29.2 91.6 18.3 20 82 821174 811530 1.5 47 8.0 72 82 <0.2 1.4 0.6 292 18.6 29.2 91.6 192 19 8.4 0.5 273 18.6 8.0 29.3 91.8 7.2 7.2 19.5 21 84 < 0.2 1.6 Bottom 18.6 29.3 91.8 7.2 8.4 0.5 18.6 8.0 29.3 91.8 19.5 23 84 -n 2 15 1.0 0.7 293 18.6 8.0 29.3 7.2 14.7 14 81 <0.2 1.7 91.3 Surface 18.6 8.0 29.3 91.4 1.0 0.7 314 18.6 8.0 29.3 91.4 7.2 14.6 14 80 <0.2 1.7 72 SR2 07:57 42 Middle 13.8 15 83 821468 814182 Cloudy Rough -02 16 2.1 293 18.6 13.0 17 85 <0.2 1.5 32 0.6 8.0 29.3 912 7.2 Bottom 18.6 8.0 29.3 91.2 7.2 7.2 16 3.2 0.6 322 8.0 20.3 91.2 13.0 15 18.6 84 √n 2 1.0 0.6 231 18.6 8.0 28.2 92.4 7.3 8.3 11 28.2 92.4 Surface 8.0 1.0 0.6 237 18.6 8.0 28.2 92.4 7.3 8.3 11 4.7 11 0.5 220 18.6 8.0 28.2 92.6 7.3 7.3 9.1 SR3 08:56 94 Middle 18.6 8.0 28.2 92.6 94 11 822156 807564 Cloudy Rough 18.6 8.0 92.6 9.1 8.4 0.5 172 7.3 18.5 8.0 28.6 92.9 10.9 11 28.6 92.9 7.3 Bottom 18.5 8.0 92.9 8.0 28.6 10.9 8.4 0.6 177 18.5 10 1.0 0.3 169 15.8 31.1 93.2 7.6 15.9 14 Surface 31.1 1.0 0.3 170 15.8 77 31.1 93.2 7.6 15.9 15 4.6 0.2 156 15.8 93.5 16.9 18 SR4A 08:29 9.2 Middle 15.8 7.7 31.1 93.5 817186 807826 Cloudy Moderate 4.6 0.3 157 15.8 7.7 93.5 16.9 16 8.2 0.2 15.8 7.7 7.8 17.6 17 30.9 94.6 Bottom 15.8 7.7 30.9 94.7 8.2 0.3 159 15.8 7.7 30.9 94.7 7.8 17.5 18 1.0 0.3 235 15.9 7.7 30.6 95.3 7.8 13.1 14 Surface 15.9 7.7 30.6 95.3 1.0 77 15 0.4 237 15.9 30.6 95.3 7.8 13.2 2.8 SR5A Cloudy Calm 08:10 5.5 Middle 17 816585 810680 2.8 4.5 0.3 236 15.9 13.7 18 30.4 0.8 7.7 96.8 8.0 Bottom 15.9 30.4 7.7 96.8 13.7 0.3 246 15.9 30.4 8.0 19 0.2 1.0 229 7.6 7.6 7.2 7.2 15.8 30.5 93.8 15 Surface 15.8 7.6 30.5 93.8 93.8 7.7 1.0 0.2 237 15.8 30.5 15 21 07:48 4.2 Middle 817915 814655 SR6 Cloudy Calm 2.1 3.2 0.1 193 15.8 30.5 7.9 7.7 18 Bottom 15.8 7.6 30.5 96.3 7.9 3.2 0.2 15.8 7.6 30.5 96.3 7.9 7.8 18 1.0 0.3 110 15.5 7.7 7.7 27.5 27.5 3.8 7.8 7.8 91.9 8 15.5 7.7 27.5 Surface 91.9 1.0 116 15.5 91.9 3.8 8 8.6 15.4 49 0.3 69 77 26.6 94 1 8.0 8 SR7 Cloudy Calm 06:55 17.2 Middle 15.4 26.6 94.2 4.6 9 823625 823744 7.7 8.6 0.3 73 15.4 26.6 94.2 8.0 4.9 16.2 0.3 68 15.3 7.7 25.6 96.5 8.3 5.1 9 Bottom 15.3 7.7 25.2 97.8 8.4 16.2 0.3 73 15.3 77 24.8 99.0 8.5 5.0 10 1.0 0.4 210 18.6 8.0 9.5 14 28.5 92.5 7.3 Surface 18.6 8.0 28.5 925 8.0 28.5 92.5 7.3 9.7 0.4 211 18.6 13 1.0 2.7 SR8 Cloudy Rough 08:12 5.4 Middle 10.8 16 820427 811576 2.7 18 4.4 0.3 229 18.7 8.0 28.9 7.3 12.0 18.7 28.9 8.0 92.5 7.3 4.4 0.3 235 18.7 8.0 92.5 17

DA: Depth-Average

Water Quality Monitoring Results on 15 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.4 210 15.5 34.3 1.0 79 49 81 0.4 Surface 15.5 34.3 1.0 0.4 225 15.5 7.8 3/1/3 97.5 7.0 5.0 82 < 0.2 0.5 83 0.5 U 3 187 7.8 7 Q 5.0 13 15.5 34.3 97.8 8 √n 2 C1 14:15 8.6 Middle 7.8 34.3 97.8 83 815612 804263 0.5 Cloudy Moderate 4.3 0.4 192 15.5 7.8 34.3 97.8 7.9 5.0 10 83 <0.2 0.5 7.6 0.3 15.5 7.8 5.9 9 84 <0.2 0.5 Bottom 15.5 7.8 34.1 99.4 0.4 15.5 7.8 34.1 99.5 5.8 84 0.5 1.0 0.4 112 18.7 8.0 27.1 8.4 11 75 <0.2 1.9 89.3 7.1 Surface 18.7 8.0 27.1 89.3 27.1 7.1 1.0 0.4 115 18.7 8.0 89.3 8.4 9 76 < 0.2 1.9 0.3 11 6.3 99 6.9 13.1 83 < 0.2 1.8 18.6 8.0 28.6 87.4 C2 Cloudy Rough 13:01 12.6 Middle 18.6 28.6 87.4 15.7 80 825682 806948 1.8 6.3 0.3 105 18.6 8.0 28.6 87.4 69 13.1 12 82 <0.2 11.6 0.3 199 18.6 8.0 29.5 76.9 6.0 25.7 12 83 <0.2 1.8 Bottom 8.0 29.5 76.9 6.0 76.9 11.6 0.3 203 18.6 8.0 29.5 6.0 25.7 12 83 <0.2 1.8 18.6 8.0 80 <0.2 1.0 29.8 90.8 Surface 18.6 8.0 29.8 90.8 1.0 0.5 86 18.6 8.0 29.8 90.8 7.1 3.7 8 80 <0.2 1.2 6.1 0.4 74 18.5 7.0 4.6 83 1.1 8.0 12 < 0.2 30.5 89.0 822105 C3 Cloudy Mderate 14:42 12.2 Middle 18.5 8.0 30.5 89.0 10 83 817822 7.0 6.1 0.4 80 18.5 8.0 30.5 89.0 4.6 11 83 <0.2 1.1 0.2 100 18.4 8.0 30.8 89.2 7.0 5.4 10 85 <0.2 1.0 Bottom 8.0 30.8 89.2 7.0 7.0 11.2 0.2 109 18.4 8.0 30.8 89.2 5.4 12 85 <0.2 1.0 1.0 0.3 210 15.5 7.8 33.3 96.1 8.9 12 <0.2 0.8 33.3 7.8 80 Surface 15.5 7.8 96.2 7.8 33.3 96.2 7.8 13 80 <0.2 0.8 0.3 15.5 8.9 4.2 0.3 155 15.5 7.8 33.4 96.5 7.8 9.0 13 81 <0.2 0.8 IM1 Cloudy Moderate 13:56 8.3 Middle 15.5 7.8 33.4 96.5 13 81 818337 806444 0.9 7.8 33.4 96.5 7.8 82 <0.2 0.8 4.2 0.3 156 15.5 9.0 15 7.3 0.3 145 15.4 7.8 34.1 97.6 7.9 7.9 9.5 13 82 < 0.2 1.0 Bottom 15.4 34.1 97.7 7.9 7.3 0.3 15.4 7.8 3/1/1 97.7 9.5 13 83 -n 2 0.9 1.0 0.3 234 15.5 33.3 7.8 8.9 12 80 <0.2 0.8 33.3 Surface 15.5 7.8 96.2 1.0 0.3 252 15.5 7.8 33.3 96.2 7.8 8.9 13 80 <0.2 0.9 79 0.8 4.4 0.3 15.5 7.8 33.3 96.9 7.9 9.1 12 13 81 < 0.2 IM2 Cloudy Moderate 13:50 8.8 Middle 7.8 96.9 13 81 818848 806206 0.8 15.5 33.3 4.4 0.3 15.5 9.1 81 < 0.2 7.8 82 0.8 0.3 124 15.5 7.8 33.8 97.6 7.9 9.3 13 -02 Bottom 15.5 7.8 33.8 97.6 7.9 7.9 15 7.8 0.3 124 15.5 7.8 33.8 97.6 0.7 92 82 √n 2 1.0 0.4 227 15.5 7.8 33.2 96.6 7.9 8.8 13 80 <0.2 0.7 33.2 Surface 7.8 96.6 1.0 0.4 235 15.5 7.8 33.2 96.6 7.9 8.8 14 80 <0.2 0.6 4.4 14 0.8 0.3 15.5 7.8 33.3 7.9 9.2 81 <0.2 IM3 13:41 8.8 Middle 15.5 7.8 33.3 97.4 9 1 14 819423 806021 0.7 Cloudy Moderate 0.3 15.5 7.8 97.4 9.2 12 81 <0.2 7.8 15.5 16 82 <0.2 0.7 0.4 141 7.8 33.3 98.8 8.0 9.5 7.8 33.3 98.9 Bottom 15.5 7.8 33.3 98.9 15.5 8.1 9.3 82 < 0.2 0.6 7.8 0.4 151 16 1.0 0.3 162 7.8 15.4 33.8 96.4 7.8 16.3 20 81 <0.2 0.5 Surface 33.8 96.4 7.8 1.0 0.3 162 15.4 7.8 33.8 16.4 19 81 <0.2 0.6 0.6 4.3 0.2 162 15.4 7.8 97.0 7.9 15.5 21 82 <0.2 IM4 13:31 8.5 Middle 15.4 7.8 33.7 97.0 819551 805054 0.6 Cloudy Moderate 4.3 0.3 15.4 7.8 33.7 97.0 7.9 15.5 22 82 <0.2 0.3 152 15.4 7.8 33.6 8.0 15.8 21 83 <0.2 0.6 98.3 Bottom 15.4 7.8 33.6 98.3 7.5 0.3 164 15.4 7.8 33.6 98.3 8.0 15.8 23 83 <0.2 0.6 1.0 0.3 194 15.4 7.9 33.4 96.4 7.9 17.1 23 80 < 0.2 0.7 Surface 33.4 1.0 79 23 0.3 203 15.4 79 33.4 96.4 17.1 81 <0.2 0.6 17.3 3.7 0.3 163 15.4 7.8 33.4 96.8 7.9 26 81 <0.2 0.6 IM5 Cloudy Moderate 13:23 7.4 Middle 7.8 33.4 96.8 17.2 26 820576 804914 0.6 3.7 0.4 164 15.4 7.8 33.4 96.8 7.9 17.3 27 82 <0.2 0.6 6.4 0.3 7.8 17.0 28 138 15.4 33.3 33.3 97.6 0.8 82 <0.2 0.7 97.6 Bottom 15.4 7.8 8.0 7.8 82 0.3 15.4 33.3 26 <0.2 0.6 1.0 0.3 85 15.5 7.8 33.2 33.2 7.9 7.9 19.4 24 82 0.7 96.4 <0.2 Surface 15.5 7.8 33.2 96.4 7.8 96.4 1.0 0.3 93 15.5 19.4 24 82 <0.2 3.7 0.4 72 15.5 7.8 33.2 97.2 7.9 19.8 25 83 < 0.2 0.7 13:09 Middle 33.2 97.2 20.7 821076 805846 0.7 IM6 Cloudy Moderate 7.3 24 83 3.7 0.4 15.5 7.8 33.2 97.2 7.9 19.7 23 84 <0.2 6.3 0.4 15.5 7.8 22.9 25 84 <0.2 0.6 99.2 Bottom 15.5 7.8 32.9 99.3 6.3 0.4 76 15.5 7.8 32.9 99.3 22.7 25 85 <0.2 0.6 1.0 0.5 132 15.4 7.8 32.6 17.0 25 27 83 <0.2 1.4 95.8 7.9 Surface 15.4 7.8 32.6 95.8 1.0 0.5 137 7.8 7.9 1 4 15.4 32 6 95.8 17.0 83 -02 3.7 0.6 132 15.3 7.7 32.5 95.9 7.9 21.0 26 84 <0.2 1.2 821337 806850 IM7 Cloudy Moderate 12:56 7.4 Middle 15.3 7.7 32.5 95.9 20.7 27 3.7 0.6 143 15.3 7.7 32.5 95.9 7.9 21.0 25 84 <0.2 1.2 27 6.4 0.5 145 15.3 7.7 32.5 96.5 7.9 24.2 85 <0.2 1.1 32.5 96.5 Bottom 15.3 7.7 7.9 32.5 7.7 96.5 7.9 24.2 85 < 0.2 1.0 6.4 0.5 154 15.3 29 1.0 0.6 93 18.5 8.1 29.9 94.7 7.4 11.5 10 76 <0.2 1.2 Surface 18.5 8.1 29.9 94.7 1.0 0.6 95 18.5 8.1 29.9 94.7 7.4 11.5 11 77 <0.2 1.1 4.1 0.5 116 18.5 8.1 30.1 94.7 7.4 15.3 12 82 <0.2 1.2 821711 807846 IM8 Cloudy Rough 13:27 8.2 Middle 18.5 8.1 30.1 947 13 81 4.1 0.6 118 8.1 30.1 94.7 7.4 15.3 12 82 < 0.2 1.2 18.5 7.2 0.5 101 18.4 8.1 30.6 95.2 7.5 25.8 16 83 <0.2 1.0 Bottom 18.4 8.1 30.6 95.2 7.5 7.2 0.5 101 18.4 8.1 30.6 95.2 7.5 24.5 18 84 <0.2 1.0

DA: Depth-Average

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Water Quality Monitoring Results on 15 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.5 18.6 29.4 94 1.0 99 8 1 94.6 7.4 Surface 18.6 8.1 29.4 94.6 77 1.0 0.5 aa 18.6 8.1 20.4 946 7.4 9.4 11 < 0.2 1.2 82 0.5 120 7.4 123 13 1.4 4.0 18.5 8.1 29.7 94.4 √n 2 IM9 13:37 7.9 Middle 8.1 29.7 94.4 12 822104 808814 1.3 Cloudy Rough 4.0 0.5 128 18.5 8.1 29.7 94.4 7.4 12.3 12 82 <0.2 1.4 6.9 0.4 97 18.4 8.1 30.2 25.3 12 84 <0.2 1.3 Bottom 8.1 30.2 94.5 7.4 18.4 0.4 18.4 8.1 94.5 7.4 25.3 84 1.3 1.0 0.5 96 18.6 8.0 29.0 7.4 9.9 12 77 <0.2 1.4 93.5 Surface 18.6 8.0 29.0 93.6 29.0 93.6 7.4 1.0 0.5 105 18.6 8.0 10.1 12 78 < 0.2 1.4 0.5 7.3 4.0 122 15.2 82 < 0.2 1.2 18.6 8.0 29.1 93.2 IM10 Cloudy Rough 13:46 8.0 Middle 18.6 29.1 93.2 14.2 13 81 822224 809824 1.3 7.3 1.1 4.0 0.5 131 18.6 8.0 29.1 93.2 15.2 14 82 <0.2 7.3 7.3 7.0 0.5 85 18.5 8.0 29.3 93.1 17.5 14 84 <0.2 1.4 Bottom 18.5 8.0 29.3 93.1 7.3 17.5 7.0 0.5 91 18.5 8.0 29.3 93.1 14 84 <0.2 1.5 18.7 8.0 12 78 <0.2 1.4 29.0 93.8 Surface 18.7 8.0 29.0 93.8 1.0 0.6 101 18.7 8.0 29.0 93.8 7.4 7.0 11 78 <0.2 1.4 4.3 18.7 7.3 9.4 82 1.4 0.6 136 8.0 12 < 0.2 29.1 93.2 821488 IM11 Cloudy Rough 13:53 8.6 Middle 18.7 8.0 29.1 93.2 12 810562 7.3 4.3 0.6 140 18.7 8.0 29 1 93.2 9.4 12 82 <0.2 1 4 7.6 0.4 89 18.6 8.0 29.2 93.9 74 9.6 11 84 <0.2 1.3 Bottom 8.0 29.2 93.9 7.4 7.4 7.6 0.4 94 18.6 8.0 29.2 93.9 9.6 12 84 <0.2 1.3 1.0 0.6 101 18.7 8.0 7.5 11 78 <0.2 1.3 29.0 93.6 7.3 Surface 18.7 8.0 29.0 93.6 8.0 29.0 93.6 7.3 12 78 <0.2 1.4 0.6 18.7 7.5 7.7 4.5 0.6 127 18.7 8.0 29.1 93.3 7.3 10 82 < 0.2 1.4 IM12 Cloudy Rough 14:00 9.0 Middle 18.7 8.0 29.1 93.3 12 83 821171 811518 8.0 7.3 7.7 82 <0.2 1.3 4.5 0.6 138 18.7 29 1 93.3 12 8.0 0.4 100 18.6 8.0 29.4 93.5 7.3 8.4 13 84 < 0.2 1 4 Bottom 18.6 29.4 93.5 7.3 8.0 0.4 18.6 8.0 29.4 93.5 8.4 14 Q/I -n 2 15 1.0 0.5 87 18.7 8.0 29.3 7.3 12 79 <0.2 1.4 Surface 18.7 8.0 29.3 92.7 1.0 0.5 91 18.7 8.0 29.3 92.7 7.3 7.3 14 79 <0.2 1.2 7.3 2.3 SR2 Mderate 14:21 46 Middle 13 82 821477 814162 Cloudy -02 1.3 18.5 94 84 <0.2 1.3 3.6 0.4 87 8.0 30.1 93.5 7.3 13 Bottom 18.5 8.0 30.1 93.5 7.3 7.3 12 3.6 0.4 22 18.5 8.0 30.1 93.5 9.4 -n 2 84 13 1.0 0.5 135 18.5 8.1 30.0 95.2 7.5 10.3 10 30.0 95.2 Surface 8.1 1.0 0.5 140 18.5 8.1 30.0 95.2 7.5 10.3 11 4.6 0.5 12.6 18.5 8.1 30.0 7.5 7.5 12 SR3 13:22 92 Middle 18.5 8.1 30.0 95.1 14.8 12 822143 807563 Cloudy Rough 0.5 18.5 8.1 30.0 12.6 12 8.2 0.3 13 86 18.4 8.1 30.6 95.2 7.4 21.5 8.1 30.6 95.2 7.4 Bottom 18.4 7.4 95.2 8.1 30.6 21.5 8.2 0.3 93 18.4 15 1.0 0.3 7.8 111 15.6 33.5 7.8 12.7 19 Surface 33.5 96.2 1.0 0.3 111 15.6 7.8 33.5 7.8 12.7 19 4.8 0.3 104 15.5 7.8 33.7 7.8 12.3 20 SR4A 14:39 9.5 Middle 15.5 7.8 33.7 96.5 12.8 21 817190 807803 Cloudy Moderate 4.8 0.3 15.5 7.8 33.7 96.5 12.4 21 8.5 0.3 102 15.5 7.8 33.8 7.9 13.4 22 22 97.6 Bottom 15.5 7.8 33.8 97.7 8.5 0.4 105 15.5 7.8 33.8 7.9 13.3 1.0 0.2 168 16.0 7.7 32.0 98.1 8.0 7.7 14 Surface 16.0 7.7 32.0 98.2 1.0 77 12 0.2 180 16.0 32.0 98.2 8.0 7.6 1.8 SR5A Cloudy Calm 14:57 3.6 Middle 15 816609 810678 1.8 2.6 0.2 183 16.0 16 31.9 99.5 8.1 6.4 7.7 31.9 99.6 8.1 Bottom 16.0 7.7 99.6 8.1 2.6 0.2 199 16.0 31.9 6.3 18 0.2 1.0 123 16.0 31.7 97.4 7.9 9.0 10 Surface 16.0 7.7 31.7 97.4 7.7 97.4 7.9 1.0 0.2 132 16.0 31.7 9.1 9 22 15:19 4.3 Middle 817913 814659 SR6 Cloudy Calm 2.2 3.3 0.2 123 15.8 31.6 8.1 9.7 12 Bottom 15.8 7.7 31.6 99.6 8.1 3.3 0.2 15.8 7.7 31.6 99.6 9.5 10 126 1.0 0.4 18.5 8.0 5.3 5.4 66 30.4 98.4 7.7 7.7 98.5 Surface 18.5 8.0 30.4 1.0 69 8.0 0.4 18.5 30.4 98.6 8 1 0.4 18.5 7.0 3.0 61 8.0 30.5 90.0 SR7 Cloudy Mderate 15:09 16.2 Middle 18.5 30.5 90.0 4.1 823649 823739 8.1 0.4 65 18.5 8.0 30.5 90.0 7.0 2.9 15.2 0.3 130 18.5 8.0 30.5 90.5 7.1 4.0 6 Bottom 18.5 8.0 30.5 90.5 15.2 0.3 142 18.5 8.0 30.5 90.5 7 1 4.0 1.0 0.2 160.0 18.7 8.0 29.2 29.2 14.0 19 94.8 7.4 Surface 18.7 8.0 29.2 94.8 8.0 94.8 7.4 171.0 18.7 13.9 18 1.0 0.2 2.6 SR8 Cloudy Rough 14:07 5.2 Middle 19 820424 811589 2.6 20 4.2 0.3 160.0 18.7 8.0 29.2 96.9 7.6 14.9 18.7 29.2 8.0 96.9 7.6 4.2 0.3 174.0 18.7 8.0 96.9 19

DA: Depth-Average

Water Quality Monitoring Results on 17 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.7 15.4 32.8 1.0 48 95.6 7.8 7.6 80 0.8 Surface 15.4 7.8 32.8 95.6 0.7 7.7 1.0 48 15.4 7.8 32.8 95.6 7.8 RΛ < 0.2 0.9 11.7 81 0.7 12 7.8 0.9 15 15.4 7.8 33.0 95.7 11 √n 2 C1 09:42 9.0 Middle 7.8 33.0 95.7 12.8 15 815616 804244 0.7 Fine Moderate 4.5 0.7 44 15.4 7.8 33.0 95.6 7.8 12.0 11 81 <0.2 0.6 8.0 0.6 45 15.3 7.8 33.9 18.8 26 82 <0.2 0.6 Bottom 7.8 33.9 95.7 7.8 15.3 0.7 15.3 7.8 33.9 95.7 7.8 18.8 82 1.0 0.7 302 18.9 7.8 25.8 7.3 75 <0.2 2.0 92.0 6.4 6 Surface 18 9 7.8 25.8 92.0 1.0 0.7 311 18.9 7.8 25.8 92.0 7.3 6.5 75 < 0.2 1.9 7.2 6.4 0.6 197 7.9 27.5 14.7 6 80 < 0.2 2.3 18.7 90.8 Cloudy C2 Moderate 10:08 12.8 Middle 18.7 7.9 27.5 90.9 12.4 10 81 825697 806926 2.2 90.9 6.4 0.7 211 18.7 79 27.5 7.2 14.7 84 < 0.2 2.4 11.8 0.7 73 18.7 7.9 27.6 90.9 7.2 7.2 15.9 16 85 <0.2 2.2 Bottom 7.9 27.6 90.9 7.2 11.8 0.7 78 18.7 7.9 27.6 90.9 16.3 15 85 <0.2 2.1 15.5 4.9 80 <0.2 1.3 30.4 92.2 Surface 15.5 7.7 30.4 92.2 7.7 1.0 0.5 275 15.5 7.7 30.4 92.2 5.0 8 80 <0.2 1.3 6.1 7.7 7.6 8.9 82 1.2 0.6 263 15.4 < 0.2 31.3 91.4 822099 C3 Cloudy Moderate 08:14 12.1 Middle 15.4 7.7 31.3 91.4 10 82 817808 77 7 6.1 0.6 276 15.4 31.3 91.4 7.6 9.1 82 <0.2 1.0 11.1 0.5 262 15.3 77 32.0 924 7.6 12.3 16 83 <0.2 0.9 Bottom 7.7 32.0 92.4 7.6 77 0.5 269 15.3 32.0 92.4 76 12.3 15 83 <0.2 0.9 1.0 0.6 174 15.5 7.8 6.7 10 <0.2 1.0 32.7 95.7 7.8 80 Surface 15.5 7.8 32.7 95.7 7.8 7.8 1.0 0.6 15.5 6.8 8 81 <0.2 3.9 0.6 166 15.5 7.8 32.7 95.6 7.8 8.5 11 81 < 0.2 1.0 IM1 Fine Moderate 10:02 7.8 Middle 15.5 7.8 32.7 95.6 12 0 82 818362 806473 1.0 7.8 32.7 95.6 7.8 82 <0.2 1.0 3.9 0.6 167 15.5 8.6 q 6.8 0.5 144 15.4 7.8 33.3 95.9 7.8 7.8 20.6 30 83 < 0.2 1.1 Bottom 15.4 33.3 96.1 7.8 6.8 0.5 145 15.4 7.8 33.3 96.2 20.9 31 83 -n 2 1.0 1.0 0.6 128 15.6 32.7 7.8 5.6 81 <0.2 1.1 Surface 15.6 7.8 32.7 95.8 1.0 0.6 133 15.6 7.8 32.7 95.8 7.8 5.6 10 81 <0.2 1.2 7.8 0.6 146 15.5 7.8 32.6 95.4 7.8 8.0 10 82 82 < 0.2 1.3 IM2 Fine Moderate 10.08 8.9 7.8 95.4 10.0 12 82 818846 806201 12 Middle 15.5 32.6 4.5 0.6 15.5 32.6 8.1 10 < 0.2 1.4 83 79 0.5 129 15.4 7.8 33.2 95.3 7.8 16.5 14 -02 12 Bottom 15.4 7.8 33.2 95.3 7.8 7.8 7 0 0.5 7.8 33.3 95.3 16 83 12 132 15.4 16.4 √n 2 1.0 0.6 105 15.5 7.8 32.6 95.9 7.8 5.9 80 <0.2 1.5 32.6 Surface 15.5 7.8 95.9 1.0 0.6 115 15.5 7.8 32.6 95.9 7.8 5.9 8 81 <0.2 1.3 82 82 1.5 4.6 0.6 15.5 7.8 32.6 7.8 6.8 10 <0.2 IM3 10:16 9 1 Middle 15.5 7.8 32.6 95.7 99 82 819414 806028 Fine Moderate 0.6 15.5 7.8 32.6 6.8 <0.2 1.4 8.1 0.5 15.5 83 1.4 104 7.8 33.1 96.0 7.8 16.9 16 < 0.2 33.1 96.0 7.8 Bottom 15.5 7.8 7.8 7.8 96.0 1.5 33.1 17.1 83 < 0.2 8.1 0.5 106 15.5 15 1.0 0.7 7.8 110 15.6 32.4 7.8 7.4 8 82 <0.2 1.4 Surface 7.8 95.2 1.0 0.7 111 15.6 7.8 32.4 7.8 7.5 10 82 <0.2 1.2 1.3 4.2 0.6 92 15.5 7.8 32.6 94.8 7.8 16.3 22 83 <0.2 IM4 10:25 Middle 15.5 7.8 32.6 94.8 83 819588 805031 1.2 Fine Rough 8.4 4.2 0.7 95 15.5 7.8 32.6 94.8 16.6 21 83 <0.2 7.4 0.6 110 15.5 7.8 7.7 26.3 34 84 <0.2 1.0 32.9 94.7 Bottom 15.5 7.8 32.9 94.7 7.4 0.6 117 15.5 7.8 32.9 94.7 7.7 25.8 34 84 <0.2 1.2 1.0 0.7 106 15.6 7.8 32.0 94.9 7.8 5.4 6 79 < 0.2 1.3 Surface 32.0 94.9 7.8 1.0 0.7 109 15.6 7.8 32.0 94.9 5.3 6 80 <0.2 1.3 10 1.5 3.7 0.7 76 15.6 7.8 32.2 94.8 7.8 11.2 81 <0.2 IM5 Fine Rough 10:32 7.3 Middle 7.8 32.2 94.9 820545 804927 0.7 15.6 7.8 32.2 94.9 7.8 11.3 81 <0.2 1.4 6.3 0.6 31 115 15.5 7.8 32.9 32.9 <u>95.3</u> 95.4 7.8 32.3 82 <0.2 1.4 Bottom 15.5 7.8 95.4 7.8 7.8 82 1.2 6.3 0.6 15.5 32.9 32.2 30 <0.2 1.0 0.6 104 32.1 32.1 7.8 7.8 82 1.3 15.6 5.9 8 <0.2 Surface 15.6 7.7 32.1 95.2 7.7 95.2 1.0 0.7 108 15.6 5.9 q 82 <0.2 3.6 0.6 109 15.6 7.7 32.1 95.3 7.8 9.4 22 83 < 0.2 1.4 Middle 32.1 95.3 13.4 21 821071 805829 1.3 IM6 Fine Rough 10:41 7.1 83 3.6 0.6 114 15.6 7.7 32.1 95.3 7.8 9.5 24 83 <0.2 0.6 92 15.6 7.8 32.5 24.8 30 84 <0.2 1.3 Bottom 15.6 7.8 32.5 96.3 7.9 6.1 0.6 92 15.6 7.8 32.5 96.3 7.9 24.9 31 84 <0.2 1.2 1.0 60 15.6 7.7 7.7 7.8 7.8 7.0 83 83 < 0.2 1.3 0.8 32.3 95.4 7.7 95.4 Surface 15.6 32.3 1.0 0.8 65 32.3 1.4 15.6 95.4 9 <0.2 10.7 4.3 0.7 15.6 84 1.3 71 7.8 32.3 95.4 7.8 9 -02 IM7 Fine 10:50 8.5 Middle 32.3 95.4 10.6 84 821356 806816 1.3 Rough 4.3 0.7 73 15.6 7.8 32.3 95.4 7.8 10.8 84 <0.2 1.3 7.5 0.6 90 15.5 7.8 33.0 96.0 7.8 14.3 11 84 <0.2 1.1 Bottom 15.5 7.8 33.0 96.0 7.8 7.5 0.6 90 15.5 7.8 32.9 96.0 7.8 13.9 10 85 <0.2 1.1 1.0 0.5 204 18.9 7.9 7.9 10 77 27.0 93.3 <0.2 2.0 18 9 79 27.0 93.3 Surface 7.9 27.0 93.3 7.4 77 1.9 18.9 8.0 12 <0.2 1.0 0.6 215 2.0 10 4.5 0.5 113 18.7 8.0 27.5 7.3 15.5 82 92.4 < 0.2 27.5 IM8 Cloudy Moderate 09:43 9.0 Middle 18.7 8.0 92.4 14.5 81 821686 807825 2.0 27.5 84 4.5 0.5 114 18.7 8.0 92.4 7.3 15.5 11 < 0.2 8.0 0.6 63 18.6 8.0 27.7 92.4 7.3 20.0 11 83 <0.2 2.0 27.7 8.0 92.4 7.3 8.0 0.6 64 18.6 8.0 92.4 9 84 2.1

DA: Depth-Average

Water Quality Monitoring Results on 17 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.6 18.7 27.4 13.3 1.0 212 93.6 -02 19 74 Surface 18.7 7.9 27.4 93.6 217 27.4 77 1.0 0.6 18.7 7 Q 93.6 7.4 13.3 16 < 0.2 2.1 0.5 7 Q 7.4 16 83 4.0 223 18.6 27.5 93.5 15.2 < 0.2 IM9 09:30 7.9 Middle 7.9 27.5 93.6 17 822104 808803 2.1 Cloudy Moderate 4.0 0.6 236 18.6 7.9 27.5 93.6 7.4 15.3 18 82 <0.2 2.3 6.9 0.6 261 18.6 7.9 28.0 7.5 7.5 15.3 18 84 <0.2 2.0 Bottom 7.9 28.0 94.6 7.5 18.6 0.7 18.6 7.9 28.0 94.6 15.3 19 84 1.0 0.7 278 18.7 7.9 28.2 7.4 13.5 13 77 <0.2 1.6 93.7 Surface 18.7 7.9 28.2 93.8 7.4 1.0 0.7 285 18.7 7.9 28.2 93.8 13.7 13 13 78 < 0.2 1.7 7.4 4.1 0.6 288 7.9 28.4 82 < 0.2 1.6 18.6 93.3 19.3 IM10 Cloudy Moderate 09:23 8.1 Middle 18.6 7.9 28.4 93.3 19.0 14 81 822255 809824 1.7 74 83 1.6 41 0.6 289 18.6 79 28.4 93.3 194 11 <0.2 7 1 0.6 273 18.5 7.9 28.5 93.3 7.4 23.8 16 84 <0.2 1.8 Bottom 18.5 7.9 28.5 93.3 7.4 7.1 0.7 278 18.5 7.9 28.5 93.3 24.1 16 84 <0.2 1.7 18.6 7.9 7.4 14.0 15 <0.2 1.4 28.3 93.5 93.5 Surface 18.6 7.9 28.3 1.0 0.7 286 18.6 7.9 28.3 93.5 7.4 15 78 <0.2 1.4 4.5 0.5 278 18.5 7.4 18.3 81 1.2 7.9 14 < 0.2 28.7 93.4 821503 IM11 Cloudy Rough 09:15 8.9 Middle 18.5 7.9 28.7 93.4 15 810536 1.3 74 4.5 0.5 303 18.5 79 28.7 93.4 18 1 16 83 <0.2 1.3 79 0.4 259 18.5 79 28.7 94.0 74 21.2 16 84 <0.2 1.1 Bottom 7.9 28.7 94.0 7.4 7.9 0.5 277 18.5 7.9 28.7 94.0 21.3 15 85 <0.2 1.1 1.0 0.8 269 18.6 7.9 13.5 18 79 <0.2 1.2 28.8 93.3 7.4 Surface 18.6 7.9 28.8 93.3 7.9 28.8 93.3 7.4 79 <0.2 1.3 8.0 18.6 13.5 17 4.6 0.7 268 18.5 7.9 28.8 93.1 7.3 14.6 18 83 < 0.2 1.3 IM12 Cloudy Moderate 09:08 9.2 Middle 18.5 7.9 28.8 93.1 145 17 82 821160 811532 1.2 79 28.8 7.3 82 <0.2 1.3 46 0.7 276 18.5 93 1 147 16 17 8.2 0.6 262 18.5 7.9 28.9 93.6 7.4 7.5 15.7 85 < 0.2 1.2 Bottom 18.5 7.9 28.9 94.4 7.5 8.2 0.6 264 18.5 7 Q 28.0 95.1 15.2 18 84 -n 2 1.0 1.0 0.7 278 18.5 7.9 28.7 7.3 17.9 16 82 <0.2 1.3 Surface 18.5 7.9 28.7 92.7 1.0 8.0 282 18.5 7.9 28.7 92.7 7.3 17.9 16 78 <0.2 1.4 7.3 2.8 SR2 Moderate 08.55 5.5 Middle 17 82 821477 814166 Cloudy -02 2.8 278 18.5 20.5 17 85 <0.2 1.5 4.5 0.6 79 28.7 926 7.3 Bottom 18.5 7.9 28.7 92.6 7.3 7.3 17 15 0.6 7 Q 28.7 926 10 1 204 18.5 84 √n 2 1 4 1.0 0.7 211 18.8 7.9 26.8 93.2 7.4 7.8 8 26.8 93.2 Surface 7.9 1.0 0.7 211 18.8 7.9 26.8 93.2 7.4 7.9 4.7 0.7 17.9 18.7 7.9 27.4 92.5 7.3 7.3 SR3 09:49 9.3 Middle 18.7 7.9 27.4 92.5 15.0 8 822134 807588 Cloudy Rough 0.8 18.7 7.9 27.4 92.5 18.2 8.3 0.7 27.5 7.3 80 18.7 7.9 92.6 19.1 7 27.5 7.9 92.6 7.3 Bottom 18.7 7.9 0.7 18.7 92.6 19.0 8.3 80 9 1.0 0.3 230 7.8 15.4 32.5 93.8 7.7 11.5 14 Surface 7.8 32.5 7.7 1.0 0.3 252 15.4 7.8 32.5 93.7 11.5 14 47 0.3 235 15.4 32.5 94.0 12.1 15 SR4A 09:19 9.4 Middle 15.4 7.7 32.5 94.0 817185 807817 Fine Moderate 4.7 0.3 244 15.4 7.7 32.5 94.0 12.1 17 8.4 0.3 229 15.4 7.8 7.7 11.8 16 32.5 94.4 Bottom 15.4 7.8 32.5 94.4 8.4 0.3 239 15.4 7.8 32.5 94.4 7.7 11.8 18 1.0 0.2 279 15.4 7.7 32.3 94.8 7.8 15.6 21 Surface 15.4 7.7 32.3 94.8 1.0 77 0.2 300 15.4 32.3 94.8 7.8 15.7 21 2.0 SR5A Cloudy Moderate 09:03 4.0 Middle 22 816580 810712 2.0 3.0 0.2 273 15.4 15.6 23 32.3 95.3 7.8 7.7 32.3 95.3 7.8 Bottom 15.4 7.7 15.5 22 3.0 0.2 298 15.4 32.3 1.0 0.2 224 14 15.5 31.5 31.5 93.6 10.2 Surface 15.5 7.7 31.5 93.6 7.7 93.6 7.7 1.0 0.2 231 15.5 10.3 14 21 08:41 4.2 Middle 817885 814670 SR6 Cloudy Moderate 2.1 3.2 0.2 216 15.5 31.5 95.3 7.8 10.4 20 Bottom 15.5 7.7 31.5 95.4 7.9 3.2 0.2 217 15.5 7.7 31.5 95.4 7.9 10.3 20 1.0 0.2 158 15.3 7.7 7.7 29.5 29.5 7.7 7.7 92.1 3.1 6 7.7 Surface 15.3 29.5 92.1 1.0 15.3 161 92.1 3.1 8 79 0.2 15.3 77 3.4 160 7.6 29.8 919 8 SR7 Cloudy Moderate 07:46 15.7 Middle 15.3 29.8 91.9 3.3 823655 823733 7.7 7.9 0.2 170 15.3 7.6 29.8 91.9 3.4 14.7 0.2 159 15.3 7.6 29.9 92.4 7.7 3.3 8 Bottom 15.3 7.6 29.9 92.8 7.8 14.7 0.2 171 15.3 7.6 29.9 93.2 7.8 3.3 1.0 0.7 203 18.6 7.9 15.3 16 28.3 93.8 7.4 Surface 18.6 7.9 28.3 93.8 7.9 28.3 93.8 7.4 0.7 222 18.6 15.4 16 1.0 2.7 SR8 Cloudy Moderate 08:59 5.4 Middle 15.2 17 820417 811584 2.7 18 4.4 0.5 212 18.6 7.9 28.3 94.1 7.4 15.2 28.3 18.6 7.9 94.3 7.5 4.4 0.5 215 18.6 7.9 94.4 16

DA: Depth-Average

Water Quality Monitoring Results on 17 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.3 217 15.5 1.0 35.3 96.8 7.8 6.3 81 0.9 Surface 15.5 7.9 35.3 1.0 0.4 210 15.5 7 Q 35.3 96.8 7.8 6.4 81 < 0.2 1.0 7 Q 7.8 7.1 82 1.0 11 0.4 208 15.5 35.4 96.6 √n 2 C1 15:06 8.8 Middle 7.9 35.4 96.6 82 815638 804244 0.9 Cloudy Moderate 44 0.4 223 15.5 7.9 35.4 96.6 7.8 7.1 9 82 <0.2 0.8 7.8 0.3 15.3 7.9 35.4 8.3 83 <0.2 0.8 Bottom 7.9 35.4 97.0 7.8 15.3 0.3 15.3 7.9 35.4 97.0 7.8 8.2 83 0.9 1.0 0.3 156 19.0 7.9 26.1 7.4 6.8 80 <0.2 0.8 93.5 Surface 19.0 7.9 26.1 93.5 1.0 0.4 161 19.0 7.9 26.1 93.5 7.4 6.8 3 80 < 0.2 0.9 0.3 7.2 6.3 163 7.9 10.5 6 81 < 0.2 1.0 18.6 29.0 91.5 C2 Cloudy Moderate 14:06 12.5 Middle 18.6 7.9 29.0 91.5 10.3 81 825691 806961 1.0 1.1 6.3 0.3 166 18.6 79 29.0 91.5 7.2 10.6 4 81 <0.2 7.2 7.2 11.5 0.3 174 18.6 7.9 29.1 91.4 13.5 6 82 <0.2 0.9 Bottom 7.9 29.1 91.4 7.2 11.5 0.3 185 18.6 7.9 29.1 91.4 13.6 83 <0.2 1.0 18.7 7.9 28.8 73 <0.2 0.6 92.8 Surface 18.7 7.9 28.8 92.8 1.0 0.6 69 18.7 7.9 28.8 92.8 7.3 7.5 6 75 <0.2 0.8 6.3 18.5 7.2 7.1 87 0.5 0.4 91 7.9 < 0.2 29.7 91.1 8 822101 C3 Cloudy Moderate 15:47 12.6 Middle 18.5 7.9 29.7 91.1 82 817793 7.2 6.3 0.4 91 18.5 79 29.7 91 1 72 8 84 <0.2 0.5 11.6 0.3 87 18.5 79 29.8 90.5 7.1 7.4 9 87 <0.2 0.5 Bottom 7.9 29.9 90.5 7 1 7.7 116 0.4 87 18.5 7.9 29.9 90.5 11 87 <0.2 0.7 1.0 0.3 195 15.7 7.8 34.0 96.6 8.2 10 80 <0.2 0.7 34.0 7.8 Surface 15.7 7.8 96.6 7.8 7.8 80 <0.2 0.7 0.3 15.7 34.0 8.2 8 3.9 0.3 187 15.6 7.8 34.0 96.5 7.8 9.0 81 < 0.2 0.8 9 IM1 Cloudy Moderate 14:48 7.8 Middle 15.6 7.8 34.0 96.6 9.0 10 81 818343 806443 7.8 34.0 96.6 7.8 81 <0.2 1.0 3.9 0.3 199 15.6 9.0 10 6.8 0.3 158 15.5 7.8 34.9 96.9 7.8 7.8 9.8 11 82 < 0.2 1.2 Bottom 15.5 34.9 97.0 7.8 6.8 0.3 15.5 7.8 3/1 0 97 N Q R 11 82 -n 2 13 1.0 0.3 215 15.7 33.2 5.9 79 <0.2 0.5 Surface 15.7 7.8 33.2 96.5 1.0 0.3 225 15.7 7.8 33.2 96.5 7.8 5.9 80 <0.2 0.6 7.8 0.8 4.4 0.3 15.5 7.8 34.5 96.6 7.8 8.4 81 < 0.2 IM2 Cloudy Moderate 14:42 87 7.8 34.5 96.6 81 818833 806201 0.8 Middle 15.5 4.4 0.3 15.5 8.5 10 81 < 0.2 82 0.3 171 15.5 7.8 34.8 96.9 7.8 99 9 -02 1.0 Bottom 15.5 7.8 34.8 97.0 7.8 7.7 7.8 0.3 97 N 183 15.5 7.8 3/1/8 11 82 a a √n 2 11 1.0 0.3 197 15.7 7.8 32.9 97.0 7.9 6.3 81 <0.2 0.6 32.9 Surface 7.8 97.1 1.0 0.3 199 15.7 7.8 32.9 97 1 7.9 6.3 6 81 <0.2 0.6 4.5 0.7 0.3 15.6 7.8 7.8 7.8 8.3 81 <0.2 IM3 14:35 89 Middle 15.6 7.8 34.3 96.9 82 819407 806008 0.7 Cloudy Moderate 0.3 15.6 7.8 96.9 8.4 82 <0.2 0.6 8 7.9 0.3 137 82 <0.2 0.8 15.6 7.8 34.5 96.9 7.8 9.0 9 34.5 7.8 96.9 7.8 Bottom 15.6 7.8 7.8 34.5 96.9 12 83 < 0.2 0.6 7.9 0.3 147 15.6 9.0 1.0 0.2 185 7.8 15.6 34.5 7.8 9.7 12 80 <0.2 1.1 Surface 34.5 96.9 0.9 1.0 0.2 198 15.6 7.8 34.5 7.8 9.8 11 81 <0.2 1.0 4.2 0.2 15.6 7.8 34.6 7.8 10.3 13 81 <0.2 IM4 14:27 8.3 Middle 15.6 7.8 34.6 96.9 819589 805021 1.2 Cloudy Moderate 4.2 0.2 180 15.6 7.8 34.6 96.9 10.3 13 <0.2 0.1 15.5 7.8 34.6 7.9 10.7 12 82 <0.2 1.5 97.5 Bottom 15.5 7.8 34.6 97.5 7.3 0.1 166 15.5 7.8 34.6 97.5 7.9 10.8 13 82 <0.2 1.5 1.0 0.4 164 15.6 7.8 33.8 96.7 7.8 11.4 11 80 < 0.2 2.7 Surface 33.8 167 7.8 12 2.5 1.0 0.4 15.6 7.8 33.8 96.7 11.3 80 <0.2 2.6 3.6 0.4 169 15.5 7.8 34.0 96.9 7.9 11.0 12 81 <0.2 IM5 Cloudy Moderate 14:20 7.2 Middle 7.8 34.0 96.9 820561 804929 2.5 3.6 0.4 183 15.5 7.8 34.0 96.9 7.9 10.9 81 <0.2 2.4 6.2 0.4 34.1 97.6 11 15.5 7.8 34.1 7.9 10.5 82 <0.2 2.3 97.6 Bottom 15.5 7.8 7.9 7.8 10.6 82 2.4 6.2 0.4 15.5 34.1 <0.2 1.0 0.3 134 15.5 7.8 7.8 7.8 80 0.4 34.1 96.6 9.0 <0.2 34.1 Surface 15.5 7.8 96.7 7.8 34.1 96.7 1.0 0.3 142 15.5 9.0 g 81 <0.2 0.4 3.6 0.3 149 15.5 7.8 34.1 96.5 7.8 10.0 10 82 < 0.2 0.3 14:12 7.2 Middle 34.1 96.5 10.0 821045 805837 IM6 Cloudy Moderate 82 3.6 0.3 15.5 7.8 34.1 96.5 7.8 10.0 11 82 <0.2 6.2 0.3 129 15.5 34.1 10.9 10 83 <0.2 0.4 96.8 Bottom 15.5 7.8 34.1 96.9 7.9 6.2 0.4 15.5 7.8 34.1 96.9 7.9 10.8 10 83 <0.2 0.3 1.0 0.4 15.5 7.8 7.9 10.7 82 <0.2 0.7 121 33.8 97.4 10 Surface 15.5 7.8 33.8 97.4 7.8 7.9 10 1.0 0.4 128 15.5 33.8 97.3 10.8 83 -02 11 0.4 122 15.5 7.8 33.8 97.5 7.9 12.1 11 84 <0.2 0.8 821348 806833 IM7 Cloudy Moderate 14:01 8.7 Middle 15.5 7.8 33.8 97.5 4.4 0.4 127 15.5 7.8 33.8 97.5 7.9 12.2 11 84 <0.2 0.8 7.7 0.4 116 15.4 7.8 33.8 97.9 8.0 13.3 14 84 <0.2 1.0 33.8 98.0 8.0 Bottom 15.4 7.8 98.0 7.8 33.8 8.0 13.4 14 85 < 0.2 0.9 7.7 0.4 117 15.4 1.0 0.4 147 18.8 7.9 27.4 7.6 10.3 82 <0.2 1.5 Surface 18.8 7.9 27.4 95.9 1.0 0.4 161 18.8 7.9 27.4 95.9 7.6 10.4 7 78 <0.2 1.6 0.4 106 18.7 8.0 28.8 96.6 7.6 13.1 6 82 <0.2 1.8 821699 IM8 Cloudy Moderate 14:32 8.7 Middle 18.7 8.0 28.8 96.6 127 83 807856 1.6 0.4 106 18.7 8.0 28.8 96.6 7.6 13.2 84 < 0.2 1.9 4.4 6 7.7 0.3 102 18.6 8.0 29.8 96.5 7.6 14.7 10 85 <0.2 1.4 Bottom 18.6 8.0 29.8 96.5 7.6 0.4 108 18.6 8.0 29.7 96.5 7.6 14.5 10 84 1.4

DA: Depth-Average

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Water Quality Monitoring Results on 17 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.5 18.7 28.0 99 1.0 115 79 95.8 7.6 16 Surface 18.7 7.9 28.0 95.9 1.0 0.5 120 18.7 7 Q 28.0 95 Q 7.6 9.9 70 < 0.2 1.5 7.6 1/1/3 83 1.3 3.6 0.4 Q.S. 18.6 8.0 29.5 96.8 9 √n 2 IM9 14:41 7.1 Middle 29.5 96.8 10 82 822105 808808 1.3 Cloudy Rough 3.6 0.4 104 18.6 8.0 29.5 96.8 7.6 14.2 8 82 <0.2 1.2 6.1 0.3 18.6 8.0 29.6 7.6 23.7 14 85 <0.2 1.2 Bottom 8.0 29.6 96.5 7.6 18.6 0.3 18.6 8.0 29.6 96.5 7.6 23.8 84 1.1 1.0 0.4 142 18.9 7.9 27.7 96.5 7.6 77 <0.2 1.5 8.6 Surface 18.9 7.9 27.7 96.5 27.7 96.5 1.0 0.4 147 18.9 7.9 7.6 8.7 6 78 < 0.2 1.7 3.8 0.4 103 28.4 7.6 12.2 8 81 < 0.2 1.8 18.8 8.0 96.6 IM10 Cloudy Rough 14:50 7.6 Middle 18.8 28.4 96.7 13.6 10 81 822230 809819 96.8 19 3.8 0.5 105 18.8 8.0 28.4 7.6 12.8 9 83 <0.2 6.6 0.4 116 18.7 8.0 29.2 96.6 7.6 19.7 14 84 <0.2 1.4 Bottom 8.0 29.2 96.6 7.6 7.6 6.6 0.4 122 18.7 8.0 29.2 96.6 19.8 13 85 <0.2 1.3 0.4 18.8 8.0 9.8 10 <0.2 0.9 28.2 Surface 18.8 8.0 28.2 96.0 1.0 0.5 112 18.8 8.0 28.2 96.0 7.6 9.8 9 78 <0.2 1.0 4.5 18.7 7.5 11.7 10 82 1.5 0.4 101 8.0 28.5 95.7 < 0.2 821497 IM11 Cloudy Rough 14:57 9.0 Middle 18.7 8.0 28.5 95.7 83 810545 1.2 7.5 83 4.5 0.4 108 18.7 8.0 28.5 95.7 11.8 9 <0.2 1.5 8.0 0.4 108 18.5 8.0 29.5 95.8 7.5 21.6 14 84 <0.2 12 Bottom 8.0 29.5 95.8 7.5 7.5 8.0 0.4 108 18.5 8.0 29.5 95.8 21.6 13 96 <0.2 1.2 1.0 0.5 107 18.8 8.0 28.4 95.5 9.6 10 78 <0.2 1.4 28.4 7.5 Surface 18.8 8.0 95.5 8.0 28.4 95.5 7.5 77 <0.2 1.2 0.5 18.8 9.5 9 4.6 0.4 104 18.7 8.0 28.4 94.9 7.5 11.7 11 83 < 0.2 1.5 IM12 Cloudy Rough 15:05 9.1 Middle 18.7 8.0 28.4 95.0 13 0 12 81 821159 811503 1.3 8.0 95.0 7.5 12.3 82 <0.2 1.3 46 0.5 105 18.7 28.4 10 8.1 0.4 116 18.6 8.0 29.1 95.0 7.5 7.5 20.0 15 82 < 0.2 1.1 Bottom 18.6 29.1 95.1 7.5 8.1 0.4 121 18.6 8.0 29.1 95.1 20.1 14 84 -n 2 1.0 1.0 0.5 74 18.9 7.9 28.0 8.6 77 <0.2 1.2 28.0 Surface 18.9 7.9 95.2 1.0 0.5 75 18.9 7.9 28.0 95.2 7.5 8.6 17 77 <0.2 1.3 7.5 2.4 82 SR2 Cloudy Moderate 15:27 4.7 Middle 81 821477 814179 12 2.4 84 18.7 15.4 83 <0.2 12 3.7 0.4 78 79 28.7 93.7 74 15 Bottom 18.7 7.9 28.7 93.7 7.4 3.7 93.7 7.4 15 0.4 RΛ 18.7 7 Q 28.7 15.6 -n 2 1.0 84 1.0 0.4 160 18.8 7.9 27.1 95.0 7.5 8.4 5 27.1 95.0 Surface 7.9 1.0 0.5 162 18.8 7.9 27.1 95.0 7.5 8.5 4.6 0.4 15.4 130 18.6 7.9 28.7 7.5 7.5 SR3 14:27 92 Middle 18.6 7.9 28.7 95.7 15.0 822139 807567 Cloudy Moderate 0.4 18.6 7.9 15.4 8.2 0.3 29.5 7.6 7.6 104 18.6 8.0 96.6 21.1 14 29.5 96.6 7.6 Bottom 18.6 8.0 96.6 8.0 21.2 8.2 0.4 108 18.6 14 1.0 0.3 137 15.6 7.8 34.4 96.4 7.8 13.0 15 Surface 34.4 96.4 1.0 0.3 144 15.6 7.8 34.4 7.8 13.1 17 4.8 0.3 98 15.6 7.8 34.5 96.3 7.8 14.6 17 SR4A 15:27 9.5 Middle 15.6 7.8 34.5 96.4 817178 807828 Cloudy Moderate 4.8 0.3 98 15.6 7.8 34.5 96.4 14.5 18 8.5 0.3 94 15.6 7.8 34.5 7.8 14.7 20 96.9 Bottom 15.6 7.8 34.5 96.9 7.8 8.5 0.3 99 15.6 7.8 34.5 96.9 7.8 14.8 20 187 1.0 0.1 15.9 7.8 33.4 97.3 7.9 7.9 10 Surface 7.8 33.4 97.3 1.0 187 0.1 15.9 7.8 33.4 97.3 7.9 7.9 9 19 SR5A Cloudy Calm 15:44 3.8 Middle 10 816577 810694 1.9 2.8 0.1 15.9 12 7.8 33.4 97.9 7.9 8.3 33.4 97.9 7.9 Bottom 15.9 7.8 7.8 2.8 0.1 201 15.9 33.4 8.1 10 1.0 0.2 161 7.8 11 15.9 33.1 7.9 Surface 15.9 7.8 33.1 97.1 7.8 97.1 7.9 1.0 0.2 164 15.9 33.1 7.8 10 22 16:09 4.3 Middle 817879 814666 SR6 Cloudy Calm 2.2 3.3 0.2 16.1 33.0 7.9 8.0 13 Bottom 16.1 7.8 33.0 98.3 7.9 3.3 0.2 101 16.1 7.8 32.9 98.3 7.9 8.1 12 1.0 18.8 7.9 29.8 5.3 5.2 0.6 92.8 7.3 7.2 92.8 Surface 18.8 7.9 29.8 1.0 0.6 7.9 81 18.8 29.8 92.8 5.2 9.0 67 72 0.4 18.6 79 30.0 92.3 8 SR7 Cloudy Moderate 16:14 18.0 Middle 7.9 30.0 92.3 5.4 823628 823753 9.0 0.4 69 18.6 7.9 30.0 92.3 7.2 5.2 10 17.0 0.5 222 18.6 7.9 30.1 93.0 7.3 5.6 9 Bottom 18.6 7.9 30.1 93.1 7.3 17.0 0.5 223 18.6 7.9 30.1 93.1 7.3 5.6 1.0 0.4 198.0 18.7 7.9 28.5 12.4 13 94.7 7.5 Surface 18.7 7.9 28.5 947 7.9 28.5 94.7 7.5 12 0.4 18.7 12.5 1.0 206.0 2.7 SR8 Cloudy Moderate 15:12 5.4 Middle 12.8 13 820436 811612 2.7 13 4.4 0.3 171.0 18.7 7.9 28.5 7.5 13.0 28.5 18.7 7.9 95.2 7.5 4.4 0.4 180.0 18.7 7.9 95.3 12

DA: Depth-Average

Water Quality Monitoring Results on 19 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Fasting) Value 0.5 15.6 32 9 1.0 60 79 49 0.9 Surface 15.6 7.8 32.9 97.2 77 1.0 0.5 15.6 7.8 32 0 97.2 7.0 4 0 < 0.2 1.0 7.2 70 0.5 67 7 Q 10 0.8 15 15.3 7.8 33.7 96.6 √n 2 C1 10:17 8.9 Middle 7.8 33.7 96.6 815628 804258 0.8 Rainy Moderate 4.5 0.5 72 15.3 7.8 33.7 96.6 7.9 7.2 8 80 <0.2 0.8 7.9 0.5 76 15.3 7.8 33.7 96.6 7.4 12 83 <0.2 0.8 Bottom 7.8 33.7 96.6 7.9 15.3 0.5 15.3 7.8 33.7 96.6 7.9 7.4 84 1.0 0.2 245 19.2 7.9 24.1 7.5 4 75 <0.2 2.8 93.7 4.6 Surface 19.2 7.9 24.1 93.7 1.0 0.2 261 19.2 7.9 24.1 93.7 7.5 4.6 5 76 < 0.2 2.8 7.5 0.5 6.1 269 7.9 4.5 6 81 < 0.2 2.1 19.1 26.2 94.6 C2 Rainy Rough 11:07 12.2 Middle 19.1 7.9 26.2 94.6 80 825663 806951 2.2 7.5 6.1 0.5 289 191 79 26.1 94.6 4.5 6 81 <0.2 1.8 7.5 7.5 0.4 255 19.0 7.9 28.0 95.8 4.6 10 83 <0.2 1.9 Bottom 7.9 28.0 95.9 7.5 11.2 0.4 279 19.0 7.9 28.0 95.9 4.6 11 84 <0.2 2.0 18.8 7.9 4.2 80 <0.2 1.4 29.2 94.5 Surface 18.8 7.9 29.2 94.5 1.0 0.6 280 18.8 7.9 29.2 94.5 7.4 4.2 81 <0.2 1.5 6.1 7.4 4.4 82 1.4 0.8 226 18.8 7.9 5 < 0.2 29.2 93.9 822122 C3 Rainy Moderate 09:19 12.1 Middle 18.8 7.9 29.2 93.9 82 817821 6.1 0.8 231 18.8 79 29.2 93.9 74 44 6 82 <0.2 1 4 11.1 1.2 219 18.8 79 29.3 93.3 7.3 46 8 84 <0.2 1.6 Bottom 7.9 29.4 93.7 1.3 227 18.7 7.9 29.5 94.0 7.4 11 8 84 <0.2 15 1.0 0.5 126 15.8 7.8 4.4 4 79 <0.2 1.0 32.7 97.3 7.9 Surface 15.8 7.8 32.7 97.3 7.8 7.9 77 0.9 0.5 15.8 4.4 6 <0.2 3.8 0.4 125 15.7 7.8 32.8 97.0 7.9 5.4 81 < 0.2 1.0 6 IM1 Rainv Moderate 10:35 7.6 Middle 15.7 7.8 32.8 97.0 6.2 81 818347 806472 7.8 32.8 79 80 <0.2 1.0 3.8 0.5 128 15.7 97 N 5.4 8 6.6 0.4 134 15.5 7.8 33.7 96.7 7.9 7.9 8.7 14 84 < 0.2 1.2 Bottom 15.5 33.7 96.7 7.9 6.6 0.4 145 15.5 7.8 33.7 96.7 87 13 83 -n 2 12 1.0 0.4 189 16.0 32.8 7.8 5.7 <0.2 1.6 Surface 16.0 7.8 32.9 96.9 1.0 0.5 194 15.9 7.8 32.9 96.9 7.8 5.7 78 <0.2 1.5 7.8 1.4 0.4 15.8 7.9 33.2 96.7 7.8 8.0 81 < 0.2 IM2 Rainv Moderate 10:40 8.9 7.9 96.7 818851 806211 13 Middle 15.8 33.2 a۸ 4.5 0.4 127 15.8 7.9 33.2 8.0 8 80 < 0.2 1.4 82 1.0 79 0.4 160 15.7 79 33.7 96.7 7.8 8.8 12 -02 Bottom 7.9 33.7 96.7 7.8 7.8 7 0 33.7 12 0.4 168 15.7 7 Q 96.7 83 8.8 √n 2 1 1 1.0 0.4 169 16.0 7.8 32.8 97.0 7.9 4.6 4 76 <0.2 1.2 32.8 97.0 Surface 16.0 7.8 1.0 0.4 179 16.0 7.8 32.8 97.0 7.9 4.6 4 77 <0.2 1.2 0.4 1.2 4.5 15.9 7.8 33.0 7.8 7.8 6.1 80 <0.2 6 IM3 10:49 9 0 Middle 15.9 7.8 33.0 96.7 6.3 an 819407 806019 Rainy Moderate 0.4 15.9 7.8 33.0 6.3 81 <0.2 8.0 83 1.0 0.4 166 15.8 7.9 33.7 96.5 7.8 8.0 10 < 0.2 7.9 33.7 96.5 7.8 Bottom 15.8 7.8 33.7 96.5 0.4 7.9 8.0 84 < 0.2 0.9 8.0 176 15.8 12 1.0 7.8 7.2 0.4 209 16.0 32.2 96.8 7.9 80 < 0.2 1.6 Surface 7.8 32.2 96.8 7.9 1.4 1.0 0.4 213 16.0 7.8 32.2 7.2 3 79 <0.2 1.4 4.1 0.4 15.8 7.8 32.5 7.8 11.8 6 81 <0.2 IM4 10:57 8.2 Middle 15.8 7.8 32.5 96.4 819580 805026 1.3 Rainv Moderate 4.1 0.4 191 15.8 7.8 32.5 96.4 7.8 11.8 79 <0.2 0.4 15.7 7.8 34.0 7.8 15.3 15 83 <0.2 8.0 96.4 Bottom 15.7 7.8 34.0 96.4 7.2 0.4 170 15.7 7.8 34.0 96.4 7.8 15.3 13 83 <0.2 0.9 1.0 0.5 150 16.1 7.8 31.8 96.7 7.9 7.3 3 79 < 0.2 2.0 Surface 31.8 96.7 79 5 77 1.0 0.5 161 16.1 7.8 31.8 96.7 7.3 <0.2 1.9 1.5 3.7 0.4 168 15.9 7.9 32.2 96.5 7.9 13.3 8 80 <0.2 IM5 Rainy Moderate 11:04 7.4 Middle 7.9 32.2 96.5 820560 804924 3.7 0.4 168 15.9 7.9 32.2 96.5 7.9 13.3 81 <0.2 1.4 6.4 0.4 7.9 17 15.9 33.8 33.8 96.5 96.5 7.8 13.8 84 <0.2 1.4 Bottom 15.9 7.9 96.5 7.8 7.9 13.8 83 1.2 6.4 0.4 15.9 33.8 <0.2 1.0 0.4 216 7.8 96.2 7.8 7.8 77 2.2 16.1 31.7 31.5 4.8 <0.2 Surface 16.1 7.8 31.6 96.2 7.8 96.2 1.0 0.5 233 16.1 4.8 78 <0.2 3.6 0.4 179 16.0 7.8 30.5 96.5 7.9 6.3 6 79 < 0.2 1.6 11:13 7.2 Middle 30.5 96.5 821076 805823 1.7 IM6 Rainy Moderate 3.6 0.5 16.0 7.8 30.5 96.5 7.9 6.3 80 <0.2 6.2 0.3 158 16.0 7.8 33.2 96.6 7.8 6.5 11 83 <0.2 1.4 Bottom 16.0 7.8 33.2 96.6 7.8 6.2 0.4 159 16.0 7.8 33.2 96.6 7.8 6.5 11 85 <0.2 1.2 1.0 0.4 209 16.3 7.8 4.0 78 77 < 0.2 2.4 30.0 95.0 7.8 7.8 95.0 Surface 16.3 7.8 30.0 1.0 212 7.8 0.4 16.3 30.0 95.0 4.0 <0.2 5.8 81 42 2.1 0.3 193 16.2 7.8 30.8 95 9 7.8 8 -02 IM7 Moderate 11:22 8.4 Middle 16.2 30.8 96.0 81 821343 806816 Rainv 4.2 0.3 196 16.2 7.8 30.8 96.0 7.8 5.9 78 <0.2 2.0 7.4 0.4 155 16.1 7.9 33.4 96.3 7.7 9.4 11 84 <0.2 1.2 Bottom 16.1 7.9 33.4 96.3 7.4 0.4 160 16.1 7.9 33.4 96.3 77 9.4 10 85 <0.2 1.3 1.0 0.4 241 19.1 7.9 77 2.7 26.6 94.3 7.5 5.8 <0.2 191 79 26.6 94.3 Surface 7.9 26.6 94.3 7.5 77 19.1 5.8 <0.2 2.8 1.0 0.5 264 8 2.5 4.3 0.4 223 19.1 7.9 26.7 7.4 6.0 7 81 94.0 < 0.2 26.7 IM8 Rough 10:38 8.6 Middle 19.1 7.9 94.0 81 821691 807826 2.7 7.9 26.7 94.0 82 4.3 0.4 227 19.1 7.4 6.0 7 < 0.2 7.6 0.6 193 19.0 7.9 27.1 94.8 7.5 6.5 83 <0.2 2.8 27.1 7.9 7.5 7.6 0.6 204 19.0 7.9 84 2.9

DA: Depth-Average

Water Quality Monitoring Results on 19 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Fasting) Value 0.5 247 19.0 27.0 1.0 94.3 7.5 Surface 19.0 7.9 94.3 7.5 78 1.0 0.5 263 19.0 7 Q 27.0 943 7.5 1 < 0.2 2.4 82 2.4 3.7 7 Q 7.5 10.5 0.6 255 10 0 27.2 94.4 4 < 0.2 IM9 10:30 7.4 Middle 7.9 27.2 94.4 822111 808797 2.5 Rainy Rough 3.7 0.6 256 19.0 7.9 27.2 94.4 7.5 10.8 6 82 <0.2 2.4 6.4 0.4 18.9 7.9 7.5 7.5 15.2 4 84 <0.2 2.7 Bottom 18.9 7.9 27.8 95.1 7.5 0.4 18.9 7.9 95.1 15.2 83 2.6 1.0 0.7 275 19.1 7.9 26.8 7.5 5.3 77 <0.2 2.4 94.4 Surface 19.1 7.9 26.8 94.4 94.4 1.0 0.7 291 19.1 7.9 26.8 7.5 5.3 4 78 < 0.2 2.4 7.4 3.9 0.6 254 7.9 27.0 5.8 4 82 < 0.2 2.6 19.1 94.2 IM10 Rainy Rough 10:21 7.7 Middle 19.1 7.9 27.0 94.2 81 822232 809829 2.5 74 <0.2 2.7 3.9 0.7 273 191 79 26.9 94.2 5.8 4 81 6.7 0.6 220 18.9 7.9 28.1 94.9 7.5 7.5 15.1 8 84 <0.2 2.6 28.1 Bottom 18.9 7.9 94.9 7.5 6.7 0.6 223 18.9 7.9 28.1 94.9 15.1 84 <0.2 2.5 19.1 7.9 27.3 27.3 78 <0.2 2.2 94.8 Surface 19.1 7.9 27.3 94.8 1.0 0.6 284 19.1 7.9 94.8 7.5 5.7 6 77 <0.2 4.5 7.5 6.4 81 2.5 2.5 0.5 248 19.0 7.9 27.8 < 0.2 94.8 4 821492 IM11 Rainy Moderate 10:09 8.9 Middle 19.0 7.9 27.8 94.8 810528 2.2 7.5 4.5 0.5 252 19.0 79 27.8 94.8 6.4 4 81 <0.2 79 0.8 214 18 9 79 28 1 95.7 7.5 6.8 6 83 <0.2 1.8 Bottom 7.9 28.1 95.7 7.5 7.5 7.9 0.8 233 18.9 7.9 28.1 95.7 6.8 6 84 <0.2 1 0 1.0 0.7 271 19.1 7.9 6.0 4 79 <0.2 2.5 27.1 95.1 7.5 Surface 19.1 7.9 27.1 95.1 7.9 95.1 7.5 78 <0.2 2.6 19.1 27.1 6.0 4.3 0.7 266 19.0 7.9 27.7 94.5 7.4 7.0 82 <0.2 2.4 4 IM12 Rainv Moderate 10:02 8.6 Middle 19.0 7.9 27.8 94.5 81 821149 811512 2.2 79 27.8 94.5 7.4 7.0 81 <0.2 2.6 4.3 0.8 277 19.0 4 7.6 0.6 253 18.8 7.9 28.9 95.8 7.5 7.5 7.3 9 83 < 0.2 1.5 Bottom 18.8 7.9 28.9 95.9 7.5 7.6 0.6 261 18.8 7 Q 28.0 95 g 7.4 10 84 -n 2 1.0 0.3 189 18.9 7.9 28.6 94.3 7.4 6.4 81 <0.2 2.1 Surface 18.9 7.9 28.6 94.3 1.0 0.3 193 18.9 7.9 28.6 94.3 7.4 6.5 4 80 <0.2 2.0 2.4 SR2 Rainv Moderate 09:40 4.7 Middle 83 821467 814183 20 2.4 122 18.8 72 84 <0.2 19 3.7 0.4 79 28.9 95.0 7.5 Bottom 18.8 7.9 28.9 95.0 7.5 7.5 3.7 95.0 7.2 0.4 124 7 Q 28 0 85 -n 2 18.8 1 0 1.0 0.6 251 19.2 7.9 26.0 95.1 7.5 4.7 26.0 95.1 Surface 7.9 1.0 0.6 256 19.2 7.9 26.0 95.1 7.5 4.7 4 4.5 4.8 0.5 225 19.1 7.9 26.6 94.8 7.5 7.5 6 SR3 10:45 9 0 Middle 191 7.9 26.6 94.8 4.8 822151 807576 Rainy Rough 0.6 19.1 7.9 94.8 4.8 8.0 156 27.5 27.5 7.6 7.6 1.1 19.0 7.9 96.4 4.8 9 7.9 27.5 96.5 7.6 Bottom 19.0 7.9 96.6 1.1 4.9 8.0 162 19.0 11 1.0 0.4 248 15.8 7.8 31.8 7.8 5.9 8 Surface 31.8 95.8 1.0 0.4 268 15.8 7.8 31.8 7.8 5.9 9 4.5 0.3 249 15.7 7.8 31.9 95.6 7.8 5.9 10 SR4A 09:56 9.0 Middle 15.7 7.8 31.9 95.6 817185 807802 Rainv Moderate 4.5 0.4 269 15.7 7.8 95.6 5.9 12 8.0 0.3 232 15.6 7.8 7.8 6.4 13 32.3 96.0 Bottom 15.6 7.8 32.3 96.0 7.8 8.0 0.3 244 15.6 7.8 32.3 96.0 7.8 6.2 12 1.0 0.2 217 15.9 7.7 31.2 96.2 7.9 8.8 10 Surface 7.7 31.2 96.2 1.0 77 12 0.2 222 15.9 31.2 96.2 7.9 8.8 21 SR5A Rainy Calm 09:39 4.1 Middle 13 816609 810677 3.1 0.2 221 15.9 14 31.3 96.6 7.9 9.1 7.7 31.3 96.6 7.9 Bottom 15.9 7.7 7.9 3.1 0.2 224 15.9 31.3 9.1 15 1.0 0.2 224 13.8 19 15.8 27.4 8.0 Surface 15.8 7.7 27.4 95.0 7.7 95.0 1.0 0.2 246 15.8 27.4 8.0 13.8 20 21 08:51 4.1 Middle 817904 814649 SR6 Rainy Moderate 2.1 0.1 214 15.8 26.3 8.1 11.6 18 Bottom 15.8 7.7 26.3 96.3 3.1 0.1 15.8 7.7 26.2 96.3 11.6 18 1.0 0.2 190 18.7 7.9 29.7 29.7 4.0 92.8 7.3 7.3 4 18.7 29.7 92.8 Surface 7.9 1.0 7.9 205 18.7 92.7 4.0 4 8.4 212 18.5 4.5 0.4 79 30.3 90.5 7 1 5 SR7 Rainy Moderate 08:47 16.7 Middle 18.5 30.3 90.5 4.4 5 823640 823757 8.4 0.4 233 18.5 7.9 30.3 90.4 7.1 4.4 15.7 1.8 253 18.5 7.9 30.4 89.8 7.0 4.9 Bottom 18.5 7.9 30.4 89.8 7.0 15.7 1.8 275 18.5 7.9 30.4 89.8 7.0 4.8 4 1.0 0.4 242 19.6 7.9 26.7 26.7 98.0 8.0 Surface 196 7.9 26.7 98.0 7.9 98.0 7.7 0.4 249 19.6 7.9 1.0 8 2.8 SR8 Moderate 09:55 5.5 Middle 12 820431 811574 2.8 17 7.7 4.5 0.3 236 19.5 7.9 26.8 98.6 7.4 19.5 7.9 26.8 98.6 7.7 4.5 0.3 254 19.5 7.9 98.6 16

DA: Depth-Average

Water Quality Monitoring Results on 19 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.3 129 15.8 1.0 34.2 98.4 79 4.3 Surface 15.8 7.9 34.3 98.4 15.8 1.0 0.3 131 7 Q 3/1/3 98.3 7.0 13 78 < 0.2 0.6 U 3 155 7.8 7 Q 4.8 5 80 0.6 15 15.6 34.4 973 √n 2 C1 16:41 8.9 Middle 7.8 34.5 97.3 815620 804227 0.6 Rainy Moderate 4.5 0.3 168 15.6 7.8 34.5 97.3 7.9 4.8 4 82 <0.2 0.7 7.9 0.3 15.4 7.8 6.2 82 <0.2 0.5 Bottom 7.8 34.7 97.1 7.9 15.4 0.3 15.4 7.8 34.7 97.1 7.9 6.2 84 0.4 1.0 0.2 141 19.2 7.8 25.6 7.4 75 <0.2 3.3 92.7 4.8 4 Surface 192 7.8 25.6 92.7 25.6 1.0 0.2 143 19.2 7.8 92.7 7.4 4.8 4 76 < 0.2 3.2 0.2 7.2 6.2 137 7.8 28.2 5.5 2 81 < 0.2 2.1 18.9 92.0 C2 Rainy Rough 15:31 12.4 Middle 18.9 28.2 92.0 80 825678 806928 2.4 92.0 6.2 0.2 143 18 9 7.8 28.2 7.2 5.5 3 81 <0.2 2.2 11 4 0.3 208 18.9 7.8 28.5 91.8 7.2 7.2 9.0 3 84 <0.2 1.8 Bottom 18.9 7.8 28.5 91.8 7.2 11.4 0.3 227 18.9 7.8 28.5 91.8 9.1 83 <0.2 1.7 18.7 7.9 4.3 81 <0.2 1.3 29.8 93.3 Surface 18.7 7.9 29.8 93.3 1.0 0.3 181 18.7 7.9 29.8 93.3 7.3 4.3 4 80 <0.2 1.5 6.4 107 18.6 7.1 4.3 82 1.1 0.2 7.9 < 0.2 30.1 91.3 4 822112 C3 Rainy Moderate 17:33 12.8 Middle 18.6 7.9 30.1 91.3 4.5 83 817794 1.2 7.1 6.4 0.2 107 18.6 79 30.1 91.2 4.3 2 83 <0.2 1.0 11.8 0.3 136 18.5 79 30.6 91.7 7.2 4.8 5 85 <0.2 0.9 Bottom 7.9 30.6 91.7 7.2 72 11.8 0.3 144 18.5 7.9 30.6 91.7 4.8 6 84 <0.2 1.1 1.0 0.3 16.1 7.9 3.9 <0.2 173 33.7 98.8 7.9 5 80 0.9 Surface 16.1 7.9 33.7 98.8 7.9 7.9 78 <0.2 0.9 0.3 16.1 3.9 3.9 0.3 138 16.0 7.9 33.8 98.0 7.9 4.9 82 <0.2 0.8 IM1 Rainv Moderate 16:22 7.8 Middle 16.0 7.9 33.8 98.0 5.2 81 818349 806463 0.8 79 33.8 98.0 7.9 81 <0.2 0.8 3.9 0.4 139 16.0 49 6.8 0.3 150 15.8 7.9 34.2 97.5 7.9 7.9 6.9 3 83 < 0.2 0.6 Bottom 15.8 7.9 34.2 97.5 7.9 6.8 0.3 15.8 7 Q 3/1/2 97.5 6.0 84 -n 2 0.7 1.0 0.3 172 16.0 33.5 8.0 3.2 79 <0.2 0.9 33.5 Surface 16.0 7.9 98.8 1.0 0.4 179 16.0 7.9 33.5 98.7 7.9 3.2 4 77 <0.2 1.0 79 3.7 0.8 0.4 15.9 7.9 33.7 97.8 7.9 80 < 0.2 IM2 Rainv Moderate 16:16 8.6 Middle 7.9 33.7 97.8 81 818855 806192 n q 15.9 4.3 0.4 112 15.9 7.9 3.8 80 < 0.2 83 0.7 7.6 0.3 131 15.8 79 34 1 97.5 7.9 5.7 8 -02 Bottom 7.9 34.1 97.5 7.9 7.9 7.6 0.3 136 7 Q 3/1/1 97.5 5.8 -n 2 0.7 15.8 84 1.0 0.4 93 16.0 7.9 33.5 98.2 7.9 3.3 3 77 <0.2 0.9 33.5 Surface 7.9 98.2 1.0 0.4 95 16.0 7.9 33.5 98.2 7.9 3.3 4 79 <0.2 0.8 4.4 0.4 15.8 7.9 33.9 7.8 7.8 6.0 81 <0.2 0.8 IM3 16:09 8.8 Middle 15.8 7.9 33.9 97.0 5.6 819419 806023 0.7 Rainy Moderate 0.4 15.8 7.9 33.9 6.0 80 <0.2 0.8 7.8 0.3 84 <0.2 0.6 140 15.8 7.9 34.3 97.1 7.8 7.6 7.9 34.3 97.1 7.8 Bottom 15.8 97.1 7.8 7.9 34.3 7.5 84 < 0.2 0.5 7.8 0.3 147 15.8 1.0 0.4 160 7.9 79 16.0 33.4 7.9 4.0 <0.2 1.1 Surface 97.8 7.9 77 1.3 1.0 0.4 168 16.0 7.9 33.4 4.0 4 <0.2 0.9 4.1 0.3 168 15.8 7.9 33.8 7.8 6.0 6 81 <0.2 IM4 16:00 8.1 Middle 15.8 7.9 33.8 97.1 819569 805020 0.9 Rainv Moderate 4.1 0.3 180 15.8 7.9 33.8 7.8 6.0 80 <0.2 0.3 184 15.8 7.9 7.8 7.4 84 <0.2 0.6 34.1 97.1 9 Bottom 15.8 7.9 34.1 97.1 7.1 0.3 192 15.8 7.9 34.1 97.1 7.8 7.4 9 84 <0.2 0.6 1.0 0.3 163 16.2 7.8 32.2 97.8 7.9 4.1 5 78 < 0.2 1.3 Surface 32.2 97.8 79 1.0 0.4 176 16.2 7.8 32.2 97.8 4 1 3 78 <0.2 1.2 10.7 0.8 3.6 0.3 146 15.8 7.9 33.9 96.4 7.8 6 80 <0.2 IM5 Rainy Moderate 15:52 7.2 Middle 7.9 33.9 96.4 80 820562 804905 3.6 0.3 155 15.8 7.9 33.9 96.4 7.8 10.7 78 <0.2 0.8 6.2 0.3 7.9 12.7 118 15.8 34.2 34.2 96.8 96.8 7.8 16 83 <0.2 0.7 96.8 Bottom 15.8 7.9 7.8 7.9 12.7 84 6.2 0.3 15.8 34.2 16 <0.2 0.9 1.0 0.3 162 7.9 7.9 32.5 32.5 7.9 7.9 76 1.2 16.1 4.3 <0.2 Surface 16.1 7.9 32.5 97.3 97.3 1.0 0.4 178 16.1 4.3 76 <0.2 3.7 0.3 165 16.1 7.9 32.7 96.7 7.8 7.4 7 81 < 0.2 1.1 15:44 Middle 32.7 96.7 821041 805835 IM6 Rainy Moderate 7.3 3.7 0.4 181 16.1 7.9 32.7 96.7 7.8 7.4 80 <0.2 6.3 0.3 196 15.8 7.9 34.1 10.9 15 84 <0.2 0.6 96.3 Bottom 15.8 7.9 34.1 96.3 7.8 6.3 0.4 15.8 7.9 34.1 96.3 7.8 10.9 15 84 <0.2 0.8 207 1.0 141 16.3 7.8 7.9 3.7 77 <0.2 1.8 0.3 29.7 96.5 6 Surface 16.3 7.8 29.7 96.5 78 2.0 1.0 7.8 7.9 0.3 142 16.3 29.7 96.5 3.7 4 -02 4.3 0.4 66 16.0 7.8 31.0 96.9 7.9 5.8 3 80 <0.2 1.8 IM7 31.0 821356 806819 Rainy Moderate 15:35 8.5 Middle 16.0 7.8 96.9 5.5 4.3 0.4 66 16.0 7.8 31.0 96.9 7.9 5.8 4 82 <0.2 1.8 7.5 0.4 81 15.9 7.8 33.2 96.8 7.8 7.0 10 83 <0.2 1.1 33.2 96.8 Bottom 15.9 7.8 7.8 96.8 0.4 7.8 33.2 7.8 6.8 84 < 0.2 1.1 7.5 84 15.9 8 1.0 168 0.3 19.3 7.9 25.6 98.6 4.8 4 76 <0.2 2.0 Surface 19.3 7.9 25.6 98.6 1.0 0.3 177 19.3 7.9 25.6 98.6 7.8 4.8 5 78 <0.2 1.8 0.4 100 18.9 8.0 29.7 98.0 7.6 6.9 4 82 <0.2 1.9 821686 807828 IM8 Rainv Rough 16:02 8.7 Middle 18 9 8.0 29.7 98.0 81 17 2.0 4.4 0.4 101 8.0 29.7 98.0 7.6 7.0 81 < 0.2 18.9 6 7.7 0.3 133 18.7 7.9 30.4 97.6 7.6 10.7 6 84 <0.2 1.0 Bottom 18.7 7.9 30.4 97.6 7.6 0.3 133 18.7 7.9 30.4 97.6 7.6 10.6 83 <0.2 1.2

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Water Quality Monitoring Results on 19 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.3 169 19.2 27.2 1.0 8.0 96.9 76 5.8 2.0 Surface 19.2 8.0 27.2 96.9 27.2 77 1.0 0.3 184 19.2 8.0 96.8 7.6 5.8 7.5 < 0.2 1.9 U 3 7.9 7.6 81 1.8 3.8 1/18 10 0 28.3 96.3 6 < 0.2 IM9 16:12 7.5 Middle 7.9 28.3 96.3 822108 808823 1.7 Rainy Rough 3.8 0.3 158 19.0 7.9 28.3 96.3 7.6 7.5 5 82 <0.2 1.8 6.5 0.3 18.8 8.0 30.1 7.5 7.5 11.8 6 83 <0.2 1.4 Bottom 8.0 30.1 96.7 7.5 18.8 0.3 18.8 8.0 96.7 11.8 84 1.2 1.0 0.3 166 19.1 7.9 27.9 7.5 78 <0.2 1.7 94.8 6.6 Surface 19.1 7.9 27.9 94.8 27.9 94.8 1.0 0.3 169 19.1 7.9 7.4 6.6 77 < 0.2 1.7 3.7 0.3 7.4 82 146 3 < 0.2 1.8 18.8 8.0 28.8 93.7 8.6 IM10 Rainy Rough 16:24 7.3 Middle 18.8 28.8 93.7 81 822257 809826 1.7 93.7 74 19 3.7 0.3 159 18.8 8.0 28.8 8.7 4 81 <0.2 6.3 0.3 146 18.8 8.0 29.1 93.8 7.4 12.5 4 83 <0.2 1.5 Bottom 18.8 8.0 29.1 93.8 7.4 6.3 0.4 148 18.8 8.0 29.1 93.8 12.6 84 <0.2 1.4 0.3 19.1 7.9 28.2 28.2 78 <0.2 1.9 6.1 Surface 19.1 7.9 28.2 96.1 1.0 0.3 149 19.1 7.9 96.1 7.5 6.1 4 77 <0.2 1.7 4.2 7.5 6.7 81 2.0 0.4 128 19.0 7.9 95.5 < 0.2 28.4 6 821481 IM11 Rainy Rough 16:34 8.4 Middle 19.0 7.9 28.4 95.5 810558 7.5 2.2 42 0.4 139 19.0 79 28.4 95.5 6.7 6 82 <0.2 74 0.3 125 18.8 8.0 29.6 95.9 7.5 9.7 9 83 <0.2 19 Bottom 8.0 29.6 96.0 7.5 7.4 0.3 131 18.8 8.0 29.6 96.0 9.7 84 <0.2 17 1.0 0.3 131 19.0 7.9 7.1 78 <0.2 1.6 28.5 95.2 7.5 Surface 19.0 7.9 28.5 95.2 7.9 28.5 95.2 7.5 79 <0.2 1.4 0.3 19.0 7.0 4.4 0.4 111 18.9 8.0 28.8 94.0 7.4 11.0 11 82 < 0.2 1.6 IM12 Rainv Moderate 16:44 8.8 Middle 18.9 8.0 28.8 94.0 9.5 10 82 821175 811520 8.0 28.8 7.4 82 <0.2 1.5 44 0.4 113 18 9 94 0 11.0 12 7.8 1.7 0.3 120 18 9 7.9 28.8 95.7 7.5 7.5 10.4 12 84 < 0.2 Bottom 18.9 7.9 28.8 7.5 7.8 0.4 121 18 Q 7 Q 28.8 95.8 10.4 12 84 -n 2 15 1.0 0.2 116 18.9 7.9 28.9 94.7 7.4 6.7 81 <0.2 1.6 28.9 Surface 18.9 7.9 94.7 1.0 0.2 123 18.9 7.9 28.9 94.7 7.4 6.7 8 80 <0.2 1.6 74 SR2 Rainv Moderate 17:11 5.3 Middle 82 821473 814151 -02 115 18.8 84 <0.2 12 4.3 0.2 79 29 4 95.3 7.5 6.9 10 Bottom 18.8 7.9 29.4 95.3 7.5 7.5 117 7.0 95.3 12 13 NЗ 20.4 -n 2 12 18.8 6.0 84 1.0 0.3 152 19.3 7.9 25.7 98.0 7.8 4.8 6 25.7 98.0 Surface 7.9 1.0 0.3 155 19.3 7.9 25.7 98.0 7.8 4.9 6 4.7 0.4 7.0 18.9 7.9 28.6 6 SR3 15:54 9.3 Middle 18 9 7.9 28.6 98.4 6.6 6 822157 807587 Rainy Rough 0.5 18.9 7.9 98.4 8.3 0.3 101 7.6 7.6 18.8 7.9 30.2 98.1 8.0 7 7.9 30.2 98.1 7.6 Bottom 18.8 7.9 98.1 30.2 8.0 8.3 0.3 108 18.8 9 1.0 0.3 139 16.0 7.8 33.5 98.0 7.9 5.4 Surface 33.5 98.0 7.9 1.0 0.3 152 16.0 7.8 33.5 5.4 8 47 0.3 113 15.8 7.8 33.8 7.9 6.0 10 SR4A 17:04 9.3 Middle 15.8 7.8 33.8 97.5 6.2 817183 807813 Rainv Moderate 4.7 0.3 118 15.8 7.8 33.8 97.5 7.9 6.0 10 8.3 0.3 122 15.7 7.8 7.9 7.1 34.1 97.6 8 Bottom 15.7 7.8 34.1 97.6 8.3 0.3 125 15.7 7.8 34.1 97.6 7.9 7.0 8 1.0 0.2 240 16.2 7.7 32.6 95.9 7.7 7.9 8 Surface 7.7 32.6 95.9 1.0 77 77 0.2 249 16.2 32.6 95.9 8.0 9 2.0 SR5A Rainy Calm 17:20 4.0 Middle 10 816600 810712 2.0 3.0 0.2 16.0 7.7 12 32.9 96.5 7.8 9.1 7.7 32.9 96.5 7.8 Bottom 16.0 7.7 7.8 3.0 0.2 175 16.0 32.9 9.1 10 1.0 0.2 110 12 16.1 32.1 95.6 7.8 8.5 Surface 16.1 7.7 32.1 95.6 7.7 95.6 7.8 1.0 0.2 119 16.1 32 1 8.5 11 21 17:43 4.2 Middle 817885 814645 SR6 Rainy Calm 2.1 3.2 0.2 16.0 32.4 7.8 8.1 10 Bottom 16.0 7.7 32.4 96.3 7.8 3.2 0.2 16.0 7.7 32.4 96.3 7.8 8.1 10 1.0 0.3 84 18.7 7.9 30.1 30.1 92.9 7.3 7.3 3.8 4 Surface 18.7 92.9 7.9 30.1 1.0 0.4 7.9 3.8 18.7 92.9 4 8.2 114 18.5 4.0 0.3 79 30.4 91.5 72 4 SR7 Rainy Moderate 18:06 16.4 Middle 18.5 30.4 91.5 4.0 5 823616 823734 8.2 0.3 125 18.5 7.9 30.4 91.5 7.2 4.0 15.4 1.5 142 18.5 7.9 30.5 92.8 7.3 4.1 6 Bottom 18.5 7.9 30.5 92.8 7.3 15.4 17 148 18.5 7.9 30.5 92.8 7.3 4.1 1.0 0.3 182 19.2 7.9 27.9 27.9 7.9 7.5 8 Surface 192 79 27.9 95.5 7.9 95.4 7.5 7.9 182 1.0 0.3 19.2 8 2.9 SR8 Moderate 16:54 5.8 Middle 10 820422 811587 2.9 12 4.8 0.3 173 18.9 7.9 28.7 94.7 7.4 10.3 28.7 94.7 18.9 7.9 4.8 0.3 186 18.9 7.9 94.7 10

DA: Depth-Average

Water Quality Monitoring Results on 21 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxvaen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.3 205 17 1 1.0 27 1 8.2 2.5 100.7 Surface 17.1 27.1 100.7 7.7 27.1 1.0 0.3 223 17 1 100.7 8.3 2.5 1 a۸ < 0.2 15 81 U 3 77 3.4 0.9 4.1 171 16.6 31.6 98.2 7 0 6 √n 2 C1 Calm 06:23 8.2 Middle 7.7 31.6 98.2 815608 804264 1.0 Sunny 4.1 0.3 177 16.6 7.7 31.6 98.2 7.9 3.4 5 81 <0.2 0.7 7.2 0.3 201 15.5 7.7 8.0 4.3 82 <0.2 0.5 Bottom 7.7 32.9 97.5 8.0 15.5 0.3 15.5 77 32.9 97.5 4.3 82 0.4 1.0 0.2 201 20.0 7.8 7.5 77 <0.2 4.4 21.5 93.9 4.3 4 Surface 20.0 7.8 21.5 93.9 21.5 1.0 0.2 211 20.0 7.8 93.9 7.5 4.3 4 76 < 0.2 4.5 0.2 7.1 6.1 214 7.9 28.3 5.4 4 82 < 0.2 19.4 91.6 4.9 C2 Sunny Moderate 07:46 12.2 Middle 19.4 7.9 28.3 91.6 80 825674 806960 4.7 49 6.1 0.2 226 194 79 28.3 91.5 7 1 5.5 3 81 <0.2 0.2 229 19.0 7.9 29.2 89.8 7.0 7.5 3 83 <0.2 4.5 Bottom 19.0 7.9 29.2 89.9 7.0 7.0 7.5 11.2 0.2 251 19.0 7.9 29.2 89.9 83 <0.2 4.7 20.1 7.9 3.5 79 <0.2 2.3 26.2 Surface 20.1 7.9 26.2 96.7 1.0 0.2 125 20.1 7.9 26.2 96.6 7.5 3.5 3 79 <0.2 2.4 6.2 7.3 3.4 82 2.0 0.2 120 19.2 7.9 < 0.2 29.2 93.7 4 822106 C3 Sunny Moderate 05:31 12.3 Middle 19.2 7.9 29.2 93.7 3.5 82 817811 2.1 7.3 6.2 0.2 130 19.2 79 29.2 93.6 3.4 3 81 <0.2 19 11.3 0.2 149 19.0 79 30.0 94.0 7.3 3.7 4 84 <0.2 19 Bottom 7.9 30.0 94.0 7.3 11.3 0.2 151 19.0 7 Q 30.0 94.0 73 3.7 84 <0.2 1 0 1.0 0.2 184 17.0 7.7 2.2 79 <0.2 3.0 27.2 100.1 8.2 3 Surface 17.0 7.7 27.2 100.1 100.1 8.2 79 3.1 0.3 17.0 27.2 2.2 <0.2 8.2 2.7 3.8 0.3 191 16.6 29.6 99.8 8.1 81 < 0.2 1.6 4 IM1 Sunny Calm 06:44 7.5 Middle 16.6 7.7 29.6 99.8 81 818346 806441 7.7 99.8 81 <0.2 1.8 3.8 0.3 207 16.6 29.6 8 1 27 6 6.5 0.2 161 15.9 7.7 32.4 98.3 8.0 5.2 5 82 < 0.2 1.0 Bottom 15.9 32.4 98.3 8.0 7.7 6.5 0.3 164 15.0 32 / 08.3 8 0 5.2 82 -n 2 1.0 1.0 0.3 193 17.7 22.3 8.2 2.5 81 <0.2 3.3 22.4 Surface 17.7 7.6 99.0 1.0 0.3 200 17.7 7.6 22.4 99.0 8.2 2.5 80 <0.2 3.3 82 1.2 0.3 200 16.1 30.2 98.7 8.1 2.8 81 < 0.2 IM2 06:50 8.3 7.7 98.7 82 818848 806198 Sunny Moderate Middle 16.1 30.2 33 1.8 4.2 0.3 201 16.1 30.2 8.1 2.8 82 < 0.2 83 0.9 7.3 0.3 182 15.7 32.7 97.8 8.0 4.6 6 -02 Bottom 7.7 32.7 97.8 8.0 7.3 7.7 0.4 102 15.7 32.7 97.8 8.0 82 4.6 √n 2 1 0 1.0 0.4 214 17.3 7.6 20.1 98.1 8.4 2.9 5 80 <0.2 1.0 20.1 Surface 17.3 7.6 98.1 1.0 0.4 226 17.3 7.6 20.1 98.1 8.4 2.9 4 81 <0.2 0.9 4.5 4.2 0.3 16.0 29.3 8.1 82 82 <0.2 1.8 IM3 06:57 84 Middle 16.0 7.7 29.3 98.1 44 82 819415 805999 Moderate Sunny 0.3 16.0 29.3 4.5 <0.2 1.8 7.4 0.3 7.7 83 <0.2 1.5 164 15.6 32.9 97.1 7.9 5.7 10 7.7 32.9 97.1 7.9 Bottom 15.6 97.1 7.9 7.7 32.9 5.7 82 < 0.2 1.4 7.4 0.3 170 15.6 10 1.0 0.3 204 16.9 7.7 21.0 98.1 8.4 3.1 80 < 0.2 1.4 Surface 21.0 1.0 0.3 204 16.9 77 21.0 98 1 8.4 3.1 3 80 <0.2 1.6 2.7 39 0.3 185 16.0 29.5 8.0 3.7 4 83 <0.2 IM4 07:04 7.8 Middle 16.0 7.7 29.5 97.4 819589 805042 Sunny Moderate 3.9 0.3 187 16.0 7.7 29.5 97.4 3.7 83 <0.2 6.8 0.3 15.6 7.7 7.8 3.5 84 <0.2 1.3 32.9 96.1 Bottom 15.6 7.7 32.9 96.1 6.8 0.3 169 15.6 7.7 32.9 96.1 7.8 3.5 6 84 <0.2 1.4 4.3 1.0 0.3 210 17.0 7.6 17.0 95.6 8.4 2.9 4 80 < 0.2 Surface 17.0 17.0 95.6 79 4.5 1.0 0.3 230 17.0 7.6 17.0 95.6 8.4 2.9 3 <0.2 3.5 0.3 189 16.3 7.7 28.6 96.3 7.9 4.3 4 81 <0.2 2.6 IM5 Moderate 07:13 6.9 Middle 7.7 28.6 96.3 820570 804930 2.8 Sunny 3.5 0.3 201 16.3 7.7 28.6 96.3 7.9 4.3 82 <0.2 2.6 32.3 95.0 5.9 0.3 7.7 189 15.6 32.3 7.8 8.6 82 <0.2 1.3 Bottom 7.7 95.0 7.8 15.6 7.7 83 1.3 5.9 0.3 15.6 32.3 8.6 <0.2 1.0 0.3 221 7.6 23.9 82 2.6 16.8 8.1 2.6 <0.2 Surface 16.8 7.6 23.9 95.7 7.6 95.7 1.0 0.3 228 16.8 8 1 2.6 3 81 <0.2 2.6 3.3 0.3 196 16.5 7.7 27.2 96.0 7.9 3.6 4 83 < 0.2 1.1 07:23 Middle 16.5 27.2 96.0 821042 805836 IM6 Sunny Moderate 6.5 83 3.3 0.4 16.5 7.7 27.2 96.0 7.9 3.6 83 <0.2 0.3 172 16.1 30.6 94.8 7.8 4.8 84 <0.2 1.7 Bottom 16.1 7.7 30.6 94.8 7.8 5.5 0.3 16.1 7.7 30.6 94.8 7.8 4.8 83 <0.2 1.6 175 1.0 0.4 17.8 7.7 7.7 83 82 < 0.2 2.8 21.1 96.8 8.1 2.7 4 7.7 Surface 17.8 21.1 96.9 1.0 0.4 151 17.8 21.0 96.9 8.1 2.8 <0.2 42 42 83 0.3 147 16.3 7.8 29.6 96.2 79 6 -02 1.4 IM7 Moderate 07:32 8.4 Middle 16.3 29.6 96.2 84 821357 806833 Sunny 4.2 0.4 156 16.3 7.8 29.6 96.2 7.9 4.2 4 84 <0.2 1.6 7.4 0.4 125 15.7 7.8 32.6 95.2 7.8 11.2 9 85 <0.2 1.1 Bottom 15.7 7.8 32.6 95.2 7.8 7.4 0.4 134 15.7 7.8 32.6 95.2 7.8 11.2 84 <0.2 11 1.0 0.3 183 19.9 7.8 4 76 22.4 94.2 7.5 3.9 <0.2 3.6 199 7.8 22 4 94.3 Surface 7.8 22.4 94.3 7.5 77 19.9 3.9 <0.2 3.6 1.0 0.3 193 3.5 4.9 0.3 175 19.5 7.9 26.8 7.4 4.2 2 81 94.3 < 0.2 26.9 IM8 Sunny Moderate 06:56 9.8 Middle 19.5 7.9 94.4 5.0 80 821700 807857 3.5 7.9 94.4 4.2 82 4.9 0.3 181 19.5 26.9 7.4 4 <0.2 8.8 0.3 154 19.2 8.0 28.4 95.4 7.5 6.8 3 83 <0.2 3.4 28.4 19.2 8.0 95.4 7.5 8.8 0.3 164 19.2 8.0 95.4 83 3.4

DA: Depth-Average

Water Quality Monitoring Results on 21 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids otal Alkalinity Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Fasting) Value 0.2 20.1 1.0 201 21.4 93.2 4.0 -02 24 Surface 20.1 7.8 21.4 93.3 77 1.0 0.3 205 20.1 7.8 21 / 03 3 7.5 4.1 < 0.2 2.6 81 0.2 7 Q 7.5 11 2.4 12 101 10.8 25.5 95.5 3 < 0.2 IM9 06:47 8.3 Middle 7.9 25.5 95.6 822100 808818 2.4 Sunny Moderate 4.2 0.2 201 19.8 7.9 25.5 95.6 7.5 4.4 3 81 <0.2 2.4 7.3 0.2 175 19.3 8.0 5.3 83 <0.2 2.4 Bottom 8.0 28.0 95.1 7.4 193 0.2 19.3 8.0 28.0 95.1 7.4 5.3 84 2.4 1.0 0.3 170 20.3 7.8 23.4 7.4 4.2 77 <0.2 2.0 94.4 Surface 20.3 7.8 23.4 94.4 23.3 1.0 0.3 173 20.3 7.8 94.4 7.5 4.2 77 < 0.2 1.8 3.9 0.3 7.4 2 131 7.9 26.4 81 < 0.2 1.8 19.6 93.7 4.6 IM10 Sunny Moderate 06:33 7.8 Middle 19.6 7.9 26.4 93.7 81 822223 809822 74 <0.2 1.8 3.9 0.3 133 196 79 26.4 93.7 4.6 3 82 6.8 0.2 157 19.3 8.0 28.4 94.0 7.3 8.7 4 84 <0.2 1.7 28.4 Bottom 19.3 8.0 94.0 7.3 7.3 6.8 0.3 164 19.3 8.0 28.4 94.0 8.7 84 <0.2 1.6 20.2 7.9 4.8 78 <0.2 2.1 94.6 21.9 Surface 20.2 7.9 21.9 94.6 1.0 0.3 174 20.1 7.9 21.9 94.6 7.5 4.8 2 79 <0.2 2.2 4.7 7.3 5.4 82 2.1 0.3 130 19.6 8.0 < 0.2 26.7 93.3 4 821506 IM11 Sunny Moderate 06:19 9.4 Middle 19.6 8.0 26.7 93.3 82 810562 47 7.3 0.3 136 19.6 8.0 26.7 93.3 5.4 2 83 <0.2 19 8.4 0.2 208 19.3 7.9 29.0 92.8 7.2 6.1 3 84 <0.2 1.6 Bottom 7.9 29.0 92.8 7.2 72 8.4 0.2 208 19.3 7.9 29.0 92.8 6.1 1 84 <0.2 15 1.0 0.3 135 20.5 7.8 4.4 78 <0.2 1.2 21.1 94.6 7.5 Surface 20.5 7.8 21.1 94.6 7.8 94.6 7.5 4.4 77 <0.2 1.3 0.3 20.5 4.5 0.3 142 19.9 7.9 25.2 94.4 7.4 83 < 0.2 1.4 4 IM12 Sunny Moderate 06:11 8.9 Middle 19.9 7.9 25.2 94.4 82 821149 811536 1.2 79 25.2 7.4 47 84 <0.2 1.2 4.5 0.3 153 199 94 4 4 7.9 0.2 170 199 7.9 26.1 95.2 7.4 5.3 3 85 < 0.2 0.8 Bottom 19.9 95.2 7.4 7.9 0.2 10 Q 7 Q 26.1 95.2 5.3 84 -n 2 1.0 1.0 0.2 120 20.5 7.9 22.5 7.6 4.3 78 <0.2 1.0 22.5 Surface 20.5 7.9 96.5 1.0 0.2 120 20.5 7.9 22.5 96.5 7.6 4.3 4 77 <0.2 0.8 76 2.0 SR2 Moderate 05:47 3.9 Middle 81 821468 814158 Sunny -02 2.0 114 84 <0.2 12 29 0.2 20.2 79 24 9 96 1 7.5 4.3 3 Bottom 20.2 7.9 24.9 96.1 7.5 7.5 7.0 20 0.2 114 24.0 96.1 13 -n 2 12 20.2 1 84 1.0 0.3 190 19.8 7.8 22.2 90.7 7.3 4.1 3 22.2 Surface 7.8 90.7 1.0 0.3 201 19.8 7.8 22.2 90.7 7.3 4.1 4.3 5.0 0.2 19.3 7.9 27.8 92.0 7.2 7.2 SR3 07:19 99 Middle 193 7.9 27.8 92.0 45 822158 807559 Sunny Moderate 0.3 19.3 7.9 92.0 4.2 8.9 0.2 177 7.0 18.9 7.9 29.2 90.2 5.2 4 7.9 29.2 90.2 7.0 Bottom 18.9 7.9 29.2 5.2 8.9 0.3 182 18.9 1.0 0.3 120 17.3 27.9 99.4 8.1 3.5 Surface 27.9 77 1.0 0.3 126 17.3 27.9 99.4 8.1 3.6 4 4.3 0.3 116 16.9 7.8 97.8 7.9 6.2 4 SR4A 06:00 8.5 Middle 16.9 7.8 30.7 97.8 817181 807812 Sunny Calm 4.3 0.3 16.9 7.8 30.7 97.8 7.9 6.2 0.3 142 16.9 7.8 7.8 9.3 10 31.0 97.3 Bottom 16.9 7.8 31.0 97.3 7.8 7.5 0.3 150 7.8 31.0 97.3 7.8 9.2 12 16.9 1.0 0.1 115 17.0 7.6 29.5 97.6 7.9 7.2 8 Surface 17.0 7.6 29.5 97.6 7 1.0 0.1 119 17.0 7.6 29.5 97.6 7.9 7.2 2.2 SR5A Calm 05:41 4.4 Middle 13 816583 810694 Sunny 2.2 3.4 0.1 150 16.9 17.1 17 7.6 30.0 7.9 97.7 7.9 Bottom 16.9 7.6 30.0 7.6 3.4 0.1 16.9 30.0 19 1.0 0.1 175 7.6 7.6 17.0 28.2 95.4 7.8 8.9 16 Surface 17.0 7.6 28.2 95.4 95.4 7.8 1.0 0.1 182 17.0 28.2 8.9 15 2.3 05:15 4.5 Middle 817911 814665 SR6 Sunny Calm 2.3 3.5 0.1 165 16.8 28.8 7.9 16.8 22 Bottom 16.8 7.6 28.8 96.5 7.9 3.5 0.2 169 16.8 7.6 28.8 96.7 7.9 16.9 20 1.0 0.2 178 19.3 7.9 29.5 94.4 7.3 7.3 3.1 94.4 Surface 193 7.9 29.5 1.0 7.9 29.5 186 19.3 94.4 3.1 8.4 0.2 138 3.2 192 79 29.6 93.7 7.3 5 SR7 Moderate 05:10 16.7 Middle 19.2 29.6 93.7 3.3 5 823647 823752 Sunny 8.4 0.2 146 19.2 7.9 29.6 93.7 7.3 3.2 15.7 0.2 142 18.9 7.9 30.4 92.5 7.2 3.5 6 Bottom 18.9 7.9 30.4 92.5 7.2 15.7 0.2 155 18.9 7.9 30.4 92.5 72 3.6 1.0 0.3 146 7.8 21.3 21.3 20.6 7.6 5.3 Surface 20.6 7.8 21.3 95.5 7.8 95.5 7.6 151 5.3 1.0 0.3 20.6 5 2.8 SR8 Sunny Moderate 06:00 5.6 Middle 820426 811598 2.8 4.6 0.2 188 20.2 7.9 25.8 94.9 7.4 6.4 25.8 20.2 7.9 94.9 4.6 0.3 204 20.2 7.9

DA: Depth-Average

Water Quality Monitoring Results on 21 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.4 17.9 1.0 25.7 8.4 3.5 82 Surface 179 25.7 103.2 7.7 1.0 0.4 120 17.9 25.7 103.2 8.4 3.5 81 < 0.2 3.6 8.2 U 3 177 7.8 83 15 15.4 34.1 98.3 8.0 4.0 3 √n 2 1.9 C1 Calm 19:47 9.0 Middle 7.8 34.1 98.3 83 815635 804249 2.1 Sunny 4.5 0.3 178 15.4 7.8 34.1 98.3 8.0 4.0 3 83 <0.2 1.7 8.0 0.4 15.1 7.8 8.8 12 83 <0.2 0.9 Bottom 15.1 7.8 34.5 96.5 7.9 0.4 15.1 7.8 34.5 96.5 7.9 8.8 84 0.8 1.0 0.2 239 20.0 7.8 7.5 4 76 <0.2 4.5 21.5 93.9 4.3 Surface 20.0 7.8 21.5 93.9 21.5 1.0 0.3 258 20.0 7.8 93.9 7.5 4.3 3 77 < 0.2 4.5 3 7.1 6.2 0.4 283 7.9 28.3 5.4 81 < 0.2 4.2 19.4 91.6 C2 Sunny Moderate 18:26 12.4 Middle 19.4 7.9 28.3 91.6 81 825682 806959 4.4 7 1 <0.2 4.3 6.2 0.4 307 194 79 28.3 91.5 5.5 3 82 11 4 0.3 243 19.0 7.9 29.2 89.8 7.0 7.5 4 84 <0.2 4.4 Bottom 7.9 29.2 89.9 7.0 7.0 7.5 11.4 0.3 246 19.0 7.9 29.2 89.9 84 <0.2 4.2 19.9 8.0 27.9 27.9 3.1 79 <0.2 2.7 <2 Surface 19.9 8.0 27.9 96.0 1.0 0.3 178 19.9 8.0 95.9 7.4 3.1 <2 79 <0.2 6.3 255 18.9 7.1 3.3 82 <0.2 2.2 0.3 7.9 30.4 91.6 2 822089 C3 Sunny Moderate 20:19 12.6 Middle 18.9 7.9 30.4 91.6 3.3 82 817811 2.6 7.1 6.3 0.3 279 18 9 79 30.4 91.6 3.3 2 82 <0.2 11.6 0.2 233 18.7 79 30.7 91 9 7.1 3.4 3 84 <0.2 2.8 Bottom 7.9 30.7 91.9 7 1 116 0.2 249 18.7 7.9 30.7 Q1 Q 3.4 84 <0.2 27 1.0 0.4 17.7 7.7 25.5 104.0 2.6 4 <0.2 191 25.5 8.5 81 3.1 Surface 17.7 7.7 104.1 25.5 104.1 8.5 80 <0.2 3.3 0.4 17.7 2.6 4.0 0.3 181 16.5 7.8 31.2 101.3 8.2 4.9 82 <0.2 2.1 IM1 Sunny Moderate 19:27 7.9 Middle 16.5 7.8 31.2 101.3 82 818365 806448 2.1 7.8 31.2 82 83 <0.2 1.9 4 0 0.3 198 16.5 101.3 49 6.9 0.3 124 15.9 7.8 33.0 99.8 8.1 6.7 7 83 < 0.2 1.1 Bottom 15.9 33.0 99.8 6.9 0.3 15.0 7.8 33 N aa s 8 1 6.7 84 -n 2 1.1 1.0 0.3 183 17.4 8.4 2.7 79 <0.2 2.6 27.1 Surface 17.4 7.8 102.9 1.0 0.4 192 17.4 7.8 27.1 102.9 8.4 2.7 3 80 <0.2 2.6 8.3 4.7 2.2 0.4 16.7 7.8 30.3 100.3 8.1 83 83 < 0.2 IM2 Moderate 19:21 8.6 Middle 7.8 100.3 82 818836 806184 19 Sunny 16.7 30.3 4.3 0.5 174 16.7 30.3 4.7 < 0.2 74 84 7.6 0.4 126 15.9 7.8 33 1 97.7 7.9 -02 1.0 Bottom 15.9 7.8 33.1 97.7 7.9 7.9 7.6 97.7 7.4 0.4 127 7.8 33.1 15.0 1 84 √n 2 na 1.0 0.4 198 18.3 7.7 19.5 101.9 8.5 2.8 4 80 <0.2 3.8 19.5 101.9 Surface 7.7 1.0 0.4 210 18.3 77 19.5 101.9 8.5 2.8 3 80 <0.2 4.0 4.3 0.4 2.3 116 16.2 7.8 30.4 99.8 8.2 8.2 3.9 82 <0.2 IM3 19:14 8.6 Middle 16.2 7.8 30.4 99.8 4.3 819407 806013 2.4 Sunny Moderate 0.4 16.2 7.8 30.4 99.8 3.9 81 <0.2 7.6 0.3 82 <0.2 0.9 98 15.7 7.8 33.3 33.3 97.9 7.9 6.2 7 7.8 97.9 7.9 Bottom 15.7 7.9 7.8 33.3 15.7 6.2 83 < 0.2 0.9 7.6 0.3 104 1.0 0.4 167 17.8 7.7 19.4 8.4 3.4 81 <0.2 3.8 Surface 19.4 77 1.0 0.4 167 17.8 19.4 99.3 8.4 3.4 3 80 <0.2 3.8 1.8 4.2 0.4 121 15.8 7.8 31.3 8.1 4.6 82 <0.2 IM4 19:03 8.3 Middle 15.8 7.8 31.3 98.3 819574 805049 2.1 Sunny Moderate 4.2 0.4 129 15.8 7.8 98.3 4.6 82 <0.2 0.5 143 15.6 7.8 33.4 9.0 83 <0.2 0.7 96.7 7.9 4 Bottom 15.6 7.8 33.4 96.7 7.3 0.5 152 15.6 7.8 33.4 96.7 7.9 9.0 5 83 <0.2 0.8 1.0 0.3 211 17.4 7.7 20.9 97.8 8.3 3.3 4 79 < 0.2 4.1 Surface 17.4 20.9 97.8 77 4.2 1.0 0.3 224 17.4 20.9 97.8 8.3 3.3 4 80 <0.2 2.2 3.4 0.3 160 15.9 7.8 30.3 96.8 8.0 4.8 4 82 <0.2 IM5 Moderate 18:47 6.7 Middle 7.8 30.3 96.8 82 820556 804924 2.5 Sunny 3.4 0.4 161 15.9 7.8 30.3 96.8 8.0 4.8 81 <0.2 2.2 5.7 1.0 0.3 15.5 7.8 33.3 33.3 <u>95.6</u> 95.6 7.8 11.2 8 84 <0.2 95.6 Bottom 15.5 7.8 7.8 7.8 83 1.0 0.3 15.5 33.3 11.2 <0.2 1.0 0.5 225 17.2 7.6 7.6 21.8 8.3 8.3 82 3.3 98.0 <0.2 Surface 17.2 7.6 21.8 98.0 98.0 1.0 0.5 244 17.2 27 3 81 <0.2 3.3 3.6 0.4 196 16.5 7.7 25.7 97.8 8.2 3.5 4 82 < 0.2 2.0 18:39 Middle 16.5 97.8 821059 805814 2.3 IM6 Sunny Moderate 7.1 82 3.6 0.5 16.4 7.8 25.8 97.7 3.6 4 82 <0.2 2.1 0.4 15.6 7.8 32.9 95.6 5.1 83 <0.2 Bottom 15.6 7.8 32.9 95.6 7.8 6.1 0.5 137 15.6 7.8 32.9 95.6 7.8 5.1 84 <0.2 1.4 1.0 0.5 166 17.7 7.7 8.2 83 <0.2 3.8 21.8 97.9 3.2 Surface 17.7 7.7 21.8 97.9 7.7 1.0 0.5 166 17.7 21.8 97 9 82 3.2 4 82 -02 4.3 0.4 157 16.1 7.8 30.3 97.1 8.0 5.3 5 84 <0.2 2.4 821366 806816 2.4 IM7 Moderate 18:32 8.5 Middle 16.1 7.8 30.3 97.1 5.2 Sunny 4.3 0.4 162 16.1 7.8 30.3 97.1 8.0 5.3 4 83 <0.2 2.6 7.5 0.4 146 15.6 7.8 32.7 96.0 7.8 7.0 85 <0.2 1.0 32.7 96.0 Bottom 15.6 7.8 7.8 32.7 7.8 96.0 7.8 7.0 84 < 0.2 1.0 7.5 0.4 160 15.6 8 1.0 0.4 158 20.5 7.8 20.3 4.6 4 <0.2 3.3 Surface 20.5 7.8 20.3 95.7 1.0 0.4 162 20.5 7.8 20.3 95.7 7.7 4.6 3 78 <0.2 3.5 0.4 119 19.5 7.9 27.1 96.5 7.6 5.8 4 80 <0.2 4.0 821703 807820 IM8 Sunny Moderate 18:57 8.7 Middle 195 7.9 27.1 96.6 81 3.7 3.8 4.4 0.4 119 7.9 27.1 96.6 7.6 5.8 81 < 0.2 19.5 3 7.7 0.4 99 19.1 8.0 29.2 96.1 7.5 14.9 6 83 <0.2 3.6 Bottom 19.1 8.0 29.2 96.1 7.5 0.4 108 19.1 8.0 29.2 96.1 7.5 14.9 84 <0.2 3.7

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Water Quality Monitoring Results on 21 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Speed Oxygen (ma/L) (maga) (ua/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA DA Value DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Value Average Value Value Value Value (Northing) (Fasting) Value 0.3 20.3 1.0 211 21.0 96.8 46 -02 3.5 Surface 20.3 7.9 21.0 96.8 1.0 0.3 224 20.3 7 Q 21 0 96.8 4.6 1 a۸ < 0.2 3.5 3.5 7.5 83 NЗ 175 7 Q 5.1 2 12 19.7 26.0 96.2 < 0.2 IM9 19:05 8.4 Middle 7.9 26.0 96.2 82 822088 808807 3.6 Sunny Moderate 4.2 0.3 192 19.7 7.9 26.0 96.2 7.5 5.1 3 83 <0.2 3.5 7.4 0.3 19.1 8.0 29.4 8.9 4 84 <0.2 3.8 Bottom 19.1 8.0 29.4 95.3 7.4 7.4 0.3 19.1 8.0 29.4 95.3 8.9 84 3.9 1.0 0.3 229 21.1 7.9 7.6 15.6 77 <0.2 2.9 21.6 96.6 Surface 21.1 7.9 21.6 96.6 96.6 2.8 1.0 0.3 231 21.1 7.9 21.6 7.6 15.6 3 78 < 0.2 0.3 4.0 250 7.9 26.5 7.8 4 82 < 0.2 2.9 20.1 100.8 18.5 IM10 Sunny Moderate 19:12 8.0 Middle 7.9 26.5 100.8 81 822254 809852 2.9 <0.2 3.0 4.0 0.4 252 20.1 79 26.5 100.8 7.8 18.5 4 82 7.0 0.3 229 19.6 8.0 28.4 96.2 7.5 7.5 15.1 3 84 <0.2 2.8 Bottom 8.0 28.4 96.2 7.5 7.0 0.3 232 19.6 8.0 28.4 96.2 15.1 84 <0.2 3.0 20.8 7.9 4.6 78 <0.2 2.3 23.5 7.6 97.0 Surface 20.8 7.9 23.5 1.0 0.3 231 20.8 7.9 23.5 97.0 7.6 4.6 5 78 <0.2 4.4 255 7.4 5.4 2.9 0.3 19.6 7.9 81 < 0.2 28.1 94.7 4 821519 IM11 Sunny Moderate 19:18 8.8 Middle 19.6 7.9 28.1 94.7 6.3 810553 2.5 7.4 44 0.4 279 19.6 79 28 1 94.7 5.4 3 82 <0.2 2.9 7.8 0.3 230 191 79 29.2 91.7 7.1 8.9 4 84 <0.2 2.4 Bottom 7.9 29.2 91.7 7 1 7.8 0.3 247 19.1 7.9 29.2 91.7 8.9 85 <0.2 2.2 1.0 0.3 205 20.9 7.9 23.8 97.9 4.8 4 78 <0.2 2.1 23.8 7.6 Surface 20.9 7.9 97.9 7.9 23.8 7.6 4.8 78 <0.2 2.1 0.3 20.9 3.7 0.4 254 19.4 7.9 28.8 7.2 5.2 82 <0.2 2.4 93.1 IM12 Sunny Moderate 19:31 7.3 Middle 19.4 7.9 28.8 93.1 6.0 81 821143 811530 2.3 79 28.8 72 82 <0.2 2.5 3.7 0.4 270 194 93 1 5.2 6.3 0.3 225 19.0 7.9 29.4 91.3 7.1 7.1 8.0 3 84 < 0.2 2.3 Bottom 19.0 91.3 6.3 0.3 246 10 0 7 Q 29.4 913 8.0 84 -n 2 2.4 1.0 0.3 190 20.7 7.9 25.3 98.1 7.6 5.9 79 <0.2 2.1 25.3 Surface 20.7 7.9 98.2 1.0 0.3 200 20.7 7.9 25.3 98.2 7.6 5.9 3 79 <0.2 2.2 76 2.3 SR2 Moderate 19:55 46 Middle 82 821455 814180 20 Sunny 160 5.7 84 <0.2 1.8 3.6 0.3 20.0 79 26.8 96.8 7.5 3 Bottom 20.0 7.9 26.8 96.8 7.5 7.5 0.3 173 7.0 5.7 3.6 26.8 96.8 20.0 84 √n 2 1.8 1.0 0.3 232 19.9 7.9 22.3 94.1 7.5 4.3 22.3 94.2 Surface 7.9 1.0 0.3 234 19.9 7.9 22.3 94.2 7.5 4.4 5 4.7 4.7 0.3 19.5 7.9 28.4 92.4 7.2 7.2 SR3 18:50 9.3 Middle 195 7.9 28.4 92.4 5.0 822144 807556 Sunny Moderate 0.3 19.5 7.9 28.4 92.4 4.7 7.0 8.3 0.4 123 19.0 7.9 29.2 90.1 5.9 4 7.9 29.2 90.1 7.0 Bottom 19.0 7.9 29.2 90.1 5.9 8.3 0.4 127 19.0 1.0 0.3 148 18.3 27.6 103.5 8.3 3.4 4 Surface 27.6 103.5 77 1.0 0.3 149 18.3 27.6 103.5 8.3 3.4 3 44 0.3 152 17.1 7.8 7.9 4.9 SR4A 20:08 8.7 Middle 17.1 7.8 31.2 98.8 817175 807791 Sunny Calm 4.4 0.3 156 17.1 7.8 98.8 7.9 4.9 0.3 159 16.9 7.8 7.8 7.0 32.4 97.3 8 Bottom 16.9 7.8 32.4 97.3 7.7 0.3 172 16.9 7.8 32.4 97.3 7.8 7.0 8 1.0 0.3 164 18.8 7.8 30.6 101.8 7.9 6.2 5 7 Surface 7.8 30.6 101.7 1.0 179 0.3 18.8 7.8 30.6 101.5 79 6.3 27 SR5A Calm 20:24 5.4 Middle 816590 810712 Sunny 2.7 4.4 0.2 165 17.3 7.0 7.8 31.4 100.6 0.8 17.4 31.4 100.6 8.0 Bottom 7.8 7.8 7.2 0.2 173 17.4 31.4 8.0 1.0 0.1 153 17.9 27.6 27.7 101.0 8.1 4.9 4 Surface 17.9 7.7 27.7 100.8 7.7 1.0 0.1 166 17.8 8.1 5.5 3 24 20:56 4.7 Middle 12 817915 814679 SR6 Sunny Calm 2.4 0.1 100 17.1 30.5 98.8 7.9 2.3 21 Bottom 17.1 7.7 30.5 98.8 7.9 3.7 0.2 17.1 7.7 30.5 98.8 7.9 2.3 21 1.0 0.2 19.7 7.9 3.2 3.2 134 29.9 94.8 7.3 7.3 197 29.9 94.8 Surface 7.9 1.0 7.9 145 19.7 29.9 94.7 8.4 0.2 158 18.6 4.0 8.0 31.1 90.8 7 1 6 SR7 Moderate 20:48 16.7 Middle 31.1 90.8 3.8 5 823643 823724 Sunny 8.4 0.2 167 18.6 8.0 31.1 90.8 7.1 4.0 15.7 0.2 105 18.6 8.0 31.2 91.0 7.1 4.1 Bottom 18.6 8.0 31.2 91.0 15.7 0.2 112 18.6 8.0 31.2 91.0 7 1 4.1 6 1.0 0.3 156 7.9 24.4 5.8 21.5 98.4 7.5 4 Surface 21.5 7.9 24.4 98.4 7.9 24.3 98.3 7.5 158 5.8 1.0 0.3 21.5 5 2.6 SR8 Sunny Moderate 19:38 5.2 Middle 5.7 820408 811595 2.6 4.2 0.2 199 20.1 7.9 27.5 7.5 5.5 6 27.5 97.3 20.1 7.9 7.5 4.2 0.3 205 20.1 7.9

DA: Depth-Average

		oring Resu			23 March 17	during Mid-	Current	ue	1		I			DO Sa	turation	Disso	olved			Suspende	d Solids		Τ
Monitoring	Weather	Sea	Sampling	Water	Sampling De	nth (m)	Speed	Current	Water Te	emperature (°C)	pН	Salini	ity (ppt)		%)	Oxy		Turbidity	/(NTU)	(mg/		Coordinate HK Grid	Coordin HK G
Station	Condition	Condition	Time	Depth (m)	Sampling De	ptii (iii)	(m/s)	Direction	Value	Average	Value Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	(Northing)	(Easti
					Surface	1.0	0.4	148	16.1	16.1	7.8 7.8	31.3	31.4	101.8	101.9	8.3		2.0		3			
					Gunace	1.0	0.4	158	16.1	10.1	7.8	31.4	01.4	101.9	101.5	8.3	8.2	2.0		2			
C1	Cloudy	Moderate	14:28	8.6	Middle	4.3	0.4	133 139	15.4 15.4	15.4	7.8 7.8	34.1	34.2	100.5	100.4	8.1 8.1		1.6	1.8	6	5	815628	804
						7.6	0.4	166	15.4		7.0	35.2		99.3		8.0		1.8	1	6			
					Bottom	7.6	0.5	166	15.2	15.2	7.8 7.8	35.2	35.2	99.3	99.3	8.0	8.0	1.8		5			
					Surface	1.0	0.4	188	19.9	19.9	8.0	23.8	23.8	90.7	90.7	7.2		1.7		4			
						1.0	0.5	194	19.9 19.4		8.0	23.8		90.7		7.2	7.1	1.6	-	4			
C2	Cloudy	Moderate	13:18	11.7	Middle	5.9	0.3	240 256	19.4	19.4	8.0 8.0	28.4	28.4	88.4 88.3	88.4	6.9		3.4	3.3	5 3	4	825662	806
					D-#	10.7	0.3	138	19.0	40.0	8.0	30.5	00.5	86.5	00.0	6.7	0.7	4.9		4			
					Bottom	10.7	0.3	143	19.0	19.0	8.0	30.5	30.5	86.6	86.6	6.7	6.7	4.8		4			
					Surface	1.0	0.3	273	19.9	19.9	8.0	28.6	28.6	96.7	96.7	7.4		0.8		3			
						1.0 6.4	0.3	294 258	19.9 19.2		8.0	28.6 30.2		96.7 92.4		7.4 7.1	7.3	0.8 1.5	-	4			
C3	Cloudy	Moderate	15:18	12.7	Middle	6.4	0.3	280	19.2	19.2	8.0	30.2	30.2	92.4	92.4	7.1		1.5	1.2	6	5	822100	817
					Bottom	11.7	0.3	261	19.1	40.4	8.0 8.0	30.7	00.7	93.2	93.2	7.2	7.2	1.2		6			
					Bottom	11.7	0.3	275	19.1	19.1	8.0	30.7	30.7	93.2	93.2	7.2	7.2	1.3		7			
					Surface	1.0	0.3	156	16.6	16.5	7.7 7.8	29.6	29.8	101.5	101.6	8.3		1.8		4			
						1.0 3.8	0.4	163 143	16.4 15.6		7.8	29.9 33.6		101.6 99.8		8.3 8.1	8.2	1.8	-	3 6			
IM1	Cloudy	Moderate	14:06	7.5	Middle	3.8	0.3	155	15.6	15.6	7.8 7.8	33.6	33.6	99.7	99.8	8.1		2.0	2.2	4	4	818357	808
					D-#	6.5	0.3	158	15.2	45.0	7.0	34.9	04.0	98.2	98.2	8.0	8.0	2.9		4			
					Bottom	6.5	0.3	165	15.2	15.2	7.8 7.8	34.9	34.9	98.1	98.2	7.9	8.0	2.6		5			
					Surface	1.0	0.4	201	16.2	16.2	7.8	30.7	30.8	100.4	100.5	8.2		2.2		3			
						1.0 4.2	0.4	216 209	16.1 15.8		7.8	30.8 32.6		100.5		8.2	8.2	2.0		2 5			
IM2	Cloudy	Moderate	14:00	8.4	Middle	4.2	0.4	209	15.8	15.8	7.8 7.8	32.6	32.6	99.5 99.5	99.5	8.1 8.1		2.5	3.2	5	4	818861	808
					D-#	7.4	0.3	203	15.2	15.2	7.0	35.0	35.0	97.5	97.5	7.9	7.9	4.7		5			
					Bottom	7.4	0.4	219	15.2	15.2	7.8 7.8	35.0	35.0	97.4	97.5	7.9	7.9	5.0		4			
					Surface	1.0	0.3	176	16.7	16.7	7.7 7.7	28.2	28.3	99.0	99.1	8.1		2.4		3			
						1.0 4.3	0.3	177 164	16.6 15.5		7.7	28.3 33.9		99.2 97.7		8.1 7.9	8.0	2.4 3.3	-	3			
IM3	Cloudy	Moderate	13:53	8.6	Middle	4.3	0.3	174	15.5	15.5	7.8 7.8	34.0	34.0	97.7	97.7	7.9		3.4	3.2	3	3	819423	808
					Dattem	7.6	0.3	155	15.2	15.0	7.8	35.0	25.0	96.9	96.9	7.8	7.0	3.7		4			
					Bottom	7.6	0.4	158	15.3	15.3	7.8 7.8	35.0	35.0	96.8	90.9	7.8	7.8	3.7		3			
					Surface	1.0	0.3	194	17.1	17.1	7.7	27.8	27.8	98.9	99.0	8.1		1.9	_	5			
						1.0 4.1	0.3	197 177	17.1 15.8		7.7	27.8 32.6		99.0 97.5		8.1 7.9	8.0	2.0	1	6			
IM4	Cloudy	Moderate	13:46	8.1	Middle	4.1	0.3	180	15.8	15.8	7.8 7.8	32.7	32.7	97.6	97.6	7.9		3.0	2.8	4	5	819581	805
					Bottom	7.1	0.2	147	15.3	15.3	7.8	34.8	34.8	96.6	96.6	7.8	7.8	3.4		6			
					Dottom	7.1	0.3	149	15.3	13.0	7.8	34.8	04.0	96.6	30.0	7.8	7.0	3.4		6			
					Surface	1.0	0.4	192	16.9	16.9	7.7 7.7	27.6	27.6	97.2	97.3	8.0		2.0	-	5			
						1.0 3.6	0.4	199 210	16.9 16.4		7.7	27.6 29.4		97.3 97.2		8.0 8.0	8.0	2.0		6 5			
IM5	Cloudy	Moderate	13:38	7.1	Middle	3.6	0.4	227	16.3	16.4	7.7	29.5	29.5	97.3	97.3	8.0		3.0	4.2	4	5	820583	804
					Bottom	6.1	0.3	185	15.4	15.4	7.8 7.8	34.4	34.4	95.9	96.0	7.8	7.8	7.9		5			
					Dottom	6.1	0.3	196	15.4	13.4	7.8	34.4	34.4	96.1	30.0	7.8	7.0	7.6		4			
					Surface	1.0	0.3	190	16.8	16.8	7.7	28.3	28.3	96.6	96.6	7.9		1.9	-	6			
						1.0 3.7	0.3	193 183	16.8 16.3		7.7	28.3 29.7		96.6 96.4		7.9 7.9	7.9	1.9	1	5 5			
IM6	Cloudy	Moderate	13:29	7.3	Middle	3.7	0.3	184	16.3	16.3	7.7	29.7	29.7	96.4	96.4	7.9		2.2	3.5	7	6	821072	808
					Bottom	6.3	0.3	156	15.5	15.5	7.8	34.1	34.1	95.4	95.4	7.7	7.7	6.3		6			
					Dottom	6.3	0.3	170	15.5	13.3	7.8	34.1	34.1	95.4	33.4	7.7	1.1	6.3		6			
					Surface	1.0	0.3	166 175	16.5 16.5	16.5	7.7 7.7	28.9	28.9	95.2 95.2	95.2	7.8 7.8		1.8	-	5 4			
						3.9	0.4	178	16.5		7.7	30.7		95.2		7.8	7.8	2.9	1	3			
IM7	Cloudy	Moderate	13:18	7.8	Middle	3.9	0.4	194	16.1	16.1	7.7	30.8	30.8	95.3	95.3	7.8		3.2	3.2	3	5	821358	80
					Bottom	6.8	0.4	135	15.7	15.8	7.7	33.0	33.0	94.7	94.7	7.7	7.7	4.5]	7			
					DOLLOITI	6.8	0.4	140	15.8	13.0	1.1	32.9	JJ.U	94.7	34./	7.7	1.1	4.8		5			<u> </u>
					Surface	1.0	0.4	196	20.1	20.1	7.9 7.9	24.5	24.5	95.1	95.1	7.5		2.2	4	4			
						1.0 4.3	0.4	208 194	20.1		7.9	24.5 27.8		95.1 97.1		7.5 7.6	7.6	2.2 5.7	-	2			
IM8	Cloudy	Moderate	13:55	8.5	Middle	4.3	0.3	200	19.3	19.3	8.0	27.8	27.8	97.1	97.1	7.6		5.7	5.1	2	3	821690	807
					D-#	7.5	0.4	141	18.9	40.0	7.0	29.8	00.0	97.5	07.0	7.6	7.0	7.3	1	4			
	1				Bottom	7.5	0.4	150	18.9	18.9	7.9 7.9	29.8	29.8	97.6	97.6	7.6	7.6	7.5	1	4			

Water Quality Monitoring Results on 23 March 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Monitorina Current Speed Oxygen (mg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Average Value DA Value Value (Northing) (Easting) 0.3 20.5 23.5 1.0 176 96.8 Surface 7.9 96.8 23.5 1.0 0.3 185 20.4 7 Q 96.8 7.6 1.8 0.3 19.6 27.4 7.6 2.1 3 36 174 7 0 973 IM9 Moderate 14:04 7.2 Middle 7.9 27.5 97.4 822095 808825 Cloudy 3.6 0.3 174 19.6 7.9 27.5 97.4 7.6 2.2 3 6.2 0.3 175 19.3 100.0 2.4 4 Bottom 7.9 28.6 100.0 7.8 193 0.3 7.9 28.6 100.0 7.8 2.4 4 1.0 0.4 148 20.3 8.0 25.4 2.7 2 96.1 7.5 Surface 20.3 8.0 25.4 96.1 1.0 0.4 148 20.3 8.0 96.0 7.5 2.3 3 3.9 0.4 161 19.4 28.5 7.3 4.0 8.0 93.2 IM10 Cloudy Moderate 14:12 7.7 Middle 8.0 28.5 93.2 822241 809851 28.4 3.9 0.4 171 194 8.0 93.2 7.3 4.0 3 6.7 0.3 181 19.1 8.0 29.0 93.2 6.6 5 Bottom 8.0 29.0 93.2 7.3 29.0 73 6.7 0.3 198 19.1 8.0 93.2 6.7 20.5 25.3 25.3 1.6 8.0 96.2 Surface 20.5 8.0 25.3 96.2 1.0 0.6 179 20.5 8.0 96.2 7.5 1.6 4.2 0.5 7.3 2.4 5 164 19.5 27.9 8.0 93.7 IM11 Cloudy Moderate 14:21 8.3 Middle 19.5 8.0 27.9 93.7 821511 810540 27.9 3 42 0.6 167 19.5 8.0 93.7 7.3 2.3 7.3 0.5 190 19.2 8.0 29.0 93.5 7.3 5.0 3 Bottom 8.0 29.0 93.5 7.3 7.3 0.5 190 19.2 8.0 29.0 93.5 73 5.0 3 1.0 0.4 157 20.1 2.4 4 8.0 25.3 94.3 7.4 Surface 20.1 8.0 25.3 94.3 25.3 94.3 2.5 1.0 0.4 20.1 8.0 7.4 3.1 4.1 0.4 193 19.3 8.0 28.4 91.8 5 IM12 Cloudy Moderate 14:30 8.2 Middle 19.3 8.0 28.4 91.8 821165 811506 41 8.0 28.4 91.8 72 0.4 196 19.3 3.1 4 72 0.5 228 19.1 8.0 29.9 89.2 6.9 5.0 3 Bottom 8.0 29.9 7.0 7.2 0.5 233 19.1 8.0 29.8 an 5 7.0 4.9 1.0 0.2 166 20.0 8.0 26.2 94.8 2.2 Surface 20.0 8.0 26.2 94.8 1.0 0.3 167 20.0 8.0 26.2 94.8 7.4 2.1 4 74 SR2 Moderate 14:55 5.3 Middle 821447 814156 Cloudy 2.7 196 19.6 4.3 0.2 79 27.7 949 74 24 Bottom 7.9 27.7 95.0 7.4 27.7 7 0 7.4 2.4 13 0.2 19.6 95 N 211 1.0 0.5 194 20.2 8.0 23.1 92.8 7.3 2.4 4 8.0 23.1 92.8 Surface 1.0 0.5 202 20.2 8.0 23.0 92.8 7.3 2.4 3 7.3 19.3 5.2 0.4 180 8.0 93.1 SR3 Moderate 13:46 9.3 Middle 19.3 8.0 28.7 93.1 822138 807590 Cloudy 5.8 0.4 8.0 93.1 5.4 19.3 8.3 0.5 30.2 140 18.8 8.0 93.1 7.2 7.2 9.6 3 8.0 30.2 93.1 7.2 Bottom 18.8 18.8 8.0 93.1 9.5 8.3 0.5 147 151 32.5 32.5 13 1.0 0.3 16.1 7.8 99.2 8.0 8.9 Surface 7.8 32.5 1.0 0.3 165 16.1 7.8 99.0 8.0 9.0 12 8.0 12 14 4.7 0.3 159 15.6 33.8 7.9 7.9 SR4A Moderate 14:50 9.3 Middle 15.6 7.8 33.8 98.1 817175 807790 Cloudy 4.7 0.3 171 15.6 33.8 98.0 7.9 8.3 0.3 15.3 6.8 12 7.8 34.7 97.3 7.9 Bottom 15.3 7.8 34.7 97.3 8.3 0.3 168 15.3 7.8 34.7 97.3 7.9 7.0 12 1.0 0.1 166 17.5 7.8 31.7 102.4 8.1 4.3 8 Surface 17.5 7.8 31.7 102.4 31.7 1.0 0.1 167 17.5 7.8 102.3 8.1 4.3 6 24 SR5A Cloudy Calm 15:07 4.8 Middle 816595 810699 2.4 0.1 191 17.2 5.1 3.8 7.8 31.9 101.2 8.0 7.8 31.9 101.1 8.0 Bottom 17.2 31.9 3.8 0.1 192 17.2 7.8 8.0 5.1 1.0 252 16.8 5.1 0.2 31.2 98.9 8.0 8 7.7 Surface 16.8 31.3 98.9 7.7 1.0 0.2 270 16.8 98.8 79 5.4 9 8.0 22 4.4 Middle 817906 814659 Cloudy Calm 15:31 3.4 0.1 214 16.8 99.0 5.8 10 Bottom 16.8 7.7 31.7 99.1 7.9 3.4 0.1 215 16.8 7.7 31.6 99.1 7.9 5.4 8 1.0 19.6 30.4 30.4 0.2 8.0 93.6 7.2 7.2 0.4 4 Surface 19.6 8.0 30.4 93.6 1.0 0.2 212 8.0 0.4 19.6 93.6 6 9.5 0.2 19 4 138 19.0 8.0 31.2 89 9 69 SR7 Cloudy Moderate 15:56 19.0 Middle 8.0 31.2 823649 823751 9.5 0.2 146 19.0 8.0 31.2 89.9 6.9 2.0 4 18.0 0.2 125 18.9 8.0 31.3 90.5 7.0 3.4 5 Bottom 18.9 8.0 31.3 90.5 7.0 18.0 0.2 126 18.9 8.0 31.3 90.5 7.0 3.3 5 1.0 0.2 227 20.4 24.7 1.9 8.0 96.8 6 Surface 20.4 8.0 24.7 96.8 8.0 7.6 0.3 244 20.4 96.7 2.0 8 1.0 2.8 SR8 Moderate 14:38 5.6 Middle 820434 811592 2.8 0.3 4.6 201 19.6 8.0 7.4 2.9 6 27.7 95.5 19.6 8.0 7.4 4.6 0.3 202 19.6 95.5

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

ater Qua	ity wonte	oring Resu	its on		23 March 17	during Mid-	-Ebb tide		_		Т			DO Co	turation	Diese	hiod			Cuananda	d Colido		_
Monitoring	Weather	Sea	Sampling	Water	0 " 0		Speed	Current	Water Te	mperature (°C)	рН	Salir	nity (ppt)		turation %)	Disso		Turbidity	(NTU)	Suspende (mg/		Coordinate	
Station	Condition	Condition	Time	Depth (m)	Sampling D	epth (m)	(m/s)	Direction	Value	Average	Value Average	Value	Average	1	Average	Value	DA	Value	DA	Value	DA	HK Grid (Northing)	HK (Eas
					Surface	1.0	0.3	121	15.9	15.9	7.7 7.7	29.4	29.4	99.2	99.2	8.2		2.0		3			\dagger
					Surface	1.0	0.3	125	15.9	13.9	1.1	29.4	23.4	99.2	33.2	8.2	8.1	2.0		3			
C1	Cloudy	Moderate	09:56	8.8	Middle	4.4	0.3	140 149	15.4 15.4	15.4	7.8 7.8	33.3	33.3	98.4 98.4	98.4	8.0		2.0	2.5	5 3	5	815607	80
						7.8	0.3	167	15.4		7.7	34.0		96.5		7.9		3.3		7			
					Bottom	7.8	0.2	178	15.1	15.1	7.7	34.0	34.0	96.4	96.5	7.9	7.9	3.3		6			
					Surface	1.0	0.3	142	19.7	19.7	7.9 7.9	25.3	25.3	90.6	90.6	7.1		2.4		4			Ť
					Surface	1.0	0.3	155	19.7	15.7	7.9	25.3	23.3	90.6	30.0	7.1	7.1	2.6		5			
C2	Cloudy	Moderate	11:24	11.6	Middle	5.8 5.8	0.2	165 175	19.3 19.3	19.3	8.0 8.0	29.0	29.0	90.4	90.4	7.0 7.0		2.8	3.7	4 6	5	825674	80
						10.6	0.2	162	19.3		0.0	30.2		89.8		7.0		5.9		6			
					Bottom	10.6	0.2	168	19.1	19.1	8.0	30.2	30.2	89.9	89.9	7.0	7.0	5.9		5			
					Surface	1.0	0.2	169	19.2	19.2	8.0 8.0	30.1	30.1	92.3	92.3	7.1		1.0		6			T
						1.0	0.2	173	19.2		8.0	30.1		92.3		7.1	7.0	1.0		5			
C3	Cloudy	Moderate	09:31	12.1	Middle	6.1	0.2	192 210	18.8 18.8	18.8	8.0 8.0	31.3	31.3	89.5 89.5	89.5	6.9		1.7	1.8	7 5	6	822125	81
						11.1	0.2	199	18.8		7.0	31.3		90.9		7.0		2.6		6			
					Bottom	11.1	0.2	214	18.8	18.8	7.9 7.9	31.3	31.3	90.9	90.9	7.0	7.0	2.6		5			
					Surface	1.0	0.3	180	16.0	16.0	7.7 7.7	30.3	30.3	97.6	97.7	8.0		2.6		5			
						1.0	0.3	192	16.0		1.1	30.3		97.7	****	8.0	8.0	2.6		4			
IM1	Cloudy	Moderate	10:18	7.6	Middle	3.8	0.3	138 145	15.6 15.5	15.6	7.7 7.7	32.0 32.0	32.0	96.9 96.9	96.9	7.9 7.9		3.6	3.6	6	5	818338	80
						6.6	0.3	184	15.2		7.7	33.9		96.0		7.8		4.6		5			
					Bottom	6.6	0.3	193	15.2	15.2	7.7	33.9	33.9	96.0	96.0	7.8	7.8	4.5		7			
					Surface	1.0	0.3	210	16.4	16.4	7.7	28.4	28.4	97.7	97.7	8.1		2.3		2			
						1.0	0.3	214	16.4		1.1	28.4		97.7		8.1	8.1	2.3		3			
IM2	Cloudy	Moderate	10:25	8.6	Middle	4.3	0.3	118 125	15.5 15.5	15.5	7.7 7.7	31.6	31.7	97.0 97.0	97.0	8.0		3.8	3.5	5 7	5	818853	8
						7.6	0.3	161	15.2		7.7	34.0		96.1		7.8		4.5		7			
					Bottom	7.6	0.3	176	15.2	15.2	7.7	34.0	34.0	96.1	96.1	7.8	7.8	4.5		6			
					Surface	1.0	0.4	217	16.3	16.3	7.7 7.7	29.0	29.1	97.7	97.7	8.0		2.3		5			
						1.0	0.4	236	16.2		1.1	29.1		97.7		8.0	8.0	2.3		4			
IM3	Cloudy	Moderate	10:33	8.8	Middle	4.4	0.3	199 213	15.8 15.8	15.8	7.7 7.7	31.4	31.4	97.4 97.4	97.4	8.0		3.1	3.2	5 6	5	819394	80
						7.8	0.4	193	15.3		7.7	33.9		96.5		7.8	7.0	4.2		4			
					Bottom	7.8	0.4	198	15.4	15.4	7.7	33.9	33.9	96.5	96.5	7.8	7.8	4.1		6			
					Surface	1.0	0.4	217	16.5	16.5	7.7	28.4	28.4	98.3	98.3	8.1		2.1		2			
						1.0 4.1	0.4	230 186	16.5 15.8		7.7	28.4 30.8		98.3 97.5		8.1 8.0	8.1	2.1 3.3		3			
IM4	Cloudy	Moderate	10:40	8.2	Middle	4.1	0.3	186	15.8	15.8	7.7	30.8	30.9	97.5	97.5	8.0		3.3	3.0	4	4	819580	80
						7.2	0.3	197	15.4		77	34.0	0.1.0	96.4		7.8	7.0	3.7		5			
					Bottom	7.2	0.3	199	15.4	15.4	7.7 7.7	34.0	34.0	96.4	96.4	7.8	7.8	3.6		6			
					Surface	1.0	0.4	189	16.5	16.5	7.7 7.7	26.1	26.2	97.6	97.6	8.1		3.5		2			
						1.0	0.4	195	16.5		1.1	26.2		97.6		8.1	8.0	3.5		<2			
IM5	Cloudy	Moderate	10:49	7.1	Middle	3.6	0.4	161 163	15.7 15.7	15.7	7.7	31.2	31.2	96.6 96.6	96.6	7.9 7.9		5.7 5.8	6.0	5 4	6	820549	80
					5	6.1	0.4	138	15.7		7.7	33.8		96.5		7.8	7.0	8.6	1	10			
					Bottom	6.1	0.4	145	15.4	15.4	7.7	33.7	33.8	96.5	96.5	7.9	7.9	8.6		10			
					Surface	1.0	0.3	195	16.4	16.4	7.7 7.7	27.3	27.3	96.8	96.8	8.0		2.7		7			
						1.0	0.3	207	16.4		1.7	27.3		96.8		8.0	8.0	2.7		6			
IM6	Cloudy	Moderate	10:57	0.2	Middle	0.1	0.3	162 170	15.8 15.7	15.8	7.7 7.7	30.7	30.7	96.4 96.4	96.4	7.9 7.9		4.2 4.2	3.9	6	7	821076	80
						-0.8	0.3	154	15.5		77	33.5	00.5	96.0		7.8	7.0	4.8		9			
					Bottom	-0.8	0.3	155	15.5	15.5	7.7	33.5	33.5	96.0	96.0	7.8	7.8	4.8		7			
					Surface	1.0	0.3	168	16.2	16.2	7.7 7.7	28.8	28.8	97.1	97.1	8.0		2.5		5			
						1.0	0.3	179	16.2		1.1	28.8		97.1		8.0	8.0	2.5		5			
IM7	Cloudy	Moderate	11:06	8.3	Middle	4.2	0.3	131 140	15.7 15.7	15.7	7.7 7.7	31.6	31.7	96.5 96.5	96.5	7.9 7.9		3.5 3.5	3.3	6 7	6	821358	8
						7.3	0.3	128	15.5		7.7	33.5		96.6		7.9		3.9		6			
					Bottom	7.3	0.3	138	15.5	15.5	7.7	33.5	33.5	96.7	96.7	7.9	7.9	3.9	1	7			1
					Surface	1.0	0.3	135	19.9	19.9	8.0 8.0	22.8	22.8	93.8	93.8	7.5		2.8		4			T
					Surface	1.0	0.3	140	19.9	19.9	8.0	22.8	22.0	93.8	33.0	7.5	7.4	2.8	1	5			
IM8	Cloudy	Moderate	10:56	8.8	Middle	4.4	0.3	126	19.1	19.1	8.1 8.1	29.0	29.0	93.8	93.8	7.3		3.6	3.8	5	5	821703	80
						4.4 7.8	0.3	136 112	19.1 18.9		8.0	29.0 30.0		93.8 93.3		7.3 7.3		3.7 5.0	-	6 5			
					Bottom	7.8	0.3	112	18.9	18.9	8.0	30.0	30.0	93.3	93.3	7.3	7.3	5.0	1	5			

Water Quality Monitoring Results on 23 March 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Monitorina Current Speed Oxygen (mg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Average Value DA Value Value (Northing) (Easting) 0.5 20.2 22.7 1.0 152 8.0 92.8 2.3 Surface 8.0 92.8 22.7 2.4 1.0 0.5 152 20.2 8 0 92.8 7.4 4 7.3 92.7 0.6 27.9 7.2 4 3.8 134 19.5 8.0 IM9 Moderate 10:43 7.5 Middle 8.0 27.9 92.7 822075 808817 Cloudy 3.8 0.6 137 19.5 8.0 27.9 92.7 7.2 3.6 5 6.5 0.5 145 18.9 8.0 92.6 4.3 4 Bottom 8.0 29.7 92.6 7.2 189 0.6 18.9 29.7 92.6 72 4.3 1.0 0.6 139 20.0 8.0 24.3 2.3 5 91.7 7.2 Surface 20.0 8.0 24.3 91.8 24.3 1.0 0.6 150 20.0 8.0 91.8 7.2 2.4 5 7.2 4.2 4.1 0.5 139 19.4 7.1 8.0 28.5 91.7 IM10 Cloudy Moderate 10:35 8.2 Middle 8.0 28.5 91.7 822226 809819 28.5 41 0.5 149 194 8.0 91 7 7 1 4.2 3 72 0.5 180 19.2 8.0 29.6 90.9 7.0 9.5 5 Bottom 8.0 29.6 90.9 7.1 29.6 7.1 7.2 0.5 192 19.2 8.0 90.9 9.6 6 0.4 20.0 25.0 25.5 1.6 4 8.0 95.0 Surface 20.0 8.0 25.3 94.5 1.0 0.4 121 19.9 8.0 93.9 7.4 1.6 4 7.3 4.4 0.4 2.7 4 125 19.4 7.1 8.0 29.0 91.3 IM11 Cloudy Moderate 10:25 8.8 Middle 19.4 8.0 29.0 91.3 821519 810533 44 0.4 131 194 8.0 29.0 91.3 7 1 27 3 7.8 0.3 174 19 1 8.0 29.9 91 9 7 1 4.8 4 Bottom 8.0 29.9 91.9 7.8 0.4 189 19.1 8.0 29.9 Q1 Q 7 1 4.8 3 1.0 0.4 129 19.6 2.2 4 8.0 27.2 92.0 7.2 Surface 19.6 8.0 27.2 92.0 19.6 27.2 91.9 2.2 0.5 8.0 7.2 29.9 4.7 0.4 185 19.1 8.0 89.6 6.9 4.0 IM12 Cloudy Moderate 10:17 9.3 Middle 19.1 8.0 29.9 89.6 821167 811514 47 8.0 89.6 0.4 193 191 69 4.0 8.3 0.4 136 19.1 8.0 30.1 90.4 7.0 47 5 Bottom 30.1 7.0 8.3 0.5 136 19.1 8.0 30.1 an 4 7.0 47 1.0 0.4 134 19.7 8.0 27.9 93.7 2.1 27.9 Surface 19.7 8.0 93.7 1.0 0.4 144 19.7 8.0 27.9 93.7 7.3 2.1 3 7.3 2.6 SR2 Moderate 09:53 5.2 Middle 821443 814149 Cloudy 2.6 222 19 1 42 0.3 8.0 29.8 92.8 7.2 3.3 Bottom 19.1 8.0 29.8 92.9 7.2 7.2 29.8 3.4 12 U 3 8 0 19.1 92 Q 1.0 0.3 129 19.7 8.0 25.9 93.5 7.3 2.0 5 8.0 25.9 93.5 Surface 25.9 1.0 0.3 132 19.7 8.0 93.5 7.3 2.0 4 7.3 19.3 3.4 4.6 0.3 112 8.0 28.1 28.1 93.9 4 SR3 Moderate 11:01 9.2 Middle 193 8.0 28.1 93.9 822130 807558 Cloudy 0.3 19.3 8.0 93.9 3.4 3 8.2 0.3 137 30.0 5.5 18.9 8.0 93.7 7.3 4 8.0 30.0 93.7 7.3 Bottom 18.9 7.3 18.9 8.0 93.7 5.5 4 8.2 0.3 150 0.3 129 96.6 2.7 1.0 16.3 29.9 7.9 5 Surface 7.7 29.9 96.6 29.9 1.0 0.3 137 16.3 77 96.6 7.9 2.8 4 4.9 0.4 90 15.9 30.8 96.4 7.9 4.4 6 7 SR4A 09:33 9.7 Middle 7.7 30.8 96.4 817202 807792 Cloudy Calm 4.9 0.4 98 15.9 30.8 96.4 4.5 8.7 0.3 15.5 32.4 95.8 6.3 8 7.8 Bottom 15.5 7.7 32.4 95.8 8.7 0.3 94 15.5 32.4 95.8 7.8 6.3 9 1.0 0.1 138 16.9 7.6 29.9 97.0 7.8 3.8 5 Surface 7.6 29.9 97.0 5 1.0 0.1 142 16.9 7.6 29 9 96.9 7.8 3.8 2.2 SR5A Cloudy Calm 09:14 4.4 Middle 816579 810699 2.2 0.2 138 16.6 9.9 3.4 7.6 30.4 96.9 7.8 7.6 96.9 7.8 Bottom 16.6 30.4 30.4 7.8 3.4 0.2 16.6 96.9 10.2 1.0 29.3 29.3 6.8 0.1 176 16.0 7.5 7.5 95.1 7.8 7.8 5 Surface 16.0 7.5 29.3 95.2 1.0 0.1 183 16.0 95.2 6.8 5 2.4 4.8 Middle 817916 814662 Cloudy Calm 08:48 2.4 3.8 0.1 157 16.0 29.4 96.9 8.0 10.8 26 Bottom 16.0 7.5 29.4 97.0 8.0 3.8 0.1 161 16.0 7.5 29.3 97.0 10.9 28 1.0 0.4 18.8 31.4 31.4 7.9 88.5 6.8 2.4 Surface 31.4 18.8 7.9 88.5 1.0 159 2.4 0.4 18.8 88.5 6.8 10.4 0.3 18.8 22 141 79 31.6 89.2 69 5 SR7 Cloudy Moderate 08:48 20.7 Middle 7.9 31.6 2.2 823639 823736 10.4 0.3 141 18.8 7.9 31.6 89.2 6.9 2.2 5 19.7 0.3 227 18.8 7.9 31.7 89.3 6.9 2.1 5 Bottom 18.8 7.9 31.7 89.3 6.9 19.7 0.3 240 18.8 79 31.7 89.3 6.9 2.1 4 1.0 0.4 198 19.8 26.2 26.2 1.8 4 8.0 93.6 Surface 19.8 8.0 26.2 93.6 8.0 0.4 212 19.8 93.6 7.3 1.8 3 1.0 7.3 3.0 SR8 Moderate 10:09 6.0 Middle 820431 811608 3.0 5.0 0.4 160 19.3 8.0 29.3 93.3 2.1 4 8.0 29.3 19.3 93.3 7.2 5.0 0.4 167 19.3 8.0 4

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Water Qua				Mat	25 March 17	during Mid	Current	ue	14/-: -		,	ьЦ	C-1"	situ (m=4)	DO S	aturation	Disso		Topleton	/NIT!!	Suspended 5		Coordinat	Coording
Monitoring Station	Weather	Sea	Sampling	Water	Sampling De	epth (m)	Speed	Current Direction	-	emperature (°C		pH		nity (ppt)		(%)	Oxy	gen	Turbidity	1	(mg/L)		Coordinate HK Grid	HK Grid
Station	Condition	Condition	Time	Depth (m)			(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	(Northing)	(Easting
					Surface	1.0	0.7	150	16.7	16.7	7.7	7.7	28.9	28.9	99.9	99.9	8.2		3.2		3			
					Canado	1.0	0.7	153	16.7	10.7	7.7		28.9	20.0	99.8	00.0	8.2	8.2	3.2	-	4			
C1	Cloudy	Rough	16:23	8.2	Middle	4.1	0.7	137 142	16.7 16.7	16.7	7.7	7.7	28.9	28.9	100.0	100.0	8.2 8.2		4.0	4.1	4	4	815626	804238
					_	7.2	0.8	121	16.6		7.7		29.1		100.5		8.2		5.0	1	4			
					Bottom	7.2	0.8	127	16.6	16.6	7.7	7.7	29.1	29.1	100.5	100.5	8.2	8.2	4.9	ĺ	4			
					Surface	1.0	0.8	192	20.2	20.2	7.9	7.9	21.2	21.2	88.8	88.8	7.1		2.8		4			
					Odridoc	1.0	0.9	202	20.2	20.2	7.9	7.5	21.2	21.2	88.8	00.0	7.1	7.1	2.8		3			
C2	Cloudy	Rough	15:16	10.7	Middle	5.4 5.4	0.5	240 245	19.9 19.9	19.9	7.9	7.9	26.7 26.7	26.7	89.6 89.6	89.6	7.0		2.5	2.6	3	4	825679	80693
					_	9.7	0.6	176	19.9		7.9		27.3		89.5		6.9		2.4	1	4			
					Bottom	9.7	0.6	190	19.9	19.9	7.9	7.9	27.3	27.3	89.5	89.5	6.9	6.9	2.5	1	4			
					Surface	1.0	0.5	239	20.0	20.0	8.0	8.0	27.2	27.2	95.7	95.7	7.4		2.8		4			
					Surface	1.0	0.5	240	20.0	20.0	8.0	0.0	27.2	21.2	95.7	33.7	7.4	7.4	2.9		4			
C3	Cloudy	Rough	17:10	13.4	Middle	6.7	0.6	257	20.0	20.0	8.0	8.0	27.5	27.5	95.1	95.1	7.4		1.8	2.3	3	4	822122	817800
	-					6.7 12.4	0.6	259 283	20.0 19.8		8.0		27.5 29.7		95.1 95.6		7.4 7.3		1.8	-	3			
					Bottom	12.4	0.8	309	19.8	19.8	8.0	8.0	29.7	29.7	95.7	95.7	7.3	7.3	2.3	1	5			
					Surface	1.0	0.7	191	16.8	16.8	7.7	7.7	28.4	28.4	99.2	99.2	8.1		4.8		6			T
					Surface	1.0	0.7	199	16.8	10.0	7.7	7.7	28.4	20.4	99.2	99.2	8.1	8.1	4.7		7			
IM1	Cloudy	Rough	16:03	7.1	Middle	3.6	0.6	164	16.5	16.5	7.8	7.8	30.1	30.1	99.5	99.5	8.1	0.1	4.5	4.5	6	6	818342	806457
	,	3				3.6 6.1	0.7	173 161	16.5 16.4		7.8		30.1		99.5		8.1		4.5 4.4	1	5 7			
					Bottom	6.1	0.6	165	16.4	16.5	7.7	7.7	31.5	31.5	99.7 99.7	99.7	8.1	8.1	4.4	1	6			
					0.1	1.0	0.6	220	16.9	10.0	7.7		27.5	07.5	97.7	07.0	8.0		4.0		5			
					Surface	1.0	0.6	236	16.9	16.9	7.7	7.7	27.5	27.5	97.8	97.8	8.0	8.0	4.0	Ī	4			
IM2	Cloudy	Rough	15:57	8.3	Middle	4.2	0.3	183	16.7	16.7	7.7	7.7	28.4	28.4	97.7	97.7	8.0	0.0	5.3	5.2	5	6	818851	806181
	,					4.2	0.4	195	16.7		7.7		28.3		97.7		8.0		5.3		5			
					Bottom	7.3 7.3	0.4	146 155	16.3 16.3	16.3	7.7	7.7	31.4	31.4	98.6 98.6	98.6	8.0	8.0	6.2	1	6 8			
						1.0	0.7	215	16.7		7.7		27.4		95.8		7.9		3.3		5			
					Surface	1.0	0.7	225	16.7	16.7	7.7	7.7	27.4	27.4	95.8	95.8	7.9	0.0	3.3	1	4			
IM3	Cloudy	Rough	15:49	8.1	Middle	4.1	0.7	216	16.7	16.7	7.7	7.7	27.4	27.4	97.4	97.4	8.0	8.0	3.8	3.9	6	6	819406	806033
	Cioday	r tough	10.10	0	Wildelie	4.1	0.7	224	16.7	10.7	7.7		27.4	27	97.4	07	8.0		3.8	0.0	4		010100	000000
					Bottom	7.1 7.1	0.8	207 225	16.7 16.7	16.7	7.7	7.7	29.3	29.4	98.9 99.0	99.0	8.1 8.1	8.1	4.6	1	7			
						1.0	0.6	198	16.6		7.7		27.5		95.7		7.9		4.7		6			+
					Surface	1.0	0.7	206	16.6	16.6	7.7	7.7	27.5	27.5	95.7	95.7	7.9		4.6	1	6			
IM4	Cloudy	Rough	15:41	7.7	Middle	3.9	0.5	203	16.6	16.6	7.7	7.7	27.7	27.7	96.9	96.9	8.0	8.0	5.1	5.3	5	7	819555	805044
IIVI-T	Oloudy	riougn	15.41		Wildale	3.9	0.6	213	16.6	10.0	7.7	7.7	27.7	27.7	96.9	30.3	8.0		5.1	5.5	7	′	013333	003044
					Bottom	6.7 6.7	0.4	210 224	16.4 16.4	16.4	7.7	7.7	30.7	30.7	97.8 98.0	97.9	7.9 8.0	8.0	6.2	-	7			
						1.0	0.4	199	16.4		7.6		27.0		94.4		7.8		7.0		8			+
					Surface	1.0	0.7	218	16.6	16.6	7.6	7.6	27.0	27.0	94.4	94.4	7.8	7.9	7.0	1	8			
IM5	Cloudy	Rough	15:33	6.6	Middle	3.3	0.6	213	16.6	16.6	7.7	7.7	27.2	27.2	95.4	95.4	7.9	7.9	8.0	8.1	12	11	820569	804904
11415	Oloudy	riougn	15.55	0.0	Wildale	3.3	0.6	232	16.6	10.0	7.7	7.7	27.2	27.2	95.4	33.4	7.9		8.1	0.1	13		020303	004304
					Bottom	5.6	0.5	233	16.4	16.4	7.7	7.7	30.1	30.1	96.5 96.6	96.6	7.9 7.9	7.9	9.2	-	12			
						5.6 1.0	0.5	235 188	16.4 16.7		7.6		26.0		94.6		7.9		8.7		14			+
					Surface	1.0	0.8	205	16.7	16.7	7.6	7.6	26.0	26.0	94.6	94.6	7.9	8.0	8.8	1	14			
IM6	Cloudy	Rough	15:25	6.4	Middle	3.2	0.7	206	16.6	16.6	7.7	7.7	26.4	26.5	96.2	96.3	8.0	8.0	15.3	13.3	15	14	821066	805841
IIVIO	Oloudy	riougn	15.25	0.4	Wildale	3.2	0.7	224	16.6	10.0	7.7	7.7	26.5	20.0	96.3	30.0	8.0		15.6	10.0	14		021000	003041
					Bottom	5.4 5.4	0.7	225 236	16.6 16.6	16.6	7.7	7.7	29.3	29.4	97.5 97.5	97.5	8.0	8.0	16.1 15.2	-	13 14			
						1.0	0.7	228	16.8		7.7		27.1		95.4		7.9		3.5		4			+
					Surface	1.0	0.5	240	16.8	16.8	7.7	7.7	27.1	27.1	95.4	95.4	7.9	7.0	3.5	1	4			
IM7	Cloudy	Rough	15:16	7.6	Middle	3.8	0.5	253	16.7	16.7	7.7	7.7	27.9	28.0	96.6	96.6	7.9	7.9	3.8	3.8	5	6	821349	806849
11417	Cidddy	Hough	15.10	7.0	WIIGGIG	3.8	0.5	260	16.6	10.7	7.7	7.7	28.0	20.0	96.6	30.0	7.9		3.8	0.0	6	,	JE 1043	000043
					Bottom	6.6	0.4	239	16.5	16.5	7.7	7.7	30.1	30.1	97.6 97.7	97.7	7.9 7.9	7.9	4.1	4	6			
			+			6.6 1.0	2.4	253 195	16.5 20.1	 	7.7	1	23.1		97.7		7.9		4.1		8	-+		\vdash
					Surface	1.0	2.4	211	20.1	20.1	7.9	7.9	23.1	23.1	90.4	90.4	7.2		4.4	1	4			
IM8	Claude	Daugh	15,00	0.0	Middle	4.1	0.6	205	20.1	20.1	7.9	7.0	23.6	22.6	90.3	00.2	7.1	7.2	3.9	4.1	4	4	821699	807843
IIVI8	Cloudy	Rough	15:38	8.2	ivildale	4.1	0.7	224	20.1	20.1	7.9	7.9	23.6	23.6	90.3	90.3	7.1		3.7	4.1	5	4	021099	807843
					Bottom	7.2	0.6	216	20.1	20.1	7.9	7.9	23.7	23.7	90.4	90.5	7.1	7.1	4.1	1	3			
A. Donth Ave	1		1		1	7.2	0.6	221	20.1	1	7.9		23.7	1	90.5	1	7.1		4.0		5			1

Water Quality Monitoring Results on 25 March 17 during Mid-Flood Tide DO Saturation Dissolved uspended Solids Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Monitorina Current Speed Oxygen (mg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Average Value DA Value Value (Northing) (Easting) 0.7 20.2 23.5 1.0 204 3.8 91 N Surface 7.9 91.0 23.5 3.7 1.0 0.7 212 20.2 7 Q 91 N 72 4 7.2 3.5 0.7 72 4.5 4 202 20.2 7 0 23.5 91 / IM9 Rough 15:52 6.9 Middle 7.9 23.5 91.4 822104 808812 Cloudy 3.5 0.7 218 20.2 7.9 23.5 91.4 7.2 4.5 3 5.9 0.6 190 20.2 92.8 4.3 4 Bottom 7.9 23.6 92.9 7.3 20.2 0.6 7.9 23.6 93.0 73 4.5 4 1.0 0.6 220 20.3 8.0 26.6 3.0 3 92.9 7.2 Surface 20.3 8.0 25.2 93.0 1.0 0.7 240 20.3 7.9 93.0 7.3 3.1 4 7.3 0.7 4 3.5 246 20.3 7.9 23.8 7.3 93.0 IM10 Cloudy Rough 16:03 6.9 Middle 8.0 24.2 93.0 822251 809819 24.5 4 3.5 0.7 256 20.2 8.0 93.0 7.3 3.2 24.5 59 0.7 235 20.2 8.0 93.0 5.5 3 24.7 Bottom 8.0 93.2 7.3 73 5.9 0.7 239 20.2 8.0 93.3 5.6 20.3 24.2 24.2 3.0 93.5 Surface 20.3 7.9 24.2 93.5 1.0 0.8 250 20.3 7.9 93.5 7.3 3.1 4 7.3 4.1 0.7 249 20.3 8.0 7.3 4 24.3 93.3 4.6 IM11 Cloudy Rough 16:11 8.1 Middle 8.0 24.3 93.3 821516 810557 41 0.7 263 20.3 8.0 24.3 93.3 7.3 4.6 4 4 7 1 0.7 247 20.1 8.0 27.0 92.7 7.2 18.8 Bottom 8.0 27.0 92.7 7.2 27.0 7 1 0.7 262 20.1 8.0 92.7 72 18.8 3 1.0 0.7 270 20.3 4.1 8.0 24.3 94.9 7.4 3 Surface 20.3 8.0 24.3 94.9 24.3 94.9 3.9 0.8 20.3 8.0 7.4 4 5.0 4.1 0.7 279 20.3 8.0 24.4 94.7 7.4 4 IM12 Cloudy Rough 16:20 8.1 Middle 20.3 8.0 24.4 94.7 821172 811516 41 8.0 24.4 94.7 74 4 0.8 280 20.3 5.1 7 1 0.7 262 20.0 8.0 28.2 94.5 7.3 10.0 4 Bottom 8.0 28.2 94.5 7.3 7 1 0.7 286 20.0 8.0 28.2 94.5 73 9.9 1.0 0.2 204 19.9 8.0 27.4 92.8 9.5 11 27.4 Surface 19.9 8.0 92.8 1.0 0.2 204 19.9 8.0 27.4 92.8 7.2 9.5 10 7.2 2.5 SR2 Rough 16:46 5.0 Middle 821481 814162 Cloudy 172 19.9 10.2 4.0 0.2 8.0 27.6 92.8 7.2 11 Bottom 19.9 8.0 27.6 92.8 7.2 27.6 7.2 10.3 4.0 0.2 100 8 0 11 92.8 1.0 0.9 177 20.1 7.9 22.5 90.0 7.2 4.2 4 7.9 22.5 90.0 Surface 1.0 0.9 185 20.1 7.9 22.5 90.0 7.2 4.2 4 72 20.1 23.4 4.1 4.5 0.6 192 90.0 5 SR3 15:32 8.9 Middle 20.1 7.9 23.4 90.0 822129 807571 Cloudy Rough 0.6 90.0 4.3 4 20.1 25.1 7.9 0.6 221 20.0 7.9 90.4 7.1 4.3 4 7.9 25.1 90.4 7.1 Bottom 20.0 7.1 7.9 90.4 4.1 4 7.9 0.6 237 20.0 30.2 30.2 13.1 13 1.0 0.5 16.8 99.5 8.1 Surface 7.7 30.2 99.5 77 1.0 0.6 235 16.8 99.5 8.1 13.2 13 4.0 0.5 239 16.7 99.9 8.1 14.0 16 SR4A Moderate 16:50 8.0 Middle 16.7 7.7 30.2 99.9 817203 807799 Cloudy 4.0 0.5 254 16.7 30.2 99.9 14.1 16 7.0 0.5 234 16.7 30.2 12.8 19 100.5 8.1 Bottom 16.7 7.7 30.2 100.5 7.0 0.5 238 16.7 12.5 20 100.5 1.0 0.3 298 16.9 7.7 31.1 100.1 8.0 8.8 9 Surface 7.7 31.1 100.1 77 31.1 11 1.0 0.4 322 16.9 100 1 8.0 8.8 8.0 2.3 SR5A Cloudy Calm 17:10 4.5 Middle 816597 810708 2.3 3.5 0.3 297 16.9 11 31.1 100.3 8.1 8.6 7.7 31.1 100.3 8.1 Bottom 16.9 31.1 100.2 8.0 10 3.5 0.3 324 16.8 1.0 0.2 238 28.9 28.9 8.3 11 16.9 98.9 8.0 7.7 Surface 16.9 28.9 98.9 7.7 1.0 0.2 249 16.9 98.9 8.0 8.4 9 8.0 23 4.6 Middle 817891 814669 Cloudy Calm 17:39 2.3 3.6 0.2 231 16.9 29.0 100.1 8.2 12 Bottom 16.9 7.7 29.0 100.1 8.1 3.6 0.2 251 16.9 7.7 29.0 100.1 8.0 12 1.0 19.6 29.5 29.5 3.5 3.6 0.2 8.0 91.8 4 7.1 Surface 29.5 19.6 8.0 91.8 1.0 156 8.0 19.6 91.8 4 13.0 6.3 5 0.3 83 194 8.0 31.1 91 0 7.0 SR7 Cloudy Rough 17:49 25.9 Middle 8.0 31.1 91.1 823632 823752 13.0 0.3 84 19.4 8.0 31.1 91.1 7.0 6.2 4 24.9 0.2 85 19.4 8.0 31.2 91.9 7.0 6.7 4 Bottom 19.4 8.0 31.2 92.0 7.0 24.9 0.2 90 19.4 8.0 31.2 92.0 7.0 6.6 4 1.0 0.3 256 20.5 24.0 4.9 8.0 98.3 6 Surface 20.5 8.0 24.0 98.3 8.0 7.7 0.3 258 20.5 98.3 4.7 6 1.0 2.6 SR8 Cloudy Rough 16:29 5.1 Middle 820421 811607 2.6 0.3 4.1 281 20.5 8.0 24.0 5.3 8.0 24.0 20.5 100.0 7.8 4.1 0.3 292 20.5 8.0 24.0

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Water Qua		oring Resu	ilts on		25 March 17	during Mid	-Ebb tide																	
Monitoring	Weather	Sea	Sampling	Water	Sampling I	Conth (m)	Current Speed	Current	Water Te	emperature (°C	5)	рН	Salin	ity (ppt)		Saturation (%)	Disso Oxy		Turbidity	(NTU)	Suspended (mg/L)		Coordinate HK Grid	Coordina HK Grid
Station	Condition	Condition	Time	Depth (m)	Sampling	Deptii (iii)	(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	(Northing)	(Easting
					Surface	1.0	0.5 0.6	183 186	16.5 16.5	16.5	7.7	7.7	28.9 28.9	28.9	100.3 100.2	100.3	8.2 8.2		2.6 2.7		3			
C1	Cloudy	Rough	11:30	8.8	Middle	4.4	0.5	182	16.1	16.1	7.8	7.8	31.4	31.4	99.0	99.0	8.1	8.2	3.5	3.2	7	6	815618	804245
01	Cloudy	riougii	11.00	0.0		4.4 7.8	0.5 0.6	188 199	16.1 16.1		7.8 7.7		31.4 32.7		99.0 98.8		8.1		3.5 3.4	0.2	7	0	013010	004240
					Bottom	7.8	0.6	218	16.2	16.2	7.7	7.7	32.6	32.7	98.8	98.8	8.0	8.0	3.4		7			
					Surface	1.0	0.9 1.0	167 171	20.3	20.3	8.0	8.0	24.4	23.7	90.4	90.5	7.1 7.2		3.1 3.1		6			
C2	Cloudy	Rough	12:50	11.3	Middle	5.7	0.6	149	19.7	19.7	8.0	8.0	28.8	28.8	90.3	90.3	7.0	7.1	4.0	4.4	5	6	825694	806945
	-	-			Bottom	5.7 10.3	0.7 0.6	157 170	19.7 19.5	19.5	8.0 8.0	8.0	28.8	29.6	90.3 90.1	90.1	7.0 6.9	6.9	4.1 6.0		5 7			
						10.3	0.7	178 96	19.5 19.8		8.0		29.6 29.3		90.1 92.5		6.9 7.1	6.9	6.1 1.5		6			
					Surface	1.0	0.3	104	19.8	19.8	8.0	8.0	29.3	29.3	92.5	92.5	7.1	7.1	1.6	_	3			
C3	Cloudy	Rough	10:40	13.3	Middle	6.7	0.3	116 120	19.4 19.4	19.4	8.0	8.0	30.9	30.9	91.1 91.1	91.1	7.0	7.1	2.5 2.5	2.2	5	4	822107	817800
					Bottom	12.3	0.2	163	19.4	19.4	8.0	8.0	31.1	31.1	91.7	91.8	7.0	7.0	2.5		4			
						12.3	0.2	174 161	19.4		8.0 7.7		31.1 28.7		91.8		7.0 8.2		2.7		3			
					Surface	1.0	0.8	174	16.7	16.7	7.7	7.7	28.7	28.7	100.3	100.3	8.2	8.2	2.1		5			
IM1	Cloudy	Rough	11:54	7.3	Middle	3.7	0.7 0.7	159 166	16.5 16.5	16.5	7.7	7.7	29.0 29.0	29.0	99.4 99.4	99.4	8.1		3.4	3.4	8	7	818351	806470
					Bottom	6.3	1.0	138	16.3	16.3	7.7	7.7	31.3	31.3	98.8	98.8	8.0	8.0	4.6		10			
					04	6.3 1.0	1.1 0.8	151 164	16.3 16.8	40.0	7.7	7.7	31.3 28.3		98.8 100.5		8.0 8.2		4.6 6.4		9 4			
					Surface	1.0	0.8	169	16.8	16.8	7.7	7.7	28.3	28.3	100.5	100.5	8.2	8.2	6.6		5			
IM2	Cloudy	Rough	12:02	8.2	Middle	4.1 4.1	0.7 0.7	167 183	16.4 16.4	16.4	7.7	7.7	30.0	30.0	100.0	100.0	8.1		2.3	3.9	7	6	818861	80619
					Bottom	7.2 7.2	0.7 0.7	164 172	16.2 16.2	16.2	7.8 7.8	7.8	31.1	31.1	99.4 99.3	99.4	8.1 8.1	8.1	2.8 2.8		7			
					Surface	1.0	0.7	186	17.1	17.1	7.7	7.7	26.6	26.6	100.0	100.1	8.1		2.8		5			
					Surface	1.0 4.2	0.8	199 193	17.0 16.4	17.1	7.7	7.7	26.6	20.0	100.1		8.2	8.2	2.3 3.0		6 7			
IM3	Cloudy	Rough	12:11	8.4	Middle	4.2	0.8	202	16.4	16.4	7.7	7.7	29.9 29.9	29.9	99.5 99.5	99.5	8.1		3.0	2.8	6	7	819415	80600
					Bottom	7.4 7.4	0.7	179 194	16.3 16.4	16.4	7.7	7.7	31.7	31.7	99.0 99.0	99.0	8.0	8.0	3.0 2.9		8			
					Surface	1.0	0.5	184	17.2	17.2	7.7	7.7	25.9	25.9	98.8	98.8	8.1		2.3		5			
						1.0 3.9	0.6 0.5	200 187	17.2 16.7		7.7 7.7		25.9 27.8		98.8 98.6		8.1 8.1	8.1	2.3 2.7		5 7			
IM4	Cloudy	Rough	12:21	7.8	Middle	3.9	0.5	194	16.7	16.7	7.7	7.7	27.8	27.8	98.6	98.6	8.1		2.8	2.7	6	6	819559	80504
					Bottom	6.8	0.5 0.5	183 194	16.3 16.6	16.5	7.7	7.7	31.9	31.8	97.1 97.2	97.2	7.8 7.8	7.8	3.0		8			
					Surface	1.0	1.0	169	17.2	17.2	7.6	7.6	25.3	25.3	97.3	97.3	8.0		2.9		3			
						1.0 3.4	1.1	184 184	17.2 16.4		7.6 7.7		25.3 30.2		97.3 97.8		8.0	8.0	3.0 6.1		3 4			
IM5	Cloudy	Rough	12:34	6.8	Middle	3.4	1.0	195	16.4	16.4	7.7	7.7	30.2	30.2	97.9	97.9	8.0		6.2	5.6	4	5	820550	80491
					Bottom	5.8 5.8	0.9	198 206	16.3 16.3	16.3	7.7	7.7	31.7	31.7	98.0 98.0	98.0	7.9 7.9	7.9	7.7 7.5		8			
					Surface	1.0	1.0	169	17.0	17.0	7.7	7.7	25.8	25.8	96.6	96.6	8.0		3.5		4			
						1.0 3.5	1.1 0.9	177 180	17.0 16.8		7.7		25.8 26.1		96.6 97.7		8.0	8.1	3.5 7.0		3			
IM6	Cloudy	Rough	12:47	7.0	Middle	3.5	0.9	187	16.7	16.8	7.7	7.7	26.1	26.1	97.7	97.7	8.1		7.2	6.6	3	4	821059	80583
					Bottom	6.0	0.9	170 181	16.4 16.4	16.4	7.7	7.7	30.9	30.9	97.6 97.7	97.7	7.9 7.9	7.9	9.2		6 7			
					Surface	1.0	0.8	169	17.0	17.0	7.7	7.7	25.4	25.4	96.8	96.8	8.0		4.3		4			
						1.0 4.0	0.8	172 174	17.0 16.6		7.7		25.4 28.4		96.8 97.3		8.0	8.0	4.4 5.9		4			
IM7	Cloudy	Rough	12:56	8.0	Middle	4.0	0.6	182	16.6	16.6	7.7	7.7	28.4	28.4	97.4	97.4	8.0		5.9	5.4	4	7	821367	80684
					Bottom	7.0	0.6	179	16.5	16.5	7.7	7.7	31.1	31.1	97.6 97.7	97.7	7.9	7.9	6.0	1	12 11			
					0	7.0	0.6	183 140	16.5 20.3		7.7		31.1 23.6		97.7		7.9 7.7		6.0 3.0		5			
					Surface	1.0	0.6	150	20.3	20.3	8.0	8.0	23.2	23.4	97.8	97.8	7.7	7.6	3.0	1	3			
IM8	Cloudy	Rough	12:13	8.4	Middle	4.2	0.5 0.5	138 140	20.0	20.0	8.0	8.0	26.4 26.4	26.4	96.6 96.5	96.6	7.5 7.5	-	3.8	4.2	3 4	4	821682	80784
					Bottom	7.4	0.5	134	19.8	19.8	8.0	8.0	27.9	27.9	96.3	96.3	7.5	7.5	5.7	1	4			
A: Denth-Ave					DOMONI	7.4	0.5	141	19.8	15.0	8.0	0.0	27.9	21.3	96.3	30.3	7.5	1.5	5.8		4			

atel Qual	ity Monito	oring Resu	Its on		25 March 17	during Mid-	Ebb tide																
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Te	mperature (°C)	pН	Salin	ity (ppt)		aturation %)	Disso		Turbidity	(NTU)	Suspender (mg/		Coordinate	
Station	Condition	Condition	Time	Depth (m)	Sampling D	epth (m)	(m/s)	Direction	Value	Average	Value Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	HK Grid (Northing)	HK Gi (Eastir
					Surface	1.0	0.6	112	20.8	20.8	8.0 8.0	21.9	21.9	95.8	95.8	7.5		3.0		4			T
						1.0 3.7	0.6 0.7	114 98	20.8		8.0	21.9 26.4		95.8 94.5		7.6 7.4	7.5	3.0 4.9		5			
IM9	Cloudy	Rough	12:02	7.4	Middle	3.7	0.7	103	20.0	20.0	8.0	26.4	26.4	94.5	94.5	7.4		5.0	5.0	4	4	822076	8088
					Bottom	6.4	0.5	94	19.8	19.8	8.0	27.5	27.5	94.1	94.1	7.3	7.3	7.1		3			
					Bottom	6.4	0.6	101	19.8	19.0	8.0	27.5	21.5	94.1	34.1	7.3	7.5	7.2		3			
					Surface	1.0	0.7	98	20.4	20.4	8.0	24.2	24.2	96.4	96.4	7.6		2.9		4			
						1.0 3.9	0.7	105 110	20.4 19.9		8.0	27.3		96.4 94.8		7.6 7.4	7.5	3.0		3			
IM10	Cloudy	Rough	11:53	7.7	Middle	3.9	0.6	110	19.9	19.9	8.0	27.3	27.3	94.7	94.8	7.4		3.9	4.0	3	3	822244	809
					Bottom	6.7	0.5	111	19.9	19.9	8.0	27.8	27.8	94.9	94.9	7.4	7.4	5.2		3			
						6.7	0.5	119	19.9		8.0	27.7		94.9		7.4		5.2		3			—
					Surface	1.0	0.5 0.5	122 125	20.4	20.4	8.0	25.4 25.4	25.4	95.2 95.2	95.2	7.4 7.4		4.6 4.7		4			
						4.0	0.3	96	20.4		9.0	27.3		94.0		7.3	7.4	7.3		3			
IM11	Cloudy	Rough	11:42	8.0	Middle	4.0	0.4	102	20.1	20.1	8.0	27.3	27.3	94.0	94.0	7.3		7.1	6.9	4	4	821481	810
					Bottom	7.0	0.3	105	19.8	19.8	8.0	28.4	28.4	92.6	92.6	7.2	7.2	8.6		5			
						7.0 1.0	0.3	109	19.8		8.0	28.4		92.6		7.1		8.8		5			+
					Surface	1.0	0.6	89 89	20.5	20.5	8.0 8.0	23.6	23.6	94.3	94.3	7.4		4.3 4.1		3			
						4.7	0.4	102	19.7	40.7	0.0	28.7		91.0		7.0	7.2	5.0		3		001100	
IM12	Cloudy	Rough	11:31	9.3	Middle	4.7	0.5	110	19.7	19.7	8.0	28.8	28.8	90.9	91.0	7.0		5.0	5.5	4	3	821169	811
					Bottom	8.3	0.3	124	19.6	19.6	8.0	29.2	29.2	89.0	89.0	6.9	6.9	7.4		4			
						8.3 1.0	0.4	135	19.6		8.0	29.2		89.0		6.9 7.4		7.4 3.7		3			┿
					Surface	1.0	0.2	108 111	20.3	20.3	8.0	25.6 25.6	25.6	95.6 95.6	95.6	7.4		3.7		4			
SR2						2.5	-		-		-	-		-		-	7.4	-	3.5	-		004450	
SH2	Cloudy	Rough	11:04	4.9	Middle	2.5	-	-	-	-	-	-	-	-	-	-		-	3.5	-	4	821456	814
					Bottom	3.9	0.2	128	20.1	20.1	8.0	26.7	26.7	96.3	96.3	7.5	7.5	3.3		4			
						3.9	0.2	133	20.1		8.0	26.7		96.3		7.5		3.4		3 5			\vdash
					Surface	1.0	0.5 0.5	145 147	20.7	20.7	7.9 7.9	21.6 21.6	21.6	91.6 91.6	91.6	7.2 7.2		3.4 3.5		4			
ODO	01	Daniele	40.00	0.0	NAC-1-II-	4.5	0.4	158	19.9	40.0	7.9	26.4	00.4	89.0	00.0	6.9	7.1	4.9	- 0	4		000400	007
SR3	Cloudy	Rough	12:20	8.9	Middle	4.5	0.4	171	19.9	19.9	7.9	26.4	26.4	89.0	89.0	6.9		5.1	5.3	3	4	822133	807
					Bottom	7.9	0.5	127	19.8	19.8	8.0	27.5	27.5	92.4	92.4	7.2	7.2	7.2		3			
						7.9 1.0	0.5	132	19.8 16.8		8.0	27.5		92.4		7.2		7.4		3			+
					Surface	1.0	0.4	83 86	16.8	16.8	7.7 7.7	28.3	28.3	99.9 99.9	99.9	8.2 8.2		3.7		3			
SR4A	01	0-1	11:07	0.4	NAC-J-II-	4.7	0.4	81	16.7	40.7	77	28.5	28.5	99.4	99.4	8.1	8.2	4.7	- 0	4	-	817196	807
SH4A	Cloudy	Calm	11:07	9.4	Middle	4.7	0.4	85	16.7	16.7	7.7	28.5	28.5	99.3	99.4	8.1		4.8	5.0	4	5	81/196	807
					Bottom	8.4	0.4	100	16.6	16.6	7.7 7.7	29.0	29.0	99.0	99.0	8.1	8.1	6.4		6			
						1.0	0.4	109 110	16.6 17.1		7.7	29.0		99.0 99.1		8.1		6.4 7.0		7			+
					Surface	1.0	0.2	115	17.1	17.1	7.7	29.3	29.3	99.1	99.1	8.0		6.9		9			
SR5A	Cloudy	Calm	10:47	4.5	Middle	2.3	-	-	-	-	-	-	_	-	_	-	8.0	-	7.2	-	9	816592	810
SHUA	Cidddy	Gaiiii	10.47	4.5	Middle	2.3	-	-	-		-	-	_	-				-	1.2	-	9	010332	010
					Bottom	3.5 3.5	0.1	76 76	17.2 17.2	17.2	7.7 7.7	29.4	29.4	99.5 99.5	99.5	8.0	8.0	7.4 7.4		10			
						1.0	0.1	102	16.7		7.6	28.6		97.3		8.0		3.9		3			+-
					Surface	1.0	0.2	102	16.7	16.7	7.6 7.6	28.6	28.6	97.3	97.3	8.0	8.0	4.0		5			
SR6	Cloudy	Calm	10:23	4.3	Middle	2.2	-	-	-	_	-	-	_	-	_	-	8.0	-	4.4	-	7	817912	814
0110	Cioudy	Odilli	10.20	4.0	Wilddie	2.2	-	-	-		-	-		-		-		-	7.7	-	,	017312	01-
					Bottom	3.3	0.2	117 123	16.8 16.8	16.8	7.6 7.6	28.8	28.8	98.2 98.2	98.2	8.0	8.0	4.9 4.9		10 9			
						1.0	0.2	215	19.4		7.0	31.1		90.1		6.9		2.6		4			+
					Surface	1.0	0.2	223	19.4	19.4	7.9 7.9	31.1	31.1	90.1	90.1	6.9	6.9	2.6		4			
SR7	Cloudy	Rough	09:57	18.3	Middle	9.2	0.2	139	19.3	19.3	7.9 7.9	31.5	31.5	90.1	90.1	6.9	0.9	2.7	2.9	3	3	823632	823
5	5.000,	oog	00.07	. 0.0		9.2	0.2	147	19.3		7.9	31.5	00	90.1		6.9		2.7		2	Ŭ	320002	520
					Bottom	17.3 17.3	0.2	174 174	19.3 19.3	19.3	7.8 7.8	31.6 31.6	31.6	91.5 91.5	91.5	7.0 7.0	7.0	3.4 3.5	1	3			
					 	17.3	0.2	147	20.4		0.0	26.1		95.0		7.0		4.3	_	4			+-
					Surface	1.0	0.3	155	20.4	20.4	8.0	26.1	26.1	95.0	95.0	7.4	7.4	4.3	1	5			
SR8	Cloudy	Rough	11:23	5.8	Middle	2.9	-	-	-	_		-	_	-	_	-	7.4	-	4.4	-	5	820410	811
3110	Sidday	riougii	11.20	5.0	Wilder	2.9 4.8	0.3	138	19.7		8.0	29.0		94.4		7.3		4.3	7.7	- 5	,	320410	"
										19.7			29.0		94.4		7.3						

	Weather	Sea	Its on Sampling	Water	28 March 17	during Mid-	Current Speed	Current	Water Te	emperature (°C)	рН	Sali	nity (ppt)		aturation	Disso		Turbidity	(NTU)	Suspended (mg/l		Coordinate	Coord
	Condition	Condition	Time	Depth (m)	Sampling Dep	oth (m)	(m/s)	Direction	Value	Average	Value Averag	e Value	Average	Value	Average	Value	DA	Value	DA	Value		HK Grid (Northing)	HK (Eas
					Surface	1.0	0.8	58	15.8	15.8	7.8 7.8	33.4	33.4	98.5	98.5	8.0		9.9		12			
						1.0 4.5	0.9	60 68	15.8 15.7		7.8	33.4 34.5		98.5 98.1		8.0 7.9	8.0	9.7 18.3		12 13			
C1	Sunny	Moderate	07:15	8.9	Middle	4.5	0.9	72	15.7	15.7	7.8 7.8	34.5		98.1	98.1	7.9		18.4	17.4	15	13	815625	80
					Bottom	7.9	0.9	56	15.7	15.7	7.8 7.8	34.9		97.9	97.9	7.9	7.9	23.9		13			
					Bottom	7.9	0.9	57	15.7	13.7	7.8	34.9		97.9	37.3	7.9	7.5	23.9		14			
					Surface	1.0	0.4	269	19.5	19.5	7.9 7.9	27.0		89.3	89.3	7.0		10.3	-	8			
						1.0 6.3	0.4	290 146	19.5 19.4		7.0	27.0 27.9		89.3 90.3		7.0 7.0	7.0	10.2 13.8	1	10 11			
C2	Fine	Moderate	08:17	12.6	Middle	6.3	0.3	155	19.4	19.4	7.9 7.9	27.9	27.9	90.3	90.3	7.0		13.8	14.6	12	11	825663	8
					Bottom	11.6	0.3	73	19.3	19.3	8.0 8.0	28.8		91.4	91.4	7.1	7.1	20.8		13			
					Dottom	11.6	0.3	74	19.3	13.0	7.9	28.8		91.4	31.4	7.1	7.1	18.5		13			<u> </u>
					Surface	1.0	0.6	269	19.3	19.3	8.0 8.0	30.8		91.1	91.1	7.0		7.5	-	10			
						1.0 5.8	0.6	271 270	19.3 19.2		7.9	30.8		91.1		7.0	7.0	7.5 10.4	-	9			
3	Fine	Calm	06:10	11.5	Middle	5.8	0.6	289	19.2	19.2	7.9 7.9	30.8		90.7	90.7	7.0		10.4	11.2	9	9	822093	8
					Bottom	10.5	0.5	271	19.2	19.2	7.9	30.9		90.7	90.8	7.0	7.0	15.6	Ī	9			
					Bottom	10.5	0.5	276	19.2	15.2	7.9	30.9		90.8	30.0	7.0	7.0	15.8		9			
					Surface	1.0	0.5	139	15.8	15.8	7.8 7.8	33.8		97.8	97.9	7.9		15.1	-	18			
						1.0 4.1	0.5 0.5	145 53	15.8 15.8		7.0	33.9 34.0		97.9 97.9		7.9 7.9	7.9	15.1 18.0	-	18 18			
11	Sunny	Moderate	07:31	8.1	Middle	4.1	0.6	56	15.8	15.8	7.8 7.8	34.0		98.0	98.0	7.9		18.0	18.9	18	19	818361	8
					B	7.1	0.5	54	15.7	45.7	7.0	34.5		97.9	07.0	7.9	7.9	23.6	1	22			
					Bottom	7.1	0.5	56	15.7	15.7	7.8	34.5	34.5	97.9	97.9	7.9	7.9	23.3		20			
					Surface	1.0	0.7	200	15.8	15.8	7.8 7.8	34.4		98.9	98.9	7.9		11.0		16			
						1.0	0.7	201	15.8		7.8	34.4		98.9		7.9	7.9	11.0	-	15			
12	Sunny	Moderate	07:37	8.9	Middle	4.5 4.5	0.7 0.8	115 121	15.8 15.8	15.8	7.8 7.8	34.4		98.6 98.7	98.7	7.9 7.9		13.3 13.5	16.2	17 16	16	818842	8
						7.9	0.7	105	15.7		7.0	34.8		98.4		7.9		24.1	1	17			
					Bottom	7.9	0.7	109	15.7	15.7	7.8	34.8	34.0	98.4	98.4	7.9	7.9	24.1		16			
					Surface	1.0	0.8	119	15.8	15.8	7.8 7.8	34.8	34.8	99.1	99.1	7.9		14.1		18			
						1.0	0.8	125	15.8		7.8	34.8		99.1		7.9	7.9	14.3	-	20			
/ 13	Sunny	Moderate	07:44	9.1	Middle	4.6 4.6	0.8	100 107	15.8 15.8	15.8	7.8 7.8	34.9	34.9	98.9 98.8	98.9	7.9 7.9		18.2 18.2	17.2	19 20	19	819394	8
						8.1	0.7	110	15.8		7.0	34.9		98.8		7.9		19.4	1	20			
					Bottom	8.1	0.8	118	15.8	15.8	7.8 7.8	34.9		98.8	98.8	7.9	7.9	19.2		18			
					Surface	1.0	0.7	116	15.9	15.9	7.8 7.8	34.3		99.1	99.1	7.9		11.5		16			
						1.0 4.3	0.8	123 126	15.9 15.7		7.8	34.3 35.2		99.0 98.5		7.9 7.9	7.9	11.5 15.6	-	16 21			
14	Sunny	Moderate	07:54	8.6	Middle	4.3	0.8	134	15.7	15.7	7.8 7.8	35.2		98.5	98.5	7.9		15.7	20.6	22	20	819559	8
					D-#	7.6	1.0	157	15.7	45.7	7.0	35.3		98.1	00.4	7.9	7.0	34.7		23			
					Bottom	7.6	1.1	170	15.7	15.7	7.8	35.3	33.3	98.1	98.1	7.9	7.9	34.3		22			
					Surface	1.0	0.7	149	15.9	15.9	7.8 7.8	34.8		99.5	99.5	7.9		11.4		18			
						1.0 3.8	0.7 0.7	153 117	15.9 15.9		7.8 7.8 7.8 7.9	34.8 34.9		99.4 99.1		7.9 7.9	7.9	11.5 14.4	-	17 18			
15	Sunny	Moderate	08:01	7.5	Middle	3.8	0.7	118	15.9	15.9	7.8 7.8	34.9		99.1	99.1	7.9		14.4	16.6	18	18	820569	8
					D-#	6.5	0.8	134	15.7	15.7	7.8 7.8	35.5		98.7	98.7	7.9	7.9	23.9	i	19			
					Bottom	6.5	0.8	139	15.7	15.7	7.8	35.5	33.3	98.7	98.7	7.9	7.9	23.9		17			
					Surface	1.0	0.5	80	15.9	15.9	7.8 7.8	35.0		99.2	99.2	7.9		11.3		18			
						1.0 3.6	0.5 0.5	84 78	15.9 15.8		7.8	35.0 35.1		99.2 99.0		7.9 7.9	7.9	11.1 15.5	-	19 21			
16	Sunny	Moderate	08:10	7.2	Middle	3.6	0.5	78	15.8	15.8	7.8 7.8	35.1		99.0	99.0	7.9		15.0	20.4	22	<u>25</u>	821076	8
					Bottom	6.2	0.4	105	15.8	15.8	7.9 7.9	35.2		98.6	98.6	7.9	7.9	34.7		34			
					BULLUIII	6.2	0.4	112	15.8	15.6	7.9	35.2		98.6	90.0	7.9	7.9	35.0		35			
					Surface	1.0	0.7	129	15.9	15.9	7.8 7.8	34.8	34.8	98.9 98.9	98.9	7.9		15.2	-	22			
						1.0 4.3	0.8	133 102	15.9 15.9		7.8	34.8		98.9		7.9 7.9	7.9	15.4 19.4	1	20			
17	Sunny	Moderate	08:20	8.6	Middle	4.3	0.9	105	15.9	15.9	7.8 7.8	34.8		98.8	98.8	7.9		19.5	21.2	20	21	821350	8
					Battam	7.6	0.7	103	15.8	1F 0	7.0	35.0		98.7	00.7	7.9	7.9	28.8		21			
					Bottom	7.6	0.7	110	15.8	15.8	7.8	35.0	33.0	98.7	98.7	7.9	7.9	28.7		21			
_					Surface	1.0	0.4	140	19.3	19.3	8.0 8.0	29.6	29.6	93.7	93.7	7.3		14.8		20	T		1
						1.0	0.4	141 78	19.3		8.0	29.6		93.6		7.3 7.3	7.3	14.9 19.1	-	20			
8N	Fine	Moderate	07:34	9.1	Middle	4.6 4.6	0.5	80	19.2 19.2	19.2	8.0	29.8		93.7 93.7	93.7	7.3		19.1	18.3	18 19	19	821678	8
					D. "	8.1	0.5	67	19.2	40.0	9.0	29.9		94.0	04.0	7.3	7.0	20.9	1	20			
					Bottom	8.1	0.5	68	19.2	19.2	8.0	29.9		94.0	94.0	7.3	7.3	20.9	1	18			1

rater Guar	ity Monito	oring Resu	lts on		28 March 17	during Mid-		de															
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Te	mperature (°C)	pН	Salini	ty (ppt)	DO Sati		Disso		Turbidity	(NTU)	Suspended (mg/l		Coordinate	
Station	Condition	Condition	Time	Depth (m)	Sampling De	epth (m)	(m/s)	Direction	Value	Average	Value Average	Value	Average	Value A	Average	Value	DA	Value	DA	Value	DA	HK Grid (Northing)	HK G (Easti
					Surface	1.0	0.5	251	19.5	19.5	8.0 8.0	27.9	27.9	91.0	91.1	7.1		9.8		12			\top
						1.0 4.0	0.5 0.4	252 254	19.4 19.3		8.0	27.9 28.3		91.1 91.1		7.1	7.1	9.6 14.8	-	13 17			
IM9	Fine	Moderate	07:25	7.9	Middle	4.0	0.4	258	19.3	19.3	8.0	28.3	28.3	91.0	91.1	7.1		14.9	14.5	16	15	822077	808
					Bottom	6.9	0.4	244	19.3	19.3	8.0	28.7	28.7	92.4	92.5	7.2	7.2	19.0		16			
					BOLLOITI	6.9	0.4	248	19.3	19.3	8.0	28.7	20.7	92.5	92.5	7.2	1.2	19.0		16			
					Surface	1.0	0.5	268	19.3	19.3	8.0	29.6	29.6	93.2	93.2	7.2		12.1		15			
						1.0 3.9	0.5	292 264	19.3 19.3		8.0	29.6 29.7		93.2 93.2		7.2 7.2	7.2	12.1 14.2		15 18			
IM10	Fine	Moderate	07:16	7.7	Middle	3.9	0.4	267	19.3	19.3	8.0	29.7	29.7	93.2	93.2	7.2		14.2	13.5	17	18	822248	809
					Bottom	6.7	0.4	233	19.3	19.3	7.9	29.7	20.7	94.0	94.0	7.3	7.3	14.2		21			
					Bottom	6.7	0.4	240	19.3	19.3	7.9	29.7	29.7	94.0	94.0	7.3	7.3	14.2		21			
					Surface	1.0	0.5	249	19.3	19.3	8.0 8.0	30.0	30.0	94.3	94.3	7.3		12.4		19			T
						1.0	0.5	268	19.3		8.0	30.0		94.3		7.3	7.3	12.6		18			
IM11	Fine	Moderate	07:07	9.4	Middle	4.7	0.4	256 271	19.3 19.3	19.3	8.0 8.0	30.0	30.0	94.2	94.2	7.3		13.4 13.4	13.9	18 18	20	821516	810
						8.4	0.4	246	19.3		7.0	30.0		95.6		7.4		15.7	-	24			
					Bottom	8.4	0.4	258	19.2	19.3	7.9 7.9	30.0	30.0	95.7	95.7	7.4	7.4	15.7	-	24			
					Surface	1.0	0.7	265	19.3	19.3	8.0	29.8	29.8	93.5	93.6	7.2		10.8		14			T
					Ourrace	1.0	8.0	282	19.3	15.5	8.0	29.8	25.0	93.6	30.0	7.2	7.2	11.2		14			
IM12	Fine	Moderate	06:59	8.5	Middle	4.3	0.7	261	19.2	19.2	8.0	30.0	30.0	93.4	93.4	7.2		18.4	16.1	14	16	821167	811
						4.3 7.5	0.7	271 269	19.2 19.2		8.0	30.0		93.4 93.8		7.2 7.2		18.4 19.0	-	15 19			
					Bottom	7.5	0.7	276	19.2	19.2	8.0	30.0	30.0	93.7	93.8	7.2	7.2	18.9	-	17			
						1.0	0.2	239	19.2		7.0	29.9		93.6		7.2		11.6		15			+
					Surface	1.0	0.2	247	19.2	19.2	7.9 7.9	29.9	29.9	93.6	93.6	7.2	7.2	11.7		14			
SR2	Fine	Moderate	06:32	5.1	Middle	2.6	-	-	-	_	-	-	_	-	_	-	7.2	-	11.9	-	15	821478	814
OTIZ	1 1110	Woderate	00.02	5.1	ivildale	2.6	-	-	-		-	-		-		-		-	11.5	-	13	021470	01-
					Bottom	4.1	0.2	209	19.2	19.2	7.9 7.9	30.0	30.0	93.7 93.8	93.8	7.3	7.3	12.1		16			
						4.1 1.0	0.2	229 65	19.2 19.3		9.0	30.0 29.8		95.1		7.3 7.4		12.0 20.3		15 19			+
					Surface	1.0	0.6	68	19.3	19.3	8.0	29.8	29.8	95.1	95.1	7.4		20.4	-	20			
000	F:		07.55	0.0	M. d.d.	5.0	0.5	71	19.2	40.0	9.0	29.9	00.0	95.7	05.7	7.4	7.4	21.3	400	23	00	000404	00-
SR3	Fine	Moderate	07:55	9.9	Middle	5.0	0.5	71	19.2	19.2	8.0	29.9	29.9	95.7	95.7	7.4		20.6	18.3	24	23	822161	807
					Bottom	8.9	0.4	110	19.3	19.3	7.7 7.7	29.9	29.9	98.1	98.2	7.6	7.6	14.0		25			
						8.9	0.5	120	19.3		1.1	29.8		98.2		7.6		13.4		24			
					Surface	1.0	0.3	105 112	15.7 15.7	15.7	7.7 7.7	32.2 32.2	32.2	96.3 96.3	96.3	7.9 7.9		8.4 8.3	-	12 11			
						4.9	0.3	106	15.7		77	32.2		96.4		7.9	7.9	8.5		12			
SR4A	Sunny	Calm	06:50	9.7	Middle	4.9	0.4	107	15.7	15.7	7.7	32.2	32.2	96.4	96.4	7.9		8.5	8.6	12	13	817193	807
					Bottom	8.7	0.3	92	15.6	15.7	7.7 7.7	32.3	32.3	96.7	96.7	7.9	7.9	9.0		16			
					Bottom	8.7	0.3	99	15.7	13.7	7.7	32.3	32.3	96.7	30.7	7.9	7.5	9.0		14			
					Surface	1.0	0.1	215	15.7	15.7	7.7	31.0	31.0	95.0	95.1	7.8		7.1		14			
						1.0 2.6	0.2	230	15.7		7.7	31.0		95.1		7.8	7.8	7.2	-	14			
SR5A	Fine	Calm	06:31	5.2	Middle	2.6	-		-	-	-		-	-	-			-	7.1	-	15	816580	810
						4.2	0.1	177	15.7	45.7	7.7	31.0	04.0	96.0		7.9		7.1	-	17			
					Bottom	4.2	0.1	177	15.7	15.7	7.7 7.7	31.0	31.0	96.0	96.0	7.9	7.9	7.1		16			
					Surface	1.0	0.2	175	15.7	15.7	7.6	28.6	28.6	96.4	96.4	8.0		8.4		12			T
					Carraco	1.0	0.2	176	15.7		7.6	28.6	20.0	96.4	00.1	8.0	8.0	8.4		12			
SR6	Fine	Calm	06:08	4.3	Middle	2.2	-	-	-	-	-	-	-	-	-	-		-	9.4	-	13	817903	814
						3.3	0.2	164	15.7		7.5	27.5		99.4		8.4		10.3		13			
					Bottom	3.3	0.2	171	15.6	15.7	7.5 7.5	27.5	27.5	99.5	99.5	8.4	8.4	10.3	-	14			
					Surface	1.0	0.2	271	19.2	19.2	7.9 7.9	30.5	30.5	90.8	90.8	7.0		4.1		6			
					Surface	1.0	0.2	287	19.2	19.2	7.9	30.5	30.3	90.8	30.0	7.0	7.0	4.2		7			
SR7	Fine	Calm	05:34	20.0	Middle	10.0	0.2	105	19.2	19.2	7.9 7.9	30.9	30.9	90.6	90.6	7.0		7.1	6.0	7	8	823622	82
						10.0 19.0	0.2	112 107	19.2 19.2		7.0	30.9 31.0		90.6 90.7		7.0 7.0		7.2 6.7		8 11			
					Bottom	19.0	0.3	111	19.2	19.2	7.9 7.9	31.0	31.0	90.7	90.7	7.0	7.0	6.7	1	9			1
					04	1.0	0.0	139	19.3	40.0	7.0	29.4	00.4	93.8	00.0	7.3		9.5		13			+-
					Surface	1.0	0.2	144	19.3	19.3	7.9 7.9	29.4	29.4	93.8	93.8	7.3	7.3	9.6]	12			
SR8	Fine	Moderate	06:50	5.7	Middle	2.9	-	-	-		-	-	_	-	_	-	1.3	-	9.8	-	13	820428	811
			00.00	0.,		2.9	-	-	-		-	-		-		-		-	0.0	-		320.23	011
SHO						4.7	0.2	148	19.2		7.9	29.8		94.5		7.3		10.1		13			

ater Qua	lity Monite	oring Resu	Its on		28 March 17	during Mid-	Ebb tide		1			1				D:							
Monitoring	Weather	Sea	Sampling	Water			Speed Speed	Current	Water Te	mperature (°C)	pН	Salir	nity (ppt)		turation %)	Disso		Turbidity	(NTU)	Suspender (mg/		Coordinate	Coord
Station	Condition	Condition	Time	Depth (m)	Sampling D	epth (m)	(m/s)	Direction	Value	Average	Value Averag	e Value	Average	ì	Average	Value	DA	Value	DA	Value	DA	HK Grid (Northing)	HK (Eas
					Surface	1.0	0.6	229	16.3	16.3	7.8 7.8	34.8	34.8	101.4	101.4	8.0		5.7		8			\vdash
					Surface	1.0	0.6	231	16.3	10.3	7.8	34.8	34.0	101.4	101.4	8.0	8.0	5.7		9			
C1	Sunny	Moderate	12:38	8.9	Middle	4.5 4.5	0.4	195 198	16.3 16.3	16.3	7.8 7.8	34.9	34.9	100.7	100.7	8.0		5.8 5.8	5.9	11 9	10	815631	80
						7.9	0.4	204	15.9		7.0	35.8		99.6		7.9		6.1	1	11			
					Bottom	7.9	0.5	207	15.9	15.9	7.9 7.9	35.8	35.8	99.7	99.7	7.9	7.9	6.0		13			
					Surface	1.0	0.2	111	19.8	19.8	8.0	27.2	27.2	92.7	92.7	7.2		7.7		12			
					Odiface	1.0	0.3	118	19.8	13.0	8.0	27.2	27.2	92.7	JE.7	7.2	7.2	7.8		11			
C2	Fine	Moderate	11:33	12.3	Middle	6.2	0.2	116 117	19.5 19.5	19.5	8.0	28.1	28.1	92.2	92.2	7.2 7.2		13.9 14.0	14.5	11	13	825686	8
						11.3	0.2	200	19.3		0.0	29.7		92.2		7.1		21.7	1	14			
					Bottom	11.3	0.2	212	19.3	19.3	8.0	29.7	29.7	92.2	92.2	7.1	7.1	21.7		14			
					Surface	1.0	0.4	61	19.7	19.7	8.0 8.0	30.3	30.3	93.5	93.5	7.2		5.9		7			
						1.0 6.3	0.5	64	19.7		8.0	30.3		93.5		7.2	7.2	6.0 8.5	-	9 10			
C3	Fine	Moderate	13:35	12.5	Middle	6.3	0.3	76 82	19.4 19.4	19.4	8.0 8.0	30.8	30.8	91.9	91.9	7.1 7.1		8.6	8.6	10	9	822127	8
						11.5	0.4	114	19.3	10.0	7.0	31.0	0.1.0	92.1		7.1		11.1		10			
					Bottom	11.5	0.4	121	19.3	19.3	7.9 7.9	31.0	31.0	92.2	92.2	7.1	7.1	11.3		9			
					Surface	1.0	0.5	202	16.1	16.1	7.8 7.8	34.7	34.7	99.6	99.6	7.9		8.2		12			
						1.0	0.5	217 194	16.1		7.8	34.7		99.5		7.9	7.9	8.1	-	11			
IM1	Sunny	Moderate	12:20	7.7	Middle	3.9	0.3	204	16.1 16.1	16.1	7.8 7.8	34.7 34.7	34.7	99.4 99.4	99.4	7.9 7.9		8.3 8.3	8.3	12 13	13	818357	8
						6.7	0.4	157	16.0	10.0	7.0	35.1	05.4	99.2		7.9		8.4		15			
					Bottom	6.7	0.4	170	16.0	16.0	7.8	35.0	35.1	99.3	99.3	7.9	7.9	8.3		14			
					Surface	1.0	0.5	226	16.1	16.1	7.8 7.8	34.7	34.7	99.6	99.6	7.9		9.1		13			
						1.0	0.5	240	16.1 16.0		7.8	34.7 34.8		99.6 99.3		7.9	7.9	9.1 9.6	-	14			
IM2	Sunny	Moderate	12:14	8.7	Middle	4.4	0.4	202	16.0	16.0	7.8 7.8	34.9	34.9	99.3	99.3	7.9 7.9		9.6	9.4	14 13	14	818847	8
					Bottom	7.7	0.4	174	15.9	15.9	7.8 7.8	35.5	35.5	99.3	99.3	7.9	7.9	9.6	i	15			
					Bottom	7.7	0.4	182	15.9	15.9	7.8	35.5	35.5	99.2	99.3	7.9	7.9	9.6		16			
					Surface	1.0	0.6	194	16.3	16.3	7.8 7.8	34.7	34.7	100.6	100.6	8.0		7.6	-	10			
						1.0	0.6 0.5	210 158	16.3 16.2		7.8	34.7 34.8		100.6 99.8		8.0 7.9	8.0	7.6 9.5	-	9 13			
IM3	Sunny	Moderate	12:06	8.8	Middle	4.4	0.5	161	16.2	16.2	7.8	34.9	34.9	99.8	99.8	7.9		9.6	9.6	11	11	819401	8
					Bottom	7.8	0.5	140	15.8	15.8	7.8	35.8	35.8	99.0	99.0	7.9	7.9	11.6		11			
					Bottom	7.8	0.5	152	15.8	13.0	7.8	35.8	33.6	99.0	33.0	7.9	1.5	11.4		12			
					Surface	1.0	0.5 0.6	195 214	16.1 16.1	16.1	7.8 7.8	35.3 35.3	35.3	99.6 99.6	99.6	7.9 7.9		10.4 10.5	-	10 12			
						4.3	0.6	171	16.1		7.0	35.3		99.0		7.9	7.9	13.9	1	14			
IM4	Sunny	Moderate	11:58	8.5	Middle	4.3	0.5	184	16.1	16.1	7.8 7.8	35.3	35.3	99.2	99.2	7.9		14.1	15.4	15	14	819570	80
					Bottom	7.5	0.4	201	15.7	15.7	7.8 7.8	35.8	35.8	98.7	98.8	7.9	7.9	21.8		18			
						7.5	0.4	219	15.7		7.8	35.8		98.8		7.9		21.7		17			
					Surface	1.0	0.5 0.5	181 182	16.1 16.1	16.1	7.8 7.8	35.4 35.4	35.4	99.6 99.6	99.6	7.9 7.9		11.0 10.6	1	16 17			
	_					3.7	0.5	163	16.0		7.0	35.5		99.2		7.9	7.9	12.0	1	16			
IM5	Sunny	Moderate	11:51	7.4	Middle	3.7	0.5	163	16.0	16.0	7.8 7.8	35.5	35.5	99.2	99.2	7.9		12.1	11.5	17	17	820565	80
					Bottom	6.4	0.5	173	15.9	15.9	7.8 7.8	35.6	35.6	99.0	99.1	7.9	7.9	11.8		18			
						6.4	0.5	181	15.9		7.8	35.6		99.1		7.9		11.7		17			
					Surface	1.0	0.4	190 201	16.0 16.0	16.0	7.8 7.8	35.1 35.1	35.1	99.6 99.6	99.6	7.9 7.9		12.1 12.2	-	16 17			
	_					3.7	0.5	145	15.8		70	35.4		98.6		7.9	7.9	16.8	1	17			
IM6	Sunny	Moderate	11:43	7.3	Middle	3.7	0.6	146	15.8	15.8	7.8 7.8	35.4	35.4	98.6	98.6	7.9		16.9	18.2	17	20	821073	8
					Bottom	6.3	0.5	143	15.7	15.7	7.8	35.7	35.7	98.3	98.3	7.9	7.9	25.6		26			
						6.3	0.5	153	15.7		7.8	35.7		98.3		7.9		25.4		27			<u> </u>
					Surface	1.0	0.5 0.5	165 167	16.1 16.1	16.1	7.8 7.8	34.6 34.6	34.6	99.6 99.6	99.6	7.9 7.9		10.1	-	17 16			
						4.4	0.6	92	16.0		7.0	34.7		99.1		7.9	7.9	12.6	1	17			
IM7	Sunny	Moderate	11:34	8.8	Middle	4.4	0.6	99	16.0	16.0	7.8 7.8	34.7	34.7	99.1	99.1	7.9		12.7	14.4	19	18	821332	8
					Bottom	7.8	0.5	112	15.8	15.8	7.8 7.8	35.2	35.2	98.8	98.8	7.9	7.9	20.1	1	18			
					DOLLOITI	7.8	0.5	119	15.8	13.0	7.8	35.2		98.8	30.0	7.9	1.5	20.6		18			<u> </u>
					Surface	1.0	0.5	97	19.6	19.6	8.0	30.3	30.3	98.1	98.1	7.5		11.0	-	12			
						1.0	0.6 0.5	106 93	19.6 19.3		8.0	30.3		98.1 97.7		7.5 7.5	7.5	11.1 12.9	4	13 12			
IM8	Fine	Rough	12:04	8.7	Middle	4.4	0.5	102	19.3	19.3	8.0	31.3	31.3	97.7	97.7	7.5		13.1	14.0	13	14	821704	80
					D-#	7.7	0.4	87	19.3	40.0	9.0	31.6	04.0	97.5	07.5	7.5	7.5	17.9	1	16			
					Bottom	7.7	0.5	94	19.3	19.3	8.0	31.6	31.6	97.5	97.5	7.5	7.5	18.1	1	18			

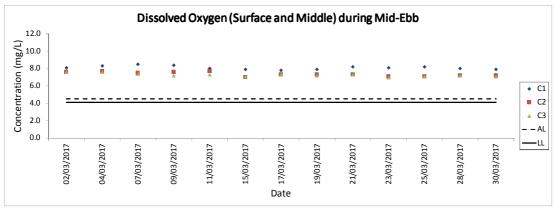
later Qua	lity Monite	oring Resu	lts on		28 March 17	during Mid-	Ebb tide							B.C			, .	,					
Monitoring	Weather	Sea	Sampling	Water	0 " 0		Current Speed	Current	Water Te	mperature (°C)	pН	Salin	ity (ppt)		aturation %)	Disso		Turbidity	(NTU)	Suspender (mg/		Coordinate	
Station	Condition	Condition	Time	Depth (m)	Sampling Do	epth (m)	(m/s)	Direction	Value	Average	Value Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	HK Grid (Northing)	HK Gı (Eastir
					Surface	1.0	0.5	94	19.6	19.6	8.0 8.0	29.8	29.8	97.5	97.5	7.5		6.9		11			T
IM9	Fire.	Madaas	12:16	7.0	Middle	1.0 3.8	0.5 0.6	97 94	19.6 19.3	40.0	8.0	29.8 31.4	04.4	97.5 97.9	97.9	7.5 7.5	7.5	7.0 13.1	44.0	10 15	40	000000	8088
IIVI9	Fine	Moderate	12.16	7.6	Middle	3.8	0.6	102	19.3	19.3	8.0	31.4	31.4	97.8		7.5		13.3	11.9	13	13	822096	0000
					Bottom	6.6 6.6	0.5 0.6	95 100	19.3 19.3	19.3	8.0	31.6 31.6	31.6	97.6 97.6	97.6	7.5 7.5	7.5	15.6 15.6		13 14			
					Surface	1.0	0.5 0.6	114 114	19.8 19.8	19.8	8.0 8.0	29.4 29.4	29.4	96.4 96.4	96.4	7.4 7.4		11.3 11.6		11 12			
IM10	Fine	Moderate	12:28	7.9	Middle	4.0	0.6	96	19.6	19.6	8.0	30.5	30.5	95.7	95.7	7.3	7.4	11.9	13.6	12	12	822242	809
	1 11.0	Moderate	12.20	7.0		4.0 6.9	0.6	98 97	19.6 19.5		8.0	30.5 30.7		95.7 95.3		7.3 7.3		11.9 17.4	10.0	12 13		0222.2	000
					Bottom	6.9	0.5	101	19.5	19.5	8.0	30.7	30.7	95.3	95.3	7.3	7.3	17.4		13			
					Surface	1.0	0.5 0.5	111 116	19.7 19.7	19.7	8.0 8.0	29.2 29.2	29.2	95.1 95.1	95.1	7.3 7.3		9.1 9.2		12 12			
IM11	Fine	Moderate	12:37	7.6	Middle	3.8	0.5	105	19.5	19.5	8.0	29.5	29.5	94.8	94.8	7.3	7.3	11.9	15.0	11	12	821494	810
						3.8 6.6	0.5 0.4	105 95	19.5 19.3		8.0	29.5 30.1		94.8 95.0		7.3 7.3		12.1 23.9		11			
					Bottom	6.6	0.4	100	19.3	19.3	8.0	30.1	30.1	95.0	95.0	7.3	7.3	23.7		15			
					Surface	1.0	0.6	98 100	19.6 19.6	19.6	8.0 8.0	29.1 29.1	29.1	94.7 94.7	94.7	7.3 7.3		7.3 7.3		11			
IM12	Fine	Moderate	12:47	9.6	Middle	4.8	0.5	114	19.3	19.3	8.0	29.7	29.7	93.8	93.8	7.3	7.3	11.5	11.1	10	10	821162	811
						4.8 8.6	0.5 0.4	121 109	19.3 19.3		8.0	29.7 29.8		93.8 95.0		7.3 7.3		11.6 14.3		10			
					Bottom	8.6	0.5	112	19.3	19.3	7.8	29.8	29.8	95.1	95.1	7.3	7.3	14.3		9			
					Surface	1.0	0.4	79 83	20.0	20.0	8.0 8.0	29.5 29.5	29.5	96.7 96.7	96.7	7.4 7.4		6.4 6.5		9			
SR2	Fine	Moderate	13:13	4.7	Middle	2.4	-	'n	-			-	-	-		-	7.4	-	5.6	-	8	821468	814
						2.4 3.7	0.3	- 65	19.6		7.9	29.9		96.5		7.4		4.7		- 8			
					Bottom	3.7	0.4	67	19.6	19.6	7.9	29.9	29.9	96.5	96.5	7.4	7.4	4.7		7			
					Surface	1.0	0.5 0.5	130 142	19.8 19.8	19.8	8.0 8.0	27.7	27.7	95.3 95.4	95.4	7.4 7.4		7.7 7.8		9			
SR3	Fine	Moderate	11:56	9.7	Middle	4.9	0.5	105	19.6	19.6	8.0	30.4	30.4	97.6	97.6	7.5	7.5	9.9	9.7	9	10	822154	807
						4.9 8.7	0.5 0.4	106 111	19.6 19.4		8.0	30.3		97.6 97.3		7.5 7.4		10.0 11.3		9			
					Bottom	8.7	0.5	119	19.4	19.4	8.0	31.2	31.3	97.3	97.3	7.4	7.4	11.3		12			
					Surface	1.0	0.3	157 169	16.3 16.3	16.3	7.8 7.8	34.6 34.6	34.6	99.7 99.7	99.7	7.9 7.9		8.3 8.2		11			
SR4A	Sunny	Moderate	13:03	8.5	Middle	4.3	0.4	124	16.0	16.0	7.8	34.8	34.8	98.5	98.5	7.9	7.9	10.2	9.8	10	11	817185	807
	,					4.3 7.5	0.4	132 136	16.0 15.8		7.8	34.8 35.0		98.5 98.7		7.9 7.9		10.3 10.8		10			
					Bottom	7.5	0.3	143	15.8	15.8	7.8	35.0	35.0	98.8	98.8	7.9	7.9	10.7		12			
					Surface	1.0	0.2	172 179	16.3 16.3	16.3	7.8 7.8	33.6 33.6	33.6	98.9 98.8	98.9	7.9 7.9		12.5 12.6		13 12			
SR5A	Sunny	Calm	13:22	5.5	Middle	2.8	-	-	-	-		-	_	-	-	-	7.9	-	13.3	-	13	816573	810
	Jan,					2.8 4.5	0.2	136	16.1		7.8 7.8	34.3		101.6		8.1		14.3		- 13			
					Bottom	4.5	0.2	139	16.1	16.1	7.8	34.2	34.3	101.9	101.8	8.1	8.1	13.7		15			
					Surface	1.0	0.2	122 125	16.5 16.5	16.5	7.8 7.8	33.3 33.3	33.3	97.3 97.3	97.3	7.8 7.8		9.4 9.5		10			
SR6	Sunny	Calm	13:44	4.3	Middle	2.2	-	-	-			-	_	-		-	7.8	-	10.2	-	10	817913	814
0.10	Cumy	Juin	10.11	1.0		2.2 3.3	0.2	148	16.0		7.8	33.7		100.6		8.1		11.1	10.2	10		017010	
					Bottom	3.3	0.2	150	16.0	16.0	7.8	33.7	33.7	101.1	100.9	8.1	8.1	10.8		9			
					Surface	1.0	0.6	67 71	19.5 19.5	19.5	8.0 8.0	31.0 31.0	31.0	93.2	93.2	7.1 7.1		3.0		<u>4</u> 5			
SR7	Fine	Moderate	14:09	18.8	Middle	9.4	0.4	69	19.5	19.5	8.0	31.0	31.0	92.5	92.5	7.1	7.1	3.5	3.4	5	5	823629	823
0117	1 1110	Woderate	14.03	10.0	Wildaic	9.4 17.8	0.5 0.3	71 80	19.5 19.4		8.0	31.0 31.1		92.5 93.4		7.1 7.2		3.5 3.7	0.4	5 7	3	020023	020
					Bottom	17.8	0.3	86	19.4	19.4	7.9	31.1	31.1	93.5	93.5	7.2	7.2	3.8		5			
					Surface	1.0	0.3	145 156	19.5 19.5	19.5	8.0 8.0	29.7 29.7	29.7	94.3 94.4	94.4	7.3		9.6 9.6		14 16			
SR8	Fine	Moderate	12:55	5.6	Middle	2.8	- 0.3	- 106	19.5			29.7		54.4 -		-	7.3	9.6	11.4	-	15	820412	811
onö	rine	iviouerate	12:55	5.6	ivildale	2.8 4.6	0.3	154	19.4	-	7.0	29.8	-	94.8	-	- 7.0		13.2	11.4	- 14	10	020412	6116
					Bottom	4.6	0.3	154 159	19.4	19.4	7.9 7.9	29.8	29.8	94.8	94.8	7.3	7.3	13.2		14			

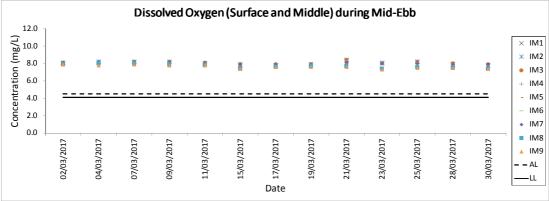
/ater Qua	lity Monit	oring Resu	lts on		30 March 17	during Mid-	Flood Ti	de															
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Te	mperature (°C)	pН	Salin	nity (ppt)		aturation %)	Disso		Turbidity	(NTU)	Suspended (mg/l		Coordinate	Coordin
Station	Condition	Condition	Time	Depth (m)	Sampling De	epth (m)	(m/s)	Direction	Value	Average	Value Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	HK Grid (Northing)	HK Gi (Eastir
					Surface	1.0	0.7	83	16.3	16.3	7.8 7.8	35.1	35.1	98.4	98.5	7.8		69.7		66			$\overline{}$
						1.0 4.5	0.7	85 50	16.3 16.3		7.8	35.1 35.1		98.5 98.4		7.8 7.8	7.8	70.8 88.1		61 168			
C1	Cloudy	Moderate	08:08	8.9	Middle	4.5	0.7	54	16.3	16.3	7.8 7.8	35.1	35.1	98.3	98.4	7.8		89.2	84.1	163	132	815620	8042
					Bottom	7.9	0.7	54	16.3	16.3	7.8	35.1	35.1	98.0	98.0	7.8	7.8	93.2		168			
					Bottom	7.9	0.7	59	16.3	10.5	7.8	35.1	33.1	97.9	30.0	7.8	7.0	93.6		166			
					Surface	1.0	0.7	142	20.3	20.3	7.9 7.9	25.7 25.7	25.7	90.5	90.5	7.0 7.0		9.3 9.4		16			
						1.0 6.7	0.7	144 109	20.3		7.0	25.7		90.5 89.3		7.0	7.0	20.2		16 15			
C2	Cloudy	Rough	09:02	13.4	Middle	6.7	0.7	118	20.2	20.2	7.9 7.9	25.9	25.9	89.3	89.3	7.0		20.3	19.4	15	15	825682	806
					Bottom	12.4	0.6	245	20.1	20.1	7.9 7.9	26.6	26.6	87.9	87.9	6.8	6.8	28.7		15			
					Bottom	12.4	0.6	260	20.1	20.1	7.9	26.6	20.0	87.9	07.5	6.8	0.0	28.7		15			
					Surface	1.0	0.8	258 264	20.0	20.0	8.0 8.0	29.7 29.7	29.7	93.3	93.3	7.1 7.1		5.6 5.7		5 7			
						5.8	0.9	258	19.8		9.0	30.0		91.8		7.1	7.1	16.7		6			
C3	Cloudy	Moderate	07:02	11.5	Middle	5.8	0.8	271	19.8	19.8	8.0	30.0	30.0	91.8	91.8	7.0		16.9	13.5	8	9	822093	817
					Bottom	10.5	0.6	270	19.8	19.8	8.0	30.1	30.1	91.8	91.8	7.0	7.0	18.5		14			
					Dottom	10.5	0.6	288	19.8	13.0	8.0	30.1	50.1	91.8	31.0	7.0	7.0	17.7		14			<u> </u>
					Surface	1.0	0.7	57 57	16.5	16.5	7.8 7.8	34.4	34.4	98.4 98.4	98.4	7.8 7.8		20.3		32 32			
						1.0 4.2	0.7	55	16.5 16.4		7.0	34.4		98.4		7.8	7.8	29.4		52			
IM1	Cloudy	Moderate	08:27	8.4	Middle	4.2	0.6	56	16.4	16.4	7.8 7.8	34.4	34.4	98.0	98.0	7.8		29.3	34.9	53	51	818349	806
					Bottom	7.4	0.5	63	16.4	16.4	7.8	34.4	34.4	97.7	97.7	7.8	7.8	54.5		66			
					Bottom	7.4	0.5	68	16.4	16.4	7.8	34.4	34.4	97.7	97.7	7.8	7.8	55.6		70			
					Surface	1.0	0.8	37	16.4	16.4	7.8 7.8	35.1	35.1	98.9	98.9	7.8		29.1		42			
						1.0	0.8	40	16.4		7.8	35.1		98.9		7.8	7.8	28.7 38.0		40			
IM2	Cloudy	Moderate	08:33	9.1	Middle	4.6 4.6	0.8	38 40	16.4 16.4	16.4	7.8 7.8	35.1 35.1	35.1	98.6 98.6	98.6	7.8 7.8		38.0	40.1	82 83	70	818857	806
						8.1	0.6	50	16.3		7.0	35.1		98.2		7.8		53.5	-	91			
					Bottom	8.1	0.7	50	16.3	16.3	7.8 7.8	35.1	35.1	98.2	98.2	7.8	7.8	53.3		84			
					Surface	1.0	0.7	93	16.4	16.4	7.8 7.8	35.1	35.1	98.4	98.4	7.8		51.8		85			
					Gariago	1.0	0.7	93	16.4		7.8	35.1	00.1	98.4	00.1	7.8	7.8	51.7		88			
IM3	Cloudy	Moderate	08:41	9.2	Middle	4.6 4.6	0.7	91 91	16.3 16.3	16.3	7.8 7.8	35.1 35.1	35.1	98.2 98.2	98.2	7.8 7.8		75.4 75.6	73.1	89 87	90	819392	808
						8.2	0.8	67	16.3		7.0	35.1		97.9		7.8		91.9		97			
					Bottom	8.2	0.9	68	16.3	16.3	7.8 7.8	35.1	35.1	97.9	97.9	7.8	7.8	92.0	-	96			
					Surface	1.0	0.7	46	16.4	16.4	7.8	35.1	35.1	98.6	98.6	7.8		37.7		56			T
					Surface	1.0	0.7	47	16.4	10.4	7.8	35.1	33.1	98.6	90.0	7.8	7.8	37.7		52			
IM4	Cloudy	Moderate	08:53	8.6	Middle	4.3	0.7	42	16.4	16.4	7.8 7.8	35.1	35.1	98.4	98.4	7.8	7.0	53.1	52.9	67	64	819552	805
						4.3 7.6	0.7	42 51	16.4 16.4		7.8	35.1 35.1		98.3 98.1		7.8 7.8		53.3 67.7		71 68			
					Bottom	7.6	0.6	52	16.4	16.4	7.8 7.8	35.1	35.1	98.1	98.1	7.8	7.8	67.7		68			
					0.1	1.0	0.6	131	16.5	40.5	70	34.7	04.7	98.4		7.8		27.7		42			\vdash
					Surface	1.0	0.6	142	16.5	16.5	7.8 7.8	34.7	34.7	98.4	98.4	7.8	7.8	27.8		44			
IM5	Cloudy	Rough	09:04	7.5	Middle	3.8	0.6	98	16.4	16.4	7.8 7.8	34.7	34.7	98.0	98.0	7.8	7.0	34.8	47.3	52	80	820573	804
	,					3.8	0.6	105	16.4		7.8	34.7	*	98.0		7.8		34.9		53			
					Bottom	6.5 6.5	0.5	100 102	16.4 16.4	16.4	7.8 7.8	34.7	34.7	97.6 97.6	97.6	7.7	7.7	79.3 79.3		139 148			
						1.0	0.7	171	16.4		7.0	35.0		98.5		7.8		36.7		48			\vdash
					Surface	1.0	0.7	183	16.4	16.4	7.8 7.8	35.0	35.0	98.5	98.5	7.8	7.8	36.9		48			
IM6	Cloudy	Rough	09:14	7.2	Middle	3.6	0.7	121	16.4	16.4	7.8 7.8	35.0	35.0	98.2	98.3	7.8	7.8	41.8	44.7	70	68	821063	805
IIVIO	Cidudy	Hough	03.14	7.2	ivildale	3.6	0.7	124	16.4	10.4	7.8	35.0	33.0	98.3	30.3	7.8		42.1	44.7	77	00	021003	00.
					Bottom	6.2	0.6	99	16.4	16.4	7.8 7.8	35.0	35.0	97.9	97.9	7.8	7.8	55.2		84			
						6.2 1.0	0.7	104 126	16.4 16.5		7.8	35.0 34.9		97.9 98.1		7.8 7.8		55.2 37.9		80 59			₩
					Surface	1.0	0.6	127	16.5	16.5	7.8 7.8	34.9	34.9	98.1	98.1	7.8		37.9	-	61			
IM7	01	Davida	00.04	0.0	Mistalia	4.5	0.6	94	16.4	40.4	7.8	34.9	04.0	98.0	00.0	7.8	7.8	47.2	50.0	100	0.5	004000	80
IM/	Cloudy	Rough	09:24	8.9	Middle	4.5	0.7	94	16.4	16.4	7.8	34.9	34.9	98.0	98.0	7.8		47.4	56.0	99	95	821360	80
					Bottom	7.9	0.6	77	16.4	16.4	7.8 7.8	34.9	34.9	97.6	97.6	7.7	7.7	82.9		128			
						7.9	0.7	80	16.4		7.8	34.9		97.6		7.7		82.6		121			₩
					Surface	1.0	0.9 1.0	96 98	20.1	20.1	8.0 8.0	28.7	28.7	94.9 95.0	95.0	7.3 7.3		16.6 16.6	1	16 17			
						4.5	0.9	100	20.1		0.0	28.8		95.0		7.3	7.3	21.1	1	18			
IM8	Cloudy	Rough	08:29	9.0	Middle	4.5	0.9	103	20.1	20.1	8.0	28.8	28.8	94.6	94.6	7.2		21.2	20.3	19	19	821700	807
					Bottom	8.0	0.8	102	20.1	20.1	8.0	29.0	29.0	94.4	94.4	7.2	7.2	23.2	1	21			
					DULLUIII	8.0	0.9	106	20.0	20.1	8.0	29.0	29.0	94.4	94.4	7.2	1.2	23.3	<u></u>	23			1

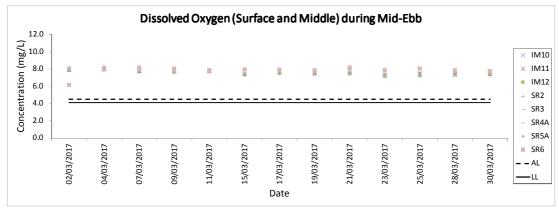
/ater Qual	ity Monite	oring Resu	Its on		30 March 17	during Mid-		de															
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Te	mperature (°C)	pН	Salin	ity (ppt)		turation %)	Disso		Turbidity	(NTU)	Suspended (mg/L		Coordinate	Coordin
Station	Condition	Condition	Time	Depth (m)	Sampling D	epth (m)	(m/s)	Direction	Value	Average	Value Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	HK Grid (Northing)	HK Gr (Eastir
					Surface	1.0	0.6	147	20.2	20.2	8.0 8.0	26.8	26.8	92.0	92.0	7.1		10.5		14			
					Guilacc	1.0	0.6	157	20.2	20.2	8.0	26.8	20.0	92.0	32.0	7.1	7.1	10.5	'	16			
IM9	Cloudy	Rough	08:18	7.9	Middle	4.0	0.6	146	20.2	20.2	8.0 8.0	26.9	26.9	92.2	92.2	7.1		11.7	11.4	16	16	822107	8088
	,			-		4.0	0.6	149	20.2		8.0	26.9		92.2		7.1		11.7	-	16			
					Bottom	6.9	0.5	144	20.2	20.2	8.0 8.0	26.9	26.9	93.0 93.0	93.0	7.2 7.2	7.2	12.1	- '	16			
						6.9	0.5	150	20.2		8.0	26.9						12.1	+	16			
					Surface	1.0	0.6	294	20.2	20.2	8.0 8.0	28.7	28.7	93.8	93.9	7.2		15.4	4 '	15			
						1.0 4.4	0.6 0.5	314 272	20.2		8.0	28.8		93.9 93.5		7.2 7.2	7.2	15.4 20.2	4 '	16 16			
IM10	Cloudy	Moderate	08:10	8.8	Middle	4.4	0.5	290	20.1	20.1	8.0	28.8	28.8	93.5	93.5	7.2		20.2	22.2	16	16	822254	809
						7.8	0.4	203	20.1		8.0	29.0		93.5		7.2		30.8	1 '	16			
					Bottom	7.8	0.5	209	20.1	20.1	8.0	29.0	29.0	93.5	93.5	7.2	7.2	30.9	1 '	15			
						1.0	0.5	262	20.1		0.0	28.9		94.0		7.2		18.5	H	21	i		
					Surface	1.0	0.5	271	20.1	20.1	8.0	28.9	28.9	94.1	94.1	7.2		18.6	1 '	21			
						4.4	0.5	273	20.1		9.0	28.9		94.0		7.2	7.2	20.2	1 '	23			
IM11	Cloudy	Moderate	08:00	8.8	Middle	4.4	0.6	291	20.1	20.1	8.0	28.9	28.9	94.0	94.0	7.2		20.5	24.9	25	24	821482	810
					B ::	7.8	0.4	257	20.1	00.1	8.0	29.0		93.7		7.2		35.6	1 '	25			
					Bottom	7.8	0.4	263	20.1	20.1	8.0	29.0	29.0	93.7	93.7	7.2	7.2	35.7	1 1	27			
					Curfoso	1.0	0.6	268	20.1	20.1	8.0 8.0	29.2	20.2	94.3	94.3	7.2		21.6		22			
					Surface	1.0	0.6	294	20.1	20.1	8.0	29.2	29.2	94.3	94.3	7.2	7.2	21.8	1	24			
IM12	Claudy	Madarata	07:51	8.5	Middle	4.3	0.6	274	20.1	20.1	8.0	29.2	29.2	94.1	94.1	7.2	1.2	24.5	24.1	24	24	001150	811
IIVIIZ	Cloudy	Moderate	07.51	6.5	Middle	4.3	0.6	276	20.1	20.1	8.0	29.2	29.2	94.1	94.1	7.2		24.7	24.1	25	24	821152	011
					Bottom	7.5	0.5	268	20.1	20.1	8.0	29.2	29.2	94.0	94.0	7.2	7.2	26.0		25			
					Dottom	7.5	0.5	278	20.1	20.1	8.0	29.2	23.2	94.0	34.0	7.2	1.2	26.1]	24			
					Surface	1.0	0.6	150	20.1	20.1	8.0	29.3	29.3	94.3	94.3	7.2		20.9		24			
					Ouridoc	1.0	0.6	156	20.1	20.1	8.0	29.3	20.0	94.3	34.0	7.2	7.2	21.0	'	24			
SR2	Cloudy	Moderate	07:23	5.2	Middle	2.6	-	-	-		-	-	-	-	-			-	21.9	-	24	821482	814
	,					2.6	-	-	-		-	-		-		-		-] ,	-			
					Bottom	4.2	0.6	155	20.1	20.1	8.0	29.3	29.3	94.4	94.4	7.2	7.2	22.7		23			
						4.2	0.6	163	20.1		8.0	29.3		94.4		7.2		22.8		24			
					Surface	1.0	0.9	121	20.1	20.1	8.0 8.0	28.4	28.4	93.9	93.9	7.2		21.9	ļ '	16			
						1.0	1.0	130	20.1		8.0	28.4		93.9		7.2	7.2	21.9	-	16			
SR3	Cloudy	Rough	08:37	9.9	Middle	5.0	0.9	93	20.1	20.1	8.0 8.0	28.6	28.6	93.5	93.5	7.2		36.3	31.7	16	18	822146	807
	-					5.0	0.9	96	20.1		8.0	28.6		93.5		7.2		36.3	- '	17			
					Bottom	8.9	0.8	108	20.1	20.1	8.0	28.7	28.7	93.6	93.6	7.2	7.2	36.9	-	20			
						8.9	0.8	115 197	20.1		8.0	28.7		93.6		7.2		36.9	₩	22 14			
					Surface	1.0	0.3	203	16.9 16.9	16.9	7.7 7.7	32.9 32.9	32.9	96.5 96.5	96.5	7.7		12.1 12.2	4 '	15			
						4.9	0.3	171	16.9		7 7	32.9		96.6		7.7	7.7	12.5	4 '	16			
SR4A	Cloudy	Moderate	07:43	9.8	Middle	4.9	0.2	173	16.9	16.9	7.7 7.7	32.9	32.9	96.6	96.6	7.7		12.5	12.3	15	15	817204	807
						8.8	0.3	180	16.9		77	32.9		97.2		7.7		12.2	1 '	14			
					Bottom	8.8	0.3	180	16.9	16.9	7.7 7.7	32.9	32.9	97.2	97.2	7.7	7.7	12.0	1 1	15			
						1.0	0.2	246	16.9		7.7	32.2		96.7		7.7		16.5	†	23			
					Surface	1.0	0.2	259	16.9	16.9	7.7	32.2	32.2	96.8	96.8	7.7		16.6	1 '	23			
0054			07.05			2.2	-	-	-		-	-		-		-	7.7	-	1.70	-		040005	0.40
SR5A	Cloudy	Calm	07:25	4.4	Middle	2.2	-	-	-	-	-	-	-	-	-	-		-	17.2	- 1	24	816605	810
					D-#	3.4	0.2	255	16.9	40.0	7.7	32.2	00.0	97.2	07.0	7.8	7.0	17.8	1 '	24			
					Bottom	3.4	0.2	278	16.9	16.9	7.7	32.2	32.2	97.2	97.2	7.8	7.8	17.9	1 '	24			
					Curtono	1.0	0.2	222	16.6	16.6	7.6 7.6	30.9	30.9	94.9	95.0	7.7		10.1		13			
					Surface	1.0	0.2	234	16.6	10.0	7.6	30.9	30.9	95.0	95.0	7.7	7.7	10.2		12			
SR6	Cloudy	Calm	07:02	4.5	Middle	2.3	-	-	-		-	-		-		-	1.1	-	9.9	-	14	817895	814
3110	Cidday	Gaiiii	07.02	4.5	Middle	2.3	-	-	-	· -	-	-	_	-		-		,	3.3	-	14	017093	014
					Bottom	3.5	0.2	215	16.6	16.6	7.6 7.6	30.7	30.6	95.6	96.1	7.7	7.8	9.7		16			
					Dottom	3.5	0.2	223	16.6	10.0	7.6	30.4	00.0	96.5	30.1	7.8	7.0	9.6		16			
					Surface	1.0	0.3	280	20.0	20.0	8.0	29.5	29.5	92.1	92.1	7.0		5.4		7			
						1.0	0.3	286	20.0		8.0	29.5		92.1		7.0	7.0	5.3		8			
SR7	Cloudy	Moderate	06:30	19.2	Middle	9.6	0.2	104	19.9	19.9	8.0	29.9	29.9	91.6	91.6	7.0		5.4	5.3	9	8	823636	823
0	O.oddy	Moderate	00.00	.0.2	Wildaio	9.6	0.3	110	19.9	10.0	8.0	29.9	20.0	91.6	01.0	7.0		5.3	0.0	8	ŭ	020000	020
					Bottom	18.2	0.3	86	19.8	19.8	8.0	30.3	30.3	91.1	91.1	7.0	7.0	5.3		7			
						18.2	0.3	88	19.8		8.0	30.3		91.1		7.0		5.3	↓ —	9			
					Surface	1.0	0.4	214	20.3	20.3	8.0 8.0	28.2	28.2	94.3	94.3	7.2		12.2	4 '	15			
						1.0	0.4	219	20.3		8.0	28.2	-	94.3		7.2	7.2	12.2	4 '	15			
SR8	Cloudy	Moderate	07:41	5.8	Middle	2.9	-	-	-	-	-	-	-	-	-	-		-	13.2	-	16	820415	811
	,					2.9	-	-	-		-	-		-		-		-	4 '	-	-		
					Bottom	4.8	0.4	233	20.2	20.2	8.0	28.6	28.6	94.7	94.7	7.3	7.3	14.1	4 '	15			
			1			4.8	0.4	249	20.2		8.0	28.6		94.7	-	7.3	-	14.2		17			1

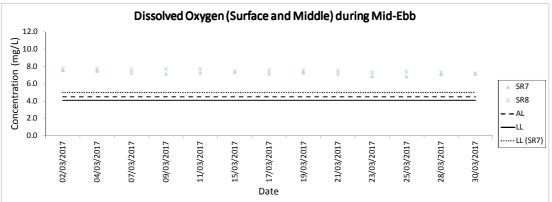
vater Quar		oring Resu			30 March 17	during Mid-	Current		1		1			DO S	aturation	Disso	lved			Suspended	Solids		_
Monitoring	Weather	Sea	Sampling	Water	Sampling D	enth (m)	Speed	Current	Water Te	emperature (°C)		рН	Salinity (ppt)		%)	Oxy		Turbidity	(NTU)	(mg/L		Coordinate HK Grid	Coordi HK G
Station	Condition	Condition	Time	Depth (m)	Camping 2	op.i. (iii)	(m/s)	Direction	Value	Average	Value	Average	Value Average	Value	Average	Value	DA	Value	DA	Value	DA	(Northing)	(East
					Surface	1.0	0.7 0.7	226 233	16.6 16.6	16.6	7.8 7.8	7.8	34.7 34.7	100.5 100.4	100.5	7.9 7.9		7.3 7.4		10			
C1	Cloudy	Rough	13:52	8.7	Middle	4.4	0.7	211	16.5	16.5	7.9	7.9	34.7	99.8	99.8	7.8	7.9	7.3	7.5	11	11	815611	804
CI	Cloudy	nougii	13.52	0.7	ivildale	4.4	0.7	213	16.5	16.5	7.9	7.9	34./	99.7	99.0	7.8		7.3	7.5	12	'''	013011	004
					Bottom	7.7	0.7	218 237	16.5 16.5	16.5	7.9 7.9	7.9	34.8 34.8	98.2 98.0	98.1	7.7	7.7	7.7 7.8		12 13	ļ		
					Surface	1.0	0.7	165 174	20.6	20.6	8.0	8.0	26.6 26.6	93.2 93.2	93.2	7.2 7.2		9.4 9.4		11 12			
C2	Fine	Rough	12:47	12.4	Middle	6.2	0.7	172	20.1	20.1	8.0	8.0	28.3	92.2	92.2	7.1	7.2	11.3	13.3	11	13	825692	80
OZ.	Tille	riougii	12.47	12.4		6.2 11.4	0.7	177 182	20.1		8.0		28.3	92.2 92.3		7.1 7.1		11.1 19.4	10.0	12 15		023032	00
					Bottom	11.4	0.8	191	20.0	20.0	8.0	8.0	29.2	92.3	92.3	7.1	7.1	19.1		15			
					Surface	1.0	0.6	107 117	20.1	20.1	8.0	8.0	29.6	93.6 93.5	93.6	7.1 7.1		7.8 7.9		10			
СЗ	Cloudy	Moderate	14:54	12.3	Middle	6.2	0.4	103	20.0	20.0	8.0	8.0	29.8	93.2	93.2	7.1	7.1	8.7	8.7	10	11	822115	81
	,			. =		6.2 11.3	0.4	109 83	20.0		8.0		29.8	93.2 94.2		7.1 7.2		8.7 9.9	-	12			
					Bottom	11.3	0.4	91	20.1	20.1	8.0	8.0	29.8	94.3	94.3	7.2	7.2	9.3		12			
					Surface	1.0	0.4	197 210	16.8 16.8	16.8	7.8	7.8	34.5 34.5	100.0 99.9	100.0	7.8 7.8		9.1 9.0		12 12			
IM1	Cloudy	Rough	13:35	8.2	Middle	4.1	0.4	178	16.7	16.6	7.8	7.8	34.6	99.4	99.1	7.8	7.8	8.9	9.2	13	13	818364	80
	,					4.1 7.2	0.4	181 166	16.5 16.3		7.8 7.8		34.8	98.7 97.8		7.8 7.7		9.3 9.6	-	14 14			
					Bottom	7.2	0.4	171	16.3	16.3	7.8	7.8	35.3	97.6	97.7	7.7	7.7	9.4		13			
					Surface	1.0	0.5	215 232	16.8 16.8	16.8	7.8	7.8	34.1 34.1	99.6 99.6	99.6	7.8 7.8		8.4 8.4		12			
IM2	Cloudy	Rough	13:29	8.9	Middle	4.5	0.4	169	16.7	16.7	7.8	7.8	34.5	99.3	99.3	7.8	7.8	8.4	7.9	12	13	818844	80
						4.5 7.9	0.4	174 151	16.6 16.5		7.8 7.9		34.5	99.2 98.1		7.8 7.7		8.2 7.2		14			
					Bottom	7.9	0.4	163	16.5	16.5	7.9	7.9	35.0	97.8	98.0	7.7	7.7	7.0		15			
					Surface	1.0	0.5	196 205	16.9 16.9	16.9	7.8	7.8	33.7 33.7	100.5	100.5	7.9 7.9		8.5 8.5		12 12			
IM3	Cloudy	Rough	13:21	9.0	Middle	4.5	0.5	182	16.8	16.8	7.8	7.8	34.4	100.7	100.7	7.9	7.9	8.4	8.3	11	13	819415	80
						4.5 8.0	0.5	198 145	16.8 16.7		7.8 7.8		34.3	100.7 100.2		7.9 7.8		8.4 7.9		12 15			
					Bottom	8.0	0.5	154	16.8	16.8	7.8	7.8	34.7	100.2	100.2	7.8	7.8	7.9		14			<u> </u>
					Surface	1.0	0.5 0.6	190 191	16.9 16.9	16.9	7.8 7.8	7.8	33.7	99.7 99.7	99.7	7.8 7.8		11.8 11.8		14			
IM4	Cloudy	Moderate	13:13	8.5	Middle	4.3	0.5	177	16.8	16.8	7.8	7.8	33.9	99.0	99.0	7.8	7.8	12.0	11.9	19	17	819587	80
	-				D-#	4.3 7.5	0.5	194 184	16.7 16.2	40.0	7.8 7.9	7.0	33.9 35.5 35.1 25.1	99.0 97.6	07.5	7.8 7.7	7.7	12.1 12.0		16 18			
					Bottom	7.5	0.5	189	16.2	16.2	7.9	7.9	35.1	97.3	97.5	7.7	7.7	11.9		17			<u> </u>
					Surface	1.0	0.4	162 174	16.9 16.9	16.9	7.8	7.8	33.3 33.3	99.2 99.3	99.3	7.8 7.8	7.0	13.6 13.5		17 18			
IM5	Cloudy	Moderate	13:05	7.4	Middle	3.7	0.4	148	16.6	16.6	7.8	7.8	33.4	98.1	98.0	7.8	7.8	14.7	15.2	19	18	820570	80
	-				D-#	3.7 6.4	0.4	160 159	16.6 16.4	40.4	7.8 7.8		33.5	97.9 97.0	97.0	7.8 7.7	7.7	15.1 17.2		17 19			
					Bottom	6.4	0.4	165	16.4	16.4	7.8	7.8	34.5	96.9	97.0	7.6	7.7	17.2		19			
					Surface	1.0	0.5	195 204	17.0 17.0	17.0	7.8	7.8	33.1 33.1 33.1	99.7 99.6	99.7	7.8		11.5 11.5		16 16			
IM6	Cloudy	Rough	12:57	7.3	Middle	3.7	0.6	169	16.8	16.8	7.8	7.8	33.3	98.8	98.8	7.8	7.8	13.4	14.0	16	17	821076	80
	-	-				3.7 6.3	0.6	179 160	16.8 16.3	40.0	7.8 7.8		33.3	98.8 97.7		7.8 7.7		13.4 17.0	1	16 18	ļ		
					Bottom	6.3	0.6	175	16.3	16.3	7.8	7.8	34.7	97.6	97.7	7.7	7.7	17.0		20			
					Surface	1.0	0.4	175 186	16.7 16.7	16.7	7.8	7.8	34.1 34.1	100.2	100.2	7.9 7.9		14.4 14.7		21			
IM7	Cloudy	Rough	12:48	8.7	Middle	4.4	0.4	103	16.7	16.7	7.8	7.8	34.0	99.6	99.5	7.8	7.9	15.9	21.4	20	22	821348	80
					_	4.4 7.7	0.4	109 113	16.7 16.4		7.8 7.8		34.0	99.4 98.1		7.8 7.8		16.2 33.7		21 23			
					Bottom	7.7	0.3	119	16.4	16.4	7.8	7.8	34.0	98.0	98.1	7.8	7.8	33.5	1	24			
					Surface	1.0	0.4	166 175	20.5 20.5	20.5	8.0	8.0	28.6	96.5 96.6	96.6	7.4 7.4		11.7 11.9	-	12 13	Т		
IM8	Fine	Rough	13:21	8.8	Middle	4.4	0.4	114	20.1	20.1	8.0	8.0	30.3	96.8	96.8	7.4	7.4	14.4	15.1	15	15	821691	80
IIVIO	1 1110	nougn	10.21	0.0	Middle	4.4 7.8	0.4	123 90	20.1 19.9		8.0	0.0	30.3	96.8 97.0		7.4		14.5 18.9	13.1	15 16	13	021031	507
					Bottom	7.8	0.4	90	19.9	19.9	8.1 8.1	8.1	31.3 31.3	97.0	97.0	7.4 7.4	7.4	18.9	1	16	ļ		

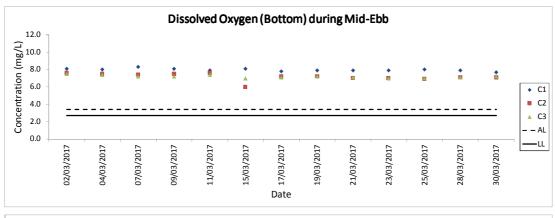
Water Qua			lts on		30 March 17	during Mid	-Ebb tide																	
Monitoring	Weather	Sea	Sampling	Water	Oii D		Current Speed	Current	Water Te	mperature (°C	5)	рН	Salin	nity (ppt)		aturation (%)	Disso		Turbidity	(NTU)	Suspended 9 (mg/L)	Solids	Coordinate	Coordinate
Station	Condition	Condition	Time	Depth (m)	Sampling D	eptn (m)	(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA	HK Grid (Northing)	HK Grid (Easting)
					Surface	1.0	0.7 0.7	148 154	20.6 20.6	20.6	8.0	8.0	28.5 28.5	28.5	96.7 96.7	96.7	7.4 7.4		10.7 10.7		12 14			
IM9	Fine	Rough	13:35	7.5	Middle	3.8	0.7	120	20.2	20.2	8.0	8.0	29.5	29.5	97.3	97.3	7.4	7.4	13.9	14.2	13	13	822081	808794
			10.00			3.8 6.5	0.7 0.8	120 109	20.2		8.0 8.1		29.5 31.1		97.3 97.7		7.4 7.4	7.4	14.0 17.8		15 13			
					Bottom	6.5 1.0	0.8	113 128	20.1	20.1	8.1 8.0	8.1	31.1	31.1	97.7 96.7	97.7	7.4	7.4	17.8 10.5		13 12			
					Surface	1.0	0.8	131	20.6	20.6	8.0	8.0	28.2	28.2	96.7	96.7	7.4	7.4	10.6		14			
IM10	Fine	Moderate	13:46	7.9	Middle	4.0	0.7	109	20.2	20.2	8.0	8.0	29.8	29.8	96.6 96.6	96.6	7.3 7.3		15.1 15.2	15.8	13 14	14	822227	809853
					Bottom	6.9 6.9	0.7	119 127	20.1	20.1	8.1	8.1	30.4 30.5	30.5	97.2 97.2	97.2	7.4 7.4	7.4	21.6 21.9		14 15			
					Surface	1.0	0.6	108	20.5	20.5	8.1	8.1	28.9	28.9	97.5	97.5	7.4		8.7		10			
						1.0 4.5	0.6	112 110	20.5		8.1		28.9		97.5 97.2		7.4	7.4	8.8 11.8		10			
IM11	Fine	Moderate	13:56	8.9	Middle	4.5	0.6	111	20.3	20.3	8.1	8.1	29.4	29.4	97.2	97.2	7.4		11.8	19.2	11	11	821486	810530
					Bottom	7.9 7.9	0.5	108 117	20.0	20.0	8.2	8.2	30.8	30.8	96.7 96.7	96.7	7.3 7.3	7.3	37.2 36.6		14 13			
					Surface	1.0	0.9	120 125	20.5 20.5	20.5	8.1 8.1	8.1	28.6 28.6	28.6	96.8 96.8	96.8	7.4 7.4		11.3 11.3		13 15			
IM12	Cloudy	Moderate	14:06	8.6	Middle	4.3	0.8	115	20.1	20.1	8.1	8.1	29.9	29.9	95.8	95.8	7.3	7.4	18.5	18.7	13	14	821177	811501
2	Oloddy	modorato	11.00	0.0		4.3 7.6	0.9	118	20.1		8.1 8.2		29.9 30.3		95.7 95.5		7.3 7.3		18.5 26.3	10.7	15 13		02	011001
					Bottom	7.6 1.0	1.0	136	20.0	20.0	8.2	8.2	30.3	30.3	95.5 94.2	95.5	7.3	7.3	26.5 12.2		14 12			
					Surface	1.0	0.5	68 68	20.3	20.3	8.0	8.0	28.9	28.9	94.2	94.3	7.2	7.2	12.4		11			
SR2	Cloudy	Moderate	14:32	4.8	Middle	2.4	-	9	-	-	-	-	-	-	-	-		1.2	-	13.6	-	12	821465	814175
					Bottom	3.8	0.4	65	20.2	20.2	8.0	8.0	29.2	29.2	93.6	93.6	7.1	7.2	14.9		13			
						3.8 1.0	0.4	67 175	20.2		8.0	8.0	29.2 28.5		93.6 95.9		7.2		15.0 12.9		11 17			
					Surface	1.0 4.9	0.8 0.7	186 145	20.5	20.5	8.0		28.5 29.4	28.5	95.9 96.1	95.9	7.3	7.3	12.9 15.9		16 15			
SR3	Fine	Rough	13:11	9.8	Middle	4.9	0.7	155	20.2	20.2	8.0	8.0	29.4	29.4	96.2	96.2	7.3 7.3		15.7	15.8	17	17	822127	807589
					Bottom	8.8	0.7	117 118	20.2	20.2	8.0	8.1	30.1	30.1	96.4 96.4	96.4	7.3 7.3	7.3	18.6 18.7		16 18			
					Surface	1.0	0.3	196	17.1	17.1	7.8	7.8	34.7	34.7	99.9	99.9	7.8		11.9		17			
SR4A	Cloudy	Moderate	14:19	9.2	Middle	1.0 4.6	0.3	205 139	17.1 16.9	16.9	7.8 7.8	7.8	34.7 34.9	34.9	99.9 99.0	99.0	7.8 7.7	7.8	11.8 11.5	12.3	17 17	18	817170	807819
SHAA	Cidddy	Woderate	14.15	5.2		4.6 8.2	0.3	140 105	16.9 16.5		7.8 7.8		34.8 35.1		98.9 97.4		7.7 7.6		11.7 13.3	12.5	19 18	10	017170	007019
					Bottom	8.2	0.4	109	16.4	16.5	7.8	7.8	35.2	35.2	97.0	97.2	7.6	7.6	13.7		20			
					Surface	1.0	0.1	147 148	17.4 17.5	17.5	7.8	7.8	33.1	33.1	98.1 98.0	98.1	7.7 7.6	7.7	9.4 9.3		12			
SR5A	Cloudy	Calm	14:36	4.3	Middle	2.2	-	-	-		-	-	-	-	-	-	ı	7.7	-	9.6	-	14	816586	810701
					Bottom	3.3	0.1	117	17.3	17.3	7.8	7.8	33.1	33.2	97.1	97.1	7.6	7.6	10.0		16			
						3.3 1.0	0.1	123 105	17.3 17.4		7.8		33.2		97.0 98.0		7.6		9.7 14.7		15 18			
					Surface	1.0	0.2	105	17.4	17.4	7.8	7.8	32.9	32.9	98.0	98.0	7.7	7.7	14.7		20			
SR6	Cloudy	Calm	15:22	4.2	Middle	2.1	-	-	-	-	-	-	-	-	-	-	-		-	15.1	-	20	817897	814656
					Bottom	3.2	0.2	131 132	17.4 17.4	17.4	7.8	7.8	32.8 32.8	32.8	97.3 97.2	97.3	7.6 7.6	7.6	16.0 14.8		20 20			
					Surface	1.0	0.5	59	20.2	20.2	8.0	8.0	30.0	30.0	94.3	94.3	7.2		5.5		8			
SR7	Olevetic	Madaata	15:23	20.0	Middle	1.0	0.6	59 96	20.2	20.0	8.0	8.0	30.0	30.2	94.2 92.6	92.6	7.2 7.1	7.2	5.5 6.2	6.0	7	8	823623	823736
5H/	Cloudy	Moderate	15:23	20.0	Middle	10.0 19.0	0.3 0.3	104 174	20.0		8.0 8.0		30.2		92.6 92.7		7.1 7.1		5.9 6.4	6.0	7	8	823623	823736
					Bottom	19.0	0.3	189	20.0	20.0	8.0	8.0	30.3	30.3	92.7	92.7	7.1	7.1	6.5		8			
·					Surface	1.0	0.3	185.0 201.0	20.4	20.4	8.0	8.0	28.7	28.7	94.5 94.6	94.6	7.2 7.2		11.6 11.6		13 15	Ī		
SR8	Cloudy	Moderate	14:15	5.4	Middle	2.7	-	-	-		-	-	-	-	-	-	-	7.2	-	13.5	-	14	820428	811582
						2.7 4.4	0.4	137.0	20.3	20.3	8.0	8.0	29.1	29.1	95.6	95.6	7.3	7.3	15.4		14			
DA: Denth-Ave					Bottom	4.4	0.4	147.0	20.3	20.3	8.0	8.0	29.1	29.1	95.6	95.6	7.3	1.3	15.4		15			

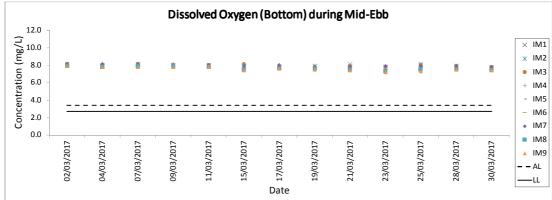


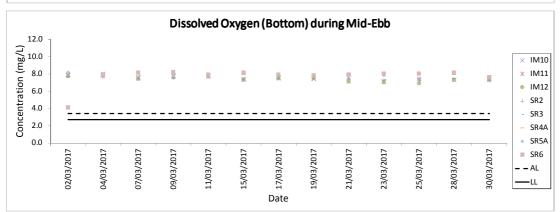


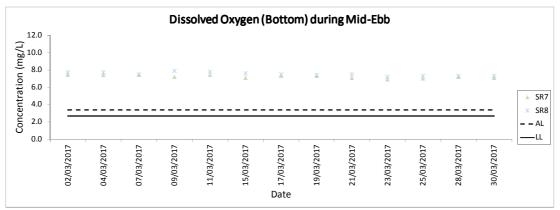


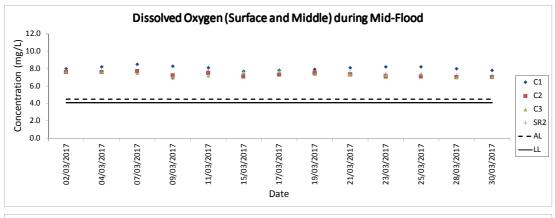


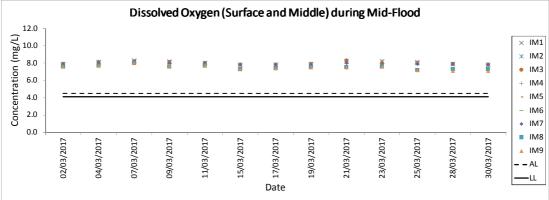


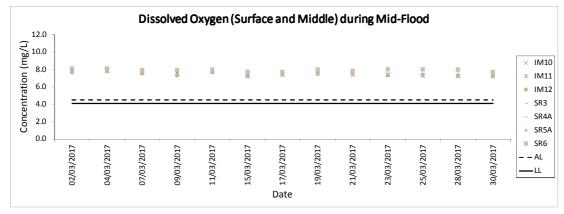


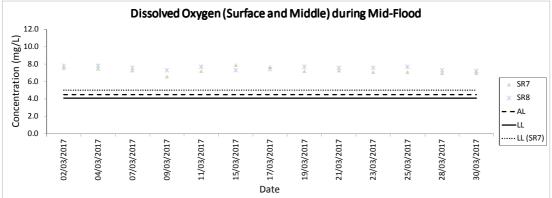


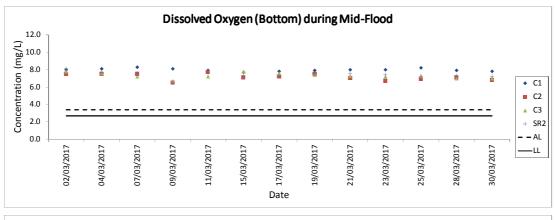


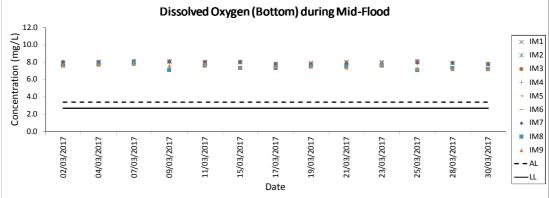


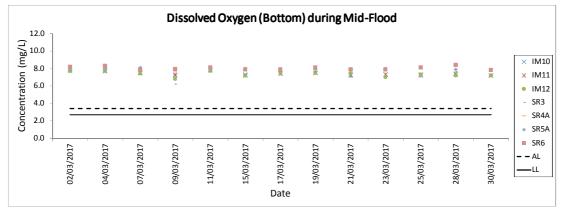


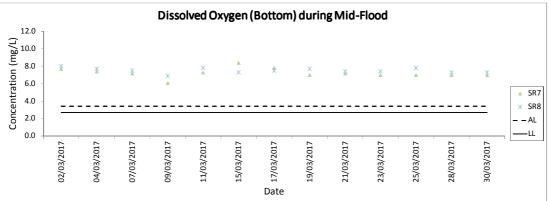


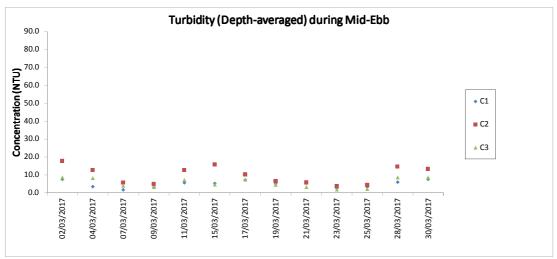


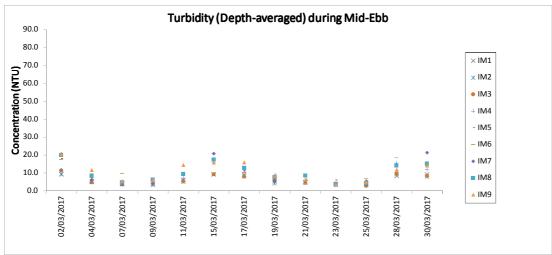


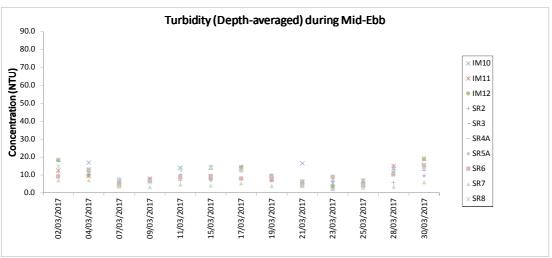




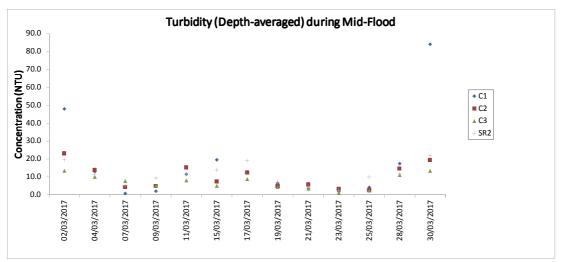


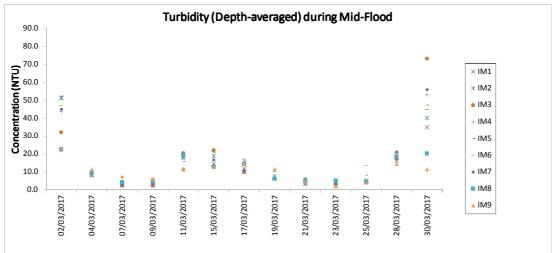


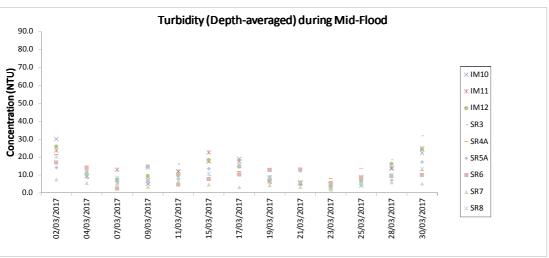




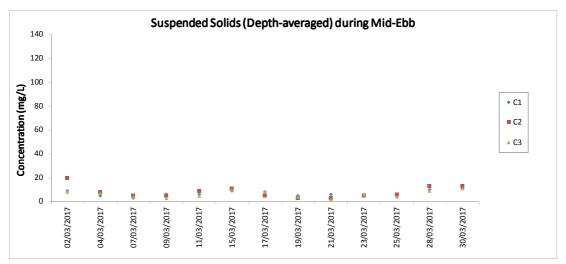
Note: The action and limit level of Turbidity can be referred to Table 4.2 of the monthly EM&A report.

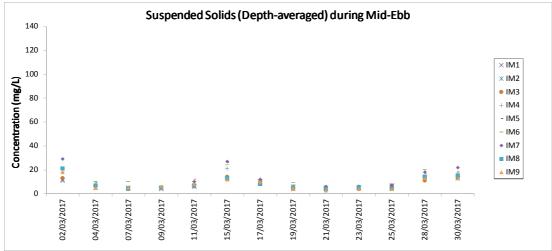


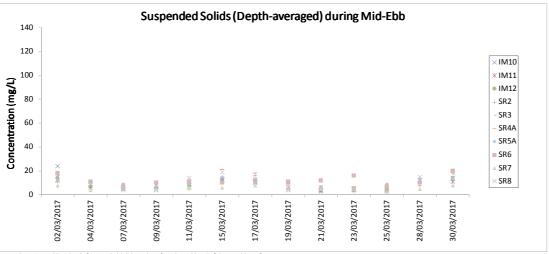


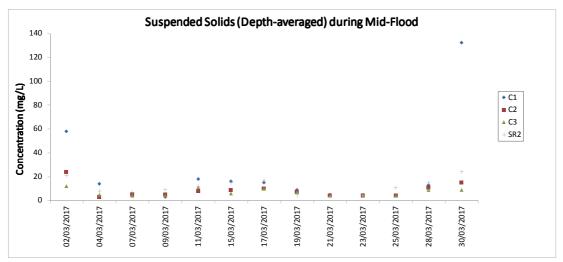


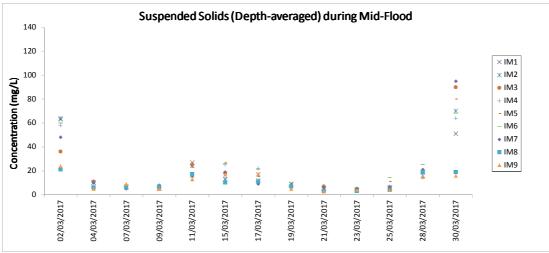
Note: The action and limit level of Turbidity can be referred to Table 4.2 of the monthly EM&A report.

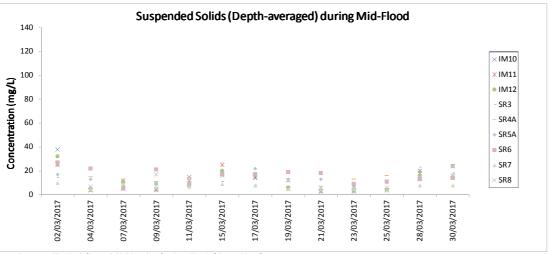




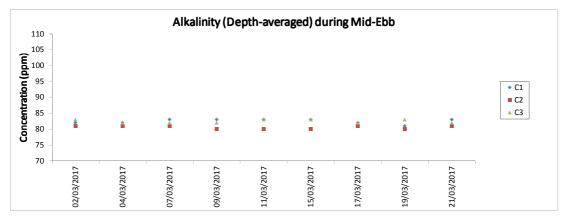


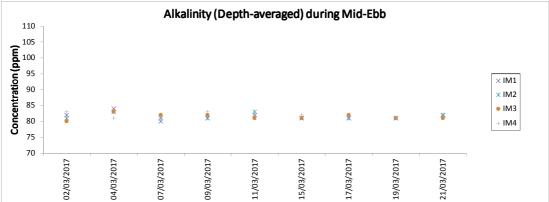


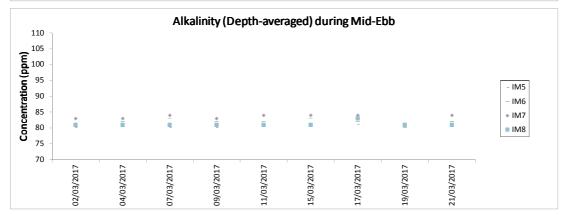


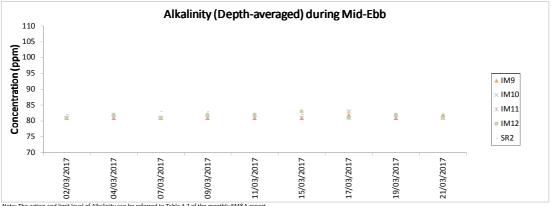


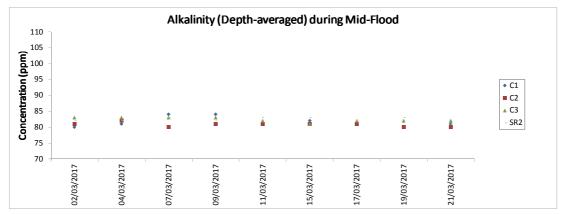
Note: The action and limit level of Suspended Solids can be referred to Table 4.2 of the monthly EM&A report.

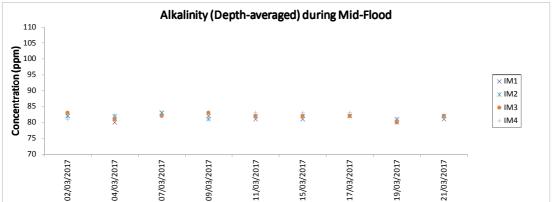


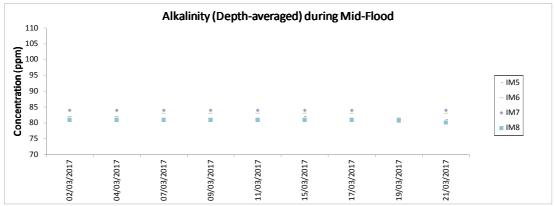


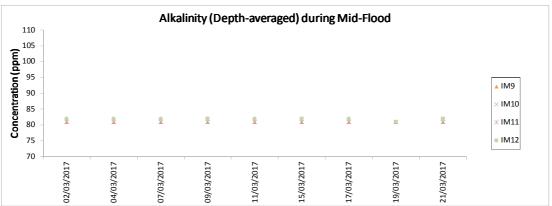


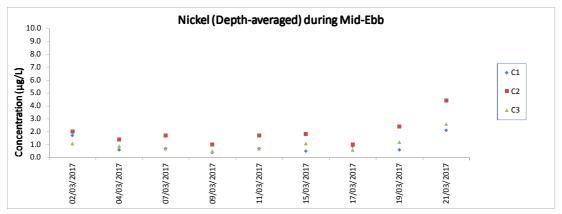


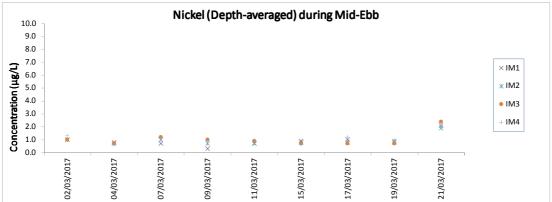


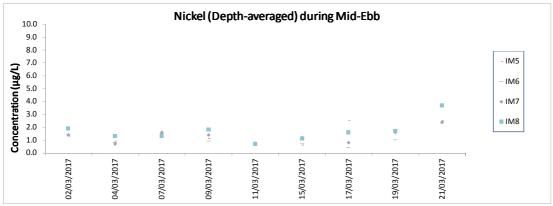


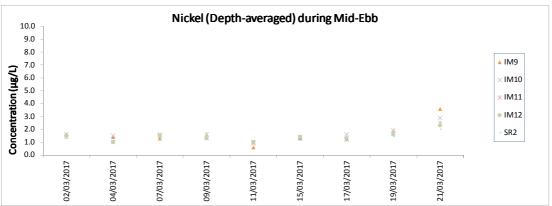




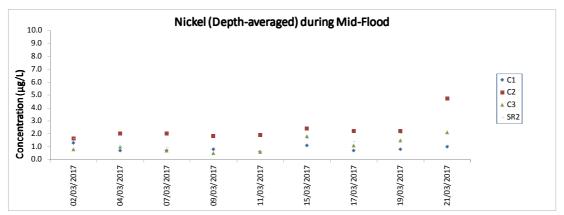


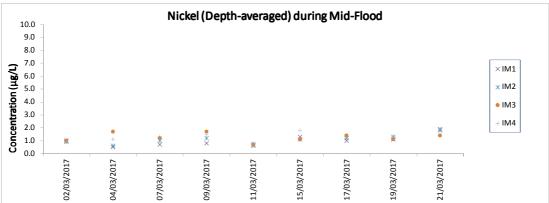


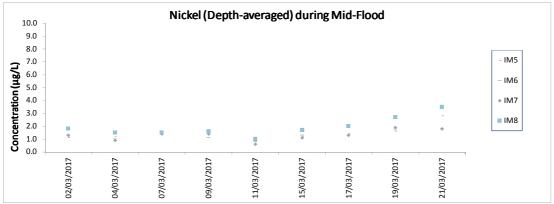


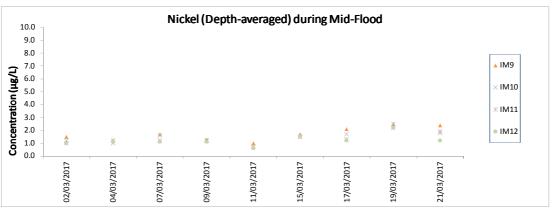


Note: The action and limit level of Nickel can be referred to Table 4.2 of the monthly EM&A report.









Note: The action and limit level of Nickel can be referred to Table 4.2 of the monthly EM&A report.

The monitoring results of Chromium at all monitoring stations were below the reporting limit <0.2 µg/L,
the impact monitoring results of Chromium at all monitoring stations can be referred to Appendix E. of the monthly EM&A report.

Mott MacDonald Expansion of Hong Kong International Airport into a Three-Runway System	2
Chinese White Dolphin Monitoring Results	

CWD Small Vessel Line-transect Survey

Survey Effort Data

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE
05-Jan-17	AW	2	4.86	WINTER	32166	3RS ET
05-Jan-17	WL	1	12.53	WINTER	32166	3RS ET
05-Jan-17	WL	2	14.38	WINTER	32166	3RS ET
05-Jan-17	SWL	2	6.01	WINTER	32166	3RS ET
06-Jan-17	SWL	1	1.30	WINTER	32166	3RS ET
06-Jan-17	SWL	2	61.20	WINTER	32166	3RS ET
06-Jan-17	SWL	3	1.80	WINTER	32166	3RS ET
09-Jan-17	NWL	1	6.90	WINTER	32166	3RS ET
09-Jan-17	NWL	2	60.46	WINTER	32166	3RS ET
09-Jan-17	NWL	3	15.64	WINTER	32166	3RS ET
10-Jan-17	NEL	2	2.10	WINTER	32166	3RS ET
10-Jan-17	NEL	3	29.22	WINTER	32166	3RS ET
10-Jan-17	NEL	4	16.68	WINTER	32166	3RS ET
12-Jan-17	NWL	2	20.09	WINTER	32166	3RS ET
12-Jan-17	NWL	3	61.01	WINTER	32166	3RS ET
12-Jan-17	NWL	4	0.70	WINTER	32166	3RS ET
13-Jan-17	SWL	2	27.52	WINTER	32166	3RS ET
13-Jan-17	SWL	3	28.90	WINTER	32166	3RS ET
13-Jan-17	SWL	4	5.33	WINTER	32166	3RS ET
19-Jan-17	AW	1	4.59	WINTER	32166	3RS ET
19-Jan-17	WL	2	7.20	WINTER	32166	3RS ET
19-Jan-17	WL	3	14.13	WINTER	32166	3RS ET
19-Jan-17	WL	4	11.03	WINTER	32166	3RS ET
19-Jan-17	SWL	3	5.88	WINTER	32166	3RS ET
19-Jan-17	SWL	4	1.00	WINTER	32166	3RS ET
20-Jan-17	NEL	2	23.30	WINTER	32166	3RS ET
20-Jan-17	NEL	3	22.00	WINTER	32166	3RS ET
20-Jan-17	NEL	4	1.60	WINTER	32166	3RS ET
06-Feb-17	AW	2	2.94	WINTER	32166	3RS ET
06-Feb-17	AW	3	1.93	WINTER	32166	3RS ET
06-Feb-17	WL	2	17.00	WINTER	32166	3RS ET
06-Feb-17	WL	3	9.79	WINTER	32166	3RS ET
06-Feb-17	WL	4	3.53	WINTER	32166	3RS ET
06-Feb-17	SWL	4	2.54	WINTER	32166	3RS ET
06-Feb-17	SWL	5	4.35	WINTER	32166	3RS ET
07-Feb-17	NEL	2	5.80	WINTER	32166	3RS ET
07-Feb-17	NEL	3	25.76	WINTER	32166	3RS ET
07-Feb-17	NEL	4	11.47	WINTER	32166	3RS ET
07-Feb-17	NEL	5	4.27	WINTER	32166	3RS ET
09-Feb-17	SWL	2	0.90	WINTER	32166	3RS ET
09-Feb-17	SWL	3	14.17	WINTER	32166	3RS ET
09-Feb-17	SWL	4	15.23	WINTER	32166	3RS ET
09-Feb-17	SWL	5	32.40	WINTER	32166	3RS ET
10-Feb-17	NEL	1	3.30	WINTER	32166	3RS ET
10-Feb-17	NEL	2	8.03	WINTER	32166	3RS ET
10-Feb-17	NEL	3	34.17	WINTER	32166	3RS ET

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE
10-Feb-17	NEL	4	2.00	WINTER	32166	3RS ET
16-Feb-17	AW	1	4.73	WINTER	32166	3RS ET
16-Feb-17	WL	1	18.36	WINTER	32166	3RS ET
16-Feb-17	WL	2	3.10	WINTER	32166	3RS ET
16-Feb-17	WL	3	6.07	WINTER	32166	3RS ET
17-Feb-17	SWL	1	37.70	WINTER	32166	3RS ET
17-Feb-17	SWL	2	29.26	WINTER	32166	3RS ET
20-Feb-17	NWL	1	27.20	WINTER	32166	3RS ET
20-Feb-17	NWL	2	48.10	WINTER	32166	3RS ET
21-Feb-17	NWL	3	14.17	WINTER	32166	3RS ET
21-Feb-17	NWL	4	38.72	WINTER	32166	3RS ET
21-Feb-17	NWL	5	21.81	WINTER	32166	3RS ET
06-Mar-17	NWL	1	5.00	SPRING	32166	3RS ET
06-Mar-17	NWL	2	17.10	SPRING	32166	3RS ET
06-Mar-17	NWL	3	50.10	SPRING	32166	3RS ET
06-Mar-17	NWL	4	3.70	SPRING	32166	3RS ET
10-Mar-17	NEL	1	1.00	SPRING	32166	3RS ET
10-Mar-17	NEL	2	11.75	SPRING	32166	3RS ET
10-Mar-17	NEL	3	34.25	SPRING	32166	3RS ET
13-Mar-17	AW	2	4.72	SPRING	32166	3RS ET
13-Mar-17	WL	2	12.18	SPRING	32166	3RS ET
13-Mar-17	WL	3	20.82	SPRING	32166	3RS ET
13-Mar-17	SWL	2	12.50	SPRING	32166	3RS ET
14-Mar-17	SWL	3	22.60	SPRING	32166	3RS ET
14-Mar-17	SWL	4	18.78	SPRING	32166	3RS ET
14-Mar-17	SWL	5	16.02	SPRING	32166	3RS ET
20-Mar-17	SWL	2	36.22	SPRING	32166	3RS ET
20-Mar-17	SWL	3	26.04	SPRING	32166	3RS ET
21-Mar-17	AW	1	4.85	SPRING	32166	3RS ET
21-Mar-17	WL	1	9.95	SPRING	32166	3RS ET
21-Mar-17	WL	2	19.08	SPRING	32166	3RS ET
21-Mar-17	WL	3	2.33	SPRING	32166	3RS ET
21-Mar-17	SWL	2	0.38	SPRING	32166	3RS ET
21-Mar-17	SWL	3	6.43	SPRING	32166	3RS ET
23-Mar-17	NWL	1	32.61	SPRING	32166	3RS ET
23-Mar-17	NWL	2	43.77	SPRING	32166	3RS ET
24-Mar-17	NEL	3	27.72	SPRING	32166	3RS ET
24-Mar-17	NEL	4	18.88	SPRING	32166	3RS ET

Notes:

CWD monitoring survey data of the two preceding survey months (i.e. January and February 2017) are presented for reference only.

CWD Small Vessel Line-transect Survey

Sighting Data

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.
05-Jan-17	1	1010	CWD	9	WL	2	822	ON	3RS ET	22.2934	113.8612	WINTER	NONE
05-Jan-17	2	1051	CWD	2	WL	2	1361	ON	3RS ET	22.2738	113.8482	WINTER	NONE
05-Jan-17	3	1118	CWD	2	WL	2	118	ON	3RS ET	22.2584	113.8381	WINTER	NONE
05-Jan-17	4	1150	CWD	1	WL	2	65	ON	3RS ET	22.2413	113.8339	WINTER	NONE
05-Jan-17	5	1208	CWD	1	WL	2	86	ON	3RS ET	22.2321	113.8316	WINTER	NONE
05-Jan-17	6	1223	CWD	1	WL	1	115	ON	3RS ET	22.2248	113.8374	WINTER	NONE
05-Jan-17	7	1315	CWD	11	WL	1	84	ON	3RS ET	22.2049	113.8249	WINTER	PAIR TRAWLER
05-Jan-17	8	1347	CWD	1	WL	1	49	ON	3RS ET	22.1961	113.8317	WINTER	NONE
05-Jan-17	9	1356	CWD	1	WL	1	59	ON	3RS ET	22.1960	113.8416	WINTER	NONE
05-Jan-17	10	1436	CWD	5	SWL	2	190	ON	3RS ET	22.1726	113.8527	WINTER	PAIR TRAWLER
06-Jan-17	1	1006	CWD	2	SWL	2	N/A	OFF	3RS ET	22.1938	113.8471	WINTER	NONE
06-Jan-17	2	1453	CWD	1	SWL	1	N/A	OFF	3RS ET	22.2230	113.9451	WINTER	NONE
12-Jan-17	1	1121	CWD	5	NWL	2	260	ON	3RS ET	22.3739	113.8775	WINTER	NONE
13-Jan-17	1	1016	CWD	3	SWL	3	N/A	OFF	3RS ET	22.1948	113.8538	WINTER	NONE
13-Jan-17	2	1036	CWD	11	SWL	3	435	ON	3RS ET	22.1998	113.8688	WINTER	NONE
13-Jan-17	3	1334	CWD	2	SWL	2	41	ON	3RS ET	22.1547	113.9030	WINTER	NONE
13-Jan-17	4	1434	CWD	1	SWL	3	44	ON	3RS ET	22.1847	113.9278	WINTER	NONE
19-Jan-17	1	0926	CWD	3	AW	1	23	ON	3RS ET	22.3010	113.8864	WINTER	NONE
19-Jan-17	2	1022	CWD	1	WL	3	383	ON	3RS ET	22.2791	113.8613	WINTER	NONE
19-Jan-17	3	1107	CWD	6	WL	2	690	ON	3RS ET	22.2594	113.8430	WINTER	GILLNET
19-Jan-17	4	1131	CWD	1	WL	3	950	ON	3RS ET	22.2504	113.8413	WINTER	NONE
19-Jan-17	5	1217	CWD	2	WL	3	N/A	OFF	3RS ET	22.2234	113.8320	WINTER	NONE
19-Jan-17	6	1403	CWD	4	SWL	3	69	ON	3RS ET	22.1951	113.8587	WINTER	NONE
19-Jan-17	7	1436	CWD	2	WL	3	N/A	OFF	3RS ET	22.2198	113.8341	WINTER	NONE
19-Jan-17	8	1439	CWD	3	WL	3	N/A	OFF	3RS ET	22.2218	113.8351	WINTER	NONE
06-Feb-17	1	1013	CWD	3	WL	3	854	ON	3RS ET	22.2826	113.8613	WINTER	NONE
06-Feb-17	2	1140	CWD	3	WL	2	243	ON	3RS ET	22.2237	113.8323	WINTER	NONE
06-Feb-17	3	1218	CWD	3	WL	3	23	ON	3RS ET	22.2147	113.8300	WINTER	NONE
16-Feb-17	1	0957	CWD	2	AW	1	16	ON	3RS ET	22.2920	113.8749	WINTER	GILLNET
16-Feb-17	2	1037	CWD	5	WL	1	220	ON	3RS ET	22.2953	113.8612	WINTER	NONE
16-Feb-17	3	1121	CWD	4	WL	1	58	ON	3RS ET	22.2628	113.8564	WINTER	NONE

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.
16-Feb-17	4	1147	CWD	3	WL	1	244	ON	3RS ET	22.2602	113.8470	WINTER	NONE
16-Feb-17	5	1206	CWD	2	WL	1	53	ON	3RS ET	22.2535	113.8348	WINTER	NONE
16-Feb-17	6	1215	CWD	3	WL	1	20	ON	3RS ET	22.2504	113.8378	WINTER	NONE
16-Feb-17	7	1231	CWD	7	WL	1	173	ON	3RS ET	22.2418	113.8473	WINTER	NONE
16-Feb-17	8	1304	CWD	2	WL	1	19	ON	3RS ET	22.2414	113.8428	WINTER	NONE
16-Feb-17	9	1315	CWD	2	WL	1	31	ON	3RS ET	22.2382	113.8266	WINTER	NONE
16-Feb-17	10	1333	CWD	14	WL	1	226	ON	3RS ET	22.2308	113.8381	WINTER	PURSE SEINE
16-Feb-17	11	1420	CWD	2	WL	2	452	ON	3RS ET	22.2139	113.8244	WINTER	NONE
16-Feb-17	12	1449	CWD	1	WL	2	29	ON	3RS ET	22.2051	113.8191	WINTER	NONE
17-Feb-17	1	1048	FP	2	SWL	2	174	ON	3RS ET	22.1586	113.9356	WINTER	NONE
17-Feb-17	2	1238	CWD	3	SWL	1	1380	ON	3RS ET	22.2005	113.9079	WINTER	PURSE SEINE
17-Feb-17	3	1349	CWD	2	SWL	1	50	ON	3RS ET	22.1889	113.8879	WINTER	NONE
17-Feb-17	4	1551	CWD	1	SWL	1	N/A	OFF	3RS ET	22.2009	113.8934	WINTER	NONE
17-Feb-17	5	1559	CWD	1	SWL	1	N/A	OFF	3RS ET	22.2025	113.9121	WINTER	NONE
20-Feb-17	1	1137	CWD	1	NWL	2	259	ON	3RS ET	22.3819	113.8760	WINTER	NONE
21-Feb-17	1	1137	CWD	4	NWL	3	64	ON	3RS ET	22.3866	113.8776	WINTER	NONE
13-Mar-17	1	1130	CWD	4	WL	2	374	ON	3RS ET	22.2229	113.8269	SPRING	NONE
14-Mar-17	1	1045	FP	1	SWL	4	N/A	OFF	3RS ET	22.1827	113.9356	SPRING	NONE
14-Mar-17	2	1214	FP	1	SWL	5	N/A	ON	3RS ET	22.1461	113.9081	SPRING	NONE
20-Mar-17	1	1025	CWD	1	SWL	2	209	ON	3RS ET	22.2001	113.8688	SPRING	GILLNET
20-Mar-17	2	1211	FP	1	SWL	2	100	ON	3RS ET	22.1622	113.8978	SPRING	NONE
20-Mar-17	3	1257	CWD	1	SWL	2	36	ON	3RS ET	22.1846	113.9041	SPRING	NONE
20-Mar-17	4	1432	FP	3	SWL	3	108	ON	3RS ET	22.1470	113.9278	SPRING	NONE
20-Mar-17	5	1439	FP	2	SWL	3	63	ON	3RS ET	22.1472	113.9326	SPRING	NONE
20-Mar-17	6	1457	FP	2	SWL	3	24	ON	3RS ET	22.1816	113.9359	SPRING	NONE
21-Mar-17	1	1025	CWD	4	WL	1	202	ON	3RS ET	22.2603	113.8533	SPRING	PURSE SEINE
21-Mar-17	2	1214	CWD	13	WL	3	397	ON	3RS ET	22.1980	113.8262	SPRING	PURSE SEINE
21-Mar-17	3	1242	CWD	7	WL	2	1163	ON	3RS ET	22.1870	113.8386	SPRING	PURSE SEINE
23-Mar-17	1	1128	CWD	3	NWL	1	123	ON	3RS ET	22.3779	113.8767	SPRING	NONE
23-Mar-17	2	1222	CWD	3	NWL	1	19	ON	3RS ET	22.3733	113.8881	SPRING	NONE

Abbreviations: STG# = Sighting Number; GP SZ = Dolphin Group Size; BEAU = Beaufort Sea State; PSD = Perpendicular Distance (in metres); N/A = Not Applicable; DEC LAT = Latitude (WGS84 in Decimal), DEC LON = Longitude (WGS84 in Decimal); BOAT ASSOC. = Fishing Boat Association

Notes:

CWD monitoring survey data of the two preceding survey months (i.e. January and February 2017) are presented for reference only. No relevant figure or text will be mentioned in the monthly EM&A report.

Sighting data of finless porpoise (FP) are presented for reference only. No relevant figure or text will be mentioned in the monthly EM&A report. All FP sightings are excluded in calculation.

Calculation of the March 2017 encounter rates STG and ANI in the whole survey area (NEL, NWL, AW, WL, SWL):

A total of 401.40 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 8 on-effort sightings and total number of 36 dolphins from on-effort sightings were collected under such condition. Calculation of the encounter rates in March 2017 are shown as below:

Encounter Rate by Number of Dolphin Sightings (STG) in March 2017

$$STG = \frac{8}{401.40} \times 100 = 1.99$$

Encounter Rate by Number of Dolphins (ANI) in March 2017

$$ANI = \frac{36}{401.40} \times 100 = 8.97$$

Calculation of the running quarterly STG and ANI in the whole survey area (NEL, NWL, AW, WL, SWL):

A total of 1144.90 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 46 on-effort sightings and total number of 170 dolphins from on-effort sightings were collected under such condition. Calculation of the running quarterly encounter rates are shown as below:

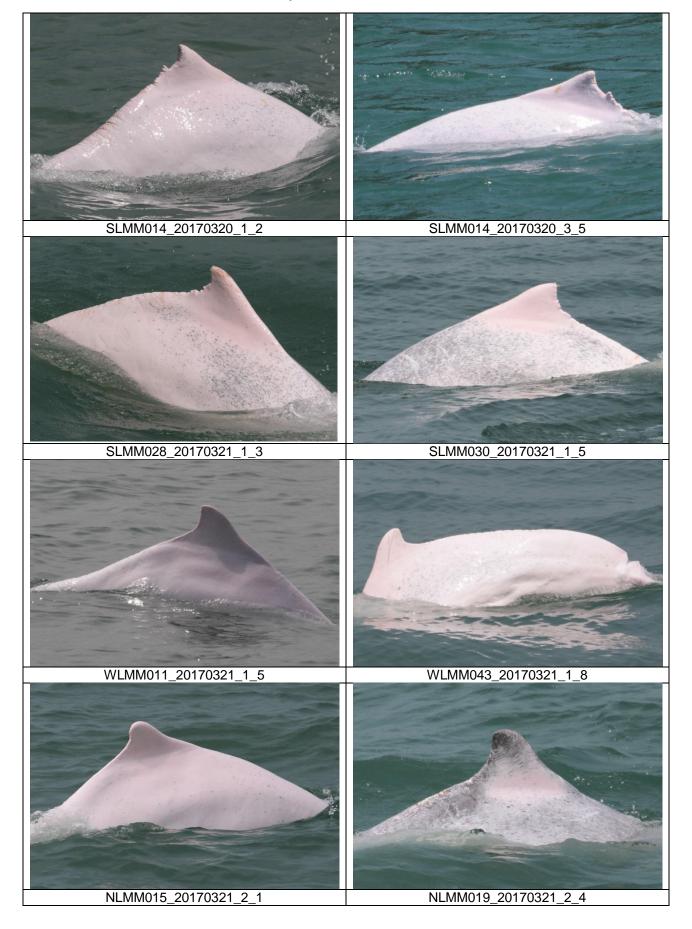
Running Quarterly Encounter Rate by Number of Dolphin Sightings (STG)

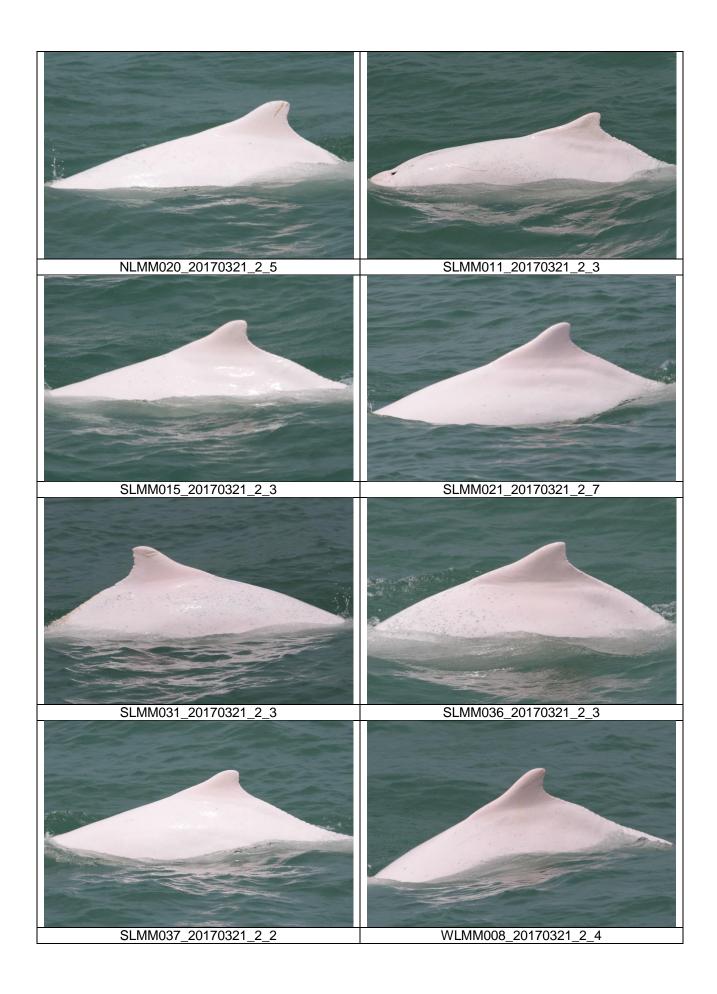
$$STG = \frac{46}{1144.90} \times 100 = 4.02$$

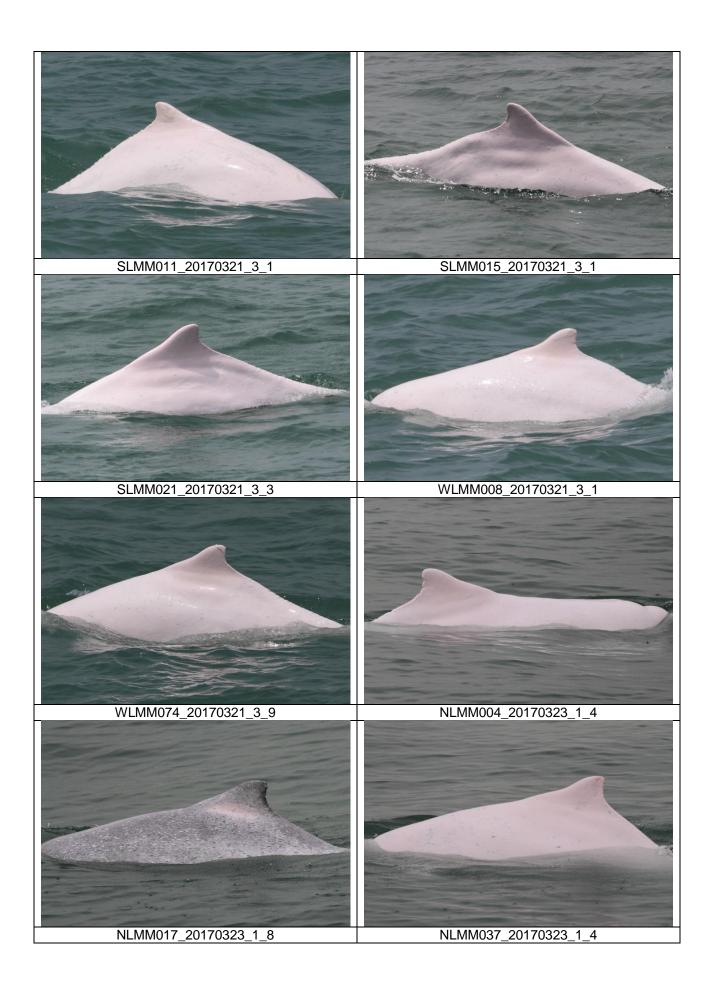
Running Quarterly Encounter Rate by Number of Dolphins (ANI)
$$ANI = \frac{170}{1144.90} \ x \ 100 = 14.85$$

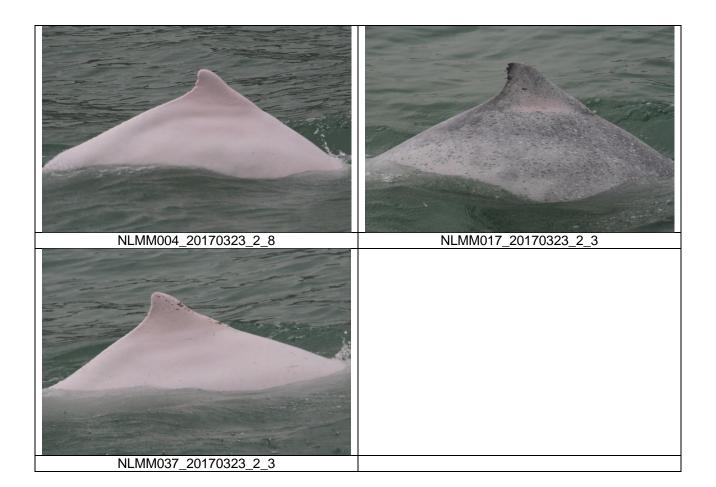
CWD Small Vessel Line-transect Survey

Photo Identification







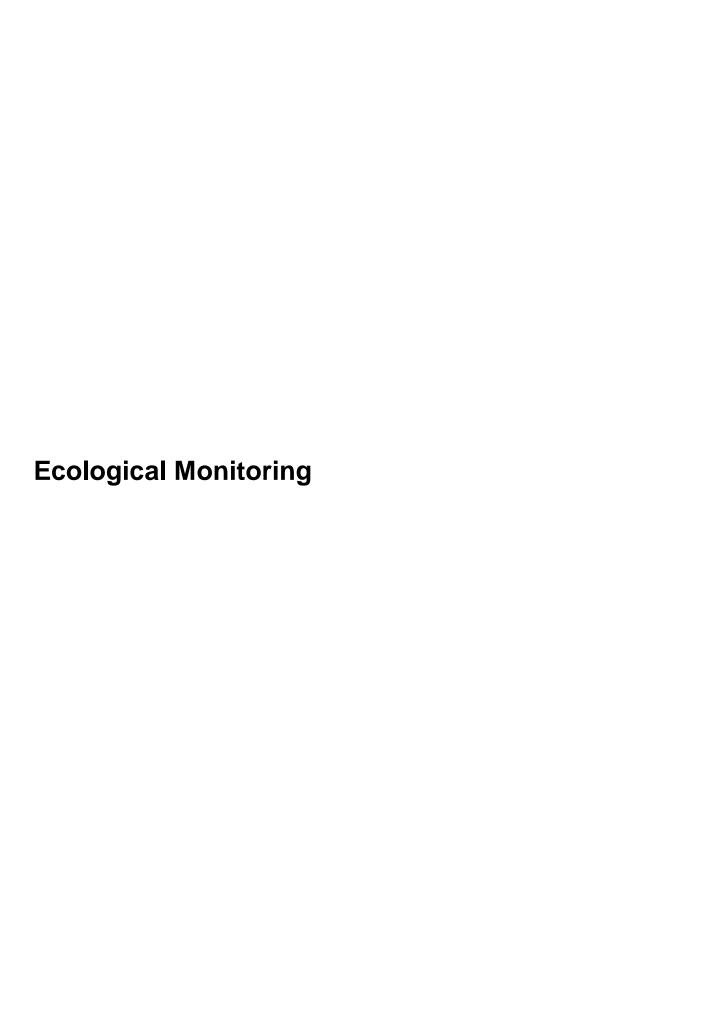


CWD Land-based Theodolite Tracking

CWD Groups by Survey Date

Date	Station	Start Time	End Time	Duration	Beaufort Range	Visibility	No. of Focal Follow Dolphin Groups Tracked	Dolphin Group Size Range
20/Mar/17	Lung Kwu Chau	8:50	14:50	6:00	2	3	1	2
21/Mar/17	Lung Kwu Chau	8:47	14:47	6:00	2	3	0	N/A
24/Mar/17	Sha Chau	8:48	14:48	6:00	4	2	0	N/A
28/Mar/17	Lung Kwu Chau	8:41	14:41	6:00	2-3	2	5	1-4
29/Mar/17	Sha Chau	8:38	14:38	6:00	2-4	3	0	N/A

Visibility: 1=Excellent, 2=Good, 3=Fair, 4=Poor



Mott MacDonald | Expansion of Hong Kong International Airport into a Three-Runway System

Ecological Monitoring – site photos and location map regarding the monthly ecological monitoring for the egretry area on Sheung Sha Chau and the HDD works



Photo record of View 1



Photo record of View 2



1

Appendix E. Status of Environmental **Permits and Licences**

	Description		Permit/ Reference No.	Status
EIAO	Environmental Permit		EP-489/2014	Approved on 7 Nov 2014
Contract No.	Description	Location	Permit/ Reference No.	Status
P560 (R)	Notification of Construction Work under APCO	Launching Site	397150	Receipt acknowledged by
		Site Office	397151	EPD on 15 Jan 2016
		Stockpiling Area	398015	Receipt acknowledged by EPD on 18 Jan 2016
		Sheung Sha Chau	405860	Receipt acknowledged by EPD on 5 Aug 2016
	Construction Noise Permit (General Works)	Launching Site	GW-RS0968-16	Valid from 21 Sep 2016 to 20 Mar 2017 (Superseded by GW-RS0243- 17 on 21 Mar 2017)
			GW-RS0243-17	Valid from 21 Mar 2017 to 20 Sep 2017
		Stockpiling Area	GW-RS0974-16	Valid from 23 Sep 2016 to 22 Mar 2017 (Superseded by GW-RS0242- 17 on 23 Mar 2017)
			GW-RS0242-17	Valid from 23 Mar 2017 to 22 Sep 2017
		Sheung Sha Chau	GW-RW0642-16	Valid from 13 Nov 2016 to 26 Mar 2017
	Discharge License under WPCO	Launching Site	WT00024249-2016	Approved on 25 Apr 2016
		Stockpiling Area	WT00024250-2016	Approved on 25 Apr 2016
	Registration as Chemical Waste Producer	Launching Site	WPN 5213-951-L2902- 01	Update the Registration on 3 Oct 2016
		Stockpiling Area	WPN 5213-951-L2902- 02	Update the Registration on 3 Oct 2016

	Description		Permit/ Reference No.	Status
	Bill Account for disposal		A/C 7023982	Approval granted from EPD on 14 Dec 2015
3201	Notification of Construction Work under APCO	Works area of 3201	406004	Receipt acknowledged by EPD on 10 Aug 2016
	Construction Noise Permit (General Works)	Works area of 3201	GW-RS0123-17	Valid from 12 Feb 2017 to 11 Aug 2017 (Superseded by GW-RS0247-17 on 20 Mar 2017)
	Construction Noise Permit (General Works)	Works area of 3201	GW-RS0247-17	Valid from 20 Mar 2017 to 19 Sep 2017
	Registration as Chemical Waste Producer	Works area of 3201	WPN 5213-951-P3231- 01	Completion of Registration on 9 Sep 2016
	Bill Account for disposal		A/C 7025760	Approval granted from EPD on 31 Aug 2016
3202	Notification of Construction Work under APCO	Works area of 3202	407624	Receipt acknowledged by EPD on 15 Sep 2016
	Construction Noise Permit (General Works)	Works area of 3202	GW-RS155-17	Valid from 24 Feb 2017 to 23 Aug 2017
	Construction Noise Permit (General Works)	Site Office of 3202	GW-RS145-17	Valid from 21 Feb 2017 to 20 Aug 2017
	Registration as Chemical Waste Producer	Works area of 3202	WPN 5213-951-P3967- 01	Completion of Registration on 24 Oct 2016
	Bill Account for disposal		A/C 7025739	Approval granted from EPD on 31 August 2016
3203	Notification of Construction Work under APCO	Works area of 3203	407053	Receipt acknowledged by EPD on 2 Sep 2016
	Construction Noise Permit (General Works)	Works area of 3203	GW-RS0014-17	Valid from 12 Jan 2017 to 11 Jun 2017
	Registration as Chemical Waste Producer	Works area of 3203	WPN 5213-951-S3954- 01	Update the Registration on 12 Dec 2016
	Bill Account for disposal		7025846	Approval granted from EPD on 9 Sep 2016
3204	Notification of Construction Work under APCO	Works area of 3204	406446	Receipt acknowledged by EPD on 19 Aug 2016
		Site Office of 3204	407726	Receipt acknowledged by EPD on 19 Sep 2016

	Description		Permit/ Reference No.	Status
		Site Office of 3204	413046	Receipt acknowledged by EPD on 3 Feb 2017
	Construction Noise Permit (General Works)	Works Area of 3204	GW-RS135-17	Valid from 17 Feb 2017 to 16 Aug 2017 (Superseded by GW-RS213-17 on 13 Mar 2017)
	Construction Noise Permit (General Works)	Works Area of 3204	GW-RS213-17	Valid from 14 Mar 2017 to 13 Sep 2017
	Construction Noise Permit (General Works)	Site Office of 3204	GW-RS136-17	Valid from 17 Feb 2017 to 16 Aug 2017
	Registration as Chemical Waste Producer	Site office of 3204	WPN 5213-951-C4102- 01	Completion of Registration on 15 Sep 2016
	Registration as Chemical Waste Producer	Works Area of 3204	WPN 5213-951-C4102- 02	Completion of Registration on 17 Mar 2017
	Bill Account for disposal		A/C 7025969	Approval granted from EPD on 21 Sep 2016
3205	Notification of Construction Work under APCO	Works area of 3205	409041	Receipt acknowledged by EPD on 19 Oct 2016
	Registration as Chemical Waste Producer	Works Area of 3205	WPN 5213-951-B2502- 01	Completion of Registration on 13 Jan 2017
	Registration as Chemical Waste Producer	Works Area of 3205	WPN 5111-421-B2509- 01	Completion of Registration on 22 Feb 2017
	Construction Noise Permit (General Works)	Works Area of 3205	GW-RS0152-17	Valid from 23 Feb 2017 to 22 Aug 2017
	Bill Account for disposal	Works area of 3205	A/C 7026295	Approval granted from EPD on 9 Nov 2016
3206	Notification of Construction Work under APCO	Works area of 3206	409237	Receipt acknowledged by EPD on 25 Oct 2016
	Registration as Chemical Waste Producer	Site office of 3206	WPN 5213-951-Z4035- 01	Completion of Registration on 18 Nov 2016
	Registration as Chemical Waste Producer	Works area of 3206	WPN 5213-951-Z4035- 02	Completion of Registration on 18 Nov 2016
	Construction Noise Permit (General Works)	Works Area of 3206	GW-RS0119-17	Valid from 10 Feb 2017 to 10 Jun 2017
	Construction Noise Permit (General Works)	Site Office of 3206	GW-RS0148-17	Valid from 27 Feb 2017 to 10 Jun 2017
	Bill Account for disposal	Works area of 3206	70263986	Approval granted from EPD on 16 Nov 2016

	Description		Permit/ Reference No.	Status
3212	Construction Noise Permit (General Works)	Works Area of 3212	GW-RS0151-17	Valid from 1 Mar 2017 to 1 Jun 2017

Appendix F. Cumulative Statistics on Exceedances, Environmental Complaints, Notification of Summons and Status of Prosecution

Statistics for Exceedances for 1-hour TSP, Noise, Water, Waste, CWD Monitoring

		Total no. recorded in the reporting month	Total no. recorded since the project commenced
1-hr TSP	Action	0	0
	Limit	0	0
Noise	Action	0	0
	Limit	0	0
Water	Action	0	0
	Limit	0	0
Waste	Action	0	0
	Limit	0	0
CWD	Action	0	0
	Limit	0	0

Remark: Exceedances, which are not project related, are not shown in this table.

Statistics for Complaints, Notifications of Summons and Prosecution

Reporting Period	Cumulative Statistics					
	Complaints	Notifications of Summons	Prosecutions			
This reporting month	0	0	0			
From 28 December 2015 to end of the reporting month	2	0	0			

Appendix G. Data of SkyPier HSF Movements to/from Zhuhai and Macau (between 1 and 31 March 2017)

<u>Data of SkyPier HSF Movements to/from Zhuhai and Macau (between 1 and 31 March 2017)</u>

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MEM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL- Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
01-Mar	08:17	3A061	YFT	Arrival	12.4	-	-
01-Mar	08:35	8S210	MFM	Arrival	11.6	-	-
01-Mar	09:59	3A071	MFM	Arrival	12.1	-	-
01-Mar	10:39	3A081	ZUI	Arrival	13.4	-	-
01-Mar	10:49	8S212	MFM	Arrival	10.8	-	-
01-Mar	11:13	8S121	MFM	Departure	12.4	-	-
01-Mar	11:21	3A063	YFT	Arrival	12.4	-	-
01-Mar	12:08	3A168	YFT	Departure	10.7	-	-
01-Mar	12:21	3A181	ZUI	Departure	13.1	-	-
01-Mar	12:53	8S215	MFM	Arrival	11.8	-	-
01-Mar	13:03	3A064	YFT	Arrival	12.6	-	-
01-Mar	13:17	8S123	MFM	Departure	12.0	1	-
01-Mar	14:01	3A082	ZUI	Arrival	12.5	-	-
01-Mar	14:16	3A164	YFT	Departure	12.6	-	-
01-Mar	14:17	3A182	ZUI	Departure	12.7	-	-
01-Mar	15:02	3A065	YFT	Arrival	12.2	-	-
01-Mar	16:28	3A167	YFT	Departure	12.5	-	-
01-Mar	16:37	8S218	MFM	Arrival	11.8	-	-
01-Mar	16:43	3A083	ZUI	Arrival	13.6	-	-
01-Mar	16:58	8S126	MFM	Departure	11.6	-	-
01-Mar	17:02	3A067	YFT	Arrival	12.6	-	-
01-Mar	17:02	3A183	ZUI	Departure	13.1	-	-
01-Mar	19:00	3A166	YFT	Departure	12.3	1	-
01-Mar	19:41	3A084	ZUI	Arrival	13.3	1	-
01-Mar	20:04	3A185	ZUI	Departure	13.0	1	-
01-Mar	20:59	3A169	YFT	Departure	12.9	-	-
01-Mar	21:05	8S2113	MFM	Arrival	11.8	-	-
01-Mar	21:56	8S522	MFM	Departure	12.1	-	-
02-Mar	08:20	3A061	YFT	Arrival	11.6	-	-
02-Mar	08:34	8S210	MFM	Arrival	9.8	-	-
02-Mar	09:58	3A071	MFM	Arrival	11.1	-	-
02-Mar	10:40	3A081	ZUI	Arrival	13.6	-	-
02-Mar	10:58	8S212	MFM	Arrival	11.6	-	-
02-Mar	11:20	3A063	YFT	Arrival	11.1	-	-
02-Mar	11:29	8S121	MFM	Departure	12.1	-	-
02-Mar	12:15	3A181	ZUI	Departure	13.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL- Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
02-Mar	12:25	3A168	YFT	Departure	11.2	-	-
02-Mar	12:57	8S215	MFM	Arrival	11.3	-	-
02-Mar	13:03	3A064	YFT	Arrival	12.6	-	-
02-Mar	13:18	8S123	MFM	Departure	13.0	-	-
02-Mar	14:02	3A082	ZUI	Arrival	10.8	1	-
02-Mar	14:14	3A164	YFT	Departure	12.8	1	-
02-Mar	14:18	3A182	ZUI	Departure	12.4	-	-
02-Mar	14:57	3A065	YFT	Arrival	11.9	-	-
02-Mar	16:22	3A167	YFT	Departure	11.6	-	-
02-Mar	16:34	3A083	ZUI	Arrival	13.8	-	-
02-Mar	16:40	8S218	MFM	Arrival	11.7	-	-
02-Mar	17:00	3A183	ZUI	Departure	12.6	-	-
02-Mar	17:04	3A067	YFT	Arrival	12.6	-	-
02-Mar	17:16	8S126	MFM	Departure	13.1	-	-
02-Mar	19:03	3A166	YFT	Departure	13.0	-	-
02-Mar	19:42	3A084	ZUI	Arrival	13.6	-	-
02-Mar	20:04	3A185	ZUI	Departure	13.7	-	-
02-Mar	20:44	8S2113	MFM	Arrival	12.5	-	-
02-Mar	21:00	3A169	YFT	Departure	12.0	-	-
03-Mar	08:16	3A061	YFT	Arrival	11.6	-	-
03-Mar	08:35	8S210	MFM	Arrival	11.0	-	-
03-Mar	09:56	3A071	MFM	Arrival	11.8	-	-
03-Mar	10:46	8S212	MFM	Arrival	12.0	-	-
03-Mar	10:47	3A081	ZUI	Arrival	13.6	-	-
03-Mar	11:13	8S121	MFM	Departure	11.7	-	-
03-Mar	11:24	3A063	YFT	Arrival	12.0	-	-
03-Mar	12:15	3A168	YFT	Departure	12.7	-	-
03-Mar	12:15	3A181	ZUI	Departure	13.1	-	-
03-Mar	12:39	8S215	MFM	Arrival	13.1	-	-
03-Mar	12:59	3A064	YFT	Arrival	10.7	-	-
03-Mar	13:14	8S123	MFM	Departure	12.7	-	-
03-Mar	13:47	3A082	ZUI	Arrival	13.0	-	-
03-Mar	14:13	3A182	ZUI	Departure	13.7	-	-
03-Mar	14:22	3A164	YFT	Departure	11.7	-	-
03-Mar	14:57	3A065	YFT	Arrival	13.0	-	-
03-Mar	16:13	3A167	YFT	Departure	12.8	-	-
03-Mar	16:37	8S218	MFM	Arrival	12.0	-	-
03-Mar	16:39	3A083	ZUI	Arrival	13.6	-	-
03-Mar	17:03	8S126	MFM	Departure	13.0	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL- Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
03-Mar	17:04	3A183	ZUI	Departure	13.4	-	-
03-Mar	17:06	3A067	YFT	Arrival	11.4	-	-
03-Mar	19:00	3A166	YFT	Departure	13.0	-	-
03-Mar	19:46	3A084	ZUI	Arrival	13.3	-	-
03-Mar	20:06	3A185	ZUI	Departure	13.4	-	-
03-Mar	20:53	8S2113	MFM	Arrival	11.8	-	-
03-Mar	21:06	3A169	YFT	Departure	12.7	-	-
03-Mar	22:00	8S522	MFM	Departure	12.9	-	-
04-Mar	08:17	3A061	YFT	Arrival	12.0	-	-
04-Mar	08:27	8S210	MFM	Arrival	11.5	-	-
04-Mar	09:54	3A071	MFM	Arrival	11.6	-	-
04-Mar	10:37	8S212	MFM	Arrival	12.1	-	-
04-Mar	10:48	3A081	ZUI	Arrival	13.4	-	-
04-Mar	11:05	8S121	MFM	Departure	11.2	-	-
04-Mar	11:15	3A063	YFT	Arrival	12.8	-	-
04-Mar	12:15	3A181	ZUI	Departure	12.9	-	-
04-Mar	12:20	3A168	YFT	Departure	13.6	-	-
04-Mar	12:47	8S215	MFM	Arrival	12.0	-	-
04-Mar	12:57	3A064	YFT	Arrival	8.7	-	-
04-Mar	13:17	8S123	MFM	Departure	12.2	-	-
04-Mar	13:44	3A082	ZUI	Arrival	10.9	-	-
04-Mar	14:22	3A164	YFT	Departure	13.2	-	-
04-Mar	14:25	3A182	ZUI	Departure	13.9	-	-
04-Mar	14:49	3A065	YFT	Arrival	13.4	-	-
04-Mar	16:14	3A167	YFT	Departure	13.6	-	-
04-Mar	16:36	3A083	ZUI	Arrival	12.9	-	-
04-Mar	16:39	8S218	MFM	Arrival	10.8	-	-
04-Mar	16:55	3A067	YFT	Arrival	12.3	-	-
04-Mar	17:05	3A183	ZUI	Departure	13.8	-	-
04-Mar	17:11	8S126	MFM	Departure	11.6	-	-
04-Mar	19:01	3A166	YFT	Departure	12.1	-	-
04-Mar	19:46	3A084	ZUI	Arrival	13.1	-	-
04-Mar	20:08	3A185	ZUI	Departure	12.7	-	-
04-Mar	20:58	8S2113	MFM	Arrival	11.4	-	-
04-Mar	21:02	3A169	YFT	Departure	11.9	-	-
04-Mar	21:59	8S522	MFM	Departure	12.0	-	-
05-Mar	08:13	3A061	YFT	Arrival	13.1	-	-
05-Mar	08:33	8S210	MFM	Arrival	11.6	-	-
05-Mar	09:53	3A071	MFM	Arrival	11.8	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MEM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL- Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
05-Mar	10:39	3A081	ZUI	Arrival	13.4	-	-
05-Mar	10:45	8S212	MFM	Arrival	10.5	-	-
05-Mar	11:13	8S121	MFM	Departure	11.6	-	-
05-Mar	11:23	3A063	YFT	Arrival	12.5	-	-
05-Mar	12:17	3A181	ZUI	Departure	13.4	-	-
05-Mar	12:18	3A168	YFT	Departure	12.9	-	-
05-Mar	12:48	8S215	MFM	Arrival	11.9	-	-
05-Mar	12:55	3A064	YFT	Arrival	13.1	-	-
05-Mar	13:13	8S123	MFM	Departure	11.4	-	-
05-Mar	13:44	3A082	ZUI	Arrival	13.3	-	-
05-Mar	14:19	3A182	ZUI	Departure	12.8	-	-
05-Mar	14:22	3A164	YFT	Departure	13.4	-	-
05-Mar	14:50	3A065	YFT	Arrival	12.7	-	-
05-Mar	16:21	3A167	YFT	Departure	13.0	-	-
05-Mar	16:31	3A083	ZUI	Arrival	13.6	-	-
05-Mar	16:45	8S218	MFM	Arrival	12.5	-	-
05-Mar	16:57	3A067	YFT	Arrival	13.4	-	-
05-Mar	17:04	3A183	ZUI	Departure	13.1	-	-
05-Mar	17:07	8S126	MFM	Departure	12.4	-	-
05-Mar	19:01	3A166	YFT	Departure	12.1	-	-
05-Mar	19:42	3A084	ZUI	Arrival	13.5	-	-
05-Mar	20:12	3A185	ZUI	Departure	13.4	-	-
05-Mar	20:55	8S2113	MFM	Arrival	12.8	-	-
05-Mar	21:01	3A169	YFT	Departure	9.5	1	-
05-Mar	21:52	8S522	MFM	Departure	12.4	-	-
06-Mar	08:15	3A061	YFT	Arrival	12.5	-	-
06-Mar	08:35	8S210	MFM	Arrival	12.8	-	-
06-Mar	09:51	3A071	MFM	Arrival	12.5	1	-
06-Mar	10:42	8S212	MFM	Arrival	12.7	-	-
06-Mar	10:48	3A081	ZUI	Arrival	13.2	-	-
06-Mar	11:04	8S121	MFM	Departure	13.0	-	-
06-Mar	11:23	3A063	YFT	Arrival	12.7	-	-
06-Mar	12:15	3A168	YFT	Departure	13.8	-	-
06-Mar	12:21	3A181	ZUI	Departure	12.9	-	-
06-Mar	12:49	8S215	MFM	Arrival	12.2	-	-
06-Mar	12:53	3A064	YFT	Arrival	12.6	-	-
06-Mar	13:15	8S123	MFM	Departure	11.9	-	-
06-Mar	13:49	3A082	ZUI	Arrival	12.2	-	-
06-Mar	14:19	3A164	YFT	Departure	12.7	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
06-Mar	14:19	3A182	ZUI	Departure	13.7	-	-
06-Mar	15:08	3A065	YFT	Arrival	13.3	-	-
06-Mar	16:18	3A167	YFT	Departure	13.8	-	-
06-Mar	16:33	3A083	ZUI	Arrival	13.8	1	-
06-Mar	16:48	3A067	YFT	Arrival	12.7	-	-
06-Mar	16:49	8S218	MFM	Arrival	12.4	1	-
06-Mar	16:58	3A183	ZUI	Departure	13.4	-	-
06-Mar	17:08	8S126	MFM	Departure	12.9	1	-
06-Mar	18:53	3A166	YFT	Departure	9.7	-	-
06-Mar	19:43	3A084	ZUI	Arrival	13.6	-	-
06-Mar	20:05	3A185	ZUI	Departure	13.6	-	-
06-Mar	20:51	8S2113	MFM	Arrival	13.0	-	-
06-Mar	21:13	3A169	YFT	Departure	12.4	-	-
06-Mar	22:01	8S522	MFM	Departure	13.3	-	-
07-Mar	08:14	3A061	YFT	Arrival	13.2	-	-
07-Mar	08:29	8S210	MFM	Arrival	12.8	-	-
07-Mar	09:44	3A071	MFM	Arrival	13.0	-	-
07-Mar	10:34	8S212	MFM	Arrival	12.8	-	-
07-Mar	10:44	3A081	ZUI	Arrival	13.9	-	-
07-Mar	11:04	8S121	MFM	Departure	13.1	-	-
07-Mar	11:20	3A063	YFT	Arrival	12.5	-	-
07-Mar	12:13	3A168	YFT	Departure	12.0	-	-
07-Mar	12:14	3A181	ZUI	Departure	13.3	-	-
07-Mar	12:50	8S215	MFM	Arrival	11.5	-	-
07-Mar	13:01	3A064	YFT	Arrival	13.1	-	-
07-Mar	13:11	8S123	MFM	Departure	11.2	-	-
07-Mar	13:59	3A082	ZUI	Arrival	11.7	-	-
07-Mar	14:15	3A182	ZUI	Departure	12.9	-	-
07-Mar	14:16	3A164	YFT	Departure	13.4	-	-
07-Mar	14:55	3A065	YFT	Arrival	12.5	-	-
07-Mar	16:19	3A167	YFT	Departure	13.1	-	-
07-Mar	16:33	3A083	ZUI	Arrival	13.3	-	-
07-Mar	16:48	8S218	MFM	Arrival	12.5	-	-
07-Mar	17:04	8S126	MFM	Departure	12.0	-	-
07-Mar	17:05	3A183	ZUI	Departure	13.3	-	-
07-Mar	17:07	3A067	YFT	Arrival	10.0	-	-
07-Mar	18:59	3A166	YFT	Departure	10.7	-	-
07-Mar	19:43	3A084	ZUI	Arrival	13.9	-	-
07-Mar	20:09	3A185	ZUI	Departure	13.5	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
07-Mar	20:53	8S2113	MFM	Arrival	12.7	-	-
07-Mar	20:56	3A169	YFT	Departure	12.6	-	-
07-Mar	21:57	8S522	MFM	Departure	12.8	-	-
08-Mar	08:15	3A061	YFT	Arrival	11.6	-	-
08-Mar	08:29	8S210	MFM	Arrival	12.3	-	-
08-Mar	09:45	3A071	MFM	Arrival	12.9	-	-
08-Mar	10:41	8S212	MFM	Arrival	12.5	-	-
08-Mar	10:47	3A081	ZUI	Arrival	12.7	-	-
08-Mar	11:18	8S121	MFM	Departure	12.4	-	-
08-Mar	11:23	3A063	YFT	Arrival	12.7	-	-
08-Mar	12:14	3A181	ZUI	Departure	13.9	-	-
08-Mar	12:14	3A168	YFT	Departure	11.9	-	-
08-Mar	12:47	8S215	MFM	Arrival	11.2	-	-
08-Mar	13:02	3A064	YFT	Arrival	12.2	-	-
08-Mar	13:17	8S123	MFM	Departure	13.3	-	-
08-Mar	13:18	3A082	ZUI	Arrival	12.0	-	-
08-Mar	14:11	3A182	ZUI	Departure	12.1	-	-
08-Mar	14:15	3A164	YFT	Departure	12.1	-	-
08-Mar	14:57	3A065	YFT	Arrival	11.8	-	-
08-Mar	16:17	3A167	YFT	Departure	12.8	-	-
08-Mar	16:39	3A083	ZUI	Arrival	11.6	-	-
08-Mar	16:39	8S218	MFM	Arrival	11.5	-	-
08-Mar	17:00	3A067	YFT	Arrival	12.5	-	-
08-Mar	17:02	8S126	MFM	Departure	14.0	-	-
08-Mar	17:05	3A183	ZUI	Departure	13.2	-	-
08-Mar	18:58	3A166	YFT	Departure	13.4	-	-
08-Mar	19:43	3A084	ZUI	Arrival	12.9	-	-
08-Mar	20:01	3A185	ZUI	Departure	13.1	-	-
08-Mar	21:03	3A169	YFT	Departure	13.4	-	-
08-Mar	21:11	8S2113	MFM	Arrival	12.2	-	-
08-Mar	21:52	8S522	MFM	Departure	12.5	-	-
09-Mar	08:18	3A061	YFT	Arrival	11.8	-	-
09-Mar	08:28	8S210	MFM	Arrival	7.7	-	-
09-Mar	09:48	3A071	MFM	Arrival	13.2	-	-
09-Mar	10:36	8S212	MFM	Arrival	12.3	-	-
09-Mar	10:42	3A081	ZUI	Arrival	13.0	-	-
09-Mar	11:00	8S121	MFM	Departure	12.8	-	-
09-Mar	11:21	3A063	YFT	Arrival	12.1	-	-
09-Mar	12:13	3A168	YFT	Departure	13.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
09-Mar	12:15	3A181	ZUI	Departure	13.1	-	-
09-Mar	12:46	3A064	YFT	Arrival	12.8	-	-
09-Mar	12:47	8S215	MFM	Arrival	11.6	-	-
09-Mar	13:19	8S123	MFM	Departure	12.3	-	-
09-Mar	13:59	3A082	ZUI	Arrival	12.3	-	-
09-Mar	14:15	3A182	ZUI	Departure	13.4	-	-
09-Mar	14:18	3A164	YFT	Departure	12.1	-	-
09-Mar	14:59	3A065	YFT	Arrival	11.9	-	-
09-Mar	16:15	3A167	YFT	Departure	12.7	-	-
09-Mar	16:40	8S218	MFM	Arrival	13.1	-	-
09-Mar	16:42	3A083	ZUI	Arrival	12.6	-	-
09-Mar	17:02	3A067	YFT	Arrival	11.9	-	-
09-Mar	17:03	3A183	ZUI	Departure	12.9	-	-
09-Mar	17:06	8S126	MFM	Departure	12.5	-	-
09-Mar	18:55	3A166	YFT	Departure	12.8	-	-
09-Mar	19:45	3A084	ZUI	Arrival	12.9	-	-
09-Mar	20:05	3A185	ZUI	Departure	13.3	-	-
09-Mar	20:59	8S2113	MFM	Arrival	11.8	-	-
09-Mar	20:59	3A169	YFT	Departure	12.2	-	-
10-Mar	08:16	3A061	YFT	Arrival	11.8	-	-
10-Mar	08:34	8S210	MFM	Arrival	12.5	-	-
10-Mar	09:48	3A071	MFM	Arrival	11.8	-	-
10-Mar	10:35	8S212	MFM	Arrival	10.4	-	-
10-Mar	10:48	3A081	ZUI	Arrival	12.9	1	-
10-Mar	11:01	8S121	MFM	Departure	11.6	1	-
10-Mar	11:29	3A063	YFT	Arrival	12.0	-	-
10-Mar	12:12	3A181	ZUI	Departure	13.5	-	-
10-Mar	12:13	3A168	YFT	Departure	11.7	1	-
10-Mar	12:46	8S215	MFM	Arrival	12.4	-	-
10-Mar	13:00	3A064	YFT	Arrival	12.7	-	-
10-Mar	13:12	8S123	MFM	Departure	12.6	-	-
10-Mar	13:59	3A082	ZUI	Arrival	11.1	-	-
10-Mar	14:18	3A182	ZUI	Departure	12.6	-	-
10-Mar	14:31	3A164	YFT	Departure	12.0	-	-
10-Mar	14:54	3A065	YFT	Arrival	11.7	-	-
10-Mar	16:19	3A167	YFT	Departure	11.7	-	-
10-Mar	16:35	3A083	ZUI	Arrival	12.9	-	-
10-Mar	16:38	8S218	MFM	Arrival	11.6	-	-
10-Mar	17:04	3A183	ZUI	Departure	13.3	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
10-Mar	17:05	3A067	YFT	Arrival	11.7	-	-
10-Mar	17:10	8S126	MFM	Departure	11.9	-	-
10-Mar	18:59	3A166	YFT	Departure	12.3	-	-
10-Mar	19:48	3A084	ZUI	Arrival	11.9	-	-
10-Mar	20:09	3A185	ZUI	Departure	13.5	-	-
10-Mar	20:53	8S2113	MFM	Arrival	13.0	-	-
10-Mar	21:01	3A169	YFT	Departure	12.2	-	-
10-Mar	21:55	8S522	MFM	Departure	13.2	-	-
11-Mar	08:15	3A061	YFT	Arrival	11.7	-	-
11-Mar	08:32	8S210	MFM	Arrival	11.4	-	-
11-Mar	09:56	3A071	MFM	Arrival	12.2	-	-
11-Mar	10:36	8S212	MFM	Arrival	10.6	-	-
11-Mar	10:46	3A081	ZUI	Arrival	11.8	-	-
11-Mar	11:00	8S121	MFM	Departure	11.6	1	-
11-Mar	11:18	3A063	YFT	Arrival	12.7	-	-
11-Mar	12:15	3A181	ZUI	Departure	12.9	-	-
11-Mar	12:18	3A168	YFT	Departure	12.2	-	-
11-Mar	12:54	8S215	MFM	Arrival	13.0	-	-
11-Mar	13:11	3A064	YFT	Arrival	11.7	-	-
11-Mar	13:19	8S123	MFM	Departure	12.2	-	-
11-Mar	14:02	3A082	ZUI	Arrival	11.4	-	-
11-Mar	14:15	3A182	ZUI	Departure	12.4	-	-
11-Mar	14:16	3A164	YFT	Departure	11.7	-	-
11-Mar	15:01	3A065	YFT	Arrival	12.7	1	-
11-Mar	16:15	3A167	YFT	Departure	12.4	1	-
11-Mar	16:43	8S218	MFM	Arrival	13.3	-	-
11-Mar	16:46	3A083	ZUI	Arrival	12.8	-	-
11-Mar	16:59	3A067	YFT	Arrival	11.9	-	-
11-Mar	17:10	8S126	MFM	Departure	12.6	1	-
11-Mar	17:16	3A183	ZUI	Departure	13.0	-	-
11-Mar	19:10	3A166	YFT	Departure	11.9	-	-
11-Mar	19:49	3A084	ZUI	Arrival	12.4	-	-
11-Mar	20:15	3A185	ZUI	Departure	13.0	-	-
11-Mar	20:51	8S2113	MFM	Arrival	12.5	-	-
11-Mar	20:52	3A169	YFT	Departure	13.2	-	-
11-Mar	21:58	8S522	MFM	Departure	13.4	-	-
12-Mar	08:17	3A061	YFT	Arrival	11.2	-	-
12-Mar	08:34	8S210	MFM	Arrival	12.7	-	-
12-Mar	10:07	3A071	MFM	Arrival	11.6	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL- Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
12-Mar	10:41	8S212	MFM	Arrival	12.5	-	-
12-Mar	10:42	3A081	ZUI	Arrival	12.4	1	-
12-Mar	11:11	8S121	MFM	Departure	13.0	1	-
12-Mar	11:16	3A063	YFT	Arrival	13.4	-	-
12-Mar	12:22	3A181	ZUI	Departure	13.1	-	-
12-Mar	12:24	3A168	YFT	Departure	13.5	-	-
12-Mar	12:44	8S215	MFM	Arrival	12.5	-	-
12-Mar	12:59	3A064	YFT	Arrival	11.6	-	-
12-Mar	13:20	8S123	MFM	Departure	10.6	-	-
12-Mar	13:27	3A082	ZUI	Arrival	13.8	-	-
12-Mar	14:12	3A182	ZUI	Departure	13.3	-	-
12-Mar	14:14	3A164	YFT	Departure	11.5	-	-
12-Mar	14:52	3A065	YFT	Arrival	13.1	-	-
12-Mar	16:15	3A167	YFT	Departure	13.4	1	-
12-Mar	16:36	3A083	ZUI	Arrival	12.6	-	-
12-Mar	16:39	8S218	MFM	Arrival	12.2	-	-
12-Mar	17:04	8S126	MFM	Departure	13.3	-	-
12-Mar	17:05	3A067	YFT	Arrival	11.6	-	-
12-Mar	17:07	3A183	ZUI	Departure	13.2	-	-
12-Mar	18:58	3A166	YFT	Departure	10.8	-	-
12-Mar	19:48	3A084	ZUI	Arrival	12.6	-	-
12-Mar	20:09	3A185	ZUI	Departure	12.9	-	-
12-Mar	20:53	8S2113	MFM	Arrival	12.6	-	-
12-Mar	20:59	3A169	YFT	Departure	13.4	1	-
12-Mar	21:53	8S522	MFM	Departure	12.6	1	-
13-Mar	08:27	3A061	YFT	Arrival	12.7	-	-
13-Mar	08:57	8S210	MFM	Arrival	11.5	-	-
13-Mar	10:27	3A071	MFM	Arrival	11.4	-	-
13-Mar	10:54	8S212	MFM	Arrival	11.4	-	-
13-Mar	11:12	8S121	MFM	Departure	11.6	-	-
13-Mar	11:26	3A063	YFT	Arrival	12.7	-	-
13-Mar	12:14	3A168	YFT	Departure	12.9	-	-
13-Mar	12:51	8S215	MFM	Arrival	10.4	-	-
13-Mar	12:53	3A064	YFT	Arrival	12.8	-	-
13-Mar	13:20	8S123	MFM	Departure	11.0	-	-
13-Mar	13:47	3A082	ZUI	Arrival	13.1	-	-
13-Mar	14:19	3A164	YFT	Departure	12.8	-	-
13-Mar	14:20	3A182	ZUI	Departure	13.0	-	-
13-Mar	14:58	3A065	YFT	Arrival	12.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL- Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
13-Mar	16:14	3A167	YFT	Departure	11.4	-	-
13-Mar	16:35	3A067	YFT	Arrival	12.0	≤5	<1
13-Mar	16:36	3A083	ZUI	Arrival	13.2	-	-
13-Mar	16:44	8S218	MFM	Arrival	10.8	-	-
13-Mar	17:00	3A183	ZUI	Departure	12.9	-	-
13-Mar	17:04	8S126	MFM	Departure	11.3	-	-
13-Mar	19:00	3A166	YFT	Departure	13.1	-	-
13-Mar	19:42	3A084	ZUI	Arrival	12.5	-	-
13-Mar	20:11	3A185	ZUI	Departure	13.4	-	-
13-Mar	20:54	8S2113	MFM	Arrival	11.9	-	-
13-Mar	20:59	3A169	YFT	Departure	13.0	-	-
13-Mar	21:55	8S522	MFM	Departure	11.9	-	-
14-Mar	08:27	3A061	YFT	Arrival	12.7	-	-
14-Mar	08:40	8S210	MFM	Arrival	11.4	-	-
14-Mar	10:18	3A071	MFM	Arrival	12.1	-	-
14-Mar	10:51	3A081	ZUI	Arrival	12.7	-	-
14-Mar	11:07	8S212	MFM	Arrival	12.2	-	-
14-Mar	11:13	3A063	YFT	Arrival	12.3	-	-
14-Mar	11:27	8S121	MFM	Departure	12.3	-	-
14-Mar	12:14	3A181	ZUI	Departure	13.2	-	-
14-Mar	12:15	3A168	YFT	Departure	11.3	-	-
14-Mar	12:48	8S215	MFM	Arrival	12.1	-	-
14-Mar	12:58	3A064	YFT	Arrival	12.8	-	-
14-Mar	13:11	8S123	MFM	Departure	12.5	-	-
14-Mar	13:54	3A082	ZUI	Arrival	13.3	-	-
14-Mar	14:19	3A164	YFT	Departure	13.0	-	-
14-Mar	14:19	3A182	ZUI	Departure	13.3	-	-
14-Mar	14:58	3A065	YFT	Arrival	12.4	-	-
14-Mar	16:13	3A167	YFT	Departure	12.3	-	-
14-Mar	16:37	3A083	ZUI	Arrival	12.3	-	-
14-Mar	16:44	8S218	MFM	Arrival	12.9	-	-
14-Mar	16:55	3A183	ZUI	Departure	13.0	-	-
14-Mar	16:59	3A067	YFT	Arrival	12.6	-	-
14-Mar	17:06	8S126	MFM	Departure	12.7	-	-
14-Mar	19:03	3A166	YFT	Departure	11.6	-	-
14-Mar	19:45	3A084	ZUI	Arrival	12.9	-	-
14-Mar	20:06	3A185	ZUI	Departure	13.0	-	-
14-Mar	20:47	8S2113	MFM	Arrival	13.0	-	-
14-Mar	21:07	3A169	YFT	Departure	12.7	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MEM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL- Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
15-Mar	08:15	3A061	YFT	Arrival	12.0	-	-
15-Mar	08:32	8S210	MFM	Arrival	12.8	-	-
15-Mar	09:48	3A071	MFM	Arrival	12.7	-	-
15-Mar	10:48	3A081	ZUI	Arrival	11.9	1	-
15-Mar	10:51	8S212	MFM	Arrival	12.3	-	-
15-Mar	11:27	3A063	YFT	Arrival	12.8	1	-
15-Mar	11:31	8S121	MFM	Departure	13.6	-	-
15-Mar	12:19	3A181	ZUI	Departure	13.7	-	-
15-Mar	12:22	3A168	YFT	Departure	12.9	-	-
15-Mar	12:45	8S215	MFM	Arrival	12.6	-	-
15-Mar	13:03	3A064	YFT	Arrival	11.8	-	-
15-Mar	13:18	8S123	MFM	Departure	12.7	-	-
15-Mar	13:48	3A082	ZUI	Arrival	11.4	-	-
15-Mar	14:17	3A164	YFT	Departure	11.2	-	-
15-Mar	14:20	3A182	ZUI	Departure	12.7	-	-
15-Mar	15:02	3A065	YFT	Arrival	12.7	-	-
15-Mar	16:15	3A167	YFT	Departure	12.8	-	-
15-Mar	16:38	3A083	ZUI	Arrival	12.7	-	-
15-Mar	16:40	8S218	MFM	Arrival	11.5	-	-
15-Mar	17:00	3A067	YFT	Arrival	11.6	-	-
15-Mar	17:04	3A183	ZUI	Departure	12.8	-	-
15-Mar	17:08	8S126	MFM	Departure	12.2	-	-
15-Mar	18:58	3A166	YFT	Departure	12.2	-	-
15-Mar	19:45	3A084	ZUI	Arrival	12.9	-	-
15-Mar	20:08	3A185	ZUI	Departure	13.4	-	-
15-Mar	20:56	8S2113	MFM	Arrival	11.4	-	-
15-Mar	20:57	3A169	YFT	Departure	12.1	-	-
15-Mar	22:09	8S522	MFM	Departure	12.8	-	-
16-Mar	08:16	3A061	YFT	Arrival	12.3	-	-
16-Mar	08:32	8S210	MFM	Arrival	10.0	-	-
16-Mar	09:47	3A071	MFM	Arrival	12.7	-	-
16-Mar	10:35	8S212	MFM	Arrival	12.0	-	-
16-Mar	10:49	3A081	ZUI	Arrival	13.9	-	-
16-Mar	11:08	8S121	MFM	Departure	13.7	-	-
16-Mar	11:23	3A063	YFT	Arrival	13.1	-	-
16-Mar	12:17	3A168	YFT	Departure	13.7	-	-
16-Mar	12:18	3A181	ZUI	Departure	13.2	-	-
16-Mar	12:46	8S215	MFM	Arrival	11.5	-	-
16-Mar	12:57	3A064	YFT	Arrival	12.9	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MEM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL- Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
16-Mar	13:13	8S123	MFM	Departure	11.9	-	-
16-Mar	13:49	3A082	ZUI	Arrival	13.4	-	-
16-Mar	14:12	3A182	ZUI	Departure	13.3	-	-
16-Mar	14:13	3A164	YFT	Departure	12.7	-	-
16-Mar	14:52	3A065	YFT	Arrival	13.4	-	-
16-Mar	16:19	3A167	YFT	Departure	13.9	-	-
16-Mar	16:33	3A083	ZUI	Arrival	13.8	-	-
16-Mar	16:41	8S218	MFM	Arrival	11.6	-	-
16-Mar	16:56	3A067	YFT	Arrival	12.5	-	-
16-Mar	17:03	3A183	ZUI	Departure	12.9	-	-
16-Mar	17:05	8S126	MFM	Departure	12.8	-	-
16-Mar	19:24	3A166	YFT	Departure	12.6	≤5	<1
16-Mar	19:48	3A084	ZUI	Arrival	13.6	-	-
16-Mar	20:07	3A185	ZUI	Departure	13.1	-	-
16-Mar	21:10	8S2113	MFM	Arrival	10.8	-	-
16-Mar	21:10	3A169	YFT	Departure	13.2	-	-
16-Mar	22:05	8S522	MFM	Departure	11.5	-	-
17-Mar	08:20	3A061	YFT	Arrival	10.7	-	-
17-Mar	08:30	8S210	MFM	Arrival	11.0	-	-
17-Mar	09:58	3A071	MFM	Arrival	11.5	-	-
17-Mar	10:35	8S212	MFM	Arrival	8.9	-	-
17-Mar	10:52	3A081	ZUI	Arrival	13.1	-	-
17-Mar	11:10	8S121	MFM	Departure	12.4	-	-
17-Mar	11:15	3A063	YFT	Arrival	11.5	-	-
17-Mar	12:21	3A181	ZUI	Departure	13.3	-	-
17-Mar	12:50	8S215	MFM	Arrival	12.8	-	-
17-Mar	12:53	3A168	YFT	Departure	11.8	-	-
17-Mar	13:01	3A064	YFT	Arrival	12.2	-	-
17-Mar	13:20	8S123	MFM	Departure	12.9	-	-
17-Mar	13:51	3A082	ZUI	Arrival	13.6	-	-
17-Mar	14:15	3A182	ZUI	Departure	13.1	-	-
17-Mar	14:30	3A164	YFT	Departure	12.5	-	-
17-Mar	14:57	3A065	YFT	Arrival	13.1	-	-
17-Mar	16:16	3A167	YFT	Departure	12.9	-	-
17-Mar	16:19	3A083	ZUI	Arrival	14.0	≤5	<1
17-Mar	16:41	8S218	MFM	Arrival	11.9	-	-
17-Mar	16:57	3A183	ZUI	Departure	13.4	-	-
17-Mar	17:11	8S126	MFM	Departure	12.9	-	-
17-Mar	17:13	3A067	YFT	Arrival	12.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
17-Mar	19:00	3A166	YFT	Departure	12.1	-	-
17-Mar	19:44	3A084	ZUI	Arrival	13.6	-	-
17-Mar	20:05	3A185	ZUI	Departure	13.1	-	-
17-Mar	20:53	8S2113	MFM	Arrival	12.0	-	-
17-Mar	21:11	3A169	YFT	Departure	12.7	-	-
17-Mar	21:55	8S522	MFM	Departure	13.5	1	-
18-Mar	08:12	3A061	YFT	Arrival	11.7	-	-
18-Mar	08:29	8S210	MFM	Arrival	13.2	1	-
18-Mar	09:53	3A071	MFM	Arrival	12.0	-	-
18-Mar	10:37	3A081	ZUI	Arrival	13.3	-	-
18-Mar	10:38	8S212	MFM	Arrival	10.3	-	-
18-Mar	11:01	8S121	MFM	Departure	12.6	-	-
18-Mar	11:15	3A063	YFT	Arrival	13.2	-	-
18-Mar	12:18	3A181	ZUI	Departure	13.2	1	-
18-Mar	12:22	3A168	YFT	Departure	12.4	-	-
18-Mar	12:56	8S215	MFM	Arrival	6.1	-	-
18-Mar	12:58	3A064	YFT	Arrival	11.5	-	-
18-Mar	13:22	8S123	MFM	Departure	13.4	-	-
18-Mar	13:44	3A082	ZUI	Arrival	11.9	-	-
18-Mar	14:16	3A164	YFT	Departure	11.5	-	-
18-Mar	14:23	3A182	ZUI	Departure	13.7	-	-
18-Mar	14:59	3A065	YFT	Arrival	13.3	-	-
18-Mar	16:19	3A167	YFT	Departure	13.7	-	-
18-Mar	16:39	3A083	ZUI	Arrival	12.8	1	-
18-Mar	16:44	8S218	MFM	Arrival	13.2	1	-
18-Mar	16:56	3A067	YFT	Arrival	10.8	-	-
18-Mar	16:58	3A183	ZUI	Departure	13.8	-	-
18-Mar	17:03	8S126	MFM	Departure	13.2	1	-
18-Mar	19:03	3A166	YFT	Departure	12.3	-	-
18-Mar	19:48	3A084	ZUI	Arrival	12.5	-	-
18-Mar	20:07	3A185	ZUI	Departure	13.4	-	-
18-Mar	20:52	8S2113	MFM	Arrival	12.8	-	-
18-Mar	21:02	3A169	YFT	Departure	11.6	-	-
18-Mar	22:04	8S522	MFM	Departure	13.9	-	-
19-Mar	08:29	3A061	YFT	Arrival	11.9	-	-
19-Mar	08:32	8S210	MFM	Arrival	12.6	-	-
19-Mar	09:58	3A071	MFM	Arrival	12.5	-	-
19-Mar	10:39	8S212	MFM	Arrival	12.3	-	-
19-Mar	10:42	3A081	ZUI	Arrival	13.3	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT - Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
19-Mar	11:07	8S121	MFM	Departure	13.0	-	-
19-Mar	11:27	3A063	YFT	Arrival	12.2	-	-
19-Mar	12:08	3A168	YFT	Departure	12.9	-	-
19-Mar	12:16	3A181	ZUI	Departure	13.5	-	-
19-Mar	12:43	8S215	MFM	Arrival	12.1	-	-
19-Mar	13:06	3A064	YFT	Arrival	12.2	-	-
19-Mar	13:20	8S123	MFM	Departure	12.9	-	-
19-Mar	13:49	3A082	ZUI	Arrival	12.9	-	-
19-Mar	14:22	3A164	YFT	Departure	12.6	-	-
19-Mar	14:23	3A182	ZUI	Departure	13.1	-	-
19-Mar	15:02	3A065	YFT	Arrival	12.5	-	-
19-Mar	16:30	3A083	ZUI	Arrival	13.7	-	-
19-Mar	16:45	3A167	YFT	Departure	12.3	-	-
19-Mar	16:51	8S218	MFM	Arrival	11.8	-	-
19-Mar	16:58	3A067	YFT	Arrival	9.8	-	-
19-Mar	17:13	3A183	ZUI	Departure	14.2	1	-
19-Mar	17:13	8S126	MFM	Departure	13.4	1	-
19-Mar	19:02	3A166	YFT	Departure	11.9	1	-
19-Mar	19:27	3A084	ZUI	Arrival	13.8	≤5	<1
19-Mar	20:12	3A185	ZUI	Departure	12.9	-	-
19-Mar	20:51	8S2113	MFM	Arrival	12.2	-	-
19-Mar	21:06	3A169	YFT	Departure	12.8	-	-
19-Mar	21:54	8S522	MFM	Departure	12.9	-	-
20-Mar	08:33	8S210	MFM	Arrival	12.5	1	-
20-Mar	08:36	3A061	YFT	Arrival	12.9	1	-
20-Mar	09:49	3A071	MFM	Arrival	11.2	-	-
20-Mar	10:40	8S212	MFM	Arrival	12.1	-	-
20-Mar	10:44	3A081	ZUI	Arrival	13.6	-	-
20-Mar	11:12	8S121	MFM	Departure	11.7	-	-
20-Mar	11:21	3A063	YFT	Arrival	11.9	-	-
20-Mar	12:14	3A181	ZUI	Departure	13.0	-	-
20-Mar	12:15	3A168	YFT	Departure	12.6	-	-
20-Mar	12:55	8S215	MFM	Arrival	10.3	-	-
20-Mar	13:00	3A064	YFT	Arrival	13.2	-	-
20-Mar	13:21	8S123	MFM	Departure	10.9	-	-
20-Mar	13:46	3A082	ZUI	Arrival	13.1	-	-
20-Mar	14:16	3A164	YFT	Departure	13.8	-	-
20-Mar	14:16	3A182	ZUI	Departure	12.7	-	-
20-Mar	14:58	3A065	YFT	Arrival	11.8	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT - Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
20-Mar	16:20	3A167	YFT	Departure	12.5	-	-
20-Mar	16:36	3A083	ZUI	Arrival	13.3	-	-
20-Mar	16:43	8S218	MFM	Arrival	11.4	-	-
20-Mar	16:54	3A067	YFT	Arrival	13.5	-	-
20-Mar	17:01	8S126	MFM	Departure	10.1	1	-
20-Mar	17:03	3A183	ZUI	Departure	13.9	1	-
20-Mar	19:12	3A166	YFT	Departure	11.8	-	-
20-Mar	19:50	3A084	ZUI	Arrival	12.9	1	-
20-Mar	20:14	3A185	ZUI	Departure	13.3	-	-
20-Mar	20:58	3A169	YFT	Departure	12.9	-	-
20-Mar	21:08	8S2113	MFM	Arrival	12.1	-	-
21-Mar	08:14	3A061	YFT	Arrival	11.2	-	-
21-Mar	08:36	8S210	MFM	Arrival	10.5	-	-
21-Mar	09:49	3A071	MFM	Arrival	12.0	1	-
21-Mar	10:40	3A081	ZUI	Arrival	13.3	-	-
21-Mar	10:42	8S212	MFM	Arrival	11.8	-	-
21-Mar	11:07	8S121	MFM	Departure	10.8	-	-
21-Mar	11:31	3A063	YFT	Arrival	12.5	-	-
21-Mar	12:14	3A168	YFT	Departure	11.8	-	-
21-Mar	12:14	3A181	ZUI	Departure	12.6	-	-
21-Mar	12:47	8S215	MFM	Arrival	13.3	-	-
21-Mar	12:57	3A064	YFT	Arrival	11.6	-	-
21-Mar	13:12	8S123	MFM	Departure	12.0	-	-
21-Mar	13:52	3A082	ZUI	Arrival	12.8	-	-
21-Mar	14:16	3A164	YFT	Departure	11.1	-	-
21-Mar	14:21	3A182	ZUI	Departure	13.3	-	-
21-Mar	14:57	3A065	YFT	Arrival	12.8	-	-
21-Mar	16:18	3A167	YFT	Departure	12.0	-	-
21-Mar	16:33	3A083	ZUI	Arrival	11.4	-	-
21-Mar	16:41	8S218	MFM	Arrival	10.6	-	-
21-Mar	16:54	3A067	YFT	Arrival	11.7	-	-
21-Mar	16:58	3A183	ZUI	Departure	13.1	-	-
21-Mar	17:07	8S126	MFM	Departure	13.2	-	-
21-Mar	19:05	3A166	YFT	Departure	10.8	-	-
21-Mar	19:44	3A084	ZUI	Arrival	13.6	-	-
21-Mar	20:06	3A185	ZUI	Departure	13.5	-	-
21-Mar	20:54	8S2113	MFM	Arrival	12.2	-	-
21-Mar	20:58	3A169	YFT	Departure	12.8	-	-
22-Mar	08:23	3A061	YFT	Arrival	13.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
22-Mar	08:25	8S210	MFM	Arrival	12.6	-	-
22-Mar	09:51	3A071	MFM	Arrival	13.2	-	-
22-Mar	10:40	8S212	MFM	Arrival	12.1	-	-
22-Mar	10:53	3A081	ZUI	Arrival	13.0	-	-
22-Mar	11:02	8S121	MFM	Departure	11.7	-	-
22-Mar	11:27	3A063	YFT	Arrival	10.6	-	-
22-Mar	12:19	3A168	YFT	Departure	12.5	-	-
22-Mar	12:23	3A181	ZUI	Departure	13.6	-	-
22-Mar	12:52	8S215	MFM	Arrival	12.8	-	-
22-Mar	13:06	3A064	YFT	Arrival	13.0	-	-
22-Mar	13:16	8S123	MFM	Departure	12.9	-	-
22-Mar	13:48	3A082	ZUI	Arrival	12.9	-	-
22-Mar	14:20	3A164	YFT	Departure	13.3	-	-
22-Mar	14:20	3A182	ZUI	Departure	14.0	-	-
22-Mar	14:55	3A065	YFT	Arrival	11.7	-	-
22-Mar	16:16	3A167	YFT	Departure	11.9	-	-
22-Mar	16:37	3A083	ZUI	Arrival	13.8	-	-
22-Mar	16:46	8S218	MFM	Arrival	11.9	-	-
22-Mar	17:02	3A067	YFT	Arrival	13.4	-	-
22-Mar	17:02	3A183	ZUI	Departure	13.4	-	-
22-Mar	17:05	8S126	MFM	Departure	12.9	-	-
22-Mar	19:04	3A166	YFT	Departure	12.6	-	-
22-Mar	19:42	3A084	ZUI	Arrival	14.0	-	-
22-Mar	20:07	3A185	ZUI	Departure	12.3	-	-
22-Mar	20:51	8S2113	MFM	Arrival	9.7	-	-
22-Mar	21:11	3A169	YFT	Departure	12.2	≤5	<1
22-Mar	22:07	8S522	MFM	Departure	13.1	-	-
23-Mar	08:13	3A061	YFT	Arrival	12.2	-	-
23-Mar	08:30	8S210	MFM	Arrival	12.5	-	-
23-Mar	09:42	3A071	MFM	Arrival	12.7	-	-
23-Mar	10:36	3A081	ZUI	Arrival	13.6	-	-
23-Mar	10:36	8S212	MFM	Arrival	12.2	-	-
23-Mar	11:07	8S121	MFM	Departure	13.0	-	-
23-Mar	11:28	3A063	YFT	Arrival	12.2	-	-
23-Mar	12:09	3A181	ZUI	Departure	12.5	-	-
23-Mar	12:15	3A168	YFT	Departure	12.3	-	-
23-Mar	12:37	8S215	MFM	Arrival	12.0	-	-
23-Mar	12:54	3A064	YFT	Arrival	12.3	-	-
23-Mar	13:15	8S123	MFM	Departure	12.0	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
23-Mar	13:48	3A082	ZUI	Arrival	12.4	-	-
23-Mar	14:21	3A182	ZUI	Departure	13.2	-	-
23-Mar	14:22	3A164	YFT	Departure	12.4	-	-
23-Mar	14:57	3A065	YFT	Arrival	11.6	-	-
23-Mar	16:10	3A167	YFT	Departure	12.2	-	-
23-Mar	16:34	3A083	ZUI	Arrival	11.3	-	-
23-Mar	16:37	8S218	MFM	Arrival	11.2	-	-
23-Mar	16:54	3A183	ZUI	Departure	12.6	-	-
23-Mar	16:56	3A067	YFT	Arrival	11.6	-	-
23-Mar	17:00	8S126	MFM	Departure	10.6	-	-
23-Mar	19:10	3A166	YFT	Departure	12.7	-	-
23-Mar	19:44	3A084	ZUI	Arrival	14.0	-	-
23-Mar	20:04	3A185	ZUI	Departure	13.4	-	-
23-Mar	20:54	3A169	YFT	Departure	12.5	-	-
23-Mar	21:05	8S2113	MFM	Arrival	11.4	-	-
23-Mar	21:53	8S522	MFM	Departure	11.7	-	-
24-Mar	08:16	3A061	YFT	Arrival	11.2	-	-
24-Mar	08:31	8S210	MFM	Arrival	10.4	-	-
24-Mar	09:55	3A071	MFM	Arrival	12.5	-	-
24-Mar	10:40	3A081	ZUI	Arrival	13.6	-	-
24-Mar	10:43	8S212	MFM	Arrival	10.9	-	-
24-Mar	11:11	8S121	MFM	Departure	12.6	-	-
24-Mar	11:21	3A063	YFT	Arrival	12.3	-	-
24-Mar	12:18	3A181	ZUI	Departure	13.1	-	-
24-Mar	12:21	3A168	YFT	Departure	12.4	-	-
24-Mar	12:51	8S215	MFM	Arrival	11.8	-	-
24-Mar	12:58	3A064	YFT	Arrival	12.0	-	-
24-Mar	13:15	8S123	MFM	Departure	11.6	-	-
24-Mar	13:56	3A082	ZUI	Arrival	12.7	-	-
24-Mar	14:17	3A182	ZUI	Departure	13.5	-	-
24-Mar	14:26	3A164	YFT	Departure	13.0	-	-
24-Mar	15:00	3A065	YFT	Arrival	10.8	-	-
24-Mar	16:17	3A167	YFT	Departure	12.8	-	-
24-Mar	16:33	3A083	ZUI	Arrival	14.0	-	-
24-Mar	16:42	8S218	MFM	Arrival	11.5	-	-
24-Mar	16:58	3A067	YFT	Arrival	11.6	-	-
24-Mar	16:58	3A183	ZUI	Departure	13.1	-	-
24-Mar	17:00	8S126	MFM	Departure	12.5	-	-
24-Mar	19:00	3A166	YFT	Departure	12.8	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
24-Mar	19:40	3A084	ZUI	Arrival	14.0	-	-
24-Mar	20:01	3A185	ZUI	Departure	13.5	-	-
24-Mar	20:50	8S2113	MFM	Arrival	9.4	-	-
24-Mar	20:58	3A169	YFT	Departure	12.9	-	-
24-Mar	21:58	8S522	MFM	Departure	13.2	-	-
25-Mar	08:17	3A061	YFT	Arrival	12.4	-	-
25-Mar	08:35	8S210	MFM	Arrival	11.7	-	-
25-Mar	09:47	3A071	MFM	Arrival	11.4	-	-
25-Mar	10:38	3A081	ZUI	Arrival	13.9	-	-
25-Mar	10:43	8S212	MFM	Arrival	12.0	-	-
25-Mar	11:02	8S121	MFM	Departure	12.8	-	-
25-Mar	11:18	3A063	YFT	Arrival	12.7	-	-
25-Mar	12:11	3A168	YFT	Departure	12.9	-	-
25-Mar	12:17	3A181	ZUI	Departure	12.5	-	-
25-Mar	12:48	8S215	MFM	Arrival	12.3	-	-
25-Mar	13:09	3A064	YFT	Arrival	12.1	-	-
25-Mar	13:20	8S123	MFM	Departure	10.0	-	-
25-Mar	13:48	3A082	ZUI	Arrival	12.8	-	-
25-Mar	14:18	3A164	YFT	Departure	12.7	-	-
25-Mar	14:21	3A182	ZUI	Departure	13.0	-	-
25-Mar	14:57	3A065	YFT	Arrival	12.2	-	-
25-Mar	16:11	3A167	YFT	Departure	12.9	-	-
25-Mar	16:40	3A083	ZUI	Arrival	13.2	-	-
25-Mar	16:41	8S218	MFM	Arrival	11.7	-	-
25-Mar	16:59	3A183	ZUI	Departure	13.2	-	-
25-Mar	17:01	8S126	MFM	Departure	10.9	-	-
25-Mar	17:06	3A067	YFT	Arrival	12.1	-	-
25-Mar	19:02	3A166	YFT	Departure	13.0	-	-
25-Mar	19:54	3A084	ZUI	Arrival	12.4	-	-
25-Mar	20:16	3A185	ZUI	Departure	13.8	-	-
25-Mar	21:02	8S2113	MFM	Arrival	11.7	-	-
25-Mar	21:19	3A169	YFT	Departure	13.0	≤5	<1
25-Mar	21:58	8S522	MFM	Departure	12.1	-	-
26-Mar	08:22	3A061	YFT	Arrival	11.8	-	-
26-Mar	08:33	8S210	MFM	Arrival	10.7	-	-
26-Mar	09:56	3A071	MFM	Arrival	12.1	-	-
26-Mar	10:40	8S212	MFM	Arrival	11.9	-	-
26-Mar	10:46	3A081	ZUI	Arrival	13.8	-	-
26-Mar	11:12	8S121	MFM	Departure	11.7	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUL- Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
26-Mar	11:27	3A063	YFT	Arrival	11.7	-	-
26-Mar	12:16	3A181	ZUI	Departure	13.3	-	-
26-Mar	12:24	3A168	YFT	Departure	11.5	-	-
26-Mar	12:46	8S215	MFM	Arrival	12.1	-	-
26-Mar	13:02	3A064	YFT	Arrival	11.9	1	-
26-Mar	13:23	8S123	MFM	Departure	13.2	1	-
26-Mar	13:45	3A082	ZUI	Arrival	12.3	-	-
26-Mar	14:25	3A164	YFT	Departure	11.5	1	-
26-Mar	14:32	3A182	ZUI	Departure	13.1	-	-
26-Mar	14:55	3A065	YFT	Arrival	12.2	-	-
26-Mar	16:19	3A167	YFT	Departure	12.3	-	-
26-Mar	16:39	8S218	MFM	Arrival	11.0	-	-
26-Mar	16:42	3A083	ZUI	Arrival	12.3	-	-
26-Mar	17:07	3A067	YFT	Arrival	11.4	-	-
26-Mar	17:12	3A183	ZUI	Departure	12.8	-	-
26-Mar	17:16	8S126	MFM	Departure	13.7	-	-
26-Mar	19:14	3A166	YFT	Departure	12.0	-	-
26-Mar	19:51	3A084	ZUI	Arrival	13.3	-	-
26-Mar	20:18	3A185	ZUI	Departure	13.2	-	-
26-Mar	20:53	8S2113	MFM	Arrival	13.0	-	-
26-Mar	21:03	3A169	YFT	Departure	12.1	-	-
26-Mar	21:52	8S522	MFM	Departure	13.2	-	-
27-Mar	08:21	3A061	YFT	Arrival	11.8	-	-
27-Mar	08:28	8S210	MFM	Arrival	13.1	-	-
27-Mar	10:01	3A071	MFM	Arrival	12.3	-	-
27-Mar	10:38	8S212	MFM	Arrival	12.8	-	-
27-Mar	10:48	3A081	ZUI	Arrival	13.1	-	-
27-Mar	11:06	8S121	MFM	Departure	12.5	-	-
27-Mar	11:31	3A063	YFT	Arrival	12.7	-	-
27-Mar	12:17	3A168	YFT	Departure	12.8	-	-
27-Mar	12:19	3A181	ZUI	Departure	13.0	-	-
27-Mar	12:50	8S215	MFM	Arrival	13.1	-	-
27-Mar	13:00	3A064	YFT	Arrival	11.9	-	-
27-Mar	13:19	8S123	MFM	Departure	12.7	-	-
27-Mar	13:49	3A082	ZUI	Arrival	12.4	-	-
27-Mar	14:13	3A182	ZUI	Departure	13.2	-	-
27-Mar	14:22	3A164	YFT	Departure	12.1	-	-
27-Mar	15:00	3A065	YFT	Arrival	13.1	-	-
27-Mar	16:21	3A167	YFT	Departure	13.3	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
27-Mar	16:33	3A083	ZUI	Arrival	12.8	-	-
27-Mar	16:40	8S218	MFM	Arrival	13.4	-	-
27-Mar	17:03	3A067	YFT	Arrival	11.8	-	-
27-Mar	17:04	8S126	MFM	Departure	13.1	-	-
27-Mar	17:05	3A183	ZUI	Departure	13.4	-	-
27-Mar	19:03	3A166	YFT	Departure	12.8	-	-
27-Mar	19:47	3A084	ZUI	Arrival	13.0	-	-
27-Mar	20:12	3A185	ZUI	Departure	12.4	-	-
27-Mar	20:49	8S2113	MFM	Arrival	12.2	-	-
27-Mar	20:55	3A169	YFT	Departure	12.9	-	-
27-Mar	22:03	8S522	MFM	Departure	12.7	-	-
28-Mar	08:19	3A061	YFT	Arrival	12.4	-	-
28-Mar	08:30	8S210	MFM	Arrival	12.7	-	-
28-Mar	09:50	3A071	MFM	Arrival	10.5	-	-
28-Mar	10:38	3A081	ZUI	Arrival	13.4	-	-
28-Mar	10:42	8S212	MFM	Arrival	11.8	-	-
28-Mar	11:10	8S121	MFM	Departure	12.6	-	-
28-Mar	11:21	3A063	YFT	Arrival	12.5	-	-
28-Mar	12:17	3A168	YFT	Departure	13.3	-	-
28-Mar	12:18	3A181	ZUI	Departure	13.5	-	-
28-Mar	13:01	3A064	YFT	Arrival	12.3	-	-
28-Mar	13:01	8S215	MFM	Arrival	11.6	-	-
28-Mar	13:21	8S123	MFM	Departure	10.9	-	-
28-Mar	13:45	3A082	ZUI	Arrival	13.1	-	-
28-Mar	14:12	3A164	YFT	Departure	12.3	-	-
28-Mar	14:17	3A182	ZUI	Departure	12.8	-	-
28-Mar	15:07	3A065	YFT	Arrival	12.4	-	-
28-Mar	16:16	3A167	YFT	Departure	12.5	-	-
28-Mar	16:33	3A083	ZUI	Arrival	13.2	-	-
28-Mar	16:42	8S218	MFM	Arrival	11.4	-	-
28-Mar	17:01	3A067	YFT	Arrival	12.0	-	-
28-Mar	17:07	3A183	ZUI	Departure	12.7	-	-
28-Mar	17:09	8S126	MFM	Departure	12.1	-	-
28-Mar	19:03	3A166	YFT	Departure	13.0	-	-
28-Mar	19:58	3A084	ZUI	Arrival	13.0	-	-
28-Mar	20:17	3A185	ZUI	Departure	12.9	-	-
28-Mar	20:53	3A169	YFT	Departure	12.8	-	-
28-Mar	21:03	8S2113	MFM	Arrival	11.9	-	-
29-Mar	08:15	3A061	YFT	Arrival	12.3	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT - Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
29-Mar	08:36	8S210	MFM	Arrival	11.6	-	-
29-Mar	10:04	3A071	MFM	Arrival	11.3	-	-
29-Mar	10:36	8S212	MFM	Arrival	11.4	-	-
29-Mar	10:38	3A081	ZUI	Arrival	13.7	-	-
29-Mar	10:57	3A063	YFT	Arrival	10.7	-	-
29-Mar	11:00	8S121	MFM	Departure	11.9	-	-
29-Mar	12:10	3A168	YFT	Departure	11.5	-	-
29-Mar	12:17	3A181	ZUI	Departure	13.0	-	-
29-Mar	12:43	8S215	MFM	Arrival	11.2	-	-
29-Mar	12:56	3A064	YFT	Arrival	12.8	-	-
29-Mar	13:16	8S123	MFM	Departure	11.4	-	-
29-Mar	13:45	3A082	ZUI	Arrival	12.8	-	-
29-Mar	14:20	3A182	ZUI	Departure	13.0	-	-
29-Mar	14:23	3A164	YFT	Departure	13.3	-	-
29-Mar	14:59	3A065	YFT	Arrival	11.8	-	-
29-Mar	16:15	3A083	ZUI	Arrival	13.9	≤5	<1
29-Mar	16:20	3A167	YFT	Departure	11.6	-	-
29-Mar	16:39	8S218	MFM	Arrival	12.2	-	-
29-Mar	16:57	3A067	YFT	Arrival	12.7	-	-
29-Mar	17:02	3A183	ZUI	Departure	12.6	-	-
29-Mar	17:21	8S126	MFM	Departure	12.3	-	-
29-Mar	19:08	3A166	YFT	Departure	13.0	-	-
29-Mar	19:45	3A084	ZUI	Arrival	13.3	-	-
29-Mar	20:09	3A185	ZUI	Departure	13.4	-	-
29-Mar	20:56	8S2113	MFM	Arrival	12.2	-	-
29-Mar	21:03	3A169	YFT	Departure	12.2	-	-
29-Mar	22:00	8S522	MFM	Departure	13.6	-	-
30-Mar	08:12	3A061	YFT	Arrival	11.7	-	-
30-Mar	08:24	8S210	MFM	Arrival	12.0	-	-
30-Mar	09:50	3A071	MFM	Arrival	12.9	-	-
30-Mar	10:37	8S212	MFM	Arrival	12.2	-	-
30-Mar	10:49	3A081	ZUI	Arrival	11.7	-	-
30-Mar	11:11	8S121	MFM	Departure	12.6	-	-
30-Mar	11:22	3A063	YFT	Arrival	11.9	-	-
30-Mar	12:17	3A181	ZUI	Departure	12.9	-	-
30-Mar	12:17	3A168	YFT	Departure	13.3	-	-
30-Mar	12:44	8S215	MFM	Arrival	12.7	-	-
30-Mar	12:58	3A064	YFT	Arrival	12.6	-	-
30-Mar	13:13	8S123	MFM	Departure	12.9	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
30-Mar	13:47	3A082	ZUI	Arrival	12.6	-	-
30-Mar	14:11	3A182	ZUI	Departure	13.7	1	1
30-Mar	14:13	3A164	YFT	Departure	12.4	-	1
30-Mar	15:11	3A065	YFT	Arrival	11.5	-	-
30-Mar	16:11	3A167	YFT	Departure	12.4	-	1
30-Mar	16:37	3A083	ZUI	Arrival	12.5	-	-
30-Mar	16:45	8S218	MFM	Arrival	12.3	-	-
30-Mar	17:04	8S126	MFM	Departure	13.4	-	-
30-Mar	17:05	3A183	ZUI	Departure	12.5	-	-
30-Mar	17:06	3A067	YFT	Arrival	12.0	-	-
30-Mar	19:15	3A166	YFT	Departure	12.9	>5 and ≤15	<1
30-Mar	19:46	3A084	ZUI	Arrival	13.1	-	-
30-Mar	20:10	3A185	ZUI	Departure	13.1	-	-
30-Mar	21:02	8S2113	MFM	Arrival	11.7	-	1
30-Mar	21:02	3A169	YFT	Departure	11.4	-	-
30-Mar	21:56	8S522	MFM	Departure	12.0	-	-
31-Mar	08:30	3A061	YFT	Arrival	12.6	-	-
31-Mar	08:54	8S210	MFM	Arrival	13.5	-	-
31-Mar	10:05	3A071	MFM	Arrival	13.0	-	-
31-Mar	10:49	3A081	ZUI	Arrival	13.3	-	-
31-Mar	10:53	8S212	MFM	Arrival	13.0	-	-
31-Mar	11:13	8S121	MFM	Departure	11.2	-	-
31-Mar	11:19	3A063	YFT	Arrival	13.2	-	-
31-Mar	12:17	3A181	ZUI	Departure	13.2	-	1
31-Mar	12:20	3A168	YFT	Departure	13.7	-	1
31-Mar	12:55	8S215	MFM	Arrival	12.4	-	-
31-Mar	13:00	3A064	YFT	Arrival	13.0	-	-
31-Mar	13:15	8S123	MFM	Departure	11.9	-	1
31-Mar	13:46	3A082	ZUI	Arrival	13.4	-	-
31-Mar	14:17	3A182	ZUI	Departure	13.2	-	-
31-Mar	14:22	3A164	YFT	Departure	12.5	≤5	<1
31-Mar	14:53	3A065	YFT	Arrival	14.1	-	-
31-Mar	16:13	3A167	YFT	Departure	13.5	-	-
31-Mar	16:28	3A083	ZUI	Arrival	13.0	≤5	<1
31-Mar	16:49	8S218	MFM	Arrival	12.4	-	-
31-Mar	16:59	3A067	YFT	Arrival	12.7	-	-
31-Mar	17:08	3A183	ZUI	Departure	12.4	-	-
31-Mar	17:13	8S126	MFM	Departure	12.0	-	-
31-Mar	19:20	3A166	YFT	Departure	10.8	>5 and ≤15	<1

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT - Macao (Taipa) ZUL - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
31-Mar	19:48	3A084	ZUI	Arrival	13.0	-	-
31-Mar	20:11	3A185	ZUI	Departure	13.3	-	-
31-Mar	21:04	8S2113	MFM	Arrival	11.3	-	-
31-Mar	21:05	3A169	YFT	Departure	12.5	-	-
31-Mar	21:59	8S522	MFM	Departure	12.0	-	-

Follow-up on instantaneous speeding

Referring to the data of SkyPier HSF movements in March 2017, instantaneous speeding (i.e. a sudden change in speed at over 15 knots for a short period of time) within the SCZ was recorded from 11 HSF movements. The duration of instantaneous speeding of all the movements were less than one minute. After investigation, the AIS data and ferry operators' responses showed the cases were due to local strong water currents / giving way to other vessels, which are public safety / emergency reasons. The captain had reduced speed and maintained the speed at less than 15 knots after the public safety / emergency incidents.

Three HSF movements with insufficient transmission of AIS data received in March 2017. AIS data was retrieved from other sources such as Marine Traffic Data and Shipxy. Vessel captain was also requested to provide the radar track photos which indicated the vessel entered the SCZ though the gate access point and no speeding in the SCZ.