

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances						
					Notification No.: 20180806DO_v3	
Date of Notification: 10 August 2018			Date of Investigation Report: 4 September 2018			
Works Inspected: Data collected from water sampling works on 6 August 2018 and the results were issued on 10 August 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO) / Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS8	Bottom	Surface and Middle 5.0 mg/L Bottom 4.7 mg/L	Surface and Middle 4.2 mg/L (except 5 mg/L for FCZ) Bottom 3.6 mg/L	4.3	5.9
DO	IS10(N)	Surface and Middle			4.4	5.2
DO	IS10(N)	Bottom			<u>3.1</u>	<u>3.2</u>
DO	IS(Mf)11	Bottom			<u>3.5</u>	4.0
DO	IS17	Surface and Middle			4.9	5.2
DO	IS17	Bottom			4.4	4.1
DO	SR4(N)	Surface and Middle			4.9	6.2
DO	SR4(N)	Bottom			3.9	6.0
DO	SR5(N)	Surface and Middle			4.8	5.3
DO	SR5(N)	Bottom			3.6	<u>3.4</u>
DO	SR6	Bottom			3.7	4.8
DO	SR10A(N)	Bottom			5.1	4.1
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. Bold with underline means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 6 August 2018, 9 AL exceedances of DO at station IS8, IS10(N), IS17, SR4(N), SR5(N) and SR6 were recorded during mid-ebb tide. Three AL exceedances of DO at stations IS(Mf)11, IS17 and SR10A(N) were recorded during mid-flood tide. Two LL exceedances of DO at stations IS10(N) and IS(Mf)11 were recorded during mid-ebb tide while two LL exceedances of DO at stations IS10(N) and SR5(N) were recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 6 August 2018. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by registered collector. No organic matter discharge/ accumulation at active works areas on 6 August 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017. ET (Contract No. HY/2013/02) confirmed that no any organic matter discharge/accumulation at active works areas under Contract HY/2013/02 was observed on the date of exceedance with respect to the exceedance in DO.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, no organic matter discharge or accumulation at active works areas on 6 August 2018 under Contract No. HY/2013/03. The marine-based works in Box Culvert B had been completed. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused exceedance recorded at the concerned WQM station on 6 August 2018.

During weekly site audit on 27 July 2018, 2 and 6 August 2018, ET confirmed the Contractor had provided workable and effective water quality mitigation measures.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 6 August 2018. Furthermore, there was no visible observation of any discharge or accumulation of organic matter at the active works areas within HY/2013/04 site area on 6 August 2018.

While the subject exceedance on 6 August 2018 was recorded at IS8, IS10(N), IS(Mf)11, IS17, SR4(N), SR5(N), SR6 and SR10A(N), no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters.

HY/2013/04 site shoreline interfacing with open waters was inspected during ET's regular weekly site inspections on 30 July 2018 (between 09:45 and 10:15) and 8 August 2018 (between 14:10 and 14:25). There were no observations referring to water quality mitigation measures associated with that shoreline. It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. in situ measurement was repeated to confirm findings;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the dissolved oxygen exceedance was attributed to active construction activities of this Contract;
 3. EPD, IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the dissolved oxygen exceedances are unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03

During weekly site audit on 27 July 2018, 2 and 6 August 2018, ET (Contract No. HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by: Keith Chau Title: Environmental Team Leader
(Contract No. HY/2013/01)

Signature:  Date: 4 September 2018

Copied to : EPD, Contractor, Engineer Representative and IEC/ENPO

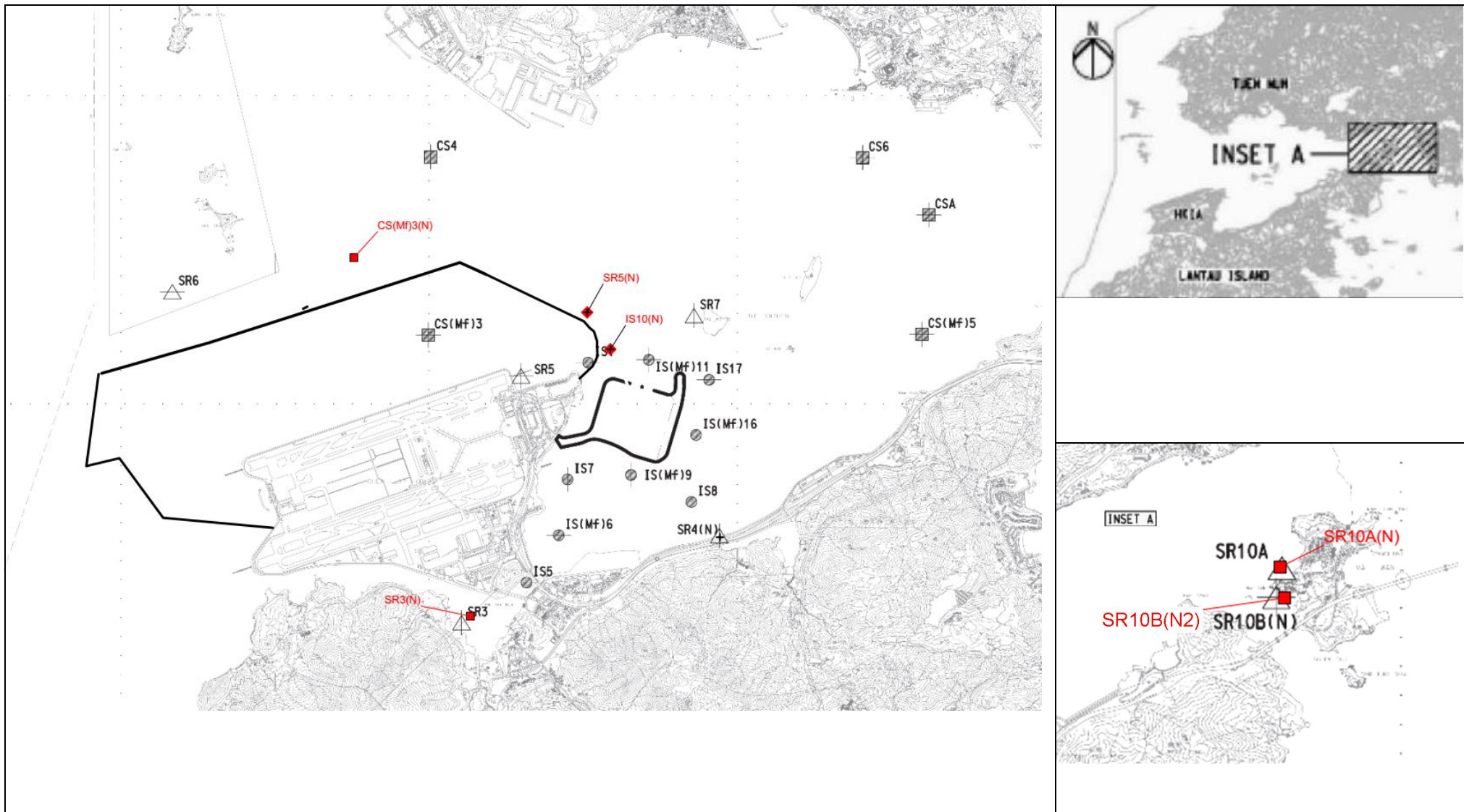


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances						
				Notification No.: 20180808DO_v3		
Date of Notification: 14 August 2018			Date of Investigation Report: 17 September 2018			
Works Inspected: Data collected from water sampling works on 8 August 2018 and the results were issued on 13 August 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO) / Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS5	Surface and Middle	Surface and Middle 5.0 mg/L Bottom 4.7 mg/L	Surface and Middle 4.2 mg/L (except 5 mg/L for FCZ) Bottom 3.6 mg/L	<u>3.7</u>	6.6
DO	IS5	Bottom			<u>2.9</u>	3.7
DO	IS7	Surface and Middle			4.4	7.4
DO	IS8	Bottom			3.6	5.9
DO	IS10(N)	Surface and Middle			4.4	4.7
DO	IS10(N)	Bottom			3.8	3.9
DO	IS(Mf)11	Surface and Middle			5.3	4.6
DO	IS(Mf)11	Bottom			4.4	3.7
DO	IS(Mf)16	Surface and Middle			4.7	6.7
DO	IS17	Bottom			4.5	5.3
DO	SR4(N)	Bottom			3.8	5.1
DO	SR5(N)	Surface and Middle			4.8	6.0
DO	SR5(N)	Bottom			3.7	4.1
DO	SR6	Surface and Middle			4.2	4.3
DO	SR6	Bottom			3.8	4.1
DO	SR10A(N)	Surface and Middle			<u>4.9</u>	<u>4.8</u>
DO	SR10A(N)	Bottom			3.8	4.6
DO	SR10B(N2)	Bottom			4.6	5.0

Notes:

AL means Action Level.

LL means Limit Level.

Bold means AL exceedances.

Bold with underline means LL exceedances.

Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4

Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action / Limit Level Non-compliance:

On 8 August 2018, 14 AL exceedances of DO at station IS7, IS8, IS10(N), IS(Mf)11, IS(Mf)16, IS17, SR4(N), SR5(N), SR6, SR10A(N) and SR10B(N2) were recorded during mid-ebb tide. Nine AL exceedances of DO at stations IS5, IS10(N), IS(Mf)11, SR5(N), SR6 and SR10A(N) were recorded during mid-flood tide. Three LL exceedances of DO at stations IS5 and SR10A(N) were recorded during mid-ebb tide while one LL exceedances of DO at stations SR10A(N) was recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 8 August 2018. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by registered collector. No organic matter discharge/ accumulation at active works areas on 8 August 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017. ET (Contract No. HY/2013/02) confirmed that no any organic matter discharge/accumulation at active works areas under Contract HY/2013/02 was observed on the date of exceedance with respect to the exceedance in DO.

Contract No.: HY/2013/03

During weekly site audit on 2, 6 and 17 August 2018, ET of Contract No. HY/2013/03 confirmed the Contractor had provided workable and effective water quality mitigation measures. The ET of Contract No. HY/2013/03 concluded that the captioned exceedance was not related to the construction site activities of the contract. As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, no organic matter discharge or accumulation at active works areas on 8 August 2018 under Contract No. HY/2013/03. The marine-based works in Box Culvert B had been completed. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused exceedance recorded at the concerned WQM station on 8 August 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 8 August 2018. Furthermore, there was no visible observation of any discharge or accumulation of organic matter at the active works areas within HY/2013/04 site area on 8 August 2018. While the subject exceedances on 8 August 2018 were recorded at IS5, IS7, IS8, IS10(N), IS(Mf)11, IS(Mf)16, IS17, SR4(N), SR5(N), SR6, SR10A(N), SR10B(N2), no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. HY/2013/04 site shoreline interfacing with open waters was inspected during ET's regular weekly site inspection on 8 August 2018 (between 14:10 and 14:25). There were no observations referring to water quality mitigation measures associated with that shoreline. It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. in situ measurement was repeated to confirm findings;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the dissolved oxygen exceedance was attributed to active construction activities of this Contract;
 3. EPD, IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the dissolved oxygen exceedances are unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03

During weekly site audit on 2, 6 and 17 August 2018, ET (Contract No. HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures. The ET of Contract No. HY/2013/03 concluded that the captioned exceedance was not related to the construction site activities of the contract.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by: Keith Chau Title: Environmental Team Leader
(Contract No. HY/2013/01)

Signature:  Date: 17 September 2018

Copied to : EPD, Contractor, Engineer Representative and IEC/ENPO

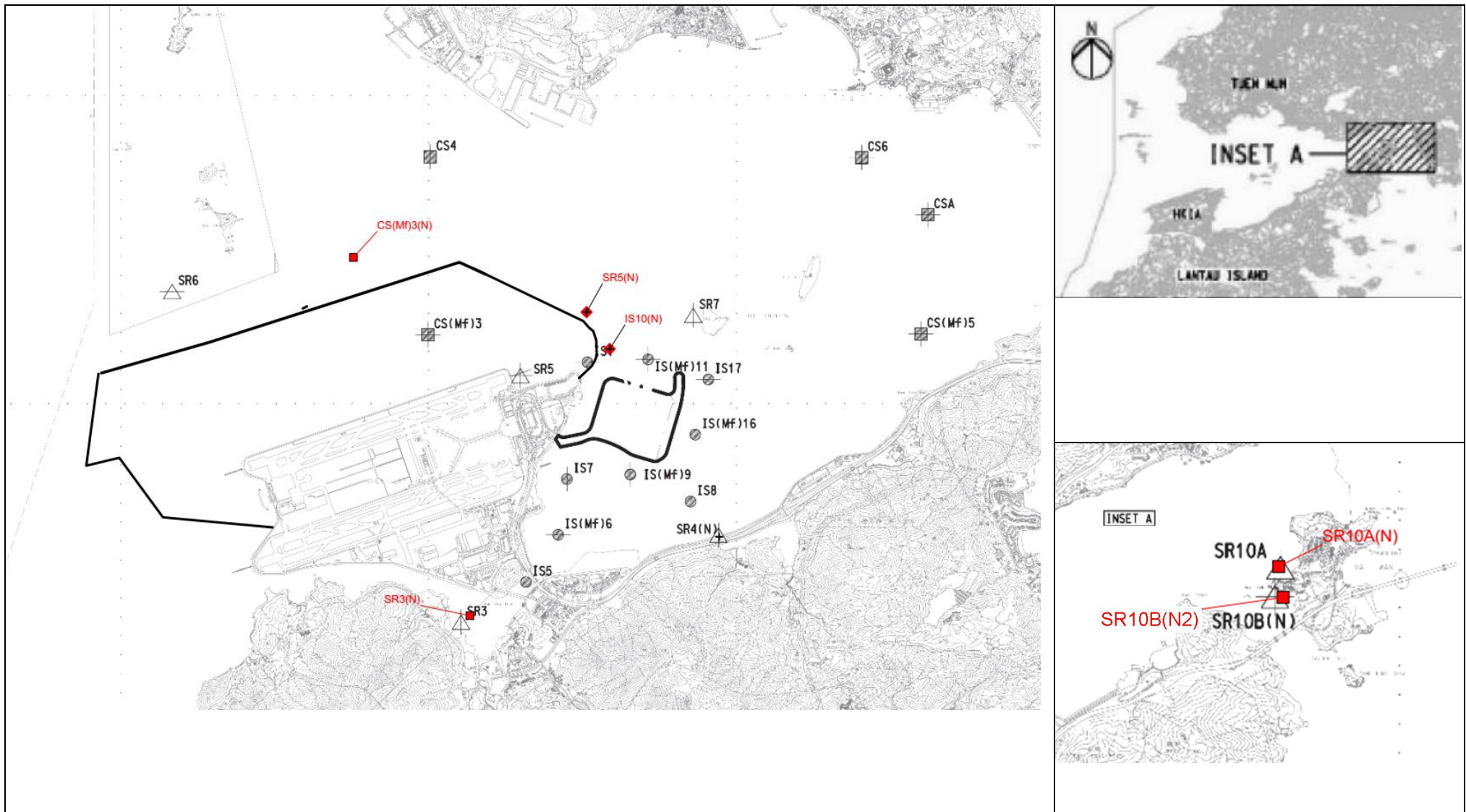


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances						
				Notification No.: 20180810DO_SS_v3		
Date of Notification: 17 August 2018			Date of Investigation Report: 18 September 2018			
Works Inspected: Data collected from water sampling works on 10 August 2018. Results for in-situ data were issued on 14 August 2018 and the results for SS data were issued on 17 August 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS(Mf)16	Bottom	Surface and Middle 5.0 mg/L Bottom 4.7 mg/L	Surface and Middle 4.2 mg/L (except 5 mg/L for FCZ) Bottom 3.6 mg/L	4.3	5.4
DO	SR6	Surface and Middle			5.3	4.7
DO	SR10A(N)	Surface and Middle			5.0	4.6
DO	SR10A(N)	Bottom			4.8	4.5
DO	SR10B(N2)	Surface and Middle			5.2	4.7
SS	IS(Mf)6	Depth Average	23.5 and 120% (i.e. 10.4 for mid-ebb/14.8 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 11.3 for mid-ebb/16.1 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	17.0	25.8
SS	IS7	Depth Average			24.6	18.9
SS	SR10A(N)	Depth Average			9.1	31.7
SS	SR10B(N2)	Depth Average			7.9	28.5
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. Bold with underline means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 10 August 2018, one AL exceedance of DO at station IS(Mf)16 was recorded during mid-ebb tide. Two AL exceedances of DO at stations SR6 and SR10A(N) were recorded during mid-flood tide. Two LL exceedances of DO at stations SR10A(N) and SR10B(N2) were recorded during mid-flood tide. For SS exceedances, one AL exceedance of SS at station IS7 was recorded during mid-ebb tide. Three AL exceedances of SS at stations IS(Mf)6, SR10A(N) and SR10B(N2) were recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 10 August 2018. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by registered collector. No organic matter discharge/ accumulation at active works areas on 10 August 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017. ET (Contract No. HY/2013/02) confirmed that no any organic matter discharge/accumulation at active works areas under Contract HY/2013/02 was observed on the date of exceedance with respect to the exceedance in DO.

Contract No.: HY/2013/03

During weekly site audit on 2, 6 and 17 August 2018, ET of Contract No. HY/2013/03 confirmed the Contractor had provided workable and effective water quality mitigation measures. The ET of Contract No. HY/2013/03 concluded that the captioned exceedance was not related to the construction site activities of the contract. As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, no organic matter discharge or accumulation at active works areas on 10 August 2018 under Contract No. HY/2013/03. The marine-based works in Box Culvert B had been completed. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused exceedance recorded at the concerned WQM station on 10 August 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 10 August 2018. Furthermore, there was no visible observation of any discharge or accumulation of organic matter at the active works areas within HY/2013/04 site area on 10 August 2018. While the subject exceedances on 10 August 2018 were recorded at IS(Mf)16, SR6, SR10A(N), SR10B(N2), IS(Mf)6 and IS7, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. HY/2013/04 site shoreline interfacing with open waters was inspected during ET's regular weekly site inspection on 8 August 2018 (between 14:10 and 14:25). There were no observations referring to water quality mitigation measures associated with that shoreline. It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. in situ measurement was repeated to confirm findings;
2. After considering the above-mentioned investigation results, it appears that it was unlikely that the dissolved oxygen and suspended solid exceedance was attributed to active construction activities of this Contract;
3. EPD, IEC, Contractor and ER were informed via email;
4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
5. Since it is considered that the dissolved oxygen and suspended solid exceedances are unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.

However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03

During weekly site audit on 2, 6 and 17 August 2018, ET (Contract No. HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures. The ET of Contract No. HY/2013/03 concluded that the captioned exceedance was not related to the construction site activities of the contract.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by: Keith Chau Title: Environmental Team Leader
(Contract No. HY/2013/01)

Signature:  Date: 18 September 2018

Copied to : EPD, Contractor, Engineer Representative and IEC/ENPO

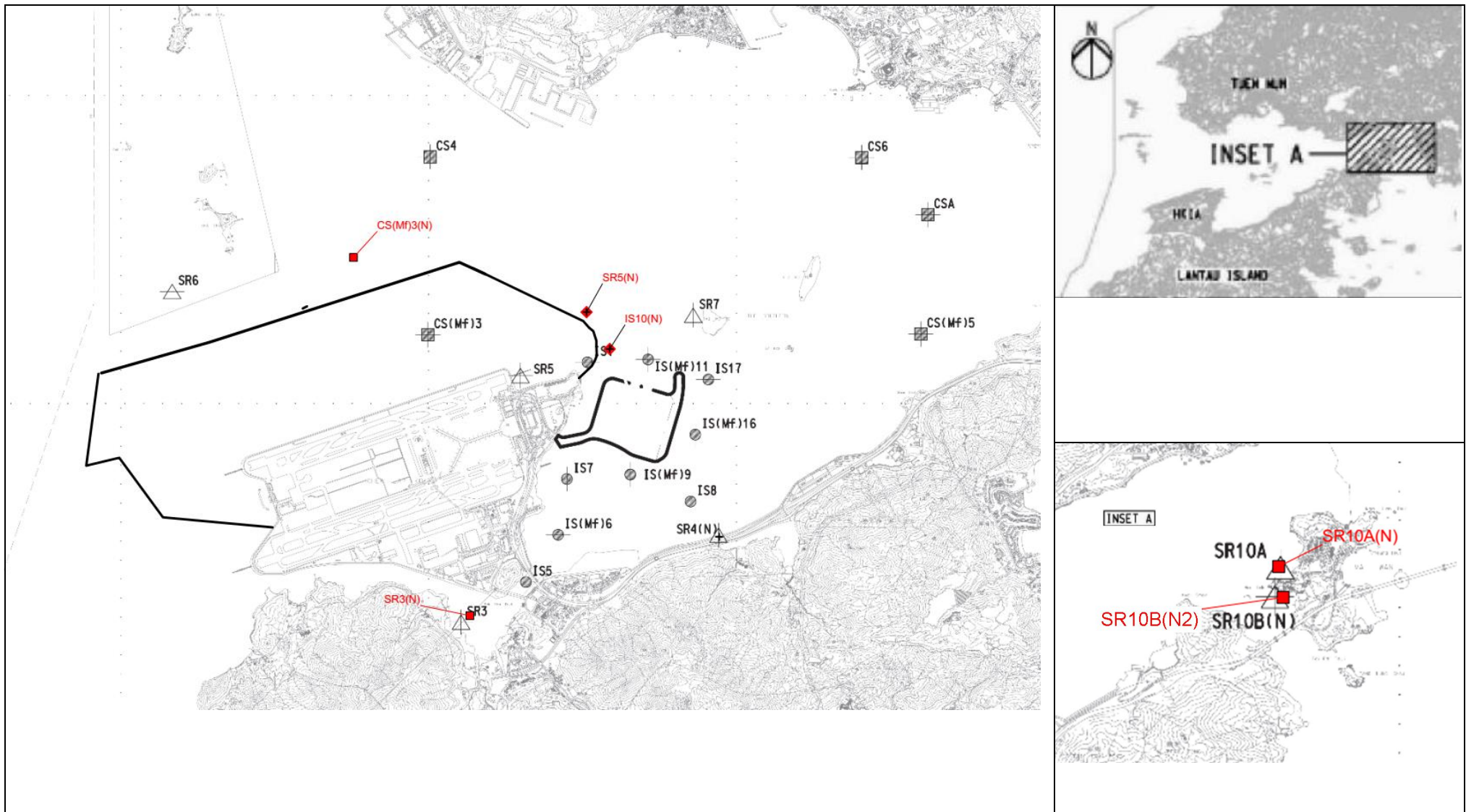


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances Notification No.: 20180813DO_SS_v2						
Date of Notification: 22 August 2018			Date of Investigation Report: 18 September 2018			
Works Inspected: Data collected from water sampling works on 13 August 2018. Results for in-situ data were issued on 15 August 2018 and the results for SS data were issued on 22 August 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS5	Surface and Middle	Surface and Middle 5.0 mg/L Bottom 4.7 mg/L	Surface and Middle 4.2 mg/L (except 5 mg/L for FCZ) Bottom 3.6 mg/L	4.9	5.0
DO	IS(Mf)6	Surface and Middle			4.9	5.0
DO	IS10(N)	Surface and Middle			5.2	4.9
DO	IS(Mf)16	Surface and Middle			5.2	4.8
DO	IS(Mf)16	Bottom			4.7	4.2
DO	IS17	Surface and Middle			5.1	4.9
DO	SR3(N)	Surface and Middle			4.9	5.1
DO	SR10A(N)	Surface and Middle			4.8	5.7
DO	SR10B(N2)	Surface and Middle			4.7	4.1
DO	SR10B(N2)	Bottom			4.7	4.2
SS	SR7	Depth Average	23.5 and 120% (i.e. 12.5 for mid-ebb/9.4 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 13.5 for mid-ebb/10.2 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	25.4	15.0

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action / Limit Level Non-compliance:

On 13 August 2018, three AL exceedances of DO at stations IS5, IS(Mf)6 and SR3(N) were recorded during mid-ebb tide. Five AL exceedances of DO at stations IS10(N), IS(Mf)16, IS17 and SR10B(N2) were recorded during mid-flood tide. While two LL exceedances of DO at stations SR10A(N) and SR10B(N2) were recorded during mid-ebb tide and one LL exceedance of DO at stations SR10B(N2) was recorded during mid-flood tide. For SS exceedances, one AL exceedance of SS at station SR7 was recorded during mid-ebb tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 13 August 2018. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by registered collector. No organic matter discharge/ accumulation at active works areas on 13 August 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017. ET (Contract No. HY/2013/02) confirmed that no any organic matter discharge/accumulation at active works areas under Contract HY/2013/02 was observed on the date of exceedance with respect to the exceedance in DO.

Contract No.: HY/2013/03

During weekly site audit on 2, 6 and 17 August 2018, ET of Contract No. HY/2013/03 confirmed the Contractor had provided workable and effective water quality mitigation measures. The ET of Contract No. HY/2013/03 concluded that the captioned exceedance was not related to the construction site activities of the contract. As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, all surplus filling materials transported from Contract No. HY/2013/03 to other projects by marine vessels have been completed with the last batch delivered on 24 March 2018, no organic matter discharge or accumulation at active works areas on 13 August 2018 under Contract No. HY/2013/03. The marine-based works in Box Culvert B had been completed. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused exceedance recorded at the concerned WQM station on 13 August 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 13 August 2018. Furthermore, there was no visible observation of any discharge or accumulation of organic matter at the active works areas within HY/2013/04 site area on 13 August 2018. While the subject exceedances on 13 August 2018 were recorded at IS5, IS(Mf)6, IS10(N), IS(Mf)16, IS17, SR3(N), SR10A(N), SR10B(N2) and SR7, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. HY/2013/04 site shoreline interfacing with open waters was inspected during ET's regular weekly site inspection on 8 August 2018 (between 14:10 and 14:25). There were no observations referring to water quality mitigation measures associated with that shoreline. It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. in situ measurement was repeated to confirm findings;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the dissolved oxygen and suspended solid exceedance was attributed to active construction activities of this Contract;
 3. EPD, IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the dissolved oxygen and suspended solid exceedances are unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03

During weekly site audit on 2, 6 and 17 August 2018, ET confirmed the Contractor had provided workable and effective water quality mitigation measures.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by: Keith Chau Title: Environmental Team Leader
(Contract No. HY/2013/01)

Signature:  Date: 18 September 2018

Copied to : EPD, Contractor, Engineer Representative and IEC/ENPO

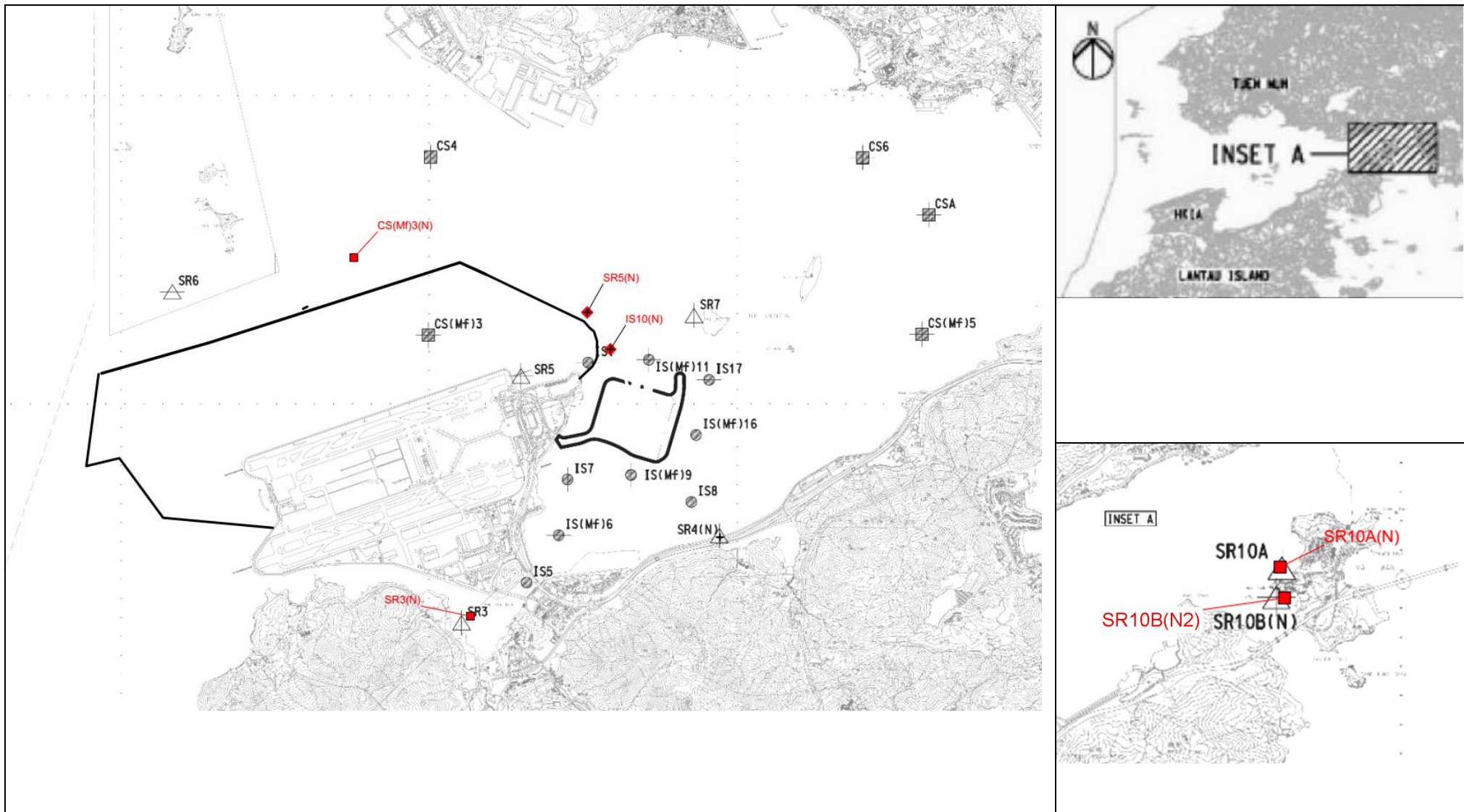


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances Notification No.: 20180815DO_TURB						
Date of Notification: 24 August 2018			Date of Investigation Report: 29 August 2018			
Works Inspected: Data collected from water sampling works on 15 August 2018 and the results were issued on 17 August 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE	MEASURED AT MID-FLOOD TIDE
DO	IS10(N)	Surface and Middle	Surface and Middle 5.0 mg/L Bottom 4.7 mg/L	Surface and Middle 4.2 mg/L (except 5 mg/L for FCZ) Bottom 3.6 mg/L	5.4 mg/L	4.9 mg/L
DO	SR10B(N2)	Surface and Middle			5.0 mg/L	4.3 mg/L
DO	SR10B(N2)	Bottom			5.0 mg/L	4.4 mg/L
TURB	SR7	Depth Average	27.5 NTU and 120% (i.e. 16.7 NTU for mid-ebb/14.6 NTU for mid-flood) of upstream control station's turbidity at the same tide of the same day	47.0 NTU and 130% (i.e. 18.1 NTU for mid-ebb/15.8 NTU for mid-flood) of upstream control station's turbidity at the same tide of the same day	29.1 NTU	22.3 NTU
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. <u>Bold with underline</u> means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 15 August 2018, two AL exceedances of DO at stations IS10(N) and SR10B(N2) were recorded during mid-flood tide while one LL exceedance of DO at station SR10B(N2) was recorded during mid-flood tide. And one AL exceedance of TURB at station SR7 was recorded during mid-ebb tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 15 August 2018. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by registered collector. No organic matter discharge/ accumulation at active works areas on 15 August 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017. ET (Contract No. HY/2013/02) confirmed that no any organic matter discharge/accumulation at active works areas under Contract HY/2013/02 was observed on the date of exceedance with respect to the exceedance in DO.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, all surplus filling materials transported from Contract No. HY/2013/03 to other projects by marine vessels have been completed with the last batch delivered on 24 March 2018, no organic matter discharge or accumulation at active works areas on 15 August 2018 under Contract No. HY/2013/03. The marine-based works in Box Culvert B had been completed. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused exceedance recorded at the concerned WQM station on 15 August 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 15 August 2018. Furthermore, there was no visible observation of any discharge or accumulation of organic matter at the active works areas within HY/2013/04 site area on 15 August 2018.

While the subject exceedances on 15 August 2018 were recorded at IS10(N), SR10B(N2) and SR7, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters.

HY/2013/04 site shoreline interfacing with open waters was inspected during ET's regular weekly site inspection on 15 August 2018 (between 14:55 and 15:25). There were no observations referring to water quality mitigation measures associated with that shoreline.

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

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. in situ measurement was repeated to confirm findings;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the dissolved oxygen and turbidity exceedance was attributed to active construction activities of this Contract;
 3. EPD, IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the dissolved oxygen and turbidity exceedances are unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03


During weekly site audit on 2, 6, 17 and 23 August 2018, ET (Contract No. HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by:	<u>Keith Chau</u>	Title:	<u>Environmental Team Leader (Contract No. HY/2013/01)</u>
Signature:	<u></u>	Date:	<u>29 August 2018</u>
Copied to	: EPD, Contractor, Engineer Representative and IEC/ENPO		

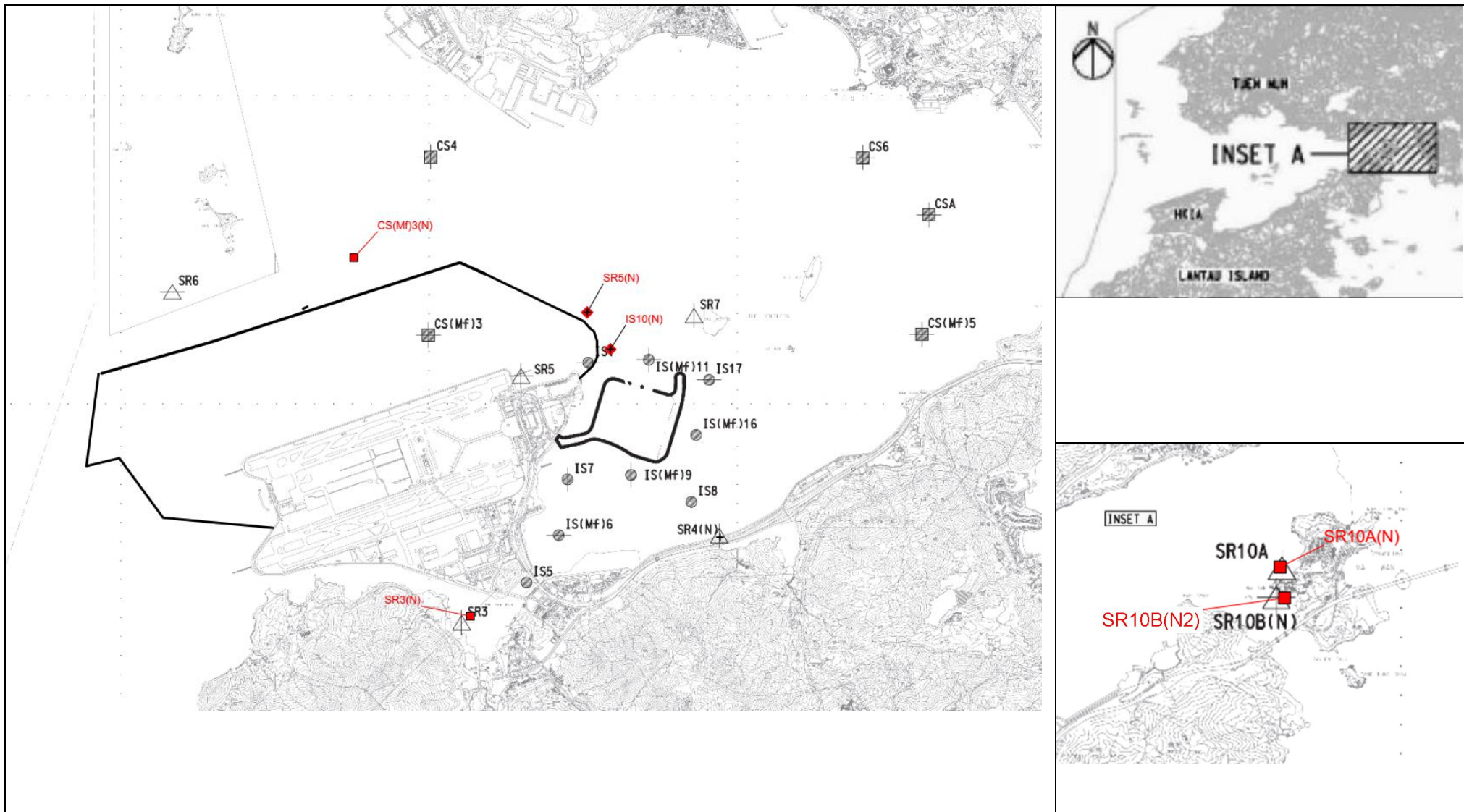


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances Notification No.: 20180817DO_v1						
Date of Notification: 21 August 2018			Date of Investigation Report: 10 September 2018			
Works Inspected: Data collected from water sampling works on 17 August 2018 and the results were issued on 21 August 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS17	Surface and Middle	Surface and Middle 5.0 mg/L Bottom 4.7 mg/L	Surface and Middle 4.2 mg/L (except 5 mg/L for FCZ) Bottom 3.6 mg/L	4.9	4.9
DO	SR4(N)	Surface and Middle			4.9	5.4
DO	SR10A(N)	Surface and Middle			<u>4.9</u>	5.0
DO	SR10B(N2)	Surface and Middle			<u>4.9</u>	<u>4.6</u>
DO	SR10B(N2)	Bottom			4.8	4.4
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. Bold with underline means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 17 August 2018, two AL exceedances of DO at stations IS17 and SR4(N) were recorded during mid-ebb tide. Two AL exceedances of DO at stations IS17 and SR10B(N2) were recorded during mid-flood tide. Two LL exceedances of DO at stations SR10A(N) and SR10B(N2) were recorded during mid-ebb tide. One LL exceedance of DO at station SR10B(N2) was recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 17 August 2018. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by registered collector. No organic matter discharge/ accumulation at active works areas on 17 August 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017. ET (Contract No. HY/2013/02) confirmed that no any organic matter discharge/accumulation at active works areas under Contract HY/2013/02 was observed on the date of exceedance with respect to the exceedance in DO.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, no organic matter discharge or accumulation at active works areas on 17 August 2018 under Contract No. HY/2013/03. The marine-based works in Box Culvert B had been completed. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused exceedance recorded at the concerned WQM station on 17 August 2018.

During weekly site audit on 2, 6 and 17 August 2018, ET confirmed the Contractor had provided workable and effective water quality mitigation measures.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 17 August 2018. Furthermore, there was no visible observation of any discharge or accumulation of organic matter at the active works areas within HY/2013/04 site area on 17 August 2018. While the subject exceedances on 17 August 2018 were recorded at IS17,SR4(N), SR10A(N) and SR10B(N2),no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. HY/2013/04 site shoreline interfacing with open waters was inspected during ET's regular weekly site inspection on 15 August 2018 (between 14:55and15:25).There were no observations referring to water quality mitigation measures associated with that shoreline. It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. in situ measurement was repeated to confirm findings;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the dissolved oxygen exceedance was attributed to active construction activities of this Contract;
 3. EPD, IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the dissolved oxygen exceedances are unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03

During weekly site audit on 2, 6 and 17 August 2018, ET (Contract No. HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by: Keith Chau Title: Environmental Team Leader
(Contract No. HY/2013/01)

Signature:  Date: 10 September 2018

Copied to : EPD, Contractor, Engineer Representative and IEC/ENPO

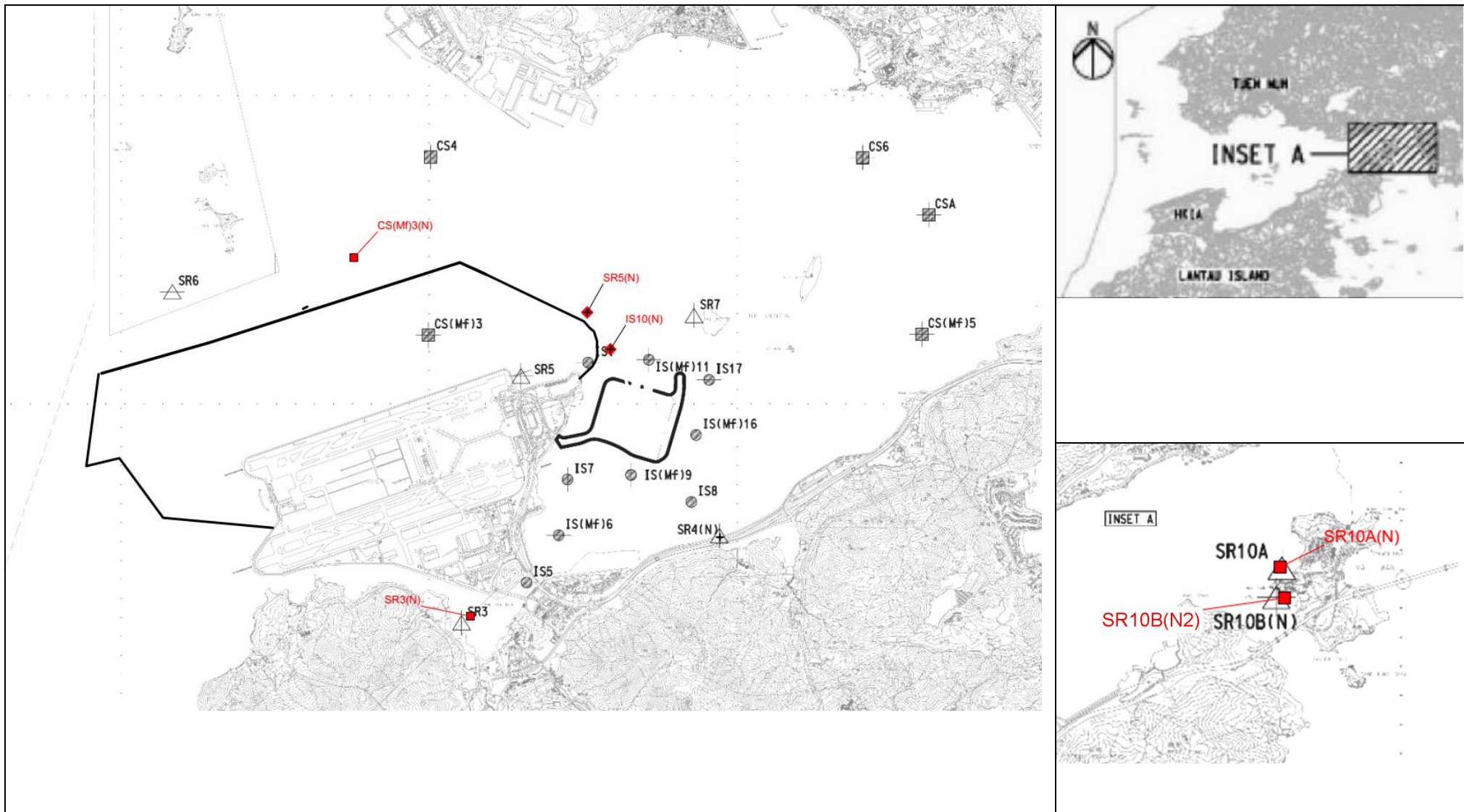


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances						
				Notification No.: 20180820DO_v2		
Date of Notification: 22 August 2018				Date of Investigation Report: 17 September 2018		
Works Inspected: Data collected from water sampling works on 20 August 2018 and the results were issued on 22 August 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS5	Surface and Middle	Surface and Middle 5.0 mg/L Bottom 4.7 mg/L	Surface and Middle 4.2 mg/L (except 5 mg/L for FCZ) Bottom 3.6 mg/L	4.8	4.8
DO	IS5	Bottom			4.5	3.9
DO	IS8	Bottom			4.2	5.8
DO	IS10(N)	Surface and Middle			4.9	5.4
DO	IS10(N)	Bottom			3.9	3.7
DO	IS(Mf)11	Bottom			3.9	3.8
DO	IS(Mf)16	Bottom			4.4	5.1
DO	SR3(N)	Surface and Middle			4.6	5.7
DO	SR3(N)	Bottom			4.5	5.1
DO	SR4(N)	Surface and Middle			4.2	6.5
DO	SR4(N)	Bottom			3.9	4.1
DO	SR5(N)	Bottom			4.0	3.7
DO	SR6	Bottom			4.5	4.9
DO	SR10A(N)	Surface and Middle			5.8	4.9
DO	SR10A(N)	Bottom			4.0	4.3
DO	SR10B(N2)	Surface and Middle			5.8	4.8
DO	SR10B(N2)	Bottom			5.7	4.6

Notes:

AL means Action Level.

LL means Limit Level.

Bold means AL exceedances.

Bold with underline means LL exceedances.

Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4

Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action / Limit Level Non-compliance:

On 20 August 2018, 14 AL exceedances of DO at stations IS5, IS8, IS10(N), IS(Mf)11, IS(Mf)16, SR3(N), SR4(N), SR5(N), SR6, SR10A(N) and SR10B(N2) were recorded during mid-ebb tide. Eight AL exceedances of DO at stations IS5, IS10(N), IS(Mf)11, SR4(N), SR5(N), SR10A(N) and SR10B(N2) were recorded during mid-flood tide. Two LL exceedances of DO at stations SR10A(N) and SR10B(N2) were recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 20 August 2018. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by registered collector. No organic matter discharge/ accumulation at active works areas on 20 August 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017. ET (Contract No. HY/2013/02) confirmed that no any organic matter discharge/accumulation at active works areas under Contract HY/2013/02 was observed on the date of exceedance with respect to the exceedance in DO.

Contract No.: HY/2013/03

During weekly site audit on 6, 17 and 23 August 2018, ET of Contract No. HY/2013/03 confirmed the Contractor had provided workable and effective water quality mitigation measures. The ET of Contract No. HY/2013/03 concluded that the captioned exceedance was not related to the construction site activities of the contract. As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, no organic matter discharge or accumulation at active works areas on 20 August 2018 under Contract No. HY/2013/03. The marine-based works in Box Culvert B had been completed. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused exceedance recorded at the concerned WQM station on 20 August 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 20 August 2018. Furthermore, there was no visible observation of any discharge or accumulation of organic matter at the active works areas within HY/2013/04 site area on 20 August 2018. While the subject exceedances on 20 August 2018 were recorded at IS5, IS8, IS10(N), IS(Mf)11, IS(Mf)16, SR3(N), SR4(N), SR5(N), SR6, SR10A(N) and SR10B(N2), no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. HY/2013/04 site shoreline interfacing with open waters was inspected during ET's regular weekly site inspection on 20 August 2018 (between 15:00 and 15:05). There were no observations referring to water quality mitigation measures associated with that shoreline.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. in situ measurement was repeated to confirm findings;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the dissolved oxygen exceedance was attributed to active construction activities of this Contract;
 3. EPD, IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the dissolved oxygen exceedances are unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03

During weekly site audit on 6, 17 and 23 August 2018, ET (Contract No. HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures. The ET of Contract No. HY/2013/03 concluded that the captioned exceedance was not related to the construction site activities of the contract.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by: Keith Chau Title: Environmental Team Leader
(Contract No. HY/2013/01)

Signature:  Date: 17 September 2018

Copied to : EPD, Contractor, Engineer Representative and IEC/ENPO

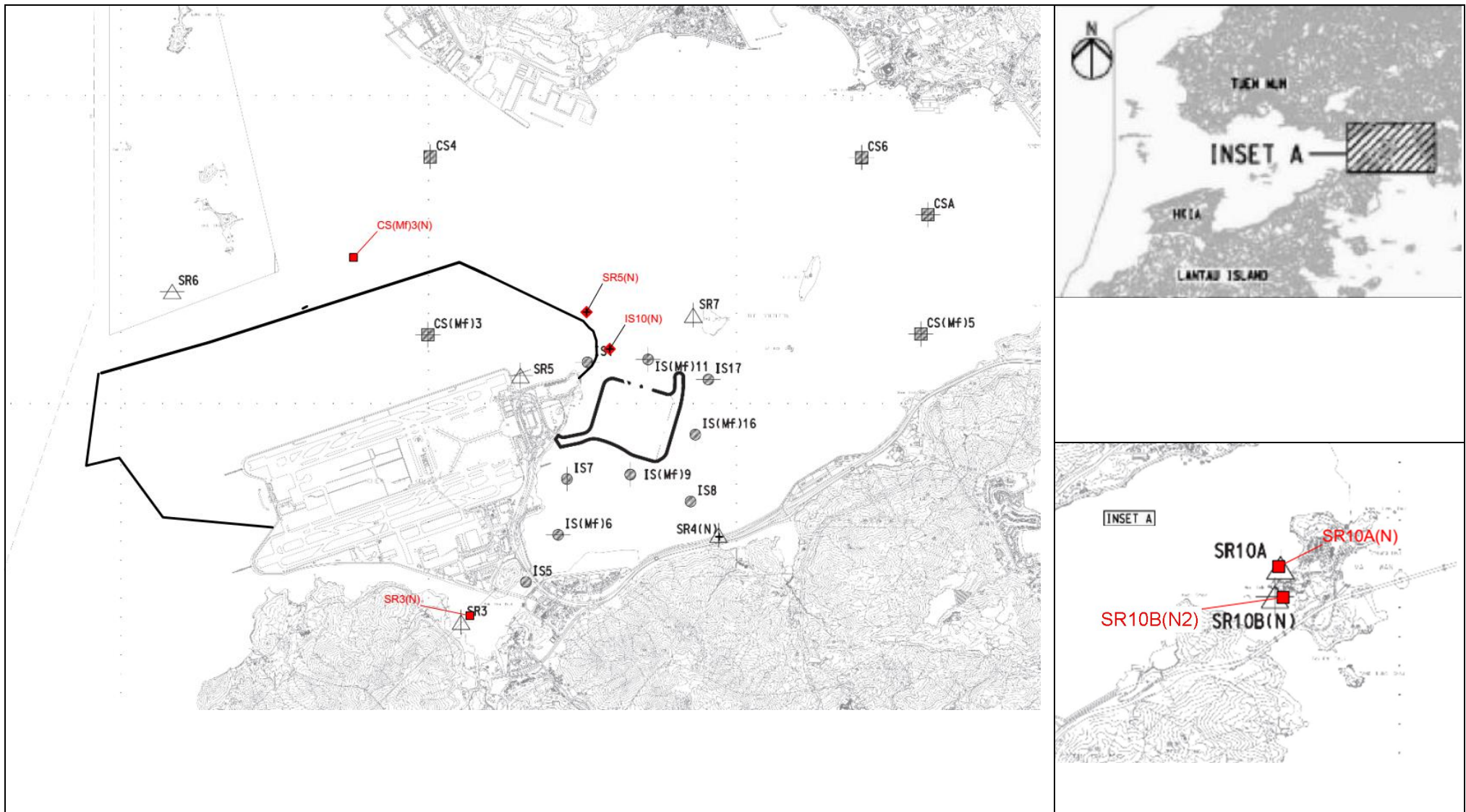


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances Notification No.: 20180822DO						
Date of Notification: 27 August 2018			Date of Investigation Report: 29 August 2018			
Works Inspected: Data collected from water sampling works on 22 August 2018 and the results were issued on 25 August 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS5	Bottom	Surface and Middle 5.0 mg/L Bottom 4.7 mg/L	Surface and Middle 4.2 mg/L (except 5 mg/L for FCZ) Bottom 3.6 mg/L	4.6	4.2
DO	IS8	Bottom			3.9	9.7
DO	IS(Mf)16	Bottom			3.6	5.5
DO	IS17	Bottom			4.2	4.4
DO	SR4(N)	Surface and Middle			4.8	10.5
DO	SR4(N)	Bottom			3.6	7.5
DO	SR10A(N)	Bottom			5.0	3.9
DO	SR10B(N2)	Bottom			5.2	4.0
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. <u>Bold with underline</u> means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 22 August 2018, six AL exceedances of DO at stations IS5, IS8, IS(Mf)16, IS17 and SR4(N) were recorded during mid-ebb tide. Four AL exceedances of DO at stations IS5, IS17, SR10A(N) and SR10B(N2) were recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 22 August 2018. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by registered collector. No organic matter discharge/ accumulation at active works areas on 22 August 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017. ET (Contract No. HY/2013/02) confirmed that no any organic matter discharge/accumulation at active works areas under Contract HY/2013/02 was observed on the date of exceedance with respect to the exceedance in DO.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, no organic matter discharge or accumulation at active works areas on 22 August 2018 under Contract No. HY/2013/03. The marine-based works in Box Culvert B had been completed.

It was unlikely that the works undertaken by Contract No. HY/2013/03 caused exceedance recorded at the concerned WQM station on 22 August 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 22 August 2018. Furthermore, there was no visible observation of any discharge or accumulation of organic matter at the active works areas within HY/2013/04 site area on 22 August 2018. While the subject exceedances on 22 August 2018 were recorded at IS5, IS8, IS(Mf)16, IS17, SR4(N), SR10A(N) and SR10B(N2), no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters.

HY/2013/04 site shoreline interfacing with open waters was inspected during ET's regular weekly site inspection on 20 August 2018 (between 15:00 and 15:05). There were no observations referring to water quality mitigation measures associated with that shoreline.

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

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. in situ measurement was repeated to confirm findings;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the dissolved oxygen exceedance was attributed to active construction activities of this Contract;
 3. IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the dissolved oxygen exceedances are unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03


During weekly site audit on 2, 6, 17 and 23 August 2018, ET (Contract No. HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by:	<u>Keith Chau</u>	Title:	<u>Environmental Team Leader (Contract No. HY/2013/01)</u>
Signature:	<u></u>	Date:	<u>29 August 2018</u>
Copied to	: Contractor, Engineer Representative and IEC/ENPO		

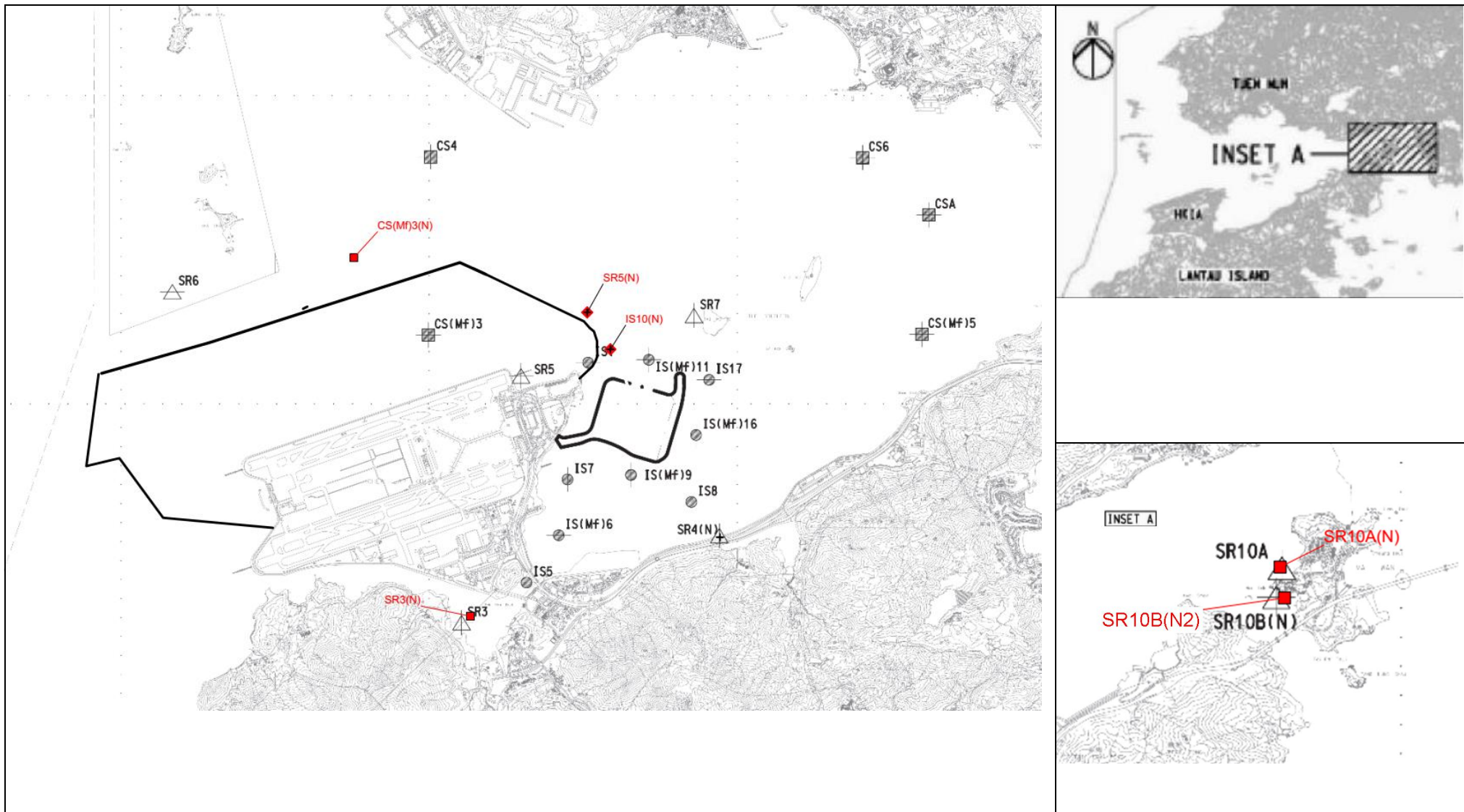


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances Notification No.: 20180824DO_v2						
Date of Notification: 28 August 2018			Date of Investigation Report: 18 September 2018			
Works Inspected: Data collected from water sampling works on 24 August 2018. Results for in-situ data were issued on 28 August 2018 and the results for SS data were issued on 4 September 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS10(N)	Bottom	Surface and Middle 5.0 mg/L Bottom 4.7 mg/L	Surface and Middle 4.2 mg/L (except 5 mg/L for FCZ) Bottom 3.6 mg/L	4.5	4.9
DO	SR4(N)	Bottom			4.4	6.7
DO	SR6	Surface and Middle			7.6	4.7
SS	IS8	Depth Average	23.5 and 120% (i.e. 9.3 for mid-ebb/9.9 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 10.0 for mid-ebb/10.7 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	13.0	25.1
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. <u>Bold with underline</u> means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 24 August 2018, two AL exceedances of DO at stations IS10(N) and SR4(N) were recorded during mid-ebb tide. One AL exceedance of DO at station SR6 were recorded during mid-flood tide. Moreover, one AL exceedance of SS at station IS8 were recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 24 August 2018. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by registered collector. No organic matter discharge/ accumulation at active works areas on 24 August 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017. ET (Contract No. HY/2013/02) confirmed that no any organic matter discharge/accumulation at active works areas under Contract HY/2013/02 was observed on the date of exceedance with respect to the exceedance in DO.

Contract No.: HY/2013/03

During weekly site audit on 17, 23 and 30 August 2018, ET of Contract No. HY/2013/03 confirmed the Contractor had provided workable and effective water quality mitigation measures. The ET of Contract No. HY/2013/03 concluded that the captioned exceedance was not related to the construction site activities of the contract. As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, all surplus filling materials transported from Contract No. HY/2013/03 to other projects by marine vessels have been completed with the last batch delivered on 24 March 2018, no organic matter discharge or accumulation at active works areas on 24 August 2018 under Contract No. HY/2013/03. The marine-based works in Box Culvert B had been completed. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused exceedance recorded at the concerned WQM station on 24 August 2018.

It was unlikely that the works undertaken by Contract No. HY/2013/03 caused exceedance recorded at the concerned WQM station on 24 August 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 24 August 2018. Furthermore, there was no visible observation of any discharge or accumulation of organic matter at the active works areas within HY/2013/04 site area on 24 August 2018.

While the subject exceedances on 24 August 2018 were recorded at IS10(N), SR4(N) and SR6, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. HY/2013/04 site shoreline interfacing with open waters was inspected during ET's regular weekly site inspection on 20 August 2018 (between 15:00 and 15:05). There were no observations referring to water quality mitigation measures associated with that shoreline.

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

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. in situ measurement was repeated to confirm findings;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the dissolved oxygen and suspended solid exceedance was attributed to active construction activities of this Contract;
 3. IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the dissolved oxygen and suspended solid exceedances are unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03

During weekly site audit on 17, 23 and 30 August 2018, ET (Contract No. HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by: Keith Chau Title: Environmental Team Leader
(Contract No. HY/2013/01)

Signature:  Date: 18 September 2018

Copied to : Contractor, Engineer Representative and IEC/ENPO

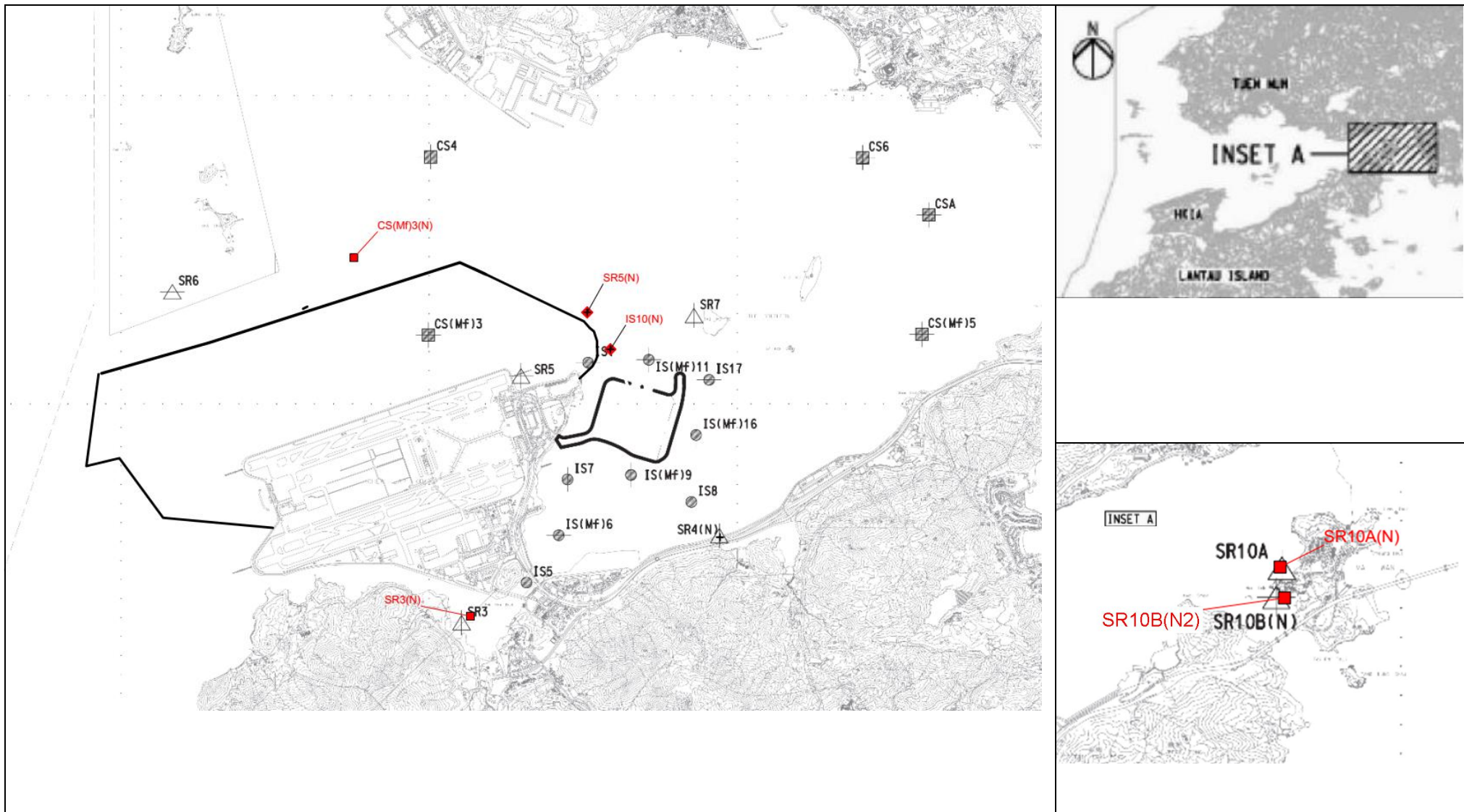


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances Notification No.: 20180827DO_v1						
Date of Notification: 30 August 2018			Date of Investigation Report: 17 September 2018			
Works Inspected: Data collected from water sampling works on 27 August 2018 and the results were issued on 30 August 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS17	Bottom	Surface and Middle 5.0 mg/L Bottom 4.7 mg/L	Surface and Middle 4.2 mg/L (except 5 mg/L for FCZ) Bottom 3.6 mg/L	4.5	5.2
DO	SR10B(N2)	Surface and Middle			5.7	<u>4.0</u>
DO	SR10B(N2)	Bottom			5.7	4.0
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. Bold with underline means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 27 August 2018, one AL exceedance of DO at station IS17 was recorded during mid-ebb tide and one AL exceedance of DO at station SR10B(N2) was recorded during mid-flood tide. Moreover, one LL exceedance of DO at station SR10B(N2) was recorded during mid- flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 27 August 2018. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by registered collector. No organic matter discharge/ accumulation at active works areas on 27 August 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017. ET (Contract No. HY/2013/02) confirmed that no any organic matter discharge/accumulation at active works areas under Contract HY/2013/02 was observed on the date of exceedance with respect to the exceedance in DO.

Contract No.: HY/2013/03

During weekly site audit on 17, 23 and 30 August 2018, ET of Contract No. HY/2013/03 confirmed the Contractor had provided workable and effective water quality mitigation measures. The ET of Contract No. HY/2013/03 concluded that the captioned exceedance was not related to the construction site activities of the contract. Regarding the exceedance on 27 August 2018, there was no marine transportation on the date of exceedance. As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, no organic matter discharge or accumulation at active works areas on 27 August 2018 under Contract No. HY/2013/03. The marine-based works in Box Culvert B had been completed.

It was unlikely that the works undertaken by Contract No. HY/2013/03 caused exceedance recorded at the concerned WQM station on 27 August 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 27 August 2018. Furthermore, there was no visible observation of any discharge or accumulation of organic matter at the active works areas within HY/2013/04 site area on 27 August 2018.

While the subject exceedances on 27 August 2018 were recorded at IS17 and SR10B(N2), no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. HY/2013/04 site shoreline interfacing with open waters was inspected during ET's regular weekly site inspection on 20 August 2018 (between 15:00 and 15:05). There were no observations referring to water quality mitigation measures associated with that shoreline.

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

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. in situ measurement was repeated to confirm findings;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the dissolved oxygen exceedance was attributed to active construction activities of this Contract;
 3. EPD, IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the dissolved oxygen exceedances are unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03

During weekly site audit on 17, 23 and 30 August 2018, ET (Contract No. HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by: Keith Chau Title: Environmental Team Leader
(Contract No. HY/2013/01)

Signature:  Date: 3 September 2018

Copied to : EPD, Contractor, Engineer Representative and IEC/ENPO

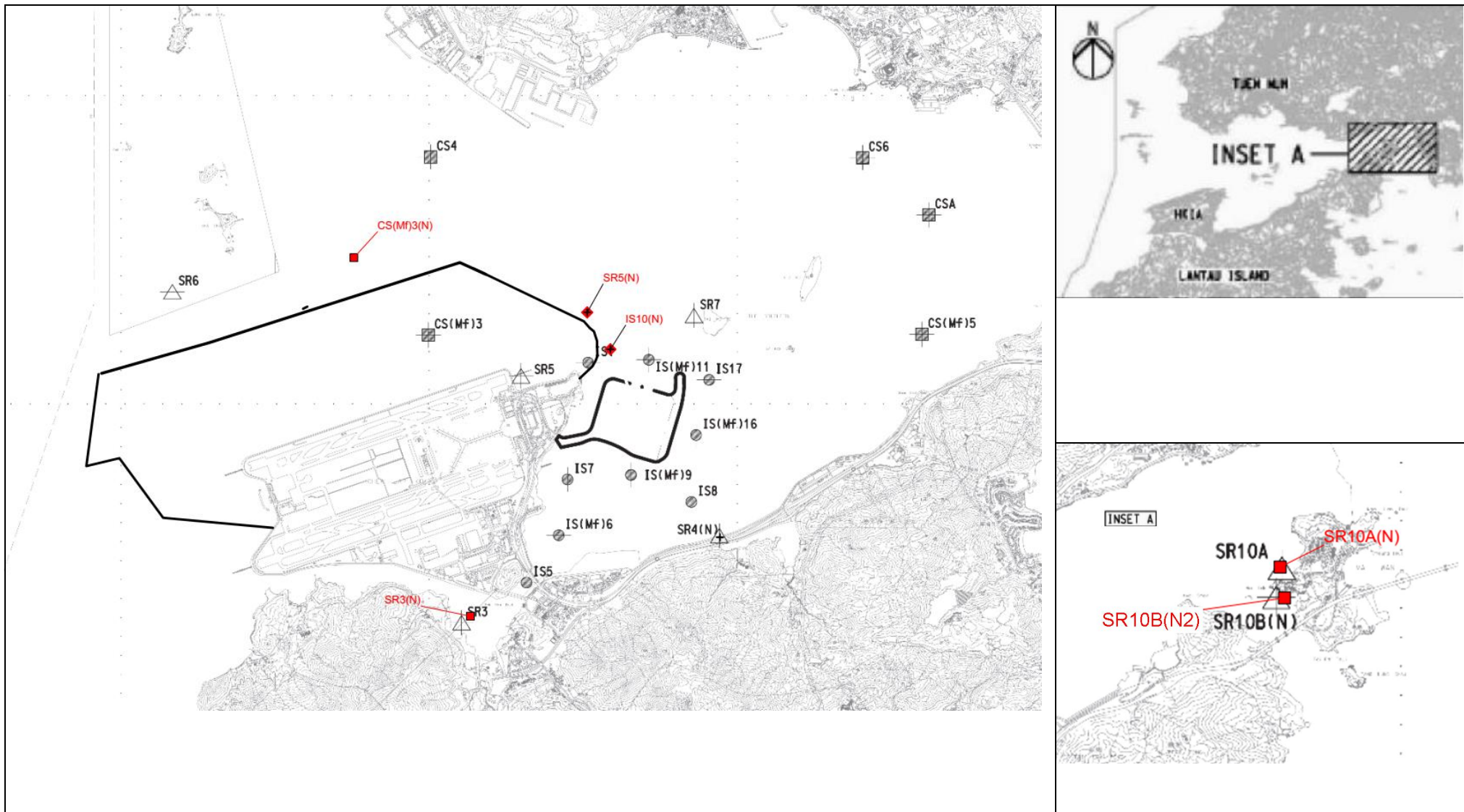


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances Notification No.: 20180829DO_v1						
Date of Notification: 31 August 2018			Date of Investigation Report: 19 September 2018			
Works Inspected: Data collected from water sampling works on 29 August 2018 and the results were issued on 31 August 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS5	Surface and Middle	Surface and Middle 5.0 mg/L Bottom 4.7 mg/L	Surface and Middle 4.2 mg/L (except 5 mg/L for FCZ) Bottom 3.6 mg/L	5.2	4.9
DO	IS7	Surface and Middle			5.0	4.9
DO	SR3(N)	Surface and Middle			4.9	5.0
DO	SR10B(N2)	Surface and Middle			5.1	<u>4.4</u>
DO	SR10B(N2)	Bottom			5.2	4.4
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. Bold with underline means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 29 August 2018, one AL exceedance of DO at station SR3(N) was recorded during mid-ebb tide and three AL exceedances of DO at stations IS5, IS7, SR10B(N2) were recorded during mid-flood tide. Moreover, one LL exceedance of DO at station SR10B(N2) was recorded during mid- flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 29 August 2018. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by registered collector. No organic matter discharge/ accumulation at active works areas on 29 August 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017. ET (Contract No. HY/2013/02) confirmed that no any organic matter discharge/accumulation at active works areas under Contract HY/2013/02 was observed on the date of exceedance with respect to the exceedance in DO.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, no organic matter discharge or accumulation at active works areas on 29 August 2018 under Contract No. HY/2013/03. The marine-based works in Box Culvert B had been completed.

During weekly site audit on 17, 23 and 30 August 2018, ET (Contract No. HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures.

It was unlikely that the works undertaken by Contract No. HY/2013/03 caused exceedance recorded at the concerned WQM station on 29 August 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 29 August 2018. Furthermore, there was no visible observation of any discharge or accumulation of organic matter at the active works areas within HY/2013/04 site area on 29 August 2018.

While the subject exceedances on 29 August 2018 were recorded at IS5, IS7, SR3(N) and SR10B(N2), no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. HY/2013/04 site shoreline interfacing with open waters was inspected during ET's regular weekly site inspection on 29 August 2018 (between 14:45 and 14:55). There were no observations referring to water quality mitigation measures associated with that shoreline.

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

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. in situ measurement was repeated to confirm findings;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the dissolved oxygen exceedance was attributed to active construction activities of this Contract;
 3. EPD, IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the dissolved oxygen exceedances are unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03

During weekly site audit on 17, 23 and 30 August 2018, ET (Contract No. HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by: Keith Chau Title: Environmental Team Leader
(Contract No. HY/2013/01)

Signature:  Date: 19 September 2018

Copied to : EPD, Contractor, Engineer Representative and IEC/ENPO

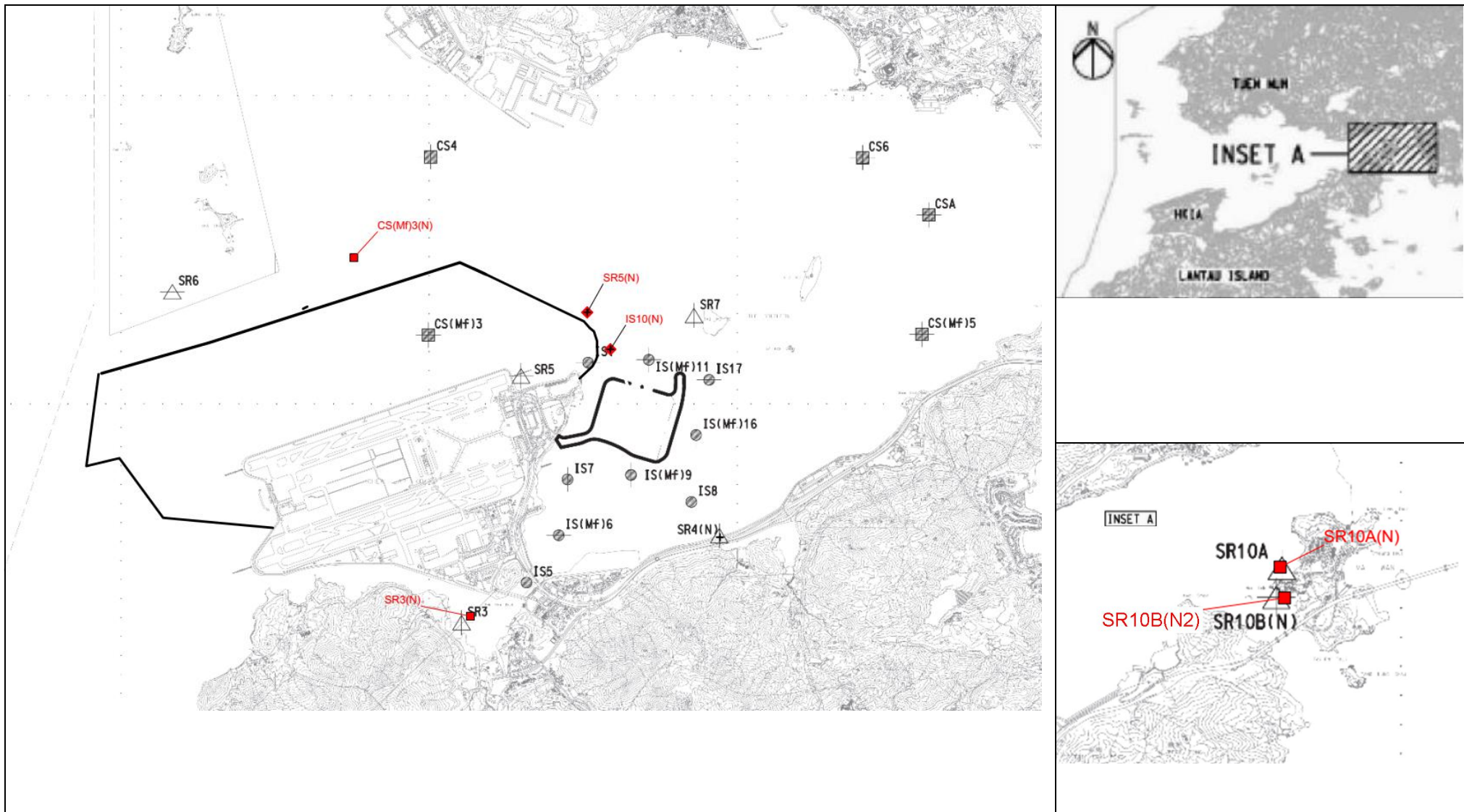


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances Notification No.: 20180831DO_v1						
Date of Notification: 04 September 2018			Date of Investigation Report: 20 September 2018			
Works Inspected: Data collected from water sampling works on 31 August 2018 and the results were issued on 04 September 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	SR10B(N2)	Surface and Middle	Surface and Middle 5.0 mg/L Bottom 4.7 mg/L	Surface and Middle 4.2 mg/L (except 5 mg/L for FCZ) Bottom 3.6 mg/L	5.3	<u>4.8</u>
SS	IS(Mf)9	Depth Average	23.5 and 120% (i.e 9.9 for mid-ebb/ 8.8 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e 10.7 for mid-ebb/ 9.5 for mid-flood) of upstream control station's SS at the same tide of the same day and 10 mg/L for WSD Seawater intakes	26.1	7.7
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. Bold with underline means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 31 August 2018, one LL exceedance of DO at station SR10B(N2) was recorded during mid-flood tide. And one AL exceedance of SS at station IS(Mf)9 was recorded during mid-ebb tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 31 August 2018. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by registered collector. No organic matter discharge/ accumulation at active works areas on 31 August 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017. ET (Contract No. HY/2013/02) confirmed that no any organic matter discharge/accumulation at active works areas under Contract HY/2013/02 was observed on the date of exceedance with respect to the exceedance in DO.

Contract No.: HY/2013/03

During weekly site audit on 23, 30 August 2018 and 6 September 2018, ET of Contract No. HY/2013/03 confirmed the Contractor had provided workable and effective water quality mitigation measures. The ET of Contract No. HY/2013/03 concluded that the captioned exceedance was not related to the construction site activities of the contract. As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, no organic matter discharge or accumulation at active works areas on 31 August 2018 under Contract No. HY/2013/03. The marine-based works in Box Culvert B had been completed.

It was unlikely that the works undertaken by Contract No. HY/2013/03 caused exceedance recorded at the concerned WQM station on 31 August 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 31 August 2018. Furthermore, there was no visible observation of any discharge or accumulation of organic matter at the active works areas within HY/2013/04 site area on 31 August 2018. The site condition of HY/2013/04 site between mid-ebb tide and mid-flood tide that day was unchanged.

HY/2013/04 site shoreline interfacing with open waters was inspected during ET's regular weekly site inspection on 29 August 2018 (between 14:45 and 14:55). There were no observations referring to water quality mitigation measures associated with that shoreline.

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

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. in situ measurement was repeated to confirm findings;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the dissolved oxygen and suspended solid exceedances were attributed to active construction activities of this Contract;
 3. EPD, IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the dissolved oxygen and suspended solid exceedances are unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03


During weekly site audit on 23, 30 August 2018 and 6 September 2018, ET (Contract No. HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by:	<u>Keith Chau</u>	Title:	<u>Environmental Team Leader (Contract No. HY/2013/01)</u>
Signature:	<u></u>	Date:	<u>20 September 2018</u>
Copied to	: EPD, Contractor, Engineer Representative and IEC/ENPO		

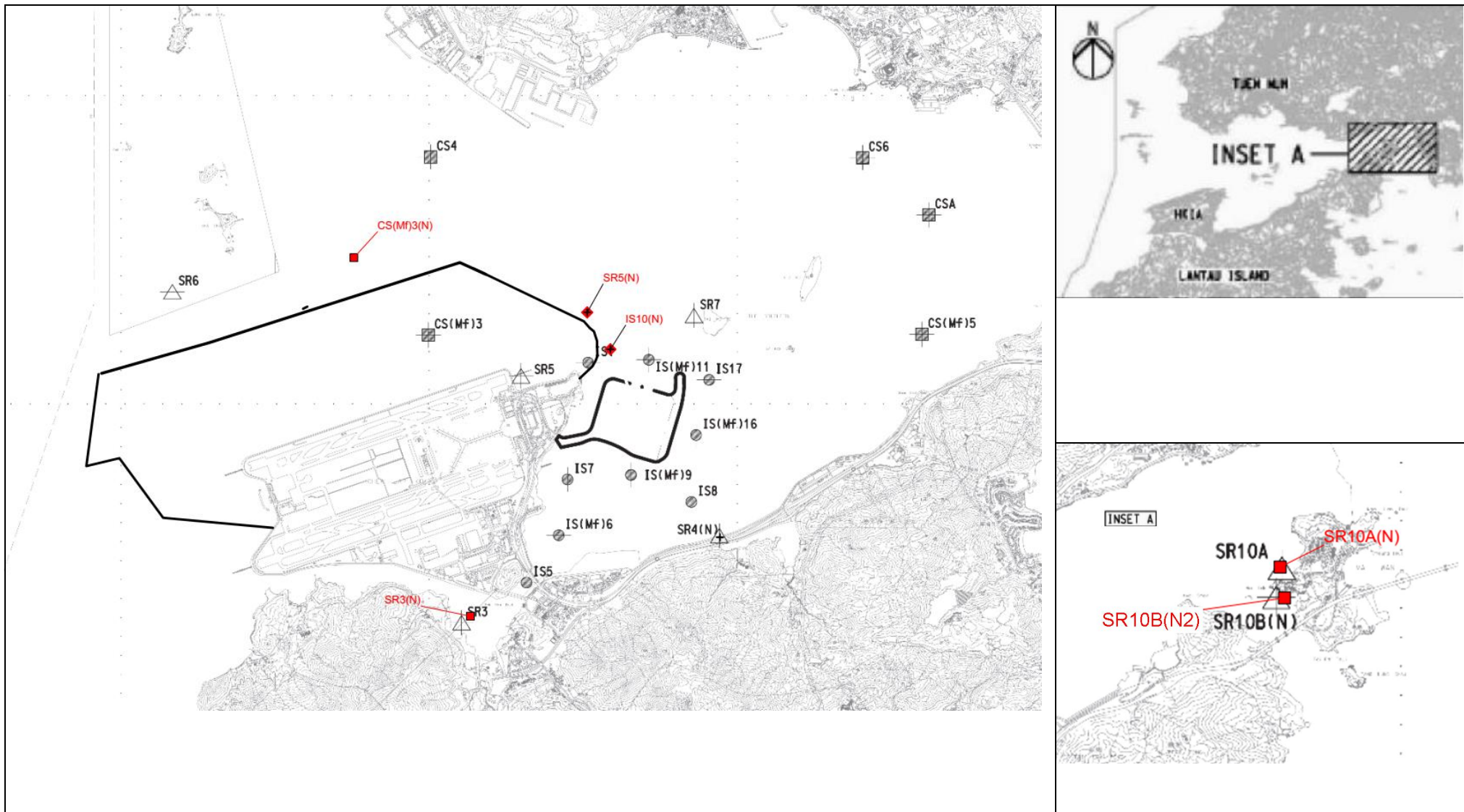


Figure 1: Location Plan