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Contract No. 13/WSD/17

Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Final EM&A Review Report (Period from March 2020 to July 2025)

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Date:	26 September 2026

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By Post and Email

Water Supplies Department
New Works Branch
Consultants Management Division
6/F, Sha Tin Government Offices,
1 Sheung Wo Che Road, Sha Tin,
New Territories

Attn: Mr. W.S. Wong / S K Wong

Dear Sir,

Independent Environmental Checker (IEC) for Construction and Operation of the First Stage Desalination Plant at Tseung Kwan O (Quotation Ref. No. TKO1/IEC/003)

Verification of Final Environmental Monitoring and Audit (EM&A) Review Report

Referring to the Final Environmental Monitoring and Audit (EM&A) Review Report (rev.4) as submitted by the Environmental Team on 28 September 2026, we hereby verify the captioned report in accordance with Clause 14.6 of the EM&A Manual.

Should you have any queries, please contact the undersigned at 61496683, or email at serenashek@lamenviro.com.

Yours sincerely,
For and On Behalf Of
Lam Environmental Services Limited



Serena Shek
Independent Environmental Checker

Binnies	(Attn.: Image Yeung)	By E-mail
Aurecon	(Attn.: Toby Wan)	By E-mail

REVISION HISTORY

REV.	DESCRIPTION OF MODIFICATION	DATE
0.	First Issue	17/06/2026
1.	Second Issue	10/08/2026
2.	Third Issue	11/09/2026
3.	Fourth Issue	16/09/2026
4.	Fifth Issue	26/09/2026

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EXECUTIVE SUMMARY

INTRODUCTION

A1. The Project, Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant (TKODP), is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) and is currently governed by a Further Environmental Permit (EP No. FEP – 01/503/2015/A and EP No. FEP – 01/503/2015/B) for the construction and operation of the Contract.

A2. In accordance with the Environmental Monitoring and Audit (EM&A) Manual for the Contract, EM&A works for marine water quality, noise, waste management and ecology should be carried out by Environmental Team (ET), Acuity Sustainability Consulting Limited (ASCL), during the construction phase of the Contract.

A3. This is the Final EM&A Review Report, prepared by ASCL, for the Contract summarizing the monitoring results and audit findings of the EM&A programme(Construction Phase) at and around Tseung Kwan O Area 137 (TKO 137) during the reporting period from 16 March 2020 to 31 January 2024.

A4. The EM&A programme for this contract has covered environmental monitoring on water quality, construction noise level at selected noise sensitive receivers, and Contractor's environmental performance auditing in the aspects of construction dust, construction noise, water quality, landfill gas, waste management, landscape and visual and ecology.

A5. The works of TKODP were substantially completed on 30 June 2024 and the plant commenced the operation phase on 1 July 2024. A Justification of Termination of the EM&A Programme for the Construction Phase was resubmitted to the EPD on 11 August 2025 and approved by the EPD on 15 August 2025.

SUMMARY OF ENVIRONMENTAL MONITORING AND AUDIT WORKS

A6. A summary of the environmental monitoring and audit works undertaken in the reporting period are summarized in **Table I**.

A7. No construction noise monitoring was conducted during the reporting period since there are no Contract -related construction activities undertaken within a radius of 300m from the monitoring locations. No Action and Limit Level exceedance was recorded during the reporting period.

A8. Construction Phase Impact Water Quality Monitoring was conducted as schedule in the reporting period. One thousand four hundred and twelve (1412) action level exceedances and one thousand one hundred and twenty-five (1125) limit level exceedances of Suspended Solid were recorded in the reporting period.

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A9. Pre-operation Phase Impact Water Quality Monitoring was conducted as scheduled in the reporting period. One hundred and seventy-nine (179) action level exceedances and One hundred and forty-one (141) limit level exceedances of Suspended Solid were recorded in the reporting period.

A10. Operation Phase Impact Water Quality Monitoring was conducted as scheduled in the reporting period. One hundred and thirty-four (134) action level exceedances and Two hundred and ninety-four (294) limit level exceedances of Suspended Solid were recorded in the reporting period.

A11. All Action and Limit Level exceedance was concluded to be unrelated to the Project. Details of the exceedance could be referred to the corresponding Monthly EM&A Report.

A12. Total eleven (11) of dechlorinated effluent sample were taken during the discharge of dechlorinated effluent by contractor. No TRC exceedance of action or limit levels was obtained during the discharge of dechlorinated effluent.

A13. The continuous monitoring of effluent quality was conducted from 1 July 2024 to 31 July 2025. No exceedance of the sampling was obtained during the reporting period.

A14. One thousand nine hundred and ninety-eight (1998) times of construction phase landfill gas monitoring were conducted in the reporting period. No action or limit level exceedance was recorded in the reporting period.

A15. A total of twelve (12) times of operation landfill gas monitoring were conducted in the report period. No action or limit level exceedances was recorded in the reporting period.

A16. Construction phase coral monitoring commenced in March 2021. From March 2021 to Aug 2023, a total of twenty (20) monitoring was carried out in the reporting period. No AL/LL exceedances were recorded during the reporting period.

A17. Pre-operation phase coral monitoring commenced in December 2023. A total of two (2) monitoring was carried out in the reporting period. There were no AL/LL exceedances observed during the reporting period.

A18. Operation phase coral monitoring commenced in July 2024. A total of twelve (12) monitoring was carried out in the reporting period. There were no AL/LL exceedances observed during the reporting period.

A19. A total of twelve (12) construction phase fishery monitoring were conducted during the reporting period, consisting of six (6) dry season and six (6) wet season assessments.

A20. A total of two (2) pre-operation phase fishery monitoring were conducted during the reporting period, consisting of one (1) dry season and one (1) wet season assessment.

A21. A total of four (4) operation phase fishery monitoring were conducted during the reporting period, consisting of two (2) dry season and two (2) wet seasons assessment.

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Table I Summary of Environmental Monitoring Works

Environmental Monitoring works	Total Number of EM&A Activities
Noise Monitoring	N/A
Construction Phase Water Quality Monitoring	383
Pre-operation Phase Water Quality Monitoring	22
Operation Phase Water Quality Monitoring	152
Construction Phase Coral Monitoring	20
Pre-operation Phase Coral Monitoring	2
Operation Phase Coral Monitoring	12
Construction Phase Fishery Monitoring	12
Pre-operation Phase Fishery Monitoring	2
Operation Phase Fishery Monitoring	4
Construction Phase Landfill Gas Monitoring	1998
Operation Phase Landfill Gas Monitoring	12
Environmental Site Inspection	271

COMPLAINT HANDLING AND PROSECUTION

A22. Two environmental complaints were received from the EPD in the reporting period, no notifications of summons and prosecution was received during the reporting period.

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1. BASIC CONTRACT INFORMATION

1.1. BACKGROUND

The Jardine Engineering Corporation, Limited, China State Construction Engineering (Hong Kong) Limited and Acciona Agua, S.A. Trading as AJC Joint Venture (AJCJV) is contracted to carry out the Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant (TKODP) under Contract No. 13/WSD/17 (the Contract).

Acuity Sustainability Consulting Limited (ASCL) is commissioned by AJCJV to undertake the Environmental Team (ET) services as required and/or implied, both explicitly and implicitly, in the Environmental Permit (EP), Environmental Impact Assessment Report (EIA Report) (Register No. AEIAR-192/2015) and Environmental Monitoring and Audit Manual (EM&A Manual) for the Contract; and to carry out the Environmental Monitoring and Audit (EM&A) programme in fulfillment of the EIA Report's EM&A requirements and Contract No. 13/WSD/17 Specification requirements.

Pursuant to the Environmental Impact Assessment Ordinance (EIAO), the Director of Environmental Protection granted the Environmental Permit (No. FEP-01/503/2015/B) and Variation of Environmental Permit (No. EP-01/503/2015/A and No. FEP-01/503/2015/B) to Water Supplies Department (WSD); and granted the Further Environmental Permit (No. FEP-01/503/2015/A and FEP-01/503/2015/B) to AJCJV for the Contract.

1.2. THE REPORTING SCOPE

This is the Final EM&A Review Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 16 March 2020 to 31 July 2025.

1.3. CONTRACT ORGANIZATION

The Contract Organization structure for Construction Phase is presented in **Figure 1.1** and contact details of the key personnel are presented in **Table 1.1** below:

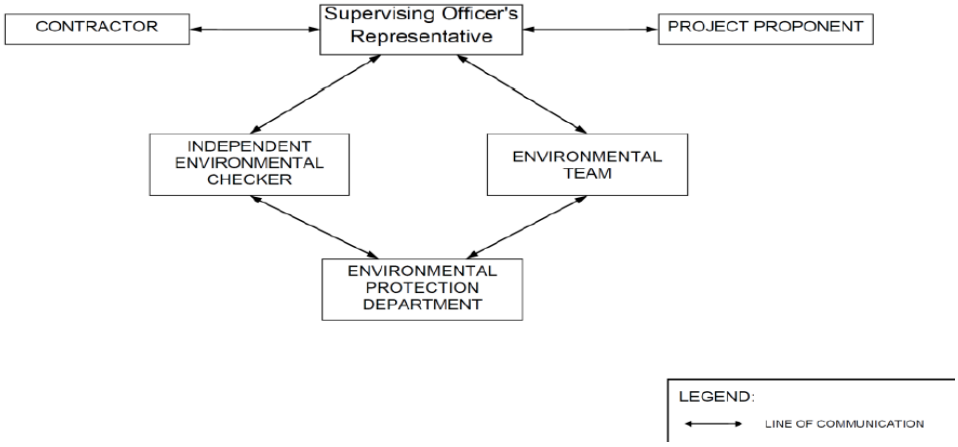


Figure 1.1 Contract Organization Chart

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Table 1.1 Contact Details of Key Personnel

Party	Position	Name	Telephone no.	Remark
Project Proponent (WSD)	SE/CM2	Benny Lam	2634-3573	Until February 2023
	SE/CM2	Milton Law	2634-3573	On the position from February 2023
Supervising Officer (Binnies Hong Kong Limited)	Project Manager	Christina Ko	2608-7302	Until December 2024
	Project Manager	Augustine Li	2608-7671	-
	Chief Resident Engineer	Roger Wu	6343-1002	Until August 2024
	Chief Resident Engineer / Senior Resident Engineer	David Wong	5229-8638	On the position from August 2024 to January 2025
	Senior Resident Engineer	Mason Pau	6765-4131	On the position from January 2025
The Jardine Engineering Corporation, Limited, China State Construction Engineering (Hong Kong) Limited and Acciona Agua, S.A. Trading	Project Manager	Stephen Yeung	2807-4665	Until December 2024
	Operation Manager / Project Manager	Arnes Parra, Victor	6468-6710	-
ANewR Consulting Limited	Independent Environmental Checker (IEC)	Louis Kwan	2618-2831	Until June 2023
		Alex Chan	2618-2831	On the position from June 2023 and until 31 January 2024
Lam Environmental Services Limited	Independent Environmental Checker (IEC)	Serena Shek	6149-6683	On the position from 1 February 2024
Acuity Sustainability Consulting Limited	Environmental Team Leader (ETL)	Jacky Leung	2698-6833	Until 21 April 2024
		Toby Wan	9719-5422	On the position from 22 April 2024

1.4. SUMMARY OF CONSTRUCTION WORKS

The construction programme is presented in **Appendix A**. Detail of the major construction activities are presented below:

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- Excavation, Construction and E&M works of 132kV Substation
- Construction and E&M works for Combine Shaft
- Construction works for Intake Structure
- Construction works for receiving pit, outfall and diffuser pipeline
- Excavation, Construction and E&M works for ActiDAFF
- Excavation, Construction and E&M works for Reverse Osmosis Building
- Excavation, Construction and E&M works for Product Water Storgae Tank
- Excavation, Construction and E&M works for Product Water Pumping Station
- Excavation, Construction and E&M works for Chemical Building
- Piling, Excavation, Construction and E&M works for Administration Building
- Excavation, Construction and E&M works for Post Treatment Building
- Excavation, Construction and E&M works for Sludge Thickener
- Excavation and Construction works for Workshop
- Excavation, Construction and E&M works for Main Electrical and Central Chiller Plant Building
- Excavation, Construction for Main Gate and Guard House
- Filling to Formation for CO2 Tanks Area
- Construction and E&M works for CO2 Tanks Area
- E&M works for Diesel Emergency Generator
- E&M works for Switch Room and Transformer Installation
- Slope Mitigation Works and Landscaping Works

Other than the EM&A work by ET, environmental briefings, trainings and regular environmental management meetings were conducted, in order to enhance environmental awareness and closely monitor the environmental performance of the contractors.

The EM&A programme has been implemented in accordance with the recommendations presented in the approved EIA Report and the EM&A Manual. A summary of implementation status of the environmental mitigation measures for the construction phase and pre-operation phase of the Contract during the reporting period is provided in **Appendix C**.

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2. NOISE

2.1. MONITORING REQUIREMENTS

To ensure no adverse noise impact, noise monitoring is recommended to be carried out within 300m radius from the nearby noise sensitive receivers (NSRs), during construction phase. The NSRs selected as monitoring station are (i) NSR4 – Creative Secondary School, (ii) NSR24 – PLK Laws Foundation College, and (iii) NSR31 – School of Continuing and Professional Studies – CUHK respectively.

2.2. MONITORING LOCATIONS

The monitoring locations were normally made at a point 1m from the exterior of the NSRs building façade and be at a position 1.2m above the ground. A correction of +3dB(A) was made to the free-field measurements.

According to the environmental findings detailed in the EIA report and Baseline Monitoring Report, the designated locations for the construction noise monitoring are listed in **Table 2.1** below.

Table 2.1 Noise Sensitive Receivers

NSR ID	Noise Sensitive Receivers	Monitoring Location	Position
NSR 4	Creative Secondary School	Roof Floor	1 m from facade
NSR 24	PLK Laws Foundation College	Pedestrian Road on Ground Floor	Free field
NSR 31	School of Continuing and Professional Studies - CUHK	Roof Floor	1 m from facade

Three noise monitoring locations for impact monitoring at the nearby sensitive receivers are shown in **Figure 2.1-2.3**.

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Figure 2.1 NSR4 Creative Secondary School



Figure 2.2 NSR24 PLK Laws Foundation College

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Figure 2.3 NSR31 School of Continuing and Professional Studies - CUHK

2.3. MONITORING PARAMETER, FREQUENCY AND DURATION

Construction noise level were measured in terms of the A-weighted equivalent continuous sound pressure level (LAeq). Leq 30min was used as the monitoring parameter for the time period between 0700 and 1900 on normal weekdays. **Table 2.2** summarizes the monitoring parameters, frequency, and duration of the impact noise monitoring.

Table 2.2 Noise Monitoring Parameters, Time, Frequency and Duration

Time	Duration	Interval	Parameters
Daytime: 0700-1900	Day time: 0700-1900 (during normal weekdays)	Continuously in Leq_{5min}/Leq_{30min} (Average of 6 consecutive Leq 5min)	$L_{eq\ 30min}$ $L_{10\ 30min}$ & $L_{90\ 30min}$

2.4. IMPACT MONITORING METHODOLOGY

The monitoring methodology and QA/QC procedure could be referring to Section 2.3 of the Monthly EM&A Report.

2.5. ACTION AND LIMIT LEVELS

The Action/Limit Levels are in line with the criteria of Practice Note for Professional Persons (ProPECC PN 2/93) "Noise from Construction Activities – Non-statutory Controls" and Technical Memorandum on Environmental Impact Assessment Process issued by

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HKSAR Environmental Protection Department ["EPD"] under the Environmental Impact Assessment Ordinance, Cap 499, S.16 are presented in **Table 2.3**.

Table 2.3 Action and Limit Levels for Noise per EM&A Manual

Time Period	Action	Limit (dB(A))
0700-1900 on normal weekdays	When one documented complaint is received from any one of the noise sensitive receivers	• 70 dB(A) for school and • 65 dB(A) during examination period

Notes: Limits specified in the GW-TM and IND-TM for construction and operation noise, respectively.

If exceedances were found during noise monitoring, the actions in accordance with the Event and Action Plan shall be carried out according to **Appendix I**.

2.6. MONITORING RESULTS AND OBSERVATIONS

Referring to EM&A manual Section 4.1.2, the impact noise monitoring should be carried out when there are Contract-related construction activities undertaken within a radius of 300m from the monitoring stations. No monitoring station was located within a radius of 300m of the Contract site as shown in **Figure 2.4**, no impact monitoring for noise impact was conducted in the reporting period.

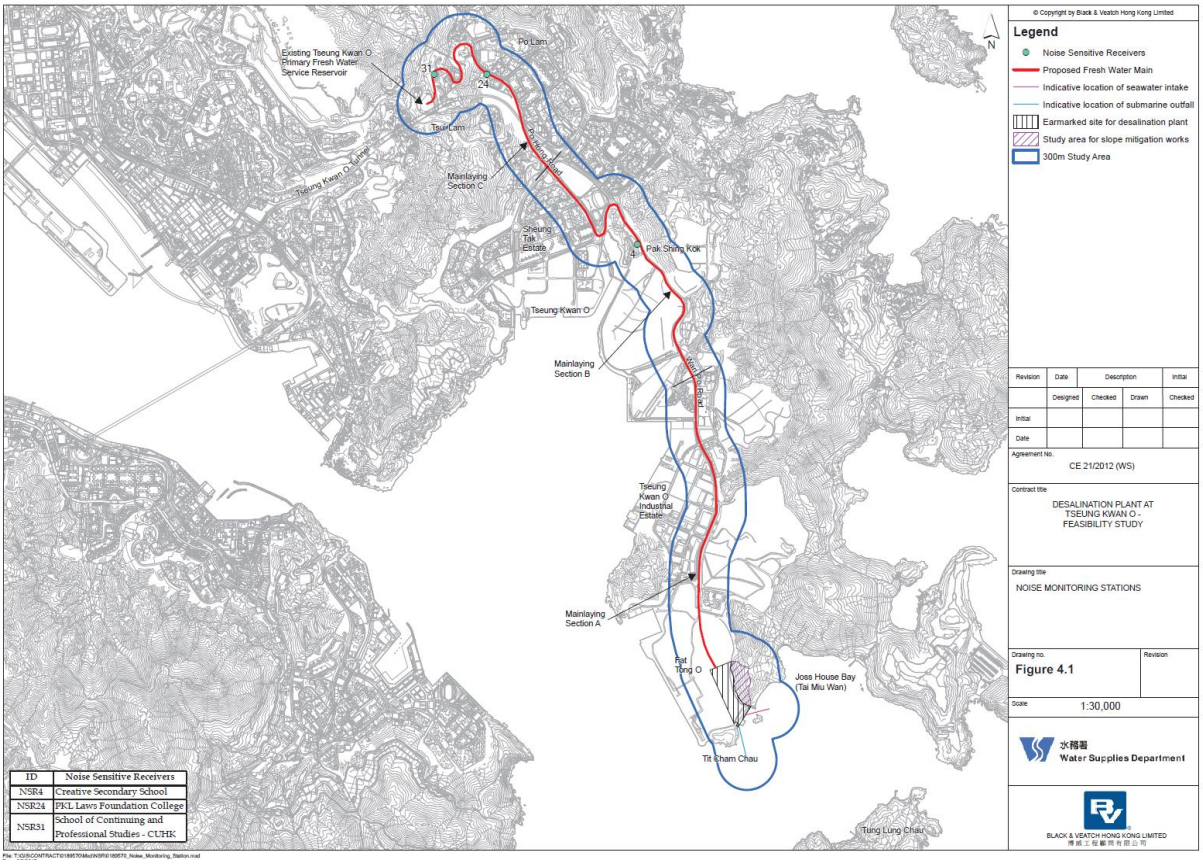


Figure 2.4 Site Layout Plan with Noise Sensitive Receivers and Desalination Plant

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3. WATER QUALITY

In accordance with the recommendations of the EIA, water quality EM&A is required during dredging for the submarine pipelines and, during operation phase. In addition, baseline water quality monitoring was prior to the commencement of marine construction activities.

The following Section provides details of the water quality monitoring to be undertaken by the Environmental Team (ET) to verify the distance of sediment and brine plume dispersion and to identify whether the potential exists for any indirect impacts to occur to ecological sensitive receivers.

Water quality monitoring for the Contract can be divided into the following stages:

- Dredging activities during construction phase;
- Discharge of effluent from main disinfection during construction phase;
- Pre-operation – before operation phase
- Operation phase – first year upon commissioning; and,
- Continuous monitoring of effluent quality (Operation phase)

In addition, the marine works contractor is required to complete a silt curtain efficiency test for the combined use of floating silt curtain type and cage type silt curtain for dredging at seawater intake to confirm the silt curtain reduction efficiency assumptions of the assessment. The details of testing plan together with the silt curtain deployment plan shall be submitted by the ET to seek approval from the IEC and EPD.

3.1. WATER QUALITY PARAMETERS

Marine Water Quality Monitoring

The parameters that have been selected for measurement in situ and in the laboratory are those that were either determined in the EIA to be those with the most potential to be affected by the construction works or are a standard check on water quality conditions. Parameters to be measured in the impact water quality monitoring are listed in **Table 3.1**.

Table 3.1 Parameters measured in the impact marine water quality monitoring

Parameters	Unit	Abbreviation	Stage	
			Construction	Pre-operation
In-situ measurements				
Dissolved oxygen	mg/L	DO	✓	✓
Temperature	°C	-	✓	✓
pH	-	-	✓	✓
Turbidity	NTU	-	✓	✓
Salinity	0/00	-	✓	✓
Total Residual Chlorine	mg/L	TRC	-	✓

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Parameters	Unit	Abbreviation	Stage	
			Construction	Pre-operation
Laboratory measurements				
Suspended Solids	mg/L	SS	✓	✓
Iron	mg/L	Fe		✓

In addition to the water quality parameters, other relevant data was measured and recorded in Water Quality Monitoring Logs, including the location of the sampling stations, water depth, time, weather conditions, sea conditions, tidal stage, current direction and velocity, special phenomena and work activities undertaken around the monitoring and works area that may influence the monitoring results.

3.2. MONITORING EQUIPMENT

The monitoring methodology, monitoring equipment and QA/QC procedure could be referred to the Monthly EM&A Report.

3.3. MONITORING LOCATION

Marine Water Quality Monitoring

The impact water quality monitoring locations are in accordance with the EM&A Manual and detailed in **Table 3.2** and **Figure 3.1** below.

Table 3.2 Location of Impact Water Quality Monitoring Station

Station	Easting	Northing	Description
CE	843550	815243	Upstream control station at ebb tide
CF	846843	810193	Upstream control station at flood tide
WSR1	846864	812014	Ecological sensitive receiver at Tung Lung Chau
WSR2	847645	812993	Fisheries sensitive receiver at Tung Lung Chau
WSR3	848023	813262	Ecological sensitive receiver at Tung Lung Chau
WSR4	847886	814154	Ecological sensitive receiver at Tai Miu Wan
WSR16	845039	815287	Ecological sensitive receiver at Fat Tong Chau
WSR33	847159	814488	Ecological sensitive receiver at Tai Miu Wan
WSR36	846878	814081	Ecological sensitive receiver at Kwun Tsai
WSR37	846655	813810	Ecological sensitive receiver at Tit Cham Chau

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Station	Easting	Northing	Description
NF1*	846542	813614	Edge of mixing zone, ~ 200m west of outfall diffuser
NF2*	846942	813614	Edge of mixing zone, ~ 200m east of outfall diffuser
NF3*	846742	813414	Edge of mixing zone, ~ 200m south of outfall diffuser

Remark*: NF1 to NF3 are added for the operation phase of TKODP in accordance with Table 5.3 in the approved EM&A Manual.

WSR1 to WSR37 were identified in accordance with Annex 14 of the EIAO-TM as well as Clause 3.4.4.2 of the Environmental Impact Assessment Study Brief for Desalination Plant at Tseung Kwan O (No. ESB-266/2013). WSR1 to WSR3 are sited near the Tung Lung Chau Fish Culture Zone; WSR16 and WSR36 are sited near the coral assemblages along the coastlines of Fat Tong Chau and Kwun Tsai respectively; WSR 4 and WSR33 are sited near the Coastal Protection Area and coral assemblages in waters of Tai Miu Wan; WSR37 is sited near the fisheries resource including spawning and nursery grounds at the coastal water of Tit Cham Chau. NF1 to NF3 are the Edge of Mixing zone.

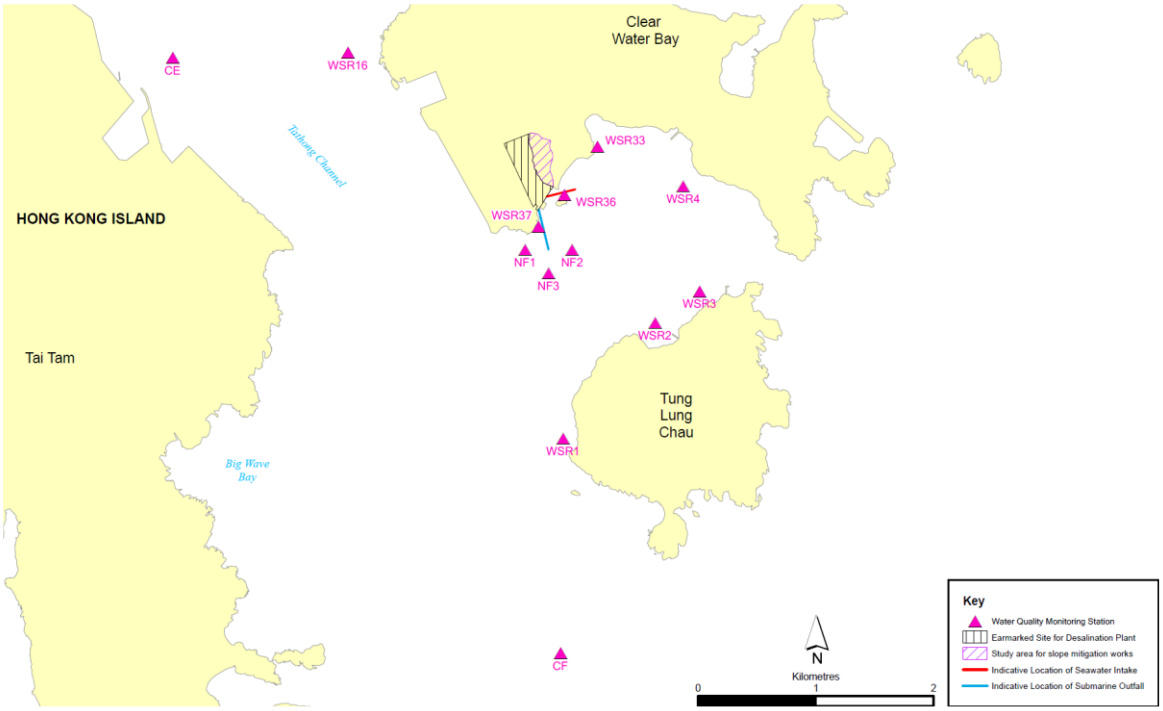


Figure 3.1 Impact water quality monitoring locations under EM&A Manual

Effluent Monitoring from Main Disinfection

According to the approved Flushing and Disinfection Procedure and Supplementary of the Disinfection Procedure for Desalination Plant at Tseung Kwan O, the sampling point of the dechlorinated effluent was located at Contact tank/Product Water Tank (PWT) and T1GKC01AA502/manhole 18. The approved sampling location was shown in Table 3.3, Figure 3.2 and Figure 3.3 below.

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Table 3.3 Sampling location of dechlorinated effluent

System/Loop	Discharge location	Sampling Location
Contact tank/ Product Water Tank (PWT)	Culvert	Contact tank/PWT
Connection to dist. network	Manhole 18 in connection point	Sampling point T1GKC01AA502/manhole 18

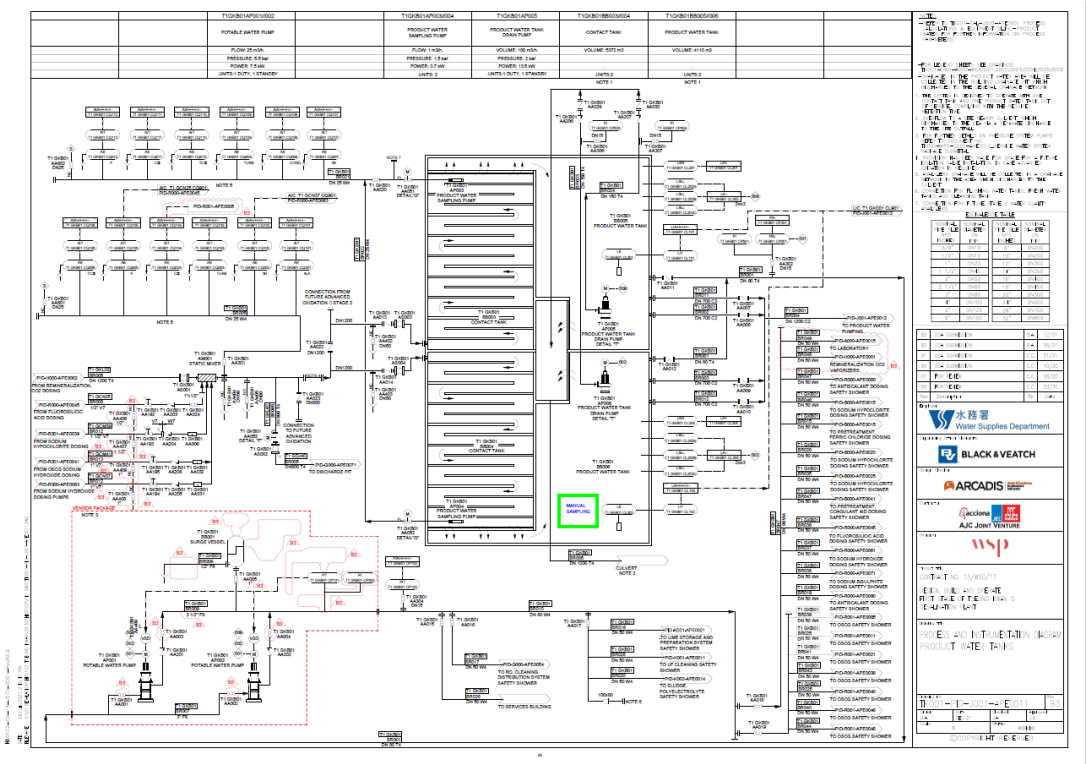


Figure 3.2 Impact water quality monitoring point for dechlorinated effluent (Contact tank/PWT)

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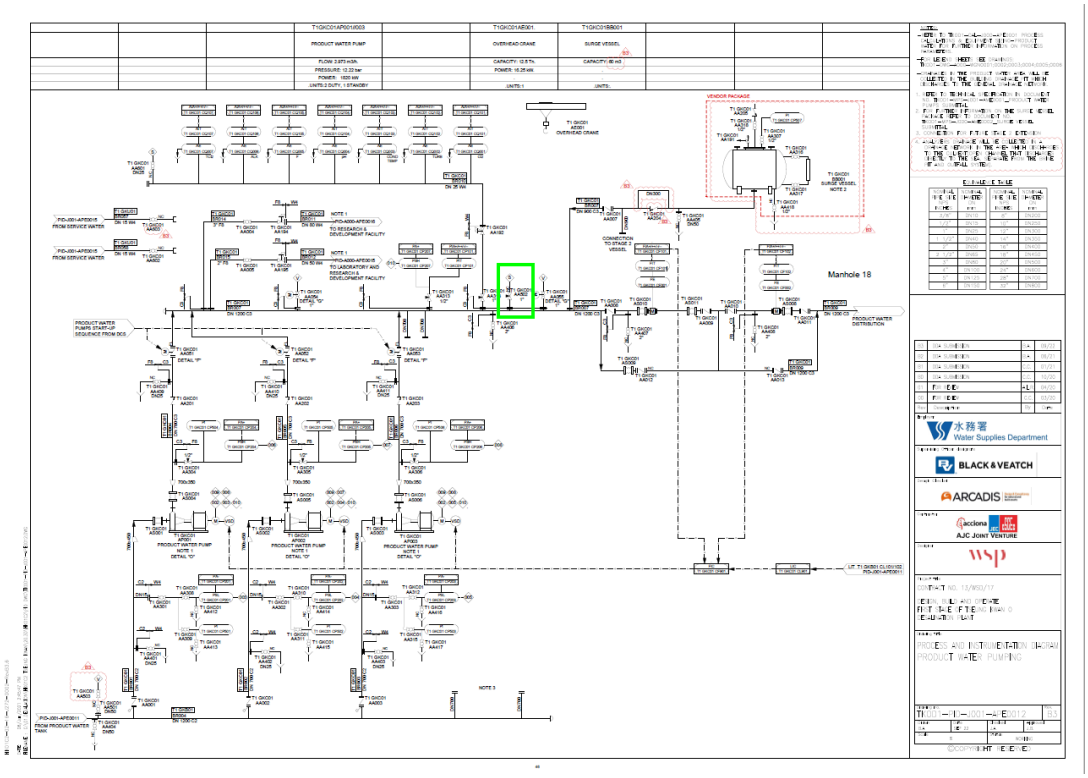


Figure 3.3 Impact water quality monitoring point for dechlorinated effluent (Sampling point T1GKC01AA502/manhole 18)

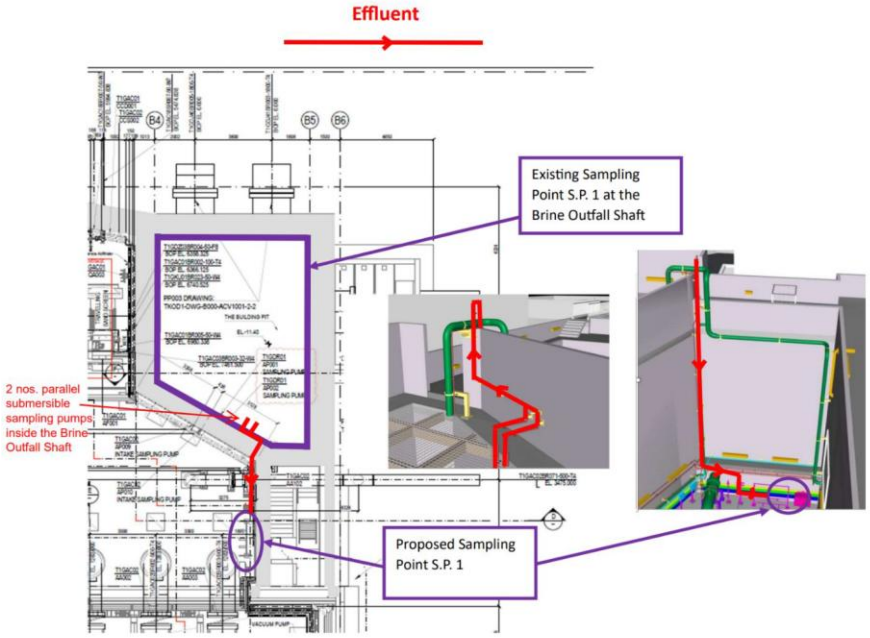


Figure 3.4 Continuous Monitoring locations

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3.4. ACTION AND LIMIT LEVELS

Marine Water Quality Monitoring

The Action and Limit Levels have been set based on the derivation criteria specified in the EM&A Manual. Based on the baseline water quality monitoring data and the derivation criteria, the Action/Limit Levels have been derived and are presented in **Table 3.4**.

Table 3.4 Derived Action and Limit Levels for Water Quality

Parameters	Action	Limit
Marine Water Quality Monitoring		
DO in mg/L	Surface and Middle 7.30 mg L^{-1} Bottom 7.31 mg L^{-1} Tung Lung Chau Fish Culture Zone 5.1 mgL^{-1} or level at control station (Whichever the lower)	Surface and Middle 4 mg L^{-1} Bottom 2 mg L^{-1} Tung Lung Chau Fish Culture Zone 5.0 mgL^{-1} or level at control station (Whichever the lower)
SS in mg/L (Depth-averaged)	5.00 mg L^{-1} or 20% exceedance of value at any impact station compared with corresponding data from control station	6.00 mg L^{-1} or 30% exceedance of value at any impact station compared with corresponding data from control station
Turbidity in NTU (Depth-averaged)	2.41 NTU or 20% exceedance of value at any impact station compared with corresponding data from control station	2.84 NTU or 30% exceedance of value at any impact station compared with corresponding data from control station
Salinity in PSU (Depth-averaged)	34.25 PSU or 9% exceedance of value at any impact station compared with corresponding data from control station	34.56 PSU or 10% exceedance of value at any impact station compared with corresponding data from control station
Iron in mg/L (Depth-averaged)	0.3 mg/L	0.3 mg/L
Total residual chlorine in mg/L	0.01 mg/L	0.01 mg/L

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Parameters	Action	Limit
Marine Water Quality Monitoring		
Total residual chlorine in mg/L (Disinfection)	0.1 mg/L	0.1 mg/L

Notes:
i. "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.
ii. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
iii. For Turbidity, SS, iron and Salinity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
iv. For the Action and Limit Levels adopted during First-year Operation Phase Monitoring, further review would be made according to the EM&A Manual during Operation Phase.
v. Monitoring of Total Residual Chlorine (Disinfection) will be conducted when cleaning and sterilization of the new freshwater main is carried out.
vi. Monitoring of Iron and Total Residual Chlorine were conducted during the pre-operation phase.

Continuous Monitoring of Effluent Quality

Table 3.5 Derived Limit Levels for Water Quality

Parameters	Limit
Continuous Monitoring of Effluent Quality	
Flow Rate in m^3/day	216841
Temperature in °C	Maximum 40
Salinity	71347
SS in mg/L	13
pH	6-9
Iron in mg/L	0.6
Total residual chlorine in mg/L	0.1
Total Inorganic Nitrogen in mg/L	2
Total Phosphorous in mg/L	1
Sodium Metabisulphite in mg/L	0.5
Anti scalant in mg/L*	2.2

*Remark:
1. Anti-scalant water quality testing will only be conducted whenever anti-scalant dosage is adopted.

3.5. MONITORING PROGRAMME

Marine Water Quality Monitoring

The ET of the Contract conducted the construction phase impact water quality monitoring between 1 March 2021 and 31 August 2023 at the ten designated monitoring stations in accordance with the EM&A Manual and Contract Specification.

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Following the completion of the marine-related construction works, the construction phase impact water quality monitoring was suspended on 1 September 2023 and the pre-operation phase marine impact monitoring commenced in December 2023.

The additional pre-operation phase marine water quality monitoring was conducted between 12 December 2023 and 30 June 2024 at the thirteen designated monitoring stations near TKO in accordance with the EM&A Manual and Contract Specification.

Operation phase marine water quality monitoring was conducted between 1 July 2024 to 30 June 2025 at the thirteen designated monitoring stations near TKODP.

Effluent Monitoring from Main Disinfection

According to the approved EM&A Manual Section 5.1.6(b), Flushing and Disinfection Procedure and Supplementary of the Disinfection Procedure was prepared by ET and approved by EPD. The dechlorinated effluent was conducted by the contractor on 24 November 2023, 2 December 2023 and 3 December 2023 in accordance with the EM&A Manual and Contract Specification

Continuous Monitoring of Effluent Quality

Continuous monitoring of Effluent was conducted between 1 July 2024 and 31 July 2025 at Brine Outfall Shaft in accordance with the discharge license.

3.6. MONITORING RESULTS AND OBSERVATIONS

Marine Water Quality Monitoring

The water quality monitoring at the designated locations was conducted by the ET as scheduled in the reporting period. The graphical presentation of the water quality monitoring result was shown in **Appendix D**.

Construction Phase Impact Water Quality Monitoring was conducted as schedule in the reporting period. One thousand four hundred and twelve (1412) action level exceedances and one thousand one hundred and twenty-five (1125) limit level exceedances of Suspended Solid were recorded in the reporting period.

Pre-operation Phase Impact Water Quality Monitoring was conducted as scheduled in the reporting period. One hundred and seventy-nine (179) action level exceedances and One hundred and forty-one (141) limit level exceedances of Suspended Solid were recorded in the reporting period.

Operation Phase Impact Water Quality Monitoring was conducted as scheduled in the reporting period. One hundred and thirty-four (134) action level exceedances and Two hundred and ninety-four (294) limit level exceedances of Suspended Solid were recorded in the reporting period.

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Investigation on the reason for the exceedances has been conducted, and it is concluded that the exceedances were non-project related. No follow-up actions were taken during the reporting period.

Details of the exceedance and the investigation report could refer to **Appendix L** of the Monthly EM&A Report.

Effluent Monitoring from Main Disinfection

Total eleven (11) of dechlorinated effluent sample were taken during the discharge of dechlorinated effluent by contractor. No TRC exceedance of action or limit levels was obtained during the discharge of dechlorinated effluent. Monitoring results are summarized in **Table 3.5**.

Table 3.5 Summary of dechlorinated effluent Monitoring Results

Location	**Contact Tank / Product Water Tank Flushing after Neutralization**										
Date	**24 Nov 2023**				**2 Dec 2023**	**3 Dec 2023**					
Time	16:00	17:00	18:00	19:00	23:59	01:00	02:00	03:00	04:00	05:00	06:00
TRC (mg/L)	0.08	0.03	0.02	0.01	0.04	0.04	0.03	0.02	0.01	0.00	0.01

Continuous Monitoring of Effluent Quality

Continuous Monitoring of Effluent Quality was conducted sampling point in the reporting period. No exceedance of the sampling was obtained during the reporting period had exceeded the Limit Level.

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4. WASTE

The waste generated from this Project includes inert construction and demolition (C&D) materials, and non-inert C&D materials. Non-inert C&D materials are made up of general refuse, vegetative wastes and recyclable wastes such as plastics and paper/cardboard packaging waste. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. Details of cumulative waste management data are presented as a waste flow table in **Appendix F**.

Table 4.1 Quantities of Waste Generated from the Contract during the reporting period

Reporting Month	**Actual Quantities of Inert C&D Materials Generated Monthly**						**Actual Quantities of C&D Wastes Generated Monthly**				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / cardboard packaging	Plastics [1]	Chemical Waste	Others, e.g., general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
2020	15759.320	0.000	0.000	13791.930	1967.390	0.000	56.099	0.100	0.062	0.000	378.080
2021	20165.540	0.000	0.000	12250.220	7915.320	0.000	43.718	1.293	0.096	0.000	1091.600
2022	71961.800	0.000	0.000	0.000	7196.800	0.000	0.021	0.758	0.213	0.296	2307.970
2023	9110.910	0.000	0.000	0.000	9110.910	0.000	0.010	167.806	0.064	0.000	2021.070
2024	89523.961	0.000	0.000	26550.751	62973.210	0.000	0.000	0.000	0.002	4.265	669.170
2025	51.810	0.000	0.000	0.000	51.810	0.000	0.000	0.000	0.000	1.434	363.550

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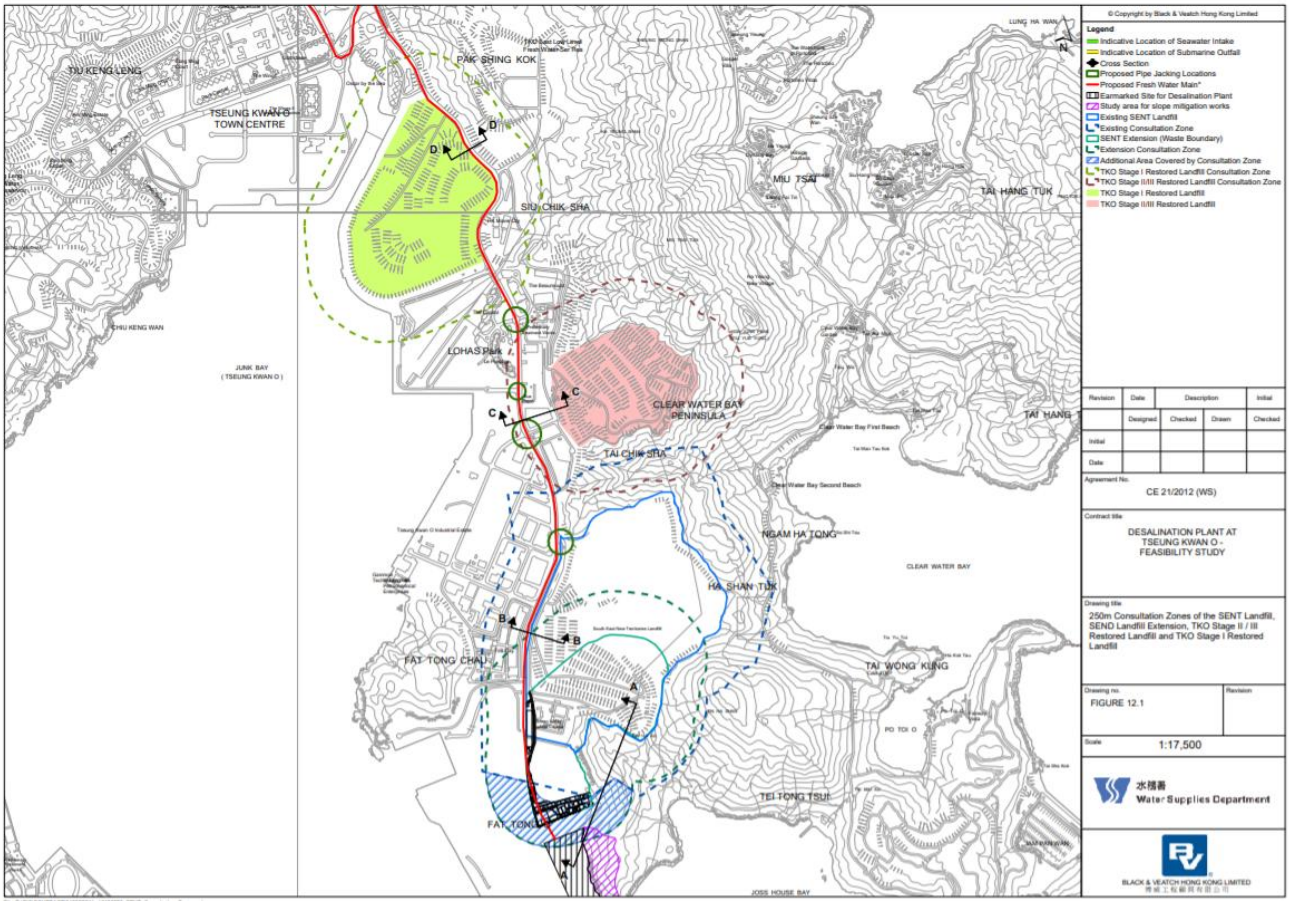
5. LANDFILL GAS MONITORING

5.1. MONITORING REQUIREMENT

Construction Phase

In according with Section 11 of the EM&A Manual, monitoring of landfill gas is required for construction works within the 250m Consultation Zone. Part of the desalination plant and the indicative area of natural slope mitigation works fall within the SENT Landfill Extension Consultation Zone; and part of the 1,200 mm diameter freshwater mains along Wan Po Road falls within the SENT Landfill and SENT Landfill Extension Consultation Zones, TKO Stage II/III Restored Landfill and TKO Stage I Restored Landfill Consultation Zones.

Since part of the desalination plant (Wan Po Road and MIC compound/Basketball Court) and the indicative area of natural slope mitigation works fall within the SENT Landfill Extension Consultation Zone in this contract (Figure 5.1), landfill gas monitoring would be required for Wan Po Road and MIC compound/Basketball Court (Figure 5.2) if excavations were conducted at more than 300mm deep. Although SENT Landfill Extension has commenced operation since November 2021, no excavation works were conducted at MIC compound/Basketball Court. Hence no landfill gas monitoring would be scheduled for MIC compound/Basketball Court at the current stage.



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Figure 5.1 Overview of the SENT Extension Consultation Zone and the Contract Site Area

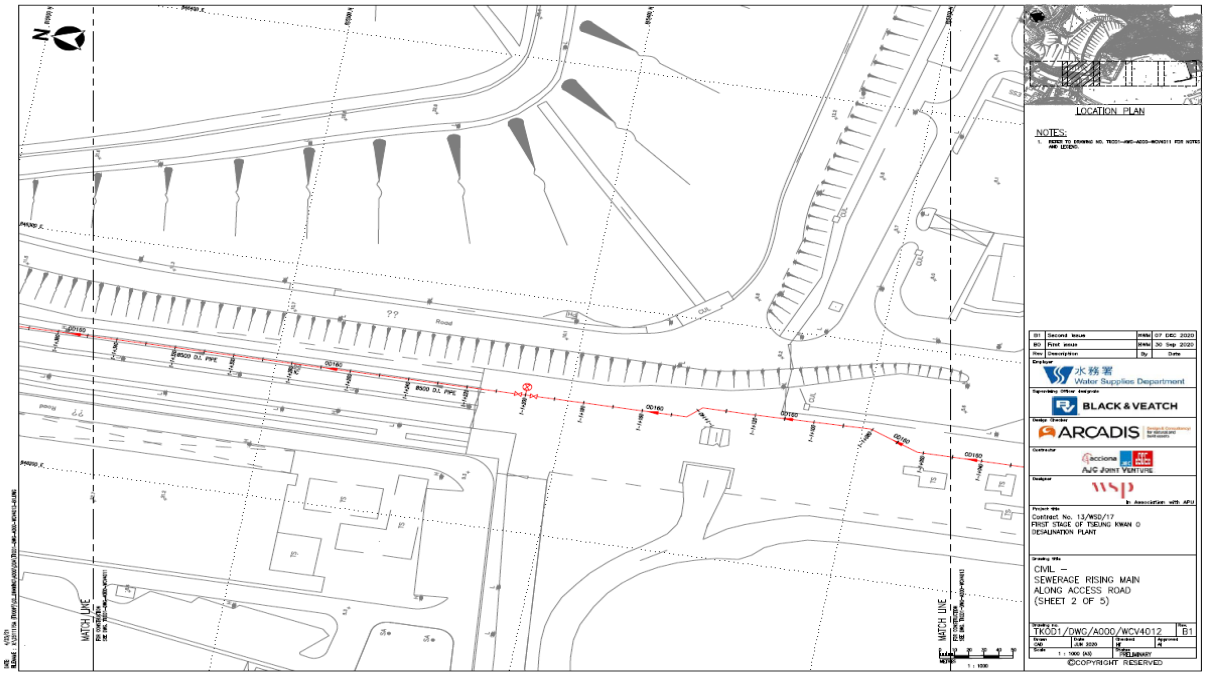


Figure 5.2 Location Map for Landfill Gas Monitoring at Wan Po Road

Operation Phase

In accordance with Section 11 of the EM&A Manual, monthly monitoring of landfill gas is required for the first year of operation at buildings within the Project Site and consultation zone. Part of the desalination plant and the indicative area of natural slope mitigation works fall within the SENT Landfill Extension Consultation Zone; and part of the 1,200 mm diameter freshwater mains along Wan Po Road falls within the SENT Landfill and SENT Landfill Extension Consultation Zones, TKO Stage II/III Restored Landfill and TKO Stage I Restored Landfill Consultation Zones.

Routine monitoring is required at buildings within the Project Site and consultation zones. The monitoring frequency will be monthly for the first year of operation.

For the manholes and utility pits within the Project Site and along the fresh water mains, each manhole/ utility pit should be monitored with two measurements (at mid depth and base). Each measurement should be monitored for a minimum of 10 minutes. A steady reading and peak reading should be recorded at each manhole/ utility pit and for each measurement.

The area required to be monitored for landfill gas in the reporting period is shown in **Figure 5.1, Figure 5.3 and Figure 5.4**.

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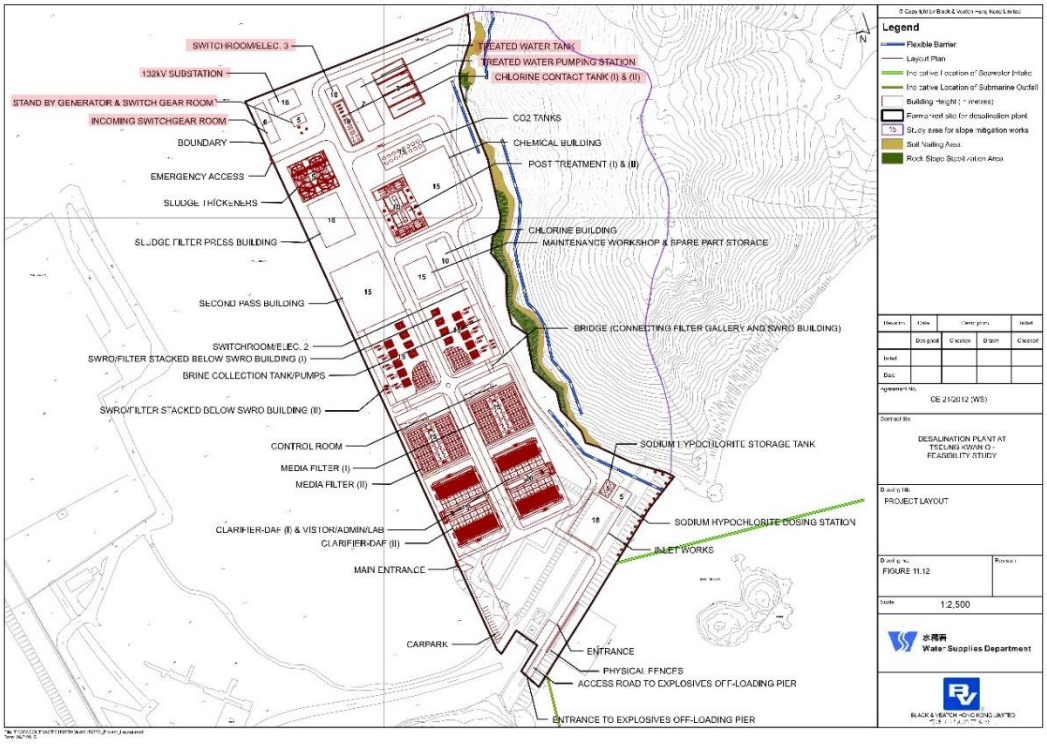


Figure 5.3 Landfill Gas Monitoring Location For Building

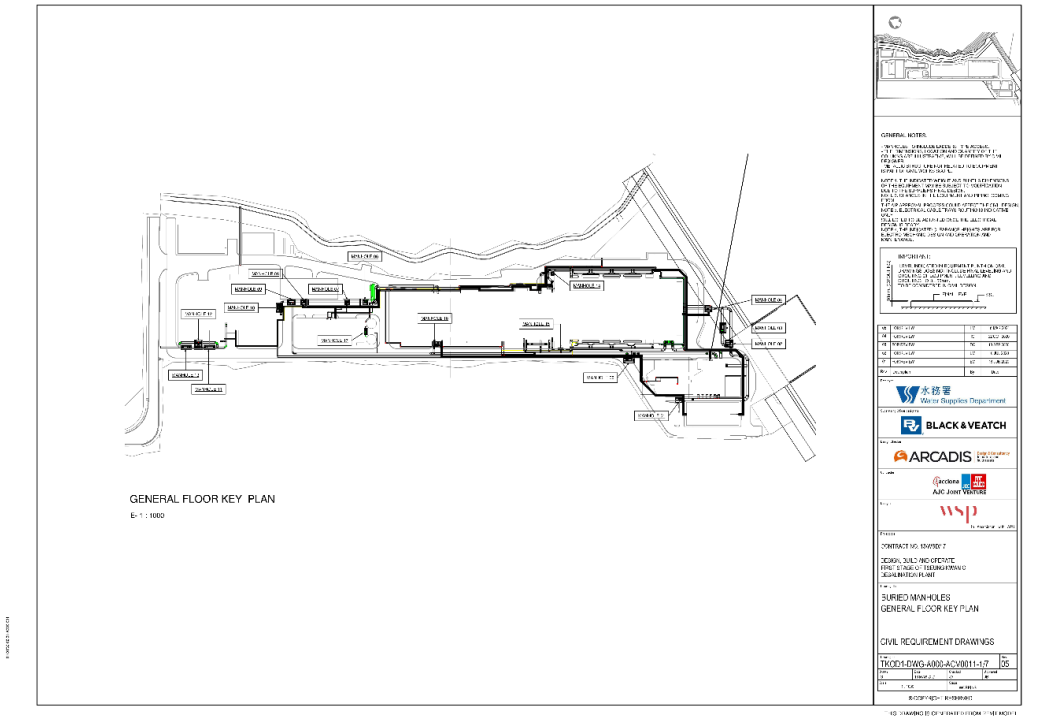


Figure 5.4 Landfill Gas Monitoring Location For Manholes/Pits

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5.2. MONITORING PARAMETERS

LFG monitoring was carried out to identify any migration between the landfill and the Contract and to ensure the safety of the construction, operation and maintenance personnel working on-site, visitors and any other person within the Contract area.

The following parameters were monitored:

- Methane
- Oxygen
- Carbon Dioxide
- Barometric Pressure

5.3. MONITORING EQUIPMENT

Landfill Gas monitoring was carried out using intrinsically safe, portable multi-gas monitoring instruments. Detail of monitoring equipment used in the reporting period could be referred to Section 5.10 of the corresponding Monthly EM&A Report.

5.4. MONITORING RESULTS AND OBSERVATIONS

One thousand nine hundred and ninety-eight (1998) times of construction phase landfill gas monitoring were conducted in the reporting period. No action or limit level exceedance was recorded in the reporting period.

A total of twelve (12) times of operation landfill gas monitoring were conducted in the report period. No action or limit level exceedances was recorded in the reporting period.

Action and Limit Level are provided in **Table 5.1**.

Table 5.1 Action / Limit Levels and Event and Action Plan for LFG Hazard

Parameters	Level	Action
Oxygen (O_2)	Action Level < 19% O_2	Ventilate trench/void to restore O_2 to > 19%
	Limit Level < 19% O_2	Stop works Evacuate personnel/prohibit entry Increase ventilation to restore O_2 to > 19%
Methane (CH_4)	Action Level >10% LEL	Post "No Smoking" signs Prohibit hot works Increase ventilation to restore CH_4 to <10% LEL
	Limit Level >20% LEL	Stop works Evacuate personnel/prohibit entry Increase ventilation to restore CH_4 to<10% LEL
Carbon Dioxide (CO_2)	Action Level >0.5% CO_2	Ventilate to restore CO_2 to < 0.5%

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Parameters	Level		Action
	Limit Level	>1.5% CO_2	Stop works Evacuate personnel / prohibit entry Increase ventilation to restore CO_2 to <0.5%

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6. ECOLOGY (CORAL MONITORING)

Under the approval conditions of the EIA Report for the Project, an EM&A programme on coral for the construction, pre-operation and operation phase of the Project is recommended. Pursuant to these EIA approval conditions and Condition 3.1 of the EP and FEP, details of the regular coral monitoring programme have been proposed based on the baseline coral monitoring results in the Report on Pre-Operation Baseline Coral Monitoring and Regular Coral Monitoring Methodology.

MONITORING LOCATION

In accordance with Appendix B Section 5.1 of the approved supplementary EM&A Manual, two indirect impact sites (C2 and C3) and one control site (C8) as shown in **Figure 6.1** should be monitored during the pre-operation Phase. Pre- operation coral survey should be conducted at the indirect impact and control sites. Ten selected hard coral colonies with similar species should be tagged at each of the control and indirect impact sites before commencement of the operation phase. Tagged hard coral colonies should be monitored in open waters during the pre- operation phase and operation phase.

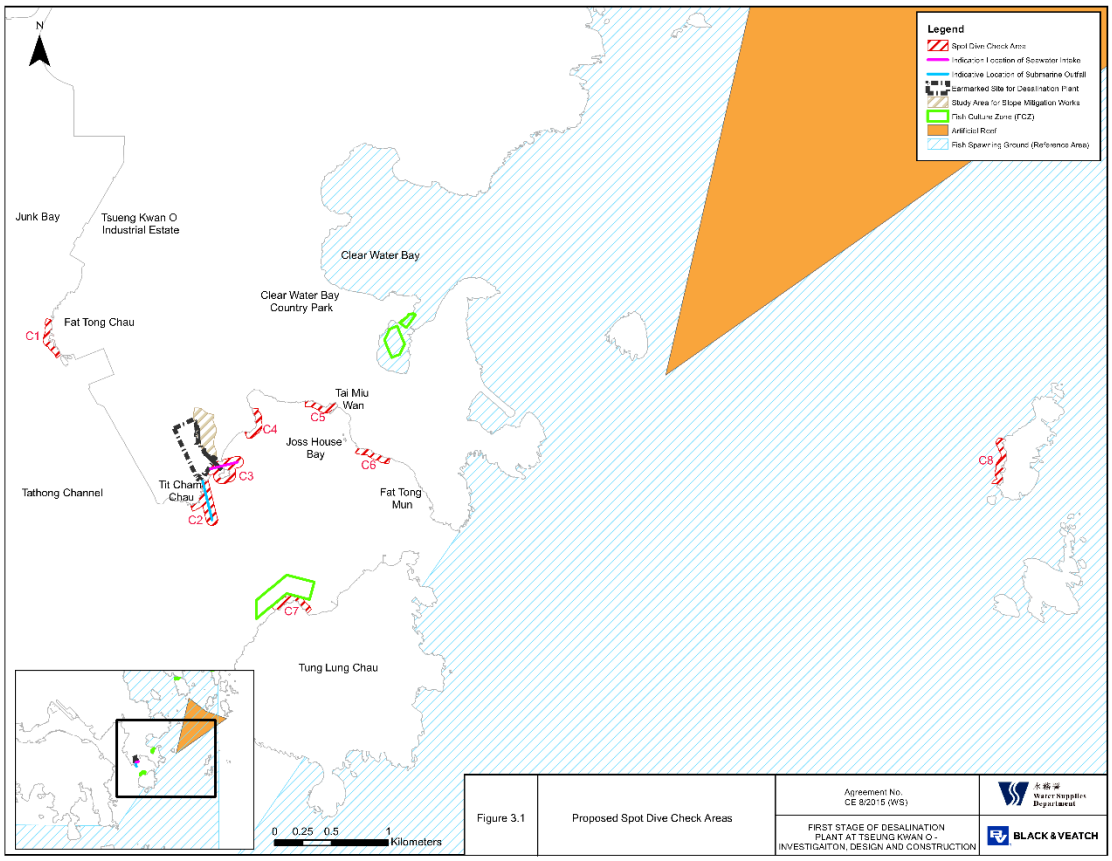


Figure 6.1 Spot Dive Check Areas Two Proposed Indirect Impact Sites (C2 and C3) and one control site (C8) during pre-operation Phase

ACTION AND LIMIT LEVELS

The Action and Limit Levels have been set based on the derivation criteria specified in the EM&A Manual. The Action/Limit Levels have been derived and are presented in **Table 6.1**.

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Table 6.1 Action and Limit Level for Coral Monitoring Equipment

Parameter	Action Level Definition	Limit Level Definition
Mortality	If during Impact Monitoring a 15% increase in the percentage of partial mortality on the corals occurs at more than 20% of the tagged indirect impact site coral colonies that is not recorded on the tagged corals at the control site, then the Action Level is exceeded	If during Impact Monitoring a 25% increase in the percentage of partial mortality on the corals occurs at more than 20% of the tagged indirect impact site coral colonies that is not recorded on the tagged corals at the control site, then the Limit Level is exceeded

Note: If the defined Action Level or Limit Level for coral monitoring is exceeded, the actions as set out in **Table E3 of Appendix E** will be implemented.

If non-compliance were found during the construction works, the actions in accordance with the Event and Action Plan will be carried out according to **Appendix I.**

MONITORING FREQUENCY

Construction phase coral monitoring shall be monitored on a weekly basis in the first month, monitoring frequency is reduced from weekly to monthly in second and third month and further reduce to quarterly in the remaining months.

Pre-operation phase and 1st year operation phase coral monitoring shall be monitored once per month in accordance with the approved supplementary EM&A Manual.

According to the approved proposal to change the operation phase EM&A programme for the 2nd to 10th year, coral monitoring will be conducted on a quarterly basis starting from August 2025.

MONITORING RESULT AND OBSERVATION

Construction phase coral monitoring commenced in March 2021. From March 2021 to Aug 2023, a total of twenty (20) monitoring was carried out in the reporting period. No AL/LL exceedances were recorded during the reporting period.

Consultation with AFCD, a total of six (6) coral colonies were re-tagged on 15 September 2022. A re-tagging survey was conducted in September 2022 and additional coral monitoring were conducted in September 2022 and October 2022.

Pre-operation phase coral monitoring commenced in December 2023. A total of six (6) monitoring was carried out in the reporting period. There were no AL/LL exceedances observed during the reporting period. The detailed result of the monitoring is presented in the Monthly EM&A Report**.**

Operation phase coral monitoring commenced in July 2024. A total of twelve (12) monitoring was carried out in the reporting period. There were no AL/LL exceedances observed during the reporting period. The detailed result of the monitoring is presented in the Monthly EM&A Report.

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7. ECOLOGY (FISHERY MONITORING)

The purpose of the pre-operation phase regular fisheries monitoring programme is to monitor the potential impacts on fisheries resources in the vicinity of the project site. Apart from the regular fisheries monitoring programme, a water quality monitoring programme in addition to the water quality monitoring programme in the approved EM&A Manual is also described in Section 2.4 to (i) provide supplementary information in the interpretation of the findings of the fisheries monitoring and (ii) assist the monitoring of the potential impact on the Tung Lung Chau Fish Culture Zone (FCZ) in Joss House Bay.

MONITORING LOCATION

In accordance with Section 2.3 of the approved Methodology Paper on Regular Fisheries Monitoring, it is recommended to set up six (6) fisheries monitoring locations in Joss House Bay and its vicinity to monitor the fisheries resources.

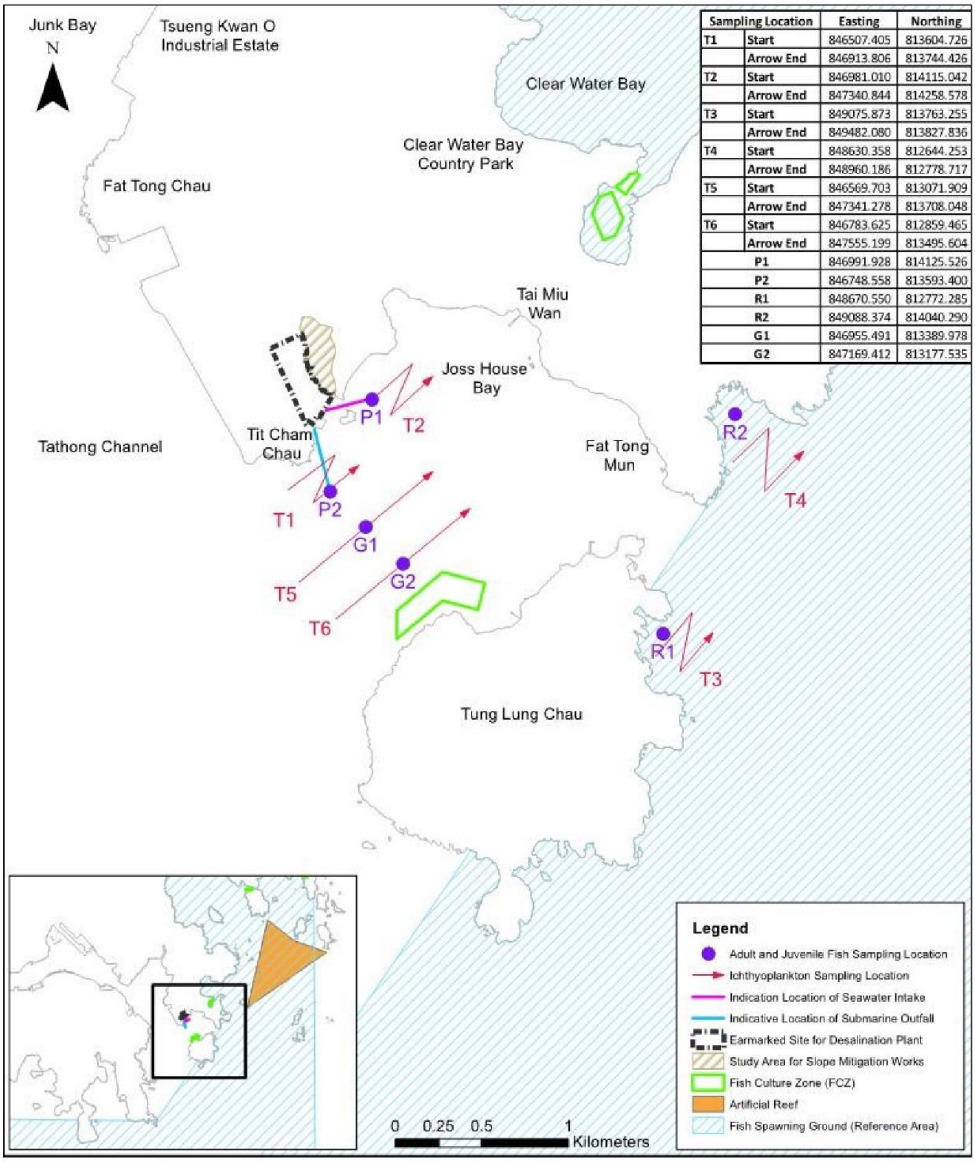
Two (2) sampling locations are set up in close proximity of the direct footprint of the proposed submarine utilities around TKO Area 137. These sampling locations represent the potential Project impact zones (i.e. areas at and in close proximity to the footprint of the proposed submarine utilities that will be directly affected by the Project works).

Two (2) gradient locations are proposed between the proposed submarine utilities and Tung Lung Chau FCZ to assist in the interpretation and identification of any potential fisheries impact in the vicinity of the FCZ.

Two (2) reference locations are proposed in the outer Joss House Bay between the waters of Tung Lung Chau and Fat Tong Mun. These reference locations are further away and will not be affected by the Project discharge (based on the EIA prediction) and will serve as control stations. Any significant fisheries impact identified at the reference locations should be caused by other natural factors or non-Project activities. The trends of fisheries conditions recorded in the reference locations will be used to assist in the interpretation of the trends of fisheries impact identified in the impact and gradient locations.

The coordinates of the proposed monitoring locations are shown in **Figure 7.1.**

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Sampling Location		Easting	Northing
T1	Start	846507.405	813604.726
	Arrow End	846913.806	813744.426
T2	Start	846981.010	814115.042
	Arrow End	847340.844	814258.578
T3	Start	849075.873	813763.255
	Arrow End	849482.080	813827.836
T4	Start	848630.358	812644.253
	Arrow End	848960.186	812778.717
T5	Start	846569.703	813071.909
	Arrow End	847341.278	813708.048
T6	Start	846783.625	812859.465
	Arrow End	847555.199	813495.604
	P1	846991.928	814125.526
	P2	846748.558	813593.400
	R1	848670.550	812772.285
	R2	849088.374	814040.290
	G1	846955.491	813389.978
	G2	847169.412	813177.535

Figure 7.1 Monitoring location of regular fishery monitoring during pre-operation Phase

MONITORING FREQUENCY

Pre-operation phase fishery monitoring shall be carried out 2 times in wet season (April to October) and 2 times in dry season (November to March) to examine the following:

- Fish species composition;
- Abundance: number of fish captured;
- Diversity of fish resources: species diversity and evenness;
- Size: range of total length; Biomass in weight; and
- Values of catches of commercial species: catch per unit effort (CPUE) and yield per unit effort (YPUE).

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MONITORING RESULT AND OBSERVATION

A total of twelve (12) construction phase fishery monitoring were conducted during the reporting period, consisting of six (6) dry season and six (6) wet season assessments.

A total of two (2) pre-operation phase fishery monitoring were conducted during the reporting period, consisting of one (1) dry season and one (1) wet season assessment.

A total of four (4) operation phase fishery monitoring were conducted during the reporting period, consisting of two (2) dry season and two (2) wet seasons assessment.

Overall, the survey findings showed that the abundance and diversity of fish eggs and larvaeare on the low side of the Study Area, and the abundance and diversity of juveniles are very low for the Study Area. Survery findings also showed that there was a very week relationship in recorded families between ichthyoplankton assemblages, adult fish and juvenile fish in the Study Area, which implies that the Study Area does not appear to be an important spawning or nursery gorunds for commercial fishes.

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8. ECOLOGY(LANDSCAPE)

MONITORING REQUIREMENTS

In accordance with Section 8.1 of the EM&A Manual, weekly site audit shall be carried out by the ET include checking whether good site practices are being properly implemented by the Contractor and the extent of the works area within the Clear Water Bay Country Park should be checked by the ET during the weekly site audit.

SITE INSPECTION

Weekly site audit was carried out by the ET in the reporting month, no trespass by the Contractor outside the works area of the Project and Clear Water Bay Country Park, and no damage to the vegetation and rocky shore outside the Project area was observed in the reporting month. Retained trees were properly protected during the construction works, no unacceptable construction works were observed.

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9. SUMMARY OF EXCEEDANCE, COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTIONS

The Environmental Complaint Handling Procedure is shown in below **Figure 8.1:**

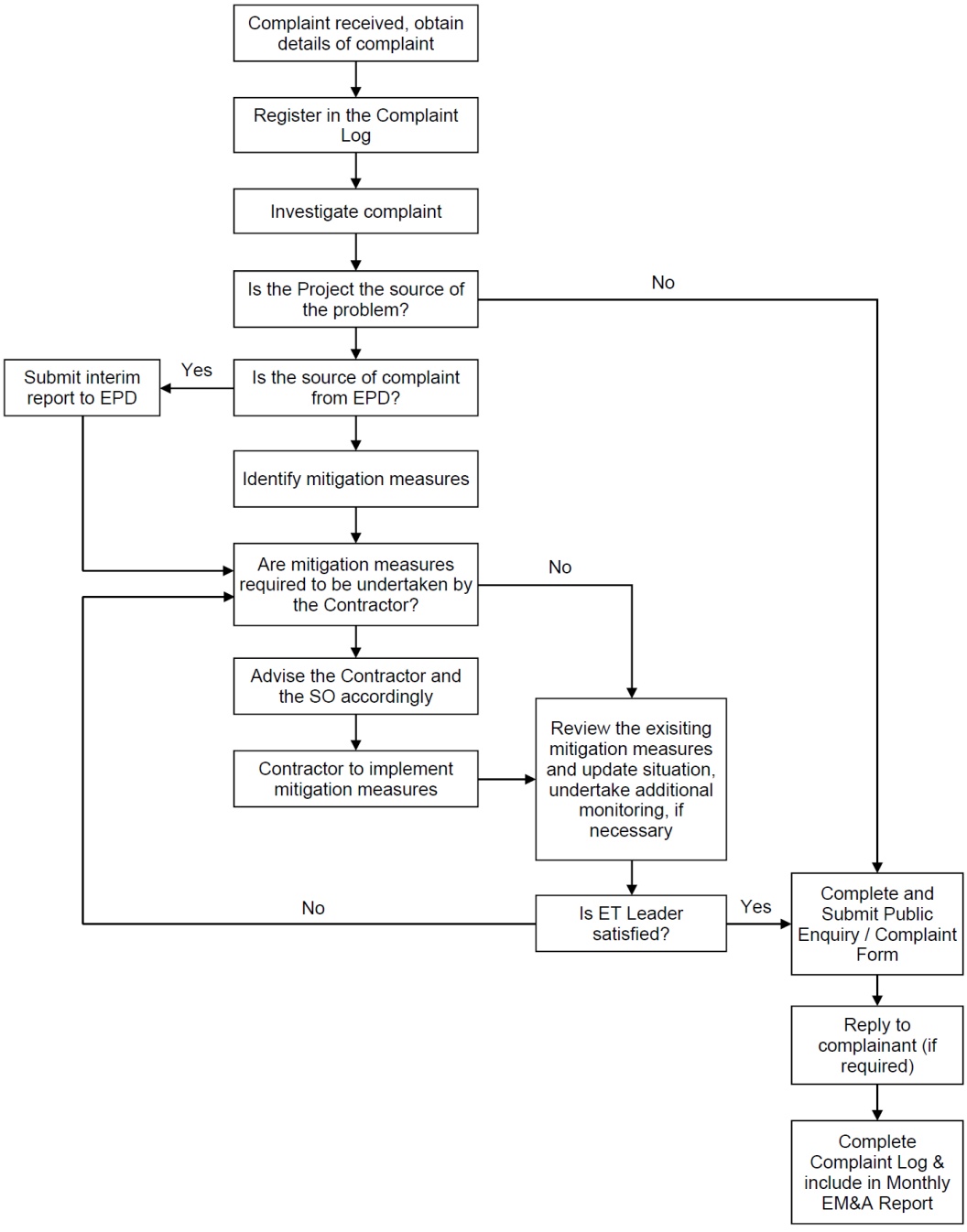


Figure 8.1 Environmental Complaint Handling Procedures

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No noise monitoring was conducted during the reporting period since there are no Contract-related construction activities undertaken within a radius of 300m from the monitoring locations.

The construction phase water quality monitoring was suspended on 1 September 2023 following the completion of marine-related construction works, and the pre-operation phase marine impact monitoring commenced in December 2023.

Construction Phase Impact Water Quality Monitoring was conducted as schedule in the reporting period. One thousand four hundred and twelve (1412) action level exceedances and one thousand one hundred and twenty-five (1125) limit level exceedances of Suspended Solid were recorded in the reporting period.

Pre-operation Phase Impact Water Quality Monitoring was conducted as scheduled in the reporting period. One hundred and seventy-nine (179) action level exceedances and One hundred and forty-one (141) limit level exceedances of Suspended Solid were recorded in the reporting period.

Operation Phase Impact Water Quality Monitoring was conducted as scheduled in the reporting period. One hundred and thirty-four (134) action level exceedances and Two hundred and ninety-four (294) limit level exceedances of Suspended Solid were recorded in the reporting period.

All Action and Limit Level exceedance was concluded to be unrelated to the Project. Details of the exceedance could be referred to the corresponding Monthly EM&A Report.

Total eleven (11) of dechlorinated effluent sample were taken during the discharge of dechlorinated effluent by contractor. No TRC exceedance of action or limit levels was obtained during the discharge of dechlorinated effluent.

The continuous monitoring of effluent quality was conducted from 1 July 2024 to 31 July 2025. No exceedance of the sampling was obtained during the reporting period.

One thousand nine hundred and ninety-eight (1998) times of construction phase landfill gas monitoring were conducted in the reporting period. No action or limit level exceedance was recorded in the reporting period.

A total of twelve (12) times of operation landfill gas monitoring were conducted in the report period. No action or limit level exceedances was recorded in the reporting period.

Construction phase coral monitoring commenced in March 2021. From March 2021 to Aug 2023, a total of twenty (20) monitoring was carried out in the reporting period. No AL/LL exceedances were recorded during the reporting period.

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Pre-operation phase coral monitoring commenced in December 2023. A total of two (2) monitoring was carried out in the reporting period. There were no AL/LL exceedances observed during the reporting period.

Operation phase coral monitoring commenced in July 2024. A total of twelve (12) monitoring was carried out in the reporting period. There were no AL/LL exceedances observed during the reporting period.
A total of twelve (12) construction phase fishery monitoring were conducted during the reporting period, consisting of six (6) dry season and six (6) wet season assessments.

A total of two (2) pre-operation phase fishery monitoring were conducted during the reporting period, consisting of one (1) dry season and one (1) wet season assessment.

A total of four (4) operation phase fishery monitoring were conducted during the reporting period, consisting of two (2) dry season and two (2) wet seasons assessment.

Two (2) environmental complaints were received from EPD on 22 July 2022 and 23 January 2024.

On 22 July 2022, the EPD received a complaint concerning air and water quality. ET conducted an investigation and found that the Contractor had properly implemented the required mitigation measures for both air and water quality. Consequently, the complaint was deemed invalid.

On 23 January 2024, the EPD received a complaint related to noise nuisance from TKODP. ET carried out an ad-hoc nighttime noise monitoring on 25 January 2024. According to the investigation, the complaint was considered as non-project related.

No notification of summons or prosecution was received in the reporting period. Statistics on complaints and regulatory compliance are summarized in **Appendix H**.

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10. EM&A SITE INSPECTION

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting period, site inspections were carried out from 1 March 2020 to 31 May 2025.

According to the approved proposal to change the operation phase EM&A programme for the 2nd to 10th year, site inspection will be conducted on a bi-weekly basis starting from 15 August 2025.

Two hundred and seventy-one (271) site inspections were carried out in the reporting period.

Environmental deficiencies were observed during weekly site inspection. Key observations during the site inspections and during the reporting period could be referring to **Appendix E** and corresponding Monthly Report.

According to the EIA Study Report, Environmental Permit, contract documents and EM&A Manual, the mitigation measures detailed in the documents should be implemented as much as practical during the reporting period. An updated Implementation Status of Environmental Mitigation Measures (EMIS) is provided in **Appendix C.**

The EM&A programme was found effective in monitoring the environmental impacts of this project. Data collection was useful in determining whether the project has caused unacceptable impacts on the sensitive receivers. The impact monitoring data indicated whether exceedances would occur and helped determine whether the works' exceedances were due.

Twenty-seven (27) EPD Joint site inspections were carried out in the report period. No non-compliance and complaint was provided by EPD during the inspection.

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11. CONCLUSIONS AND RECOMMENDATIONS

This is the Final EM&A Review Report, prepared by ASCL, for the Contract summarizing the monitoring results and audit findings of the EM&A programme at and around Tseung Kwan O Area 137 (TKO 137) during the reporting period from 1 March 2020 to 31 January 2024.

No noise monitoring was conducted in the reporting period due to the over distant monitoring station from the works location, in which construction activities were not undertaken within a radius of 300m from the monitoring locations.

The EM&A works for water quality were conducted during the reporting period in accordance with the EM&A Manual.

Construction Phase Impact Water Quality Monitoring was conducted as schedule in the reporting period. One thousand four hundred and twelve (1412) action level exceedances and one thousand one hundred and twenty-five (1125) limit level exceedances of Suspended Solid were recorded in the reporting period.

Pre-operation Phase Impact Water Quality Monitoring was conducted as scheduled in the reporting period. One hundred and seventy-nine (179) action level exceedances and One hundred and forty-one (141) limit level exceedances of Suspended Solid were recorded in the reporting period.

Operation Phase Impact Water Quality Monitoring was conducted as scheduled in the reporting period. One hundred and thirty-four (134) action level exceedances and Two hundred and ninety-four (294) limit level exceedances of Suspended Solid were recorded in the reporting period.

All Action and Limit Level exceedance was concluded to be unrelated to the Project. Details of the exceedance could be referred to the corresponding Monthly EM&A Report.

Total eleven (11) of dechlorinated effluent sample were taken during the discharge of dechlorinated effluent by contractor. No TRC exceedance of action or limit levels was obtained during the discharge of dechlorinated effluent.

The continuous monitoring of effluent quality was conducted from 1 July 2024 to 31 July 2025. No exceedance of the sampling was obtained during the reporting period.

One thousand nine hundred and ninety-eight (1998) times of construction phase landfill gas monitoring were conducted in the reporting period. No action or limit level exceedance was recorded in the reporting period.

A total of twelve (12) times of operation phase landfill gas monitoring were conducted in the report period. No action or limit level exceedances was recorded in the reporting period.

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Construction phase coral monitoring commenced in March 2021. From March 2021 to Aug 2023, a total of twenty (20) monitoring was carried out in the reporting period. No AL/LL exceedances were recorded during the reporting period.

Pre-operation phase coral monitoring commenced in December 2023. A total of two (2) monitoring was carried out in the reporting period. There were no AL/LL exceedances observed during the reporting period.

Operation phase coral monitoring commenced in July 2024. A total of twelve (12) monitoring was carried out in the reporting period. There were no AL/LL exceedances observed during the reporting period.
A total of twelve (12) construction phase fishery monitoring were conducted during the reporting period, consisting of six (6) dry season and six (6) wet season assessments.

A total of two (2) pre-operation phase fishery monitoring were conducted during the reporting period, consisting of one (1) dry season and one (1) wet season assessment.

A total of four (4) operation phase fishery monitoring were conducted during the reporting period, consisting of two (2) dry season and two (2) wet seasons assessment.

Two hundred and seventy-one (271) site inspections were carried out in the reporting period.

Two (2) environmental complaints were received from EPD on 22 July 2022 and 23 January 2024.

On 22 July 2022, the EPD received a complaint concerning air and water quality. ET conducted an investigation and found that the Contractor had properly implemented the required mitigation measures for both air and water quality. Consequently, the complaint was deemed invalid.

On 23 January 2024, the EPD received a complaint related to noise nuisance from TKODP. ET carried out an ad-hoc nighttime noise monitoring on 25 January 2024. According to the investigation, the complaint was considered as non-project related.

No notification of summons or prosecution was received in the reporting period.

The recommended environmental mitigation measures, as proposed in the EIA reports and EM&A Manuals shall be effectively implemented to minimize the potential environmental impacts from the Project. The EM&A programme would effectively monitor the environmental impacts generated from the construction activities and ensure the proper implementation of mitigation measures.

With the success of the overall EM&A programme, the deterioration of the environment caused by the Project was cost-effectively identified and necessary prompt effective

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mitigation measures were implemented to avoid any unacceptable impacts. In conclusion, the Project was environmentally acceptable and returned to the ambient.

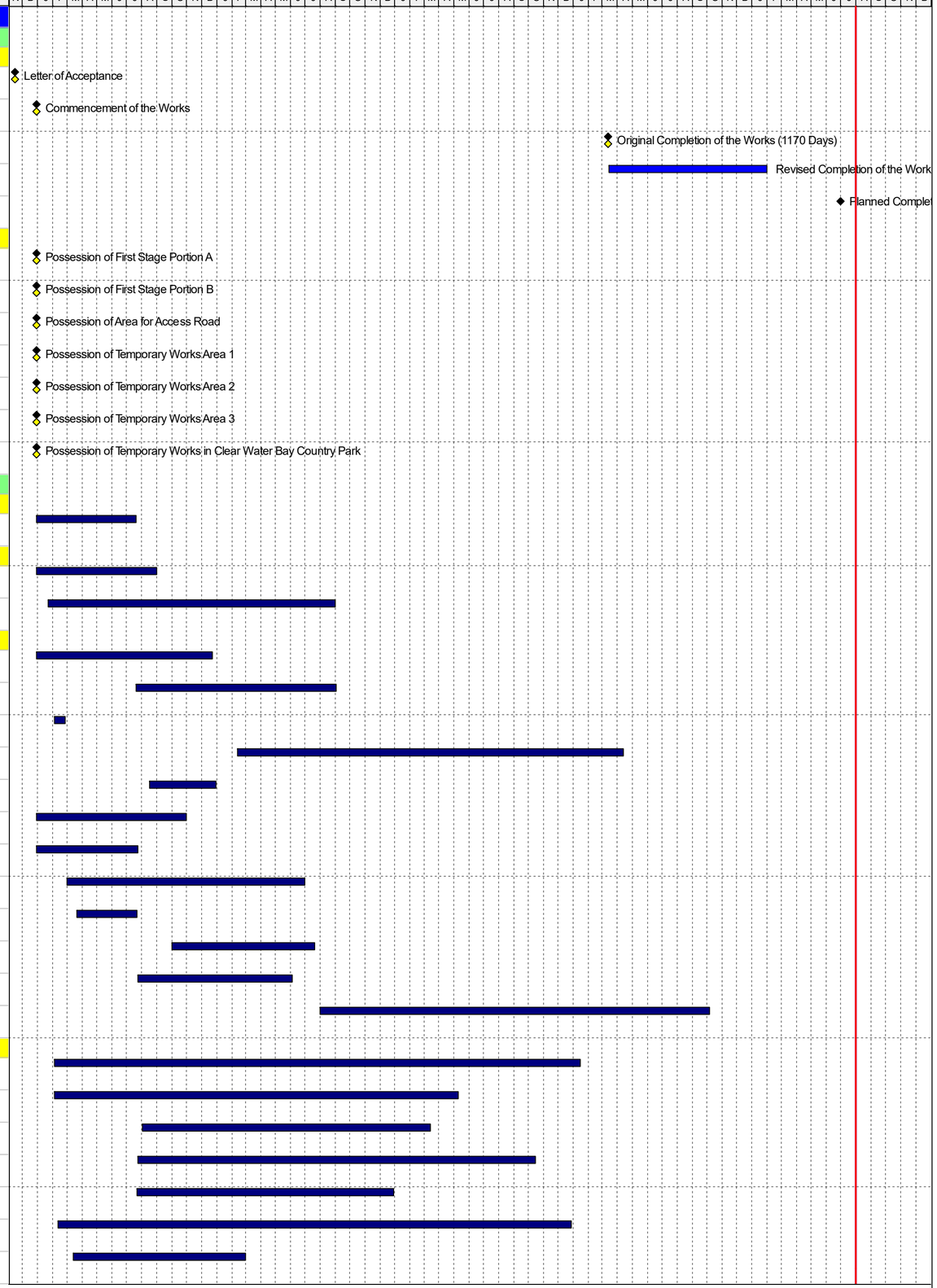
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Appendix A

Master Programme

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Activity ID	Activity Name	Baseline Duration	Baseline Start	Baseline Finish	Remaining Duration	Actual / Planned Start	Actual / Planned Finish	Actual % Complete	Variance Finish Date	Total Float
Project Programme Updated as at 31 Jul 2024										
Key Dates										
Commencement and Completion Date										
KD0000100	Letter of Acceptance	0	15-Nov-19		0	15-Nov-19 A		100%	0	
KD0000110	Commencement of the Works	0	30-Dec-19		0	30-Dec-19 A		100%	0	
KD0000120	Original Completion of the Works (1170 Days)	0		13-Mar-23	0		13-Mar-23 A	100%	0	
KD0000130	Revised Completion of the Works (324 Days EOT Granted)	0			0	14-Mar-23 A	31-Jan-24 A	100%		
KD0000510	Planned Completion of the Works	0			0		30-Jun-24 A	100%		
Possession of Site										
KD0000200	Possession of First Stage Portion A	0	30-Dec-19		0	30-Dec-19 A		100%	0	
KD0000210	Possession of First Stage Portion B	0	30-Dec-19		0	30-Dec-19 A		100%	0	
KD0000220	Possession of Area for Access Road	0	30-Dec-19		0	30-Dec-19 A		100%	0	
KD0000230	Possession of Temporary Works Area 1	0	30-Dec-19		0	30-Dec-19 A		100%	0	
KD0000240	Possession of Temporary Works Area 2	0	30-Dec-19		0	30-Dec-19 A		100%	0	
KD0000250	Possession of Temporary Works Area 3	0	30-Dec-19		0	30-Dec-19 A		100%	0	
KD0000260	Possession of Temporary Works in Clear Water Bay Country Park	0	30-Dec-19		0	30-Dec-19 A		100%	0	
Executive Summaries										
Preliminary Setup										
ES0001000	Mobilization and Preliminary Set Up	191	30-Dec-19	07-Jul-20	0	30-Dec-19 A	20-Jul-20 A	100%	-13	
Civil Design AIP and DDA										
ES0001010	AIP Civil Design Submission and Approval	330	30-Dec-19	23-Nov-20	0	30-Dec-19 A	31-Aug-20 A	100%	84	
ES0001020	DDA Civil Design Submission and Approval	414	28-Feb-20	16-Apr-21	0	22-Jan-20 A	01-Sep-21 A	100%	-138	
M&E Design AIP and DDA										
ES0002000	M&E AIP Process Mechanical Submission and Approval	477	30-Dec-19	19-Apr-21	0	30-Dec-19 A	22-Dec-20 A	100%	118	
ES0002010	M&E DDA Process Mechanical Submission and Approval	679	08-Feb-20	17-Dec-21	0	21-Jul-20 A	02-Sep-21 A	100%	106	
ES0002020	M&E AIP Instrumentation & Control Submission and Approval	607	31-Jan-20	28-Sep-21	0	04-Feb-20 A	25-Feb-20 A	100%	581	
ES0002030	M&E DDA Instrumentation & Control Submission and Approval	514	22-Jul-20	17-Dec-21	0	13-Feb-21 A	14-Apr-23 A	100%	-482	
ES0002050	M&E DDA Renewable Energy Submission and Approval	382	16-Aug-20	01-Sep-21	0	17-Aug-20 A	31-Dec-20 A	100%	244	
ES0002060	M&E AIP Building Services Submission and Approval	226	30-Dec-19	11-Aug-20	0	30-Dec-19 A	30-Oct-20 A	100%	-80	
ES0002065	M&E Design Basis & Civil Guidance Dwg	112	30-Dec-19	19-Apr-20	0	30-Dec-19 A	24-Jul-20 A	100%	-96	
ES0002070	M&E DDA Building Services Submission and Approval	306	28-Feb-20	29-Dec-20	0	01-Mar-20 A	30-Jun-21 A	100%	-183	
ES0002085	M&E AIP Site Wide Electrical Submission and Approval	155	09-Jun-20	10-Nov-20	0	21-Mar-20 A	22-Jul-20 A	100%	111	
ES0002090	M&E CMS Lift Submission and Approval	140	27-Aug-20	13-Jan-21	0	01-Oct-20 A	20-Jul-21 A	100%	-188	
ES0002095	M&E DDA Site Wide Electrical Submission and Approval	140	11-Nov-20	30-Mar-21	0	23-Jul-20 A	04-Jun-21 A	100%	-66	
ES0002100	M&E DDA T&C Design Submission and Approval	155	29-Mar-22	30-Aug-22	0	01-Aug-21 A	05-Oct-23 A	100%	-401	
Procurement of Major Plant & Equipment Schedule										
ES0002320	M&E Procurement of Major Plant, Equipment, Material and Delivery	901	14-Mar-20	31-Aug-22	0	04-Feb-20 A	16-Jan-23 A	100%	-137	
ES2420	M&E Procurement of Mechanical Equipment - Intake Pumps	595	18-May-20	02-Jan-22	0	04-Feb-20 A	11-May-22 A	100%	-128	
ES2430	M&E Procurement of Mechanical Equipment - ActiDAFF Underdrain	333	30-Oct-20	27-Sep-21	0	02-Aug-20 A	14-Mar-22 A	100%	-168	
ES2440	M&E Procurement of Mechanical Equipment - ActiDAFF Media	298	15-Mar-21	06-Jan-22	0	23-Jul-20 A	14-Oct-22 A	100%	-281	
ES2450	M&E Procurement of Mechanical Equipment - RO and ERD Rack	274	22-Feb-21	22-Nov-21	0	22-Jul-20 A	28-Dec-21 A	100%	-36	
ES2460	M&E Procurement of Mechanical Equipment - RO Membrane	755	29-Mar-20	22-Apr-22	0	12-Feb-20 A	28-Dec-22 A	100%	-249	
ES2470	M&E Procurement of Electrical Equipment - CLP Substation for LV Switchboard / Genset / Building Services	300	14-Mar-20	07-Jan-21	0	14-Mar-20 A	28-Feb-21 A	100%	-52	



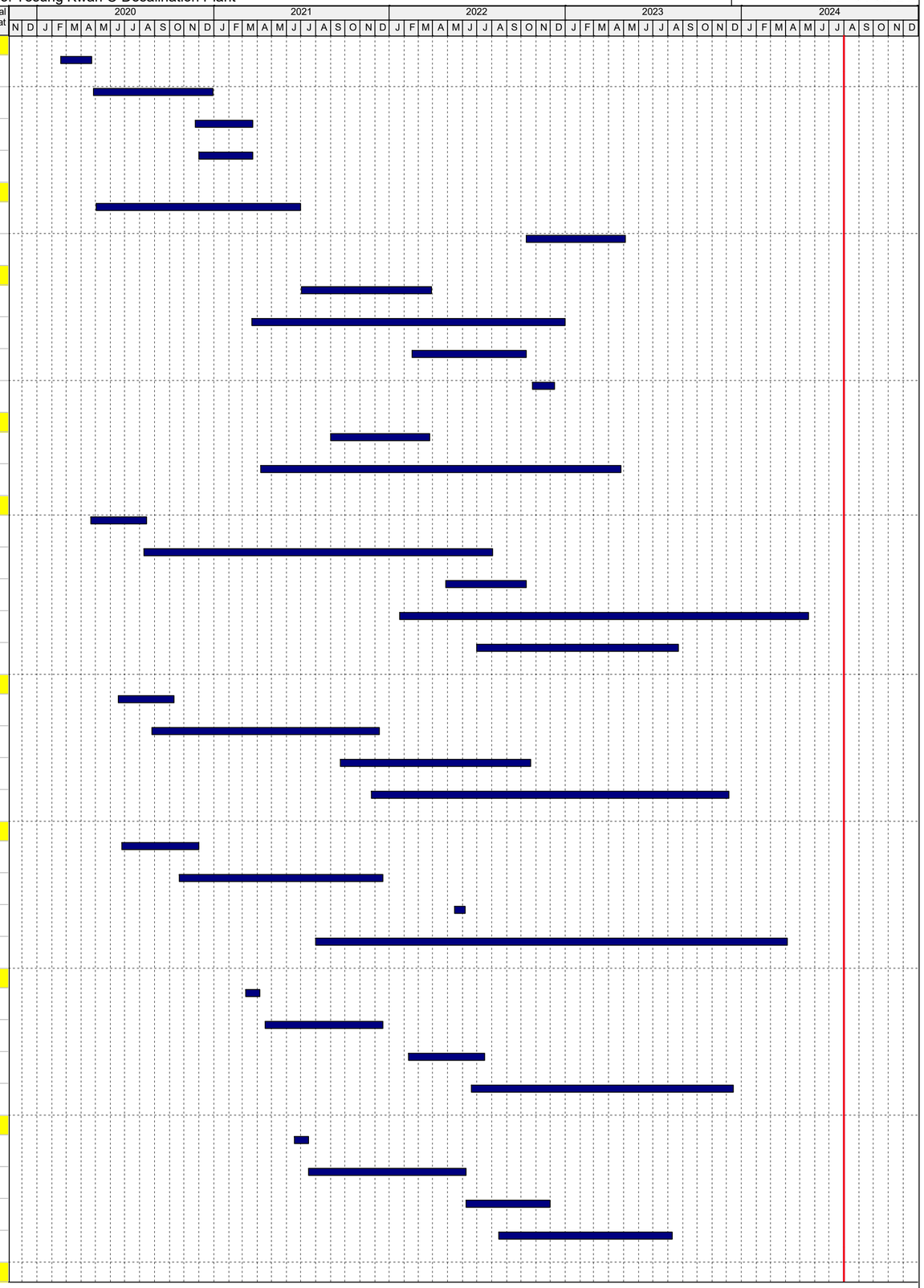
Summary Bar | Actual Work | Target Milestone
Actual Level of Effort | Early Bar | Milestone
Target Bar | Critical Bar

Appendix D - Critical Path

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AJC Joint Venture

Activity ID	Activity Name	Baseline Duration	Baseline Start	Baseline Finish	Remaining Duration	Actual / Planned Start	Actual / Planned Finish	Actual % Complete	Variance Finish Date	Total Float
132kV Substation										
ES0001460	Excavation and Formation Works for 132kV Substation	15	16-Mar-20	30-Mar-20	0	19-Feb-20 A	23-Apr-20 A	100%	-24	
ES0001470	Construction of 132kV Substation	233	31-Mar-20	18-Nov-20	0	27-Apr-20 A	30-Dec-20 A	100%	-42	
ES0001480	Architectural Finishes for 132kV Substation	126	11-Sep-20	14-Jan-21	0	23-Nov-20 A	22-Mar-21 A	100%	-67	
ES0002240	M&E Installation of 132kV Substation	93	20-Nov-20	20-Feb-21	0	01-Dec-20 A	22-Mar-21 A	100%	-30	
Combine Shaft										
ES0001060	Construction of Combine Shaft	257	27-Mar-20	08-Dec-20	0	02-May-20 A	30-Jun-21 A	100%	-204	
ES0002120	M&E Installation at Combine Shaft	160	03-Jan-22	11-Jun-22	0	11-Oct-22 A	06-May-23 A	100%	-328	
Intake										
ES0001070	DN2500 Pipe Jacking for Intake Pipeline	163	09-Dec-20	20-May-21	0	02-Jul-21 A	28-Mar-22 A	100%	-312	
ES0001080	Receiving Pit and Marine Intake Structure	416	11-Nov-20	31-Dec-21	0	22-Mar-21 A	30-Dec-22 A	100%	-364	
ES0001110	Construction of Intake Land Structure (Combined Shaft)	193	21-May-21	29-Nov-21	0	17-Feb-22 A	10-Oct-22 A	100%	-315	
ES0001120	Architectural Finishes for Intake Land Structure	32	30-Nov-21	31-Dec-21	0	24-Oct-22 A	08-Dec-22 A	100%	-342	
OutFall										
ES0001090	DN1650 Pipe Jacking for Outfall Pipeline	140	29-Dec-20	17-May-21	0	01-Sep-21 A	24-Mar-22 A	100%	-311	
ES0001100	Receiving Pit, Outfall and Diffuser Pipeline	343	18-Dec-20	25-Nov-21	0	08-Apr-21 A	25-Apr-23 A	100%	-516	
ActiDAFF										
ES0001140	Excavation for ActiDAFF	97	02-May-20	06-Aug-20	0	22-Apr-20 A	15-Aug-20 A	100%	-9	
ES0001150	Construction of ActiDAFF Structure	393	11-Sep-20	08-Oct-21	0	10-Aug-20 A	03-Aug-22 A	100%	-299	
ES0001160	Architectural Finishes for ActiDAFF	183	07-Jul-21	05-Jan-22	0	28-Apr-22 A	10-Oct-22 A	100%	-278	
ES0002130	M&E Installation at ActiDAFF	257	28-Sep-21	11-Jun-22	0	22-Jan-22 A	20-May-24 A	100%	-708	
ES0002140	M&E Installation of Filter Water Tank and Pumping Station	137	29-Nov-21	14-Apr-22	0	01-Jul-22 A	24-Aug-23 A	100%	-496	
Reverse Osmosis Building										
ES0001170	Excavation at RO Building	270	24-Jun-20	20-Mar-21	0	18-Jun-20 A	10-Oct-20 A	100%	161	
ES0001180	Construction of RO Building	321	16-Nov-20	02-Oct-21	0	25-Aug-20 A	11-Dec-21 A	100%	-70	
ES0001190	Architectural Finishes for RO Building	106	09-Aug-21	22-Nov-21	0	20-Sep-21 A	21-Oct-22 A	100%	-333	
ES0002150	M&E Installation of RO Building	315	23-Nov-21	03-Oct-22	0	24-Nov-21 A	05-Dec-23 A	100%	-428	
Product Water Storage Tank										
ES0001240	Excavation and Soil Nail System for Product Water Storage Tank	106	10-Aug-20	23-Nov-20	0	24-Jun-20 A	01-Dec-20 A	100%	-8	
ES0001250	Construction of Product Water Storage Tank	276	24-Nov-20	26-Aug-21	0	21-Oct-20 A	18-Dec-21 A	100%	-114	
ES0001260	Architectural Finishes for Product Water Storage Tank	70	27-Aug-21	04-Nov-21	0	16-May-22 A	07-Jun-22 A	100%	-215	
ES0002210	M&E Installation of Product Water Tank	78	12-Jan-22	30-Mar-22	0	31-Jul-21 A	04-Apr-24 A	100%	-736	
Product Water Pumping Station										
ES0001270	Excavation for Product Water Pump Station	47	22-Oct-20	07-Dec-20	0	08-Mar-21 A	07-Apr-21 A	100%	-121	
ES0001280	Construction of Product Water Pump Station	270	22-Jan-21	18-Oct-21	0	17-Apr-21 A	18-Dec-21 A	100%	-61	
ES0001290	Architectural Finishes for Product Water Pumping Station	106	25-Sep-21	08-Jan-22	0	10-Feb-22 A	16-Jul-22 A	100%	-189	
ES0002215	M&E Installation of Product Water Pump Station	78	12-Jan-22	30-Mar-22	0	20-Jun-22 A	14-Dec-23 A	100%	-624	
Chemical Building										
ES0001300	Excavation for Chemical Building	42	12-Aug-20	22-Sep-20	0	17-Jun-21 A	17-Jul-21 A	100%	-298	
ES0001310	Construction of Chemical Building	255	23-Sep-20	04-Jun-21	0	17-Jul-21 A	09-Jun-22 A	100%	-370	
ES0001320	Architectural Finishes for Chemical Building	73	05-Jun-21	16-Aug-21	0	09-Jun-22 A	30-Nov-22 A	100%	-470	
ES0002220	M&E Installation of Chemical Building	264	02-Sep-21	23-May-22	0	15-Aug-22 A	10-Aug-23 A	100%	-443	
Administration Building										

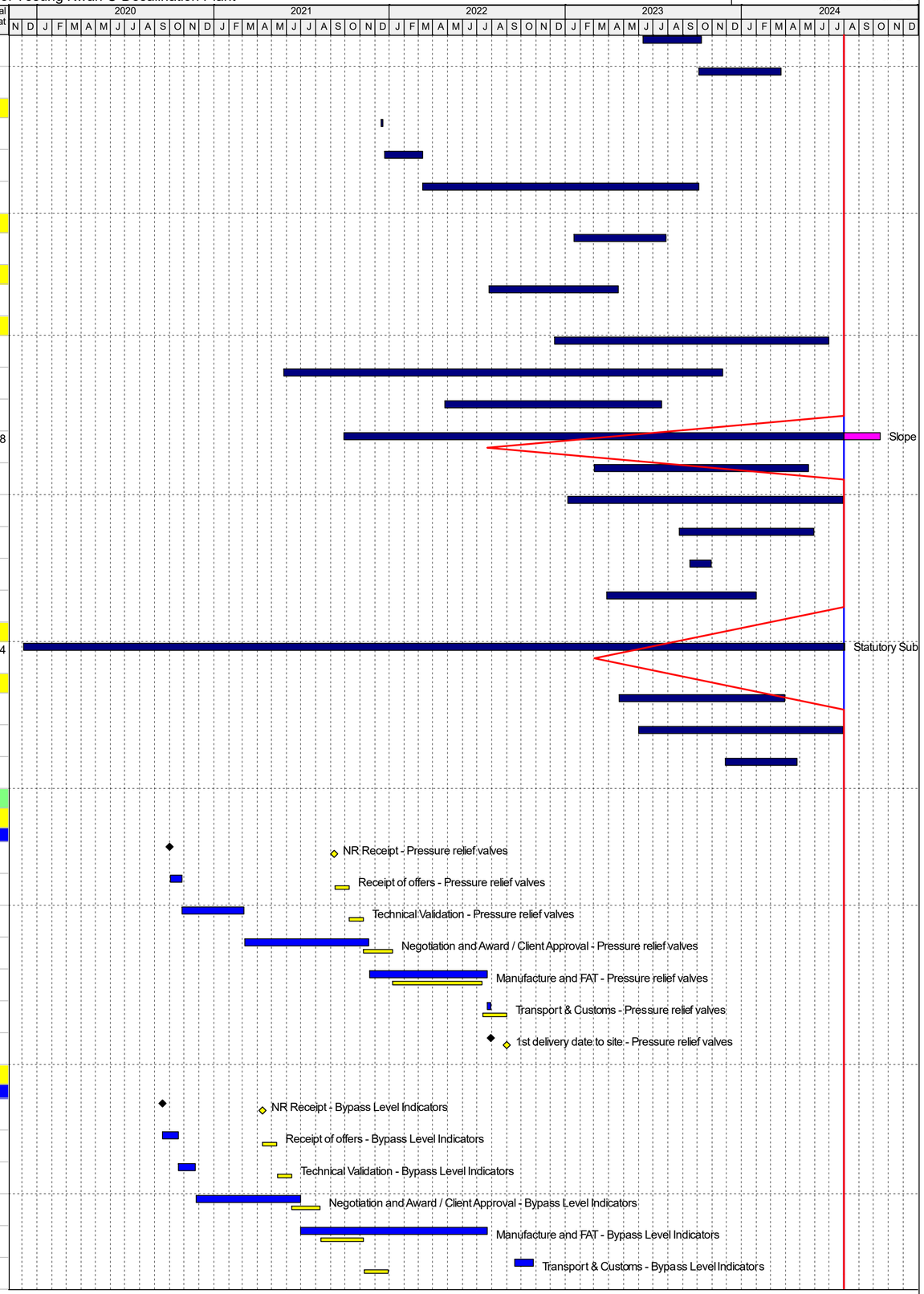


Activity ID	Activity Name	Baseline Duration	Baseline Start	Baseline Finish	Remaining Duration	Actual / Planned Start	Actual / Planned Finish	Actual % Complete	Variance Finish Date	Total Float
ES0001330	Piling Works for Administration Building	110	19-Oct-20	05-Feb-21	0	03-Oct-20 A	16-Jan-21 A	100%	20	
ES0001340	Excavation for Administration Building	31	06-Feb-21	08-Mar-21	0	28-Dec-20 A	15-Mar-21 A	100%	-7	
ES0001350	Construction of Administration Building	339	09-Mar-21	10-Feb-22	0	28-Jan-21 A	29-Aug-22 A	100%	-200	
ES0001360	Architectural Finishes for Administration Building	204	26-Aug-21	17-Mar-22	0	19-Apr-22 A	22-May-23 A	100%	-431	
ES0002230	M&E Installation of Admin Building	184	16-Nov-21	18-May-22	0	15-Jul-22 A	18-Feb-23 A	100%	-276	
Building Services & Lift Installation										
ES0002270	Lift Installation	147	18-Mar-22	11-Aug-22	0	02-Feb-23 A	28-Jun-24 A	100%	-686	
ES0002280	Building Services Installation	676	27-Nov-20	03-Oct-22	12	01-Dec-20 A	12-Aug-24	85%	-679	-194
OSCG Building										
ES0001400	Excavation for On-site Chlorine Generation Building	25	11-Dec-20	04-Jan-21	0	01-Apr-21 A	09-Apr-22 A	100%	-460	
ES0001410	Construction of On-site Chlorine Generation Building	291	05-Jan-21	22-Oct-21	0	05-Jul-21 A	15-Jun-22 A	100%	-236	
ES0001420	Architectural Finishes for On-site Chlorine Generation Building	59	23-Oct-21	20-Dec-21	0	16-Jun-22 A	28-Sep-22 A	100%	-282	
ES0002200	BS Installation of On-site Chlorine Generation Building (DG inspection)	162	21-Dec-21	31-May-22	12	11-Oct-22 A	12-Aug-24	90%	-804	-194
Post Treatment Building										
ES0001210	Excavation and ELS for Post Treatment Building	126	19-Dec-20	23-Apr-21	0	03-Dec-20 A	01-Sep-21 A	100%	-131	
ES0001220	Construction of Post Treatment Building	209	14-Apr-21	08-Nov-21	0	17-Dec-20 A	19-May-22 A	100%	-192	
ES0001230	Architectural Finishes for Post Treatment Building	59	11-Oct-21	08-Dec-21	0	22-Jul-22 A	16-Sep-22 A	100%	-282	
ES0002180	M&E Installation of Post Treatment Building	199	09-Dec-21	25-Jun-22	0	14-Jul-22 A	04-Apr-24 A	100%	-649	
Sludge Thickener										
ES0001680	Excavation for Sludge Thickener	73	19-Apr-21	30-Jun-21	0	02-Oct-21 A	16-Oct-21 A	100%	-108	
ES0001690	Construction of Sludge Thickener	121	02-Jul-21	30-Oct-21	0	08-Oct-21 A	26-Jul-22 A	100%	-269	
ES0001700	Architectural Finishes for Sludge Thickener	44	01-Nov-21	14-Dec-21	0	29-Jul-22 A	31-Jan-24 A	100%	-778	
ES0002190	M&E Installation of Sludge Thickener	141	15-Dec-21	04-May-22	0	06-Feb-23 A	28-Mar-24 A	100%	-693	
Workshop										
ES0001560	Excavation for Workshop	7	21-May-21	27-May-21	0	06-Nov-23 A	07-Nov-23 A	100%	-894	
ES0001570	Construction of Workshop	179	28-May-21	22-Nov-21	0	08-Nov-23 A	15-Mar-24 A	100%	-844	
ES0001580	Architectural Finishes for Workshop	81	17-Nov-21	05-Feb-22	0	16-Mar-24 A	26-Jun-24 A	100%	-872	
Inspection Corridor										
ES0001590	Piling for Inspection Corridor (Elevated Walkway)	60	09-Jan-21	09-Mar-21	0	15-Dec-20 A	19-Jan-21 A	100%	49	
ES0001600	Excavation for Inspection Corridor	121	14-Apr-21	12-Aug-21	0	26-Mar-21 A	28-May-22 A	100%	-289	
ES0001610	Construction of Inspection Corridor	299	06-May-21	28-Feb-22	0	12-Apr-21 A	16-Nov-23 A	100%	-626	
ES0001620	Architectural Finishes for Inspection Corridor	99	08-Feb-22	17-May-22	0	03-Oct-23 A	29-Jun-24 A	100%	-774	
ES0001625	Building Services for Inspection Corridor	0			0	03-Jan-23 A	01-Feb-24 A	100%		
Main Electrical and Central Chiller Plant Building										
ES0001430	Excavation for Main Electrical and Central Chiller Plant Building	20	11-Jan-21	30-Jan-21	0	18-Jan-21 A	06-Feb-21 A	100%	-7	
ES0001440	Construction of Main Electrical and Central Chiller Plant Building	227	01-Feb-21	15-Sep-21	0	01-Feb-21 A	20-Oct-21 A	100%	-35	
ES0001450	Architectural Finishes for Main Electrical and Central Chiller Plant Building	99	20-Jul-21	26-Oct-21	0	06-Nov-21 A	25-Jun-22 A	100%	-242	
ES0002260	M&E Installation for Main Electrical and Central Chiller Plant Building	152	25-Jan-22	25-Jun-22	0	27-Jul-22 A	14-Apr-23 A	100%	-293	
Guard House										
ES0001490	Excavation for Guard House at Main Gate	7	15-Sep-21	21-Sep-21	0	16-May-23 A	17-May-23 A	100%	-603	
ES0001500	Construction of Guard House at Main Gate	149	23-Sep-21	18-Feb-22	0	18-May-23 A	26-Aug-23 A	100%	-554	
ES0001510	Architectural Finishes for Guard House at Main Gate	76	19-Feb-22	05-May-22	0	18-Aug-23 A	15-Sep-23 A	100%	-498	
ES0001520	Excavation for Guard House near Pier	8	21-May-21	28-May-21	0	07-Jun-23 A	09-Jun-23 A	100%	-742	

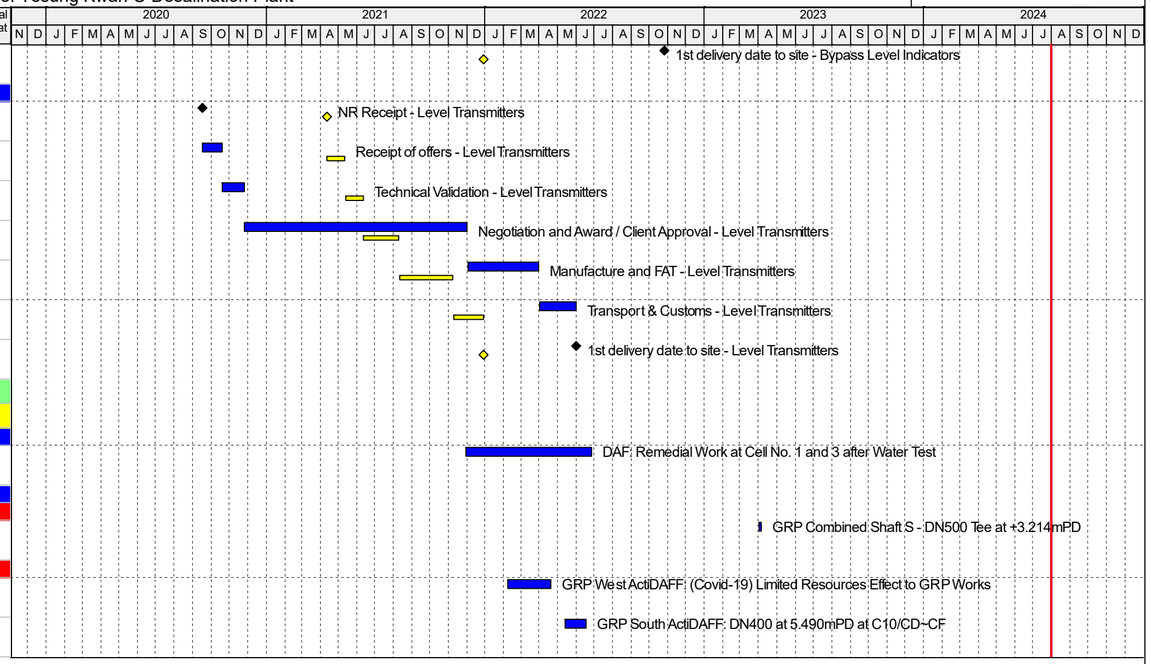


Summary Bar
Actual Level of Effort
Target Bar
Actual Work
Early Bar
Critical Bar
Target Milestone
Milestone

Activity ID	Activity Name	Baseline Duration	Baseline Start	Baseline Finish	Remaining Duration	Actual / Planned Start	Actual / Planned Finish	Actual % Complete	Variance Finish Date	Total Float
ES0001530	Construction of Guard House near Pier	147	29-May-21	22-Oct-21	0	10-Jun-23 A	10-Oct-23 A	100%	-718	
ES0001540	Architectural Finishes for Guard House near Pier	74	23-Oct-21	04-Jan-22	0	05-Oct-23 A	23-Mar-24 A	100%	-809	
CO2 Tanks Areas										
ES0001370	Filling to Formation for CO2 Tanks Area	29	22-Jun-21	20-Jul-21	0	14-Dec-21 A	17-Dec-21 A	100%	-150	
ES0001380	Construction of CO2 Tanks Area	116	21-Jul-21	13-Nov-21	0	21-Dec-21 A	10-Mar-22 A	100%	-117	
ES0002170	M&E Installation of CO2 Tanks Area	84	27-Jan-22	20-Apr-22	0	11-Mar-22 A	03-Oct-23 A	100%	-531	
Diesel Emergency Generator										
ES0002250	M&E Diesel Emergency Generator	57	25-Feb-22	22-Apr-22	0	18-Jan-23 A	28-Jul-23 A	100%	-462	
Switch Room and Transformer Installation										
ES0002300	M&E Installation of HV/LV Switchroom and Transformer (Admin)	242	16-Nov-21	15-Jul-22	0	27-Jul-22 A	20-Apr-23 A	100%	-279	
Miscellaneous										
ES0001630	Remaining Architectural Finishes for All Buildings	322	11-Jan-22	28-Nov-22	0	09-Dec-22 A	29-Jun-24 A	100%	-579	
ES0001640	External Process and Non Process Pipe	655	18-Dec-20	03-Oct-22	0	27-May-21 A	23-Nov-23 A	100%	-416	
ES0001650	Drainage and Cable Duct	518	04-Jun-21	03-Nov-22	0	25-Apr-22 A	18-Jul-23 A	100%	-257	
ES0001660	Slope Mitigation Works	684	23-Nov-20	07-Oct-22	76	28-Sep-21 A	15-Oct-24	50%	-739	-258
ES0001670	Landscaping Works	469	28-Oct-21	08-Feb-23	0	01-Mar-23 A	18-May-24 A	100%	-465	
ES0002290	M&E PV Panels	215	23-Nov-21	25-Jun-22	0	05-Jan-23 A	29-Jul-24 A	100%	-764	
ES0002310	M&E Chiller & Irrigation System Installation	298	27-Oct-21	20-Aug-22	0	25-Aug-23 A	30-May-24 A	100%	-648	
ES0002350	M&E Installation of Surge Vessel	70	24-Feb-22	04-May-22	0	15-Sep-23 A	30-Oct-23 A	100%	-544	
ES0002390	M&E Installation of Thickened Sludge Holding Tank	42	09-Dec-21	19-Jan-22	0	27-Mar-23 A	31-Jan-24 A	100%	-742	
Statutory Submission & Inspection										
ES0002330	Statutory Submission & Inspection	1148	11-Jan-20	03-Mar-23	2	03-Dec-19 A	02-Aug-24	100%	-518	-184
Testing and Commissioning										
ES0002400	M&E Precomissioning	229	12-Jun-22	26-Jan-23	0	22-Apr-23 A	29-Mar-24 A	100%	-428	
ES0002410	M&E Commissioning	213	04-Jul-22	01-Feb-23	0	02-Jun-23 A	30-Jul-24 A	100%	-544	
ES0002420	M&E Performance Test	40	02-Feb-23	13-Mar-23	0	28-Nov-23 A	26-Apr-24 A	100%	-409	
Procurement of Major Plant & Equipment Schedule										
Pipes, Fittings and Valves										
Pressure Relief Valves										
P-PV-A51IK-0	NR Receipt - Pressure relief valves	0		08-Sep-21	0		02-Oct-20 A	100%	341	
P-PV-A51IK-0	Receipt of offers - Pressure relief valves	30	09-Sep-21	08-Oct-21	0	03-Oct-20 A	27-Oct-20 A	100%	346	
P-PV-A51IK-0	Technical Validation - Pressure relief valves	30	09-Oct-21	07-Nov-21	0	28-Oct-20 A	05-Mar-21 A	100%	248	
P-PV-A51IK-0	Negotiation and Award / Client Approval - Pressure relief valves	60	08-Nov-21	06-Jan-22	0	06-Mar-21 A	19-Nov-21 A	100%	49	
P-PV-A51IK-0	Manufacture and FAT - Pressure relief valves	187	07-Jan-22	12-Jul-22	0	20-Nov-21 A	22-Jul-22 A	100%	-9	
P-PV-A51IK-0	Transport & Customs - Pressure relief valves	50	13-Jul-22	31-Aug-22	0	23-Jul-22 A	31-Jul-22 A	100%	32	
P-PV-A51IK-0	1st delivery date to site - Pressure relief valves	0		31-Aug-22	0		31-Jul-22 A	100%	32	
Instrumentation, Control & Automation										
Bypass Level Indicators										
P-IC-A08FK2-	NR Receipt - Bypass Level Indicators	0		12-Apr-21	0		16-Sep-20 A	100%	208	
P-IC-A08FK2-	Receipt of offers - Bypass Level Indicators	30	13-Apr-21	12-May-21	0	17-Sep-20 A	20-Oct-20 A	100%	205	
P-IC-A08FK2-	Technical Validation - Bypass Level Indicators	30	13-May-21	11-Jun-21	0	21-Oct-20 A	25-Nov-20 A	100%	199	
P-IC-A08FK2-	Negotiation and Award / Client Approval - Bypass Level Indicators	60	12-Jun-21	10-Aug-21	0	26-Nov-20 A	30-Jun-21 A	100%	42	
P-IC-A08FK2-	Manufacture and FAT - Bypass Level Indicators	90	11-Aug-21	08-Nov-21	0	01-Jul-21 A	22-Jul-22 A	100%	-255	
P-IC-A08FK2-	Transport & Customs - Bypass Level Indicators	50	09-Nov-21	28-Dec-21	0	18-Sep-22 A	26-Oct-22 A	100%	-301	



Activity ID	Activity Name	Baseline Duration	Baseline Start	Baseline Finish	Remaining Duration	Actual / Planned Start	Actual / Planned Finish	Actual % Complete	Variance Finish Date	Total Float
P-IC-A08FK2-	1st delivery date to site - Bypass Level Indicators	0		28-Dec-21	0		26-Oct-22 A	100%	-301	
Level Transmitters										
P-IC-A08FK1-	NR Receipt - Level Transmitters	0		12-Apr-21	0		16-Sep-20 A	100%	208	
P-IC-A08FK1-	Receipt of offers - Level Transmitters	30	13-Apr-21	12-May-21	0	17-Sep-20 A	20-Oct-20 A	100%	204	
P-IC-A08FK1-	Technical Validation - Level Transmitters	30	13-May-21	11-Jun-21	0	21-Oct-20 A	26-Nov-20 A	100%	198	
P-IC-A08FK1-	Negotiation and Award / Client Approval - Level Transmitters	60	12-Jun-21	10-Aug-21	0	26-Nov-20 A	02-Dec-21 A	100%	-113	
P-IC-A08FK1-	Manufacture and FAT - Level Transmitters	90	11-Aug-21	08-Nov-21	0	03-Dec-21 A	31-Mar-22 A	100%	-142	
P-IC-A08FK1-	Transport & Customs - Level Transmitters	50	09-Nov-21	28-Dec-21	0	02-Apr-22 A	01-Jun-22 A	100%	-154	
P-IC-A08FK1-	1st delivery date to site - Level Transmitters	0		28-Dec-21	0		01-Jun-22 A	100%	-154	
Construction										
Civil & Structure Construction										
ActiDAFF Structure (DAF)										
CC0200906k	DAF: Remedial Work at Cell No. 1 and 3 after Water Test	0			0	30-Nov-21 A	27-Jun-22 A	100%		
Yard Piping - Process & Non Process										
Yard Piping - Combined Shaft Zone										
CC2401356k	GRP Combined Shaft S - DN500 Tee at +3.214mPD	0			0	01-Apr-23 A	06-Apr-23 A	100%		
Yard Piping - ActiDAFF Zone										
CC2401311k	GRP West ActiDAFF: (Covid-19) Limited Resources Effect to GRP Works	0			0	08-Feb-22 A	19-Apr-22 A	100%		
CC2401349k	GRP South ActiDAFF: DN400 at 5.490mPD at C10/CD~CF	0			0	14-May-22 A	18-Jun-22 A	100%		



Summary Bar | Actual Work | Target Milestone
Actual Level of Effort | Early Bar | Milestone
Target Bar | Critical Bar

Appendix B

Overview of Desalination Plant in Tseung Kwan O

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N

846 500 E

847 000 E

814 500 N

814 000 N

TEMPORARY WORKS AREA 1

GLA-TSK 692 TGLA

GLA-TSK 692 TGLA

GLA/TRD-088

ROW FOR GLA/TRD-088

GLA-TSK 745 TGLA

GLA-TSK 567

PORTION A

PORTION B

PROPOSED WORKS LIMIT FOR SLOPE MITIGATION WORKS IN COUNTRY PARK

INDICATIVE LOCATION OF PROPOSED SEAWATER INTAKE

INDICATIVE LOCATION OF PROPOSED OUTFALL

A B C D E F G H I J K L M N O

LEGEND:

- BOUNDARY OF SENT LANDFILL EXTENSION
- BOUNDARY OF WORKS AREA FOR TKO DESALINATION PLANT
- SITE PHASING
- ALLOCATED LAND BOUNDARIES

GLA-TSK 692 TGLA

B

NOTE: TEMPORARY WORKS AREA 1 WILL BE HANDED OVER AT +6 MPD WITH A TOLERANCE OF ±500mm.

POINT	EASTING	NORTHING
A	846581.93	814505.03
B	846610.11	813979.23
C	846614.73	813975.12
D	846629.09	813997.84
E	846644.75	813986.74
F	846646.80	813985.28
G	846677.24	814034.67
H	846686.56	814028.89
I	846766.21	814158.11
J	846459.65	814448.83
K	846578.45	814048.11
L	846613.89	814105.63
M	846614.60	814117.96
N	846676.84	814207.77
O	846756.68	814164.57

PRELIMINARY – NOT FOR CONSTRUCTION

Revision	Date	Description	Initial
B	10/03	UPDATE NOTES	YLC
A	07/18	UPDATE COORDINATES	YLC

	Designed	Checked	Drawn	Checked
Initial	YLC	CKH	SZ	WLS
Date	02/18	02/18	02/18	02/18

Approved

Agreement No.
CE 8/2015 (WS)

Contract No.
13/WSD/17

Contract Title
DESIGN, BUILD AND OPERATE FIRST STAGE OF TSEUNG KWAN O DESALINATION PLANT

Drawing Title
SITE HANDOVER WORKS AREAS

Drawing No.
190495/K/TEND/10/0003

Revision
B

Scale
A1 1 : 1500
A3 1 : 3000

水務署
Water Supplies Department

BLACK & VEATCH HONG KONG LIMITED
博威工程顧問有限公司

BUILDINGS IN FIRST STAGE

CODE	NAME OF BUILDING	TOTAL G.F.A. (m^2)	SITE COVERAGE (m^2)
B	COMBINE SHAFT	759,876	759,876
C	ACTIDAFF	10027,547	5455,346
G	REVERSE OSMOSIS BUILDING AND ELECTRICAL BUILDING	4511,455	5367,935
H	CO2 TANKS AREA	-	-
J	PRODUCT WATER STORAGE TANK, PUMP STATION AND ELECTRICAL BUILDING	1974,610	2833,980
K	SLUDGE TREATMENT BUILDING, TANK AND PUMP ROOM	2531,044	1228,361
M	ADMINISTRATION BUILDING & ELECTRICAL BUILDING C	2459,713	1114,062
N	MAIN ELECTRICAL AND CENTRAL CHILLER PLANT BUILDING	-	459,893
R1	ELECTROCHLORINATION BUILDING & ELECTRICAL BUILDING A	657,992	525,776
S	132 kV SUBSTATION	-	943,560
T	IRRIGATION WATER TANK AND PUMP ROOM	-	156,148
R2	CHEMICAL BUILDING	813,056	813,056
V	VISITOR GALLERY	1330,410	1330,410
X1	GUARD HOUSE AND FS CONTROL ROOM	39,585	39,585
X2	GUARD HOUSE	22,035	22,035
Y	R + D OUTDOOR	-	-
Z	WASTE WATER TREATMENT PLANT	48,000	48,000
	TOTAL =	25175,323	21498,023

LEGEND / ABBREVIATION

H/L WINDOW	HIGH LEVEL WINDOW
M.L.	METAL LOUVRES
C.L.	CAT LADDER
A.U.T.	ACCESSIBLE UNISEX TOILET
⊕	PROPOSED FINISH FLOOR LEVEL IN METER ABOVE P.D.
⊕	STRUCTURAL FLOOR LEVEL IN METER ABOVE P.D.
MV/AL	MECHANICAL VENTILATION & ARTIFICIAL LIGHTING
F.E.	4.5kg CO^2 FIRE EXTINGUISHER
H.R.	HOSE REEL
Ⓐ	FIREMAN'S LIFT
Ⓓ	LIFT FOR THE BARRIER FREE ACCESS
P.D.	PIPE DUCT

PLOT RATIO & SITE COVERAGE CALCULATION:

SITE AREA OF THE FIRST STAGE = 56108 m²

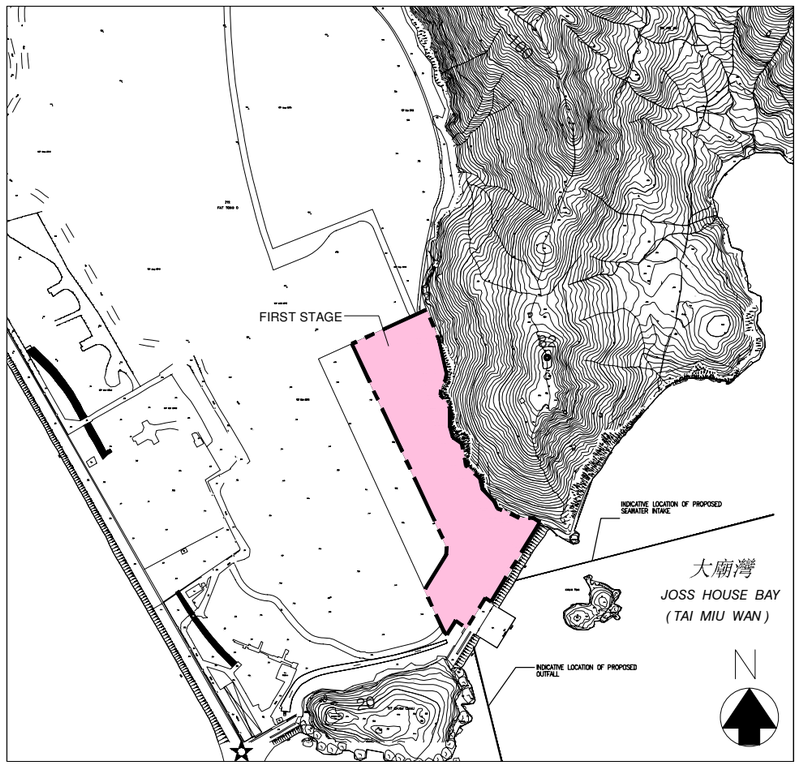
TOTAL G.F.A. = 25092.141 m²
TOTAL SITE COVERAGE = 21414.841 m²

PLOT RATIO = 25092.141 / 56108
= 0.447 < PERMITTED

SITE COVERAGE = 21414.841 / 56108 x 100
= 38.167%

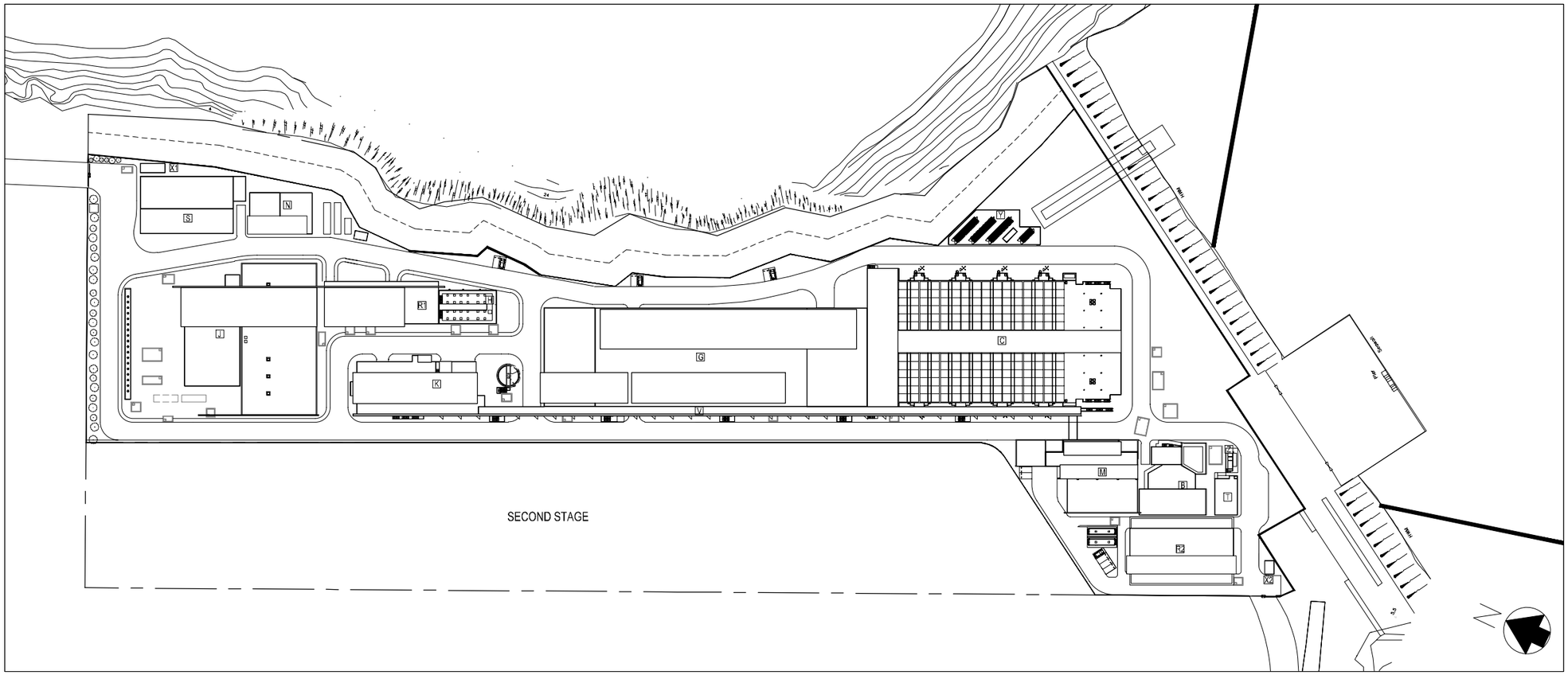
SITE LOCATION PLAN

1 : 5000



FIRST STAGE OF TSEUNG KWAN O DESALINATION PLANT

1 : 1000



Rev	Description	By	Date
0	TENDER SUBMISSION	CAD	JAN 19

Employer
水務署
Water Supplies Department

Employer's Consultant
BLACK & VEATCH

Tenderer
acciona Agua JEC CSCEC
AJC JOINT VENTURE

Designer
wsp

Project title
CONTRACT NO. 13/WSD/17

DESIGN, BUILD AND OPERATE
FIRST STAGE OF TSEUNG KWAN O
DESALINATION PLANT

Drawing title
ARCHITECTURAL –
PLOT RATIO AND SITE COVERAGE
CALCULATION, LEGEND
ABBREVIATION

Drawing no.	Rev.
TKO/AJC/W/A000/AR/001	0

Drawn	Date	Checked	Approved
CKAL	JAN 19	S.C.	T.C.

Scale	Status
N.T.S.	–

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Appendix C

Summary of Implementation Status of Environmental Mitigation

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
Air Quality								
S4.8.1	Impervious dust screen or sheeting will be provided to enclose scaffolding from the ground floor level of building for construction of superstructure of the new buildings.	Land site/ During Construction	Contractor(s)		✓		Implemented	Air Pollution Control (Construction Dust)
S4.8.1	Impervious sheet will be provided for skip hoist for material transport.	Land site/ During Construction, particularly dry season	Contractor(s)		✓		NA	-
S4.8.1	The area where dusty work takes place should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after dusty activities as far as practicable.	Land site/ During Construction	Contractor(s)		✓		Implemented	-
S4.8.1	All dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation.	Land site/ During Construction	Contractor(s)		✓		Implemented, reminder issued	-
S4.8.1	Dropping heights for excavated materials should be controlled to a practical height to minimize the fugitive dust arising from unloading.	Land site/ During Construction	Contractor(s)		✓		Implemented	-
S4.8.1	During transportation by truck, materials should not be loaded to a level higher than the side and tail boards and should be dampened or covered before transport.	Land site/ During Construction	Contractor(s)		✓		Implemented	-
S4.8.1	Wheel washing device should be provided at the exits of the work sites. Immediately before leaving a construction site, every vehicle shall be washed to remove any dusty material from its body and wheels as far as practicable.	Land site/ During Construction	Contractor(s)		✓		Implemented	-
S4.8.1	Road sections between vehicle-wash areas and vehicular entrance will be paved.	Land site/ During Construction	Contractor(s)		✓		Implemented	-
S4.8.1	Hoarding of not less than 2.4m high from ground level will be provided along the length of the Project Site boundary.	Land site/ During construction	Contractor(s)	✓	✓		N/A	-
S4.8.1	Haul roads will be kept clear of dusty materials and will be sprayed with water so as to maintain the entire road surface wet at all times.	Land site/ During construction	Contractor(s)		✓		Implemented, reminder issued	-

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S4.8.1	Temporary stockpiles of dusty materials will be either covered entirely by impervious sheets or sprayed with water to maintain the entire surface wet all the time.	Land site/ During construction	Contractor(s)		✓		Implemented, reminder issued	-
S4.8.1	Stockpiles of more than 20 bags of cement, dry pulverised fuel ash and dusty construction materials will be covered entirely by impervious sheeting sheltered on top and 3-sides.	Land site/ During construction	Contractor(s)		✓		N/A	-
S4.8.1	All exposed areas will be kept wet always to minimize dust emission.	Land site/ During construction	Contractor(s)		✓		Implemented, reminder issued	-
S4.8.1	Ultra-low-sulphur diesel (ULSD) will be used for all construction plant on-site, as defined as diesel fuel containing not more than 0.005% sulphur by weight) as stipulated in Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No 19/2005 on Environmental Management on Construction Sites.	Land site/ During construction/ During Operation	Contractor(s)		✓	✓	Implemented	Environment, Transport and Works Bureau Technical Circular (ETWB- TC(W)) No 19/2005 on Environmental Management on Construction Sites
S4.8.1	The engine of the construction equipment during idling will be switched off.	Land site/ During construction	Contractor(s)		✓		Implemented	-
S4.8.1	Concrete batching plant will be required on site. control measures recommended in the Guidance Note on a Best Practicable Means for Cement Works (Concrete Batching Plant) (BPM 3/2 (93)) will be implemented. The control measures recommended in the Guidance Note on a Best Practicable Means for Cement Works (Concrete Batching Plant) (BPM 3/2 (93)) will be implemented.	Land site/ During construction	Contractor(s)		✓		N/A	-
S4.8.1	Regular maintenance of construction equipment deployed on-site will be conducted to prevent black smoke emission.	Land site/ During construction	Contractor(s)		✓		Implemented	-
S4.10	To ensure proper implementation of the recommended dust mitigation measures and good construction site practices during the construction phase, environmental site audits on weekly basis is recommended throughout the construction period.	Land site/ During construction	Contractor(s)/ ET & IEC		✓		Implemented	

Note: D – Design stage C – Construction O – Operation

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
Noise								
S5.7	Only well-maintained plant will be operated on-site and plant will be serviced regularly during the construction phase.	All area/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works
S5.7	Silencers or mufflers on construction equipment will be utilised and will be properly maintained during the construction phase.	Noise control/ During construction	Contractor(s)		✓		N/A	
S5.7	Mobile plant, if any, will be sited as far away from NSRs as possible.	Noise control/ During construction	Contractor(s)		✓		N/A	
S5.7	Machines and plant (such as trucks) that may be in intermittent use will be shut down between work periods or will be throttled down to a minimum.	Noise control/ During construction	Contractor(s)		✓		Implemented	
S5.7	Plants known to emit noise strongly in one direction will, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.	Noise control/ During construction	Contractor(s)		✓		N/A	
S5.7	Material stockpiles and other structures will be effectively utilised, wherever practicable, in screening noise from on-site construction activities.	Noise control/ During construction	Contractor(s)		✓		N/A	
S5.7	Use of Quite Powered Mechanical Equipment (QPME).	Noise control/ During construction	Contractor(s)		✓		Implemented	
S5.7	Movable noise barriers of 3m in height with skid footing should be used and located within a few metres of stationary plant and mobile plant such that the line of sight to the NSR is blocked by the barriers. The length of the barrier should be at least five times greater than its height. The noise barrier material should have a superficial surface density of at least 7 kg m-2 and have no o or gappeningss.	Noise control/ During construction	Contractor(s)		✓		N/A	
S5.7	The noise insulating sheet should be deployed such that there would be no opening or gaps on the joints.	Noise control/ During construction	Contractor(s)		✓		N/A	
S5.7	Construction activities (e.g. excavation/shoring, reinstatement (asphalt), and pipe jacking) will be planned and carried out in sequence, such that items of PME proposed for these activities will not be operated simultaneously.	Noise control/ During construction	Contractor(s)	✓	✓		Implemented	

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S5.7	PMEs will not be used at the works areas near educational institutions with residual impact (ie the "influence area" within a radius of 40m) during school hours in order to reduce impact to the educational institutions.	Noise control / During construction	Contractor(s)		✓		N/A	
S5.7	Noise enclosures or acoustic sheds would be used to cover stationary PME such as generators. Portable/Movable noise enclosure made of material with superficial surface density of at least 7 kg m-2 may be used for screening the noise from operation of the saw/groover, concrete.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		N/A	-
S5.9	Sawcutting pavement, breaking up of pavement, excavation /shoring, pipe laying, backfilling, reinstatement (concrete) and pipe jacking shall be scheduled outside the examination period.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		N/A	--
S5.9	In view the duration of noise exceedance at Creative Secondary School, PLK Laws Foundation College, TKO Kei Tak Primary School and School of Continuing and Professional Studies-CUHK is limited to 8 weeks, the construction work in the influence areas near the four schools shall be scheduled during long school holidays (e.g., summer holiday, Easter holiday or Christmas holiday, etc.) as far as practicable. Scheduling the construction work for the four schools.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		N/A	-
S5.10	A noise monitoring programme shall be implemented for the construction phase.	Designated monitoring stations as defined in EM&A Manual/During construction phase	ET		✓		N/A	-
S5.10	The effectiveness of on-site control measures could also be evaluated through the regular site audits.	All facilities/ During construction	Contractor(s)/ ET & IEC		✓		Implemented	-

Note: D – Design stage C – Construction O – Operation

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
Water Quality								
S6.9	Dredged marine sediment will be disposed of in a gazetted marine disposal area in accordance with marine dumping permit conditions of the Dumping at Sea Ordinance (DASO).	Marine Dredging/ During construction	Contractor(s)		✓		Implemented	Dumping at Sea Ordinance (DASO)
S6.9	Disposal vessels will be fitted with tight bottom seals in order to prevent leakage of material during transport.	Marine Dredging/ During construction	Contractor(s)		✓		Implemented	-
S6.9	Barges will be filled to a level, which ensures that material does not spill over during transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action.	Marine Dredging/ During construction	Contractor(s)		✓		Implemented	-
S6.9	After dredging, any excess materials will be cleaned from decks and exposed fittings before the vessel is moved from the dredging area.	Marine Dredging/ During construction	Contractor(s)		✓		Implemented	-
S6.9	All vessels should be well maintained and inspected before use to limit any potential discharges to the marine environment.	Marine Dredging/ During construction	Contractor(s)		✓		Implemented	-
S6.9	All vessels must have a clean ballast system.	Marine Dredging/ During construction	Contractor(s)		✓		Implemented	-
S6.9	No discharge of sewage/grey wastewater should be allowed. Wastewater from potentially contaminated area on working vessels should be minimized and collected. These kinds of wastewater should be brought back to port and discharged at appropriate collection and treatment system.	Marine Dredging/ During construction	Contractor(s)		✓		Implemented	-
S6.9	No soil waste is allowed to be disposed overboard.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S6.9	Silt removal facilities such as silt traps or sedimentation facilities will be provided to remove silt particles from runoff to meet the requirements of the TM standard under the WPCO. The design of silt removal facilities will be based on the guidelines provided in ProPECC PN 1/94. All drainage facilities and erosion and sediment control structures will be inspected on a regular basis and maintained to confirm proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit will be removed regularly.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented reminder issued	ProPECC PN 1/94 TM Standard under the WPCO
S6.9	Earthworks to form the final surfaces will be followed up with surface protection and drainage works to prevent erosion caused by rainstorms.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9	Appropriate surface drainage will be designed and provided where necessary.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9	The precautions to be taken at any time of year when rainstorms are likely together with the actions to be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94.	Land site & drainage/ During construction	Contractor(s)	✓	✓		Implemented	ProPECC PN 1/94
S6.9	Oil interceptors will be provided in the drainage system where necessary and regularly emptied to prevent the release of oil and grease into the storm water drainage system after accidental spillages.	Land site & drainage/ During construction	Contractor(s)		✓		N/A	-
S6.9	Temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge, if any, will be adequately designed for the controlled release of storm flows.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9	The temporary diverted drainage, if any, will be reinstated to the original condition when the construction work has finished or when the temporary diversion is no longer required.	Land site & drainage/ During construction	Contractor(s)		✓		N/A	-

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S6.9	Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers over the construction site to prevent direct disposal of sewage into the water environment.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9 and S6.12	The sterilization water should be dechlorinated with total residual chlorine (TRC) level below 1 mg/L before discharge to public sewer. In situ testing of TRC should also be conducted for the discharge of chlorinated water for pipeline disinfection to ensure sufficient dichlorination before discharge to public sewer.	Sterilization of water mains prior to commissioning	Contractor(s)		✓	✓	Implemented	Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems
S6.9	The cleaning and flushing water should also be treated and desilted to the relevant discharge requirement stipulated in TM-DSS before discharging.	Sterilization of water mains prior to commissioning	Contractor(s)		✓	✓	Implemented, observation issued	Technical Memorandum for Effluents Discharged into Drainage and
S6.9	Site drainage should be well maintained, and good construction practices should be observed to ensure that oil, fuels, solvents and other chemicals are managed, stored and handled properly and do not enter the nearby water streams.	Land site & drainage/ During construction/ During operation	Contractor(s)		✓	✓	Implemented, reminder issued	-
S6.12	Regular site inspections will be carried out in order to confirm that regulatory requirements are being met and that contractors are implementing the standard site practice and mitigation measures as proposed to reduce potential impacts to water quality.	During construction	Contractor(s)/ ET & IEC		✓		Implemented, reminder issued	-

Note: D – Design stage C – Construction O – Operation

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
Waste Management								
S8.5	Nomination of approved personnel to be responsible for standard site practices, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site.	Contract mobilization/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Training of site personnel in proper waste management and chemical handling procedures. Training will be provided to workers on the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling at the beginning of the construction works.	Contract mobilization/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Provision of sufficient waste disposal points and regular collection for disposal.	All area/ During construction/ During operation	Contractor(s)		✓	✓	Implemented, reminder issued	DEVB TC(W) No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	Appropriate measures to reduce windblown litter and dust transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	All area/ During construction	Contractor(s)		✓		Implemented	
S8.5	A waste management plan (WMP) as stated in the *"ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites"* for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established and implemented during the construction phase as part of the Environmental Management Plan (EMP). The Contractor will be required to prepare the EMP and submits it to the Architect/ Engineer under the Contract for approval prior to implementation.	All area/ During construction	Contractor(s)		✓		Implemented	
S8.5	Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Centre at Tsing Yi.	All area/ During construction	Contractor(s)		✓		Implemented	Chapters 2 & 3 Code of Practice on the Packaging, Labelling & Storage of Chemical Wastes published under the Waste Disposal Ordinance (Cap 354), Section 35

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S8.5	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.	Land site/ During construction	Contractor(s)		✓		Implemented, reminder issued	Waste Disposal Ordinance (Cap 354)
S8.5	A recording system for the amount of wastes generated/ recycled and disposal sites. The trip- ticket system will be included as one of the contractual requirements and implemented by the contractor(s).	Land site/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	Prior to disposal of construction waste, wood, steel and other metals will be separated to the extent practical, for re-use and/or recycling to reduce the quantity of waste to be disposed of to landfill.	All areas/ During construction	Contractor(s)		✓		Implemented	
S8.5	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of material and their proper disposal.	Land site/ During construction/ During operation	Contractor(s)		✓		Implemented, reminder issued	WBTC 32/92, The Use of Tropical Hard Wood on Construction Site
S8.5	Use of reusable non-timber formwork to reduce the amount of C&D materials.	All areas/ During construction	Contractor(s)		✓		Implemented	
S8.5	Encourage collection of aluminium cans and waste paper by individual collectors during construction with separate labelled bins provided to segregate these wastes from other general refuse by the workforce.	Land site/ During construction	Contractor(s)		✓		Implemented	ETWB TCW No. 33/2002, Management of Construction and Demolition Material Including Rock
S8.5	Any unused chemicals and those with remaining functional capacity will be recycled as far as possible.	Land site/ During construction	Contractor(s)		✓		N/A	-
S8.5	Proper storage and site practices to reduce the potential for damage or contamination of construction materials.	All areas/ During construction	Contractor(s)		✓		Implemented, reminder issued	-
S8.5	Plan and stock construction materials carefully to reduce amount of waste generated and avoid unnecessary generation of waste.	All areas/ During construction	Contractor(s)		✓		Implemented	-

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				D	C	O		
S8.5	A Sediment Quality Report (SQR) for sampling and chemical testing of the sediment will be prepared and submitted to the EPD for approval. The approved detailed sampling and chemical testing will be carried out prior to the commencement of the dredging activities to confirm the sediment disposal method.	Marine works/ During construction	Contractor(s)		✓		N/A	ETWB TC(W) No. 34/2002 and Dumping at Sea Ordinance (DASO)
S8.5	The management of dredged/ excavated sediment management requirement from *ETWB TC(W) No. 34/2002* will be incorporated in the Specification of the Contract Documents.	Marine works/ During construction	WSD/ Contractor(s)		✓		Implemented	
S8.5	The contractor will open a billing account with EPD in accordance with the Waste Disposal (Charges for Disposal of Construction Waste) Regulation for the payment of disposal charges.	Contract mobilisation/ During construction	Contractor(s)		✓		Implemented	Cap 354N Waste Disposal (Charges for Disposal of Construction Waste) Regulation
S8.5	A trip-ticket system will be established in accordance with DEVB TC(W) No. 6/2010 to monitor the reuse of surplus excavated materials off-site and disposal of construction waste and general refuse at transfer facilities/ landfills, and to control fly-tipping.	Contract mobilisation/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	The project proponent will also conduct regular inspection of the waste management measures implemented on site as described in the Waste Management Plan.	All area/ During construction	Contractor(s)/ ET/ IEC		✓		Implemented	ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites
S8.5	A recording system (similar to summary table as shown in Annex 5 and Annex 6 of Appendix G of ETWB TC(W) No. 19/2005) for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established during the construction phase.	All area/ During construction	Contractor(s)		✓		Implemented	Annex 5 and Annex 6 of Appendix G of ETWB TC(W) No. 19/2005
S8.5	Inert C&D materials (public fill) will be reused within the Project as far as practicable.	All area/ During construction	Contractor(s)		✓		Implemented	-

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				D	C	O		
S8.5	Public fill and construction waste shall be segregated and stored in different containers or skips to facilitate reuse or recycling of materials and their proper disposal.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Specific areas of the work site will be designated for such segregation and storage if immediate use is not practicable.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	To reduce the potential dust and water quality impacts of site formation works, C&D materials will be wetted as quickly as possible to the extent practice after filling.	All area/ During construction	Contractor(s)		✓		Implemented	Air Pollution Control (Construction Dust) Regulation (Cap 311R); WPCO (Cap 358)
S8.5	Open stockpiles of excavated/ fill materials or construction wastes on-site should be covered with tarpaulin or similar fabric.	Land site/ During Construction, particularly dry season	Contractor(s)		✓		Implemented, rectified after observation	Air Pollution Control (Construction Dust) Regulation (Cap 311R)
S8.5	Chemical waste container shall be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented, reminder issued	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Chemical waste container shall have a capacity of less than 450 L unless the specifications have been approved by the EPD.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	
S8.5	A label in English and Chinese shall be displayed on the chemical container in accordance with instructions prescribed in Schedule 2 of the Regulations.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented, rectified after observed issued	
S8.5	Storage areas for chemical waste shall be enclosed on at least 3 sides.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	
S8.5	Storage areas for chemical waste shall have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	
S8.5	Storage areas for chemical waste shall have adequate ventilation.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	

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				D	C	O		
S8.5	Storage areas for chemical waste shall be covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary).	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	
S8.5	Storage areas for chemical waste shall be arranged so that incompatible materials are appropriately separated.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	
S8.5	General refuse will be stored in enclosed bins or compaction units separately from construction and chemical wastes.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented, reminder and observation issued	
S8.5	Adequate number of waste containers will be provided to avoid over-spillage of waste.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	DEVB TC(W) No. 8/2010 Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	A reputable waste collector will be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour, pest and litter impacts.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented, reminder issued	-
S8.5	Recycling bins will be provided at strategic locations within the Site to facilitate recovery of recyclable materials (including aluminium can, wastepaper, glass bottles and plastic bottles) from the Site. Materials recovered will be sold for recycling.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	-
S8.5	To avoid any odour and litter impact, accurate number of portable toilets will be provided for workers on-site.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	The burning of refuse on construction sites is prohibited by law.	All area/ During construction	Contractor(s)		✓		Implemented	Air Pollution Control Ordinance (Cap 311)
S8.7	To facilitate monitoring and control over the contractors' performance on waste management, a waste inspection and audit programme will be implemented throughout the construction phase.	All facilities/ During construction	ET/ IEC		✓		Implemented	-

Note: D – Design stage C – Construction O – Operation

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
Ecology								
S9.7	For slope mitigation works within the Clear Water Bay Country Park, to avoid tree felling and damages to trees, the exact locations of the flexible barrier foundation plates, soil nails and rock dowels can be adjusted during detailed design, and a setback distance from existing trees is recommended to be maintained as far as practical. A detailed specification describing the exact locations of the flexible barrier foundation plates, soil nails and rock dowels will be prepared to illustrate how the setback distance from existing trees would be implemented for tree avoidance.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)	✓	✓		N/A	-
S9.7	Pruning of tree canopies along the alignment of the flexible barriers shall be limited to a minimum.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	
S9.7	The alignment of flexible barriers shall be optimized to preserve all species of conservation interest and minimize the impact to the existing vegetation as far as practicable. All individuals of *Marsdenia lachnostoma* within the slope mitigation areas shall be retained *in- situ*, by positioning the alignment of flexible barrier at a minimum 1.5m in a radius away from these individuals.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)	✓	✓		N/A	-
S9.7 and 9.10	At the detailed design stage prior to the commencement of the slope mitigation works, a vegetation survey shall be carried out at the slope mitigation areas within the Clear Water Bay Country Park to assess the condition and identify the location of each individual of *Marsdenia lachnostoma* and other flora species of conservation interest that may be directly affected by the construction works.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)	✓			Implemented	-
S9.7	Temporary fencing will be installed to fence off the concerned species either in groups of individually within the works area and in the close proximity to prevent from being damaged and disturbed during construction. A sign identifying the site shall be attached to the fence and flagging tape shall be attached to the individuals to visualize their locations.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	-

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S9.7 and S9.10	A specification for fencing and demarcating individuals of *Marsdenai lachnostoma* (or other flora species of conservation interest, if found) adjacent to the proposed alignment of the flexible barriers will be prepared to protect the species.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	-
S9.7	Induction training shall also be provided to all site personnel in order to brief them on this flora of conservation interest including the locations and their importance.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	-
S9.7	The resident site supervisory staff will closely monitor the conditions of concerned individuals during construction of flexible barriers in the close proximity.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	-
S9.7	Erect fences along the boundary of the works area before the commencement of works to prevent vehicle movements and encroachment of personnel onto adjacent areas.	All area/ During construction	Contractor(s)		✓		Implemented	-
S9.7	Regularly check the work site boundaries to ensure that they are not breached, and that damage does not occur to surrounding areas.	All area/ During construction	Contractor(s)/ Environmental Team (ET)		✓		Implemented.	-
S9.7	Avoid any damage and disturbance, particularly those caused by filling and illegal dumping, to the surrounding habitats through proper management of waste disposal.	All area/ During construction	Contractor(s)		✓		Implemented	-
S9.7	Reinstate temporarily affected areas, particularly the habitats of plantation and shrubland-grassland immediately after completion of construction works, through on-site tree/shrub planting. The tree/shrub species will be chosen with reference to those in the surrounding area.	All area/ During construction	Contractor(s)		✓		N/A	-
S9.7	Affected habitats within the Clear Water Bay Country Bay shall be reinstated by hydro-seeding and planting of climbers and native shrub seedlings where practical upon completion of the slope mitigation works.	All area/ During construction	Contractor(s)		✓		N/A	-

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				D	C	O		
Landscape & Visual								
S11.10 & 11.11	The construction area and area allowed for temporary structures, such as the contractor's office, will be minimized to a practical minimum. (MM1)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	At the detailed design stage, the design team will seek to minimize the landscape footprint of the Project and above ground facilities, while satisfying all other requirements. (MM2)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	Design principles will be adopted to take into account the surrounding area, particularly Clear Water Bay Country Park behind and the nearby waterfront, with due consideration given to: - green roofs where practical (i.e. without equipment on the roof); - roadside planting; - aesthetic treatment of all structures; - vertical greening; - screen planting along application site; and - landscape enhancement with amenity planting where practical including planting along the edge (site boundary) fence with native shrubs where feasible, to reduce their visual impact and blend them into the surrounding landscape. (MM3)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	All trees within the Project Site or the potential slope mitigation works area will be carefully protected during construction according to DEVB TCW No. 10/2013 – Tree Preservation (MM4)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented, reminder issued	ETWB TCW No. 3/2006 - Tree Preservation.
S11.10 & 11.11	No tree within the Country Park will be felled. Trees within the Site unavoidably affected by the works will be transplanted where necessary and practical. For trees that need to be felled, compensatory planting will be provided to the satisfaction of relevant Government departments. A compensatory tree planting proposal including locations of tree compensation will be submitted to seek relevant government department's approval, in accordance with DEVB TC(W) No. 10/2013. (MM5)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	DEVB TC(W) No. 10/2013

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				D	C	O		
S11.10 & 11.11	Any slope mitigation works necessary to address natural terrain hazards, will be minimized to minimize any potential environmental impact to the Country Park e.g. soil nailing and rock stabilization will aim to avoid existing trees e.g. should any restoration of vegetation be necessary, the best planting matrix with native species will be established, with the aim of resembling the existing vegetation. (MM6)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	N/A	
S11.10 & 11.11	Dredging works for the installation of intake structures and outfall diffusers should be minimized to avoid or reduce any potential environmental impacts to as low as reasonably practicable (ALARP). The intake and outfall structures (e.g. intake openings and diffuser heads) will be prefabricated and transferred to site for installation. (MM7)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	
S11.10 & 11.11	All night-time lighting will be reduced to a practical minimum both in terms of number of level and will be hooded and directional. (MM8) units and lux level and will be hooded and directional. (MM8)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
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Landfill Gas Hazard								
S12.7	During all works, safety procedures should be implemented to minimise the risks of fires and explosions, asphyxiation of workers and toxicity effects resulting from contact with contaminated soil and groundwater.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	During trenching and excavation as well as creation of confined spaces at near to or below ground level, precautions should be clearly laid down and rigidly Gas detection equipment and appropriate breathing apparatus should be available and used when entering confined spaces or trenches deeper than 1 metre.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	The Contractor should make the workers are aware of potential hazards of working in confined spaces (any chamber, manhole or culvert which is large enough to permit access to personnel). Such work in confined spaces is controlled by the Factories and Industrial Undertakings (Confined Spaces) Regulations of the Factories and Industrial Undertakings Ordinance. Following the Safety Guide to Working in Confined Spaces ensures compliance with the above regulations.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	Safety officers, specifically trained with regard to landfill gas and leachate related hazards and the appropriate actions to take in adverse circumstances, should be present on the site throughout the works, in particular, when works are undertaken below grade.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	All personnel who work on site and all visitors to the site should be made aware of the possibility of ignition of gas in the vicinity of the works, the possible presence of contaminated water and the need to avoid physical contact with it.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	Monitoring for landfill gas should be undertaken in all excavations, manholes, chambers (particularly during pipe jacking) and any confined spaces through the use of an intrinsically safe portable instrument, appropriately calibrated and capable of measuring the concentrations of methane. carbon dioxide and oxygen.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-

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S12.7	Monitoring frequency and areas to be monitored should be specified prior to commencement of groundwork, either by the Safety Officer, or by an appropriately qualified person. All measurements should be recorded and documented.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	Proceed drilling with adequate care and precautions against the potential hazards which may be encountered.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	Prior to the commencement of the site works, the drilling contractor should devise a 'method-of- working' statement covering all normal and emergency procedures (including but not limited to number of operatives, experience and special skills of operatives, normal method of operations, emergency procedures, supervisors responsibilities, storage and use of safety equipment, safety procedures and signs, barriers and guarding). The site supervisor and all operatives must be familiar with this statement.	All area/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	Where below ground service entries are necessary to the Incoming Switchgear Room, 132 kV Substation and Chlorine Store (I) and (II), the entry point should be sealed to prevent gas entry. In addition, any below grade cable trenches entering the Incoming Switchgear Room and 132 kV Substation can become the pathway for landfill gas and hence grilled metal covers should be used.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	N/A	-
S12.7	It is recommended regular landfill gas monitoring should be carried out at the Incoming Switchgear Room, 132 kV Substation and Chlorine Store (I) and (II). The monitoring frequency will be monthly for the first year of operation. If the monitoring results show no sign of landfill gas migration, reduce the monitoring frequency to once every six months.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	N/A	-
S12.7	The manholes and utility pits within the Project Site and along the fresh water mains. Each manhole/ utility pit should be monitored with two measurements (at mid depth and base). Each measurement should be monitored for a minimum of 10 minutes. A steady reading and peak reading should be recorded at each manhole/ utility pit	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-

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	and for each measurement. The need for venting the manhole/ utility pit and further monitoring will be reviewed after the initial monitoring.							
S12.7	All construction, operation and maintenance personnel working on-site as well as visitors should be made aware of the hazards of landfill gas and its possible presence on-site. This should be achieved through a combination of posting warning signs in prominent places and also by access to detailed information on landfill gas hazards and the designs and procedural means by which these hazards are being minimized on-site.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-

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Appendix D

Water Quality Graphical Presentation

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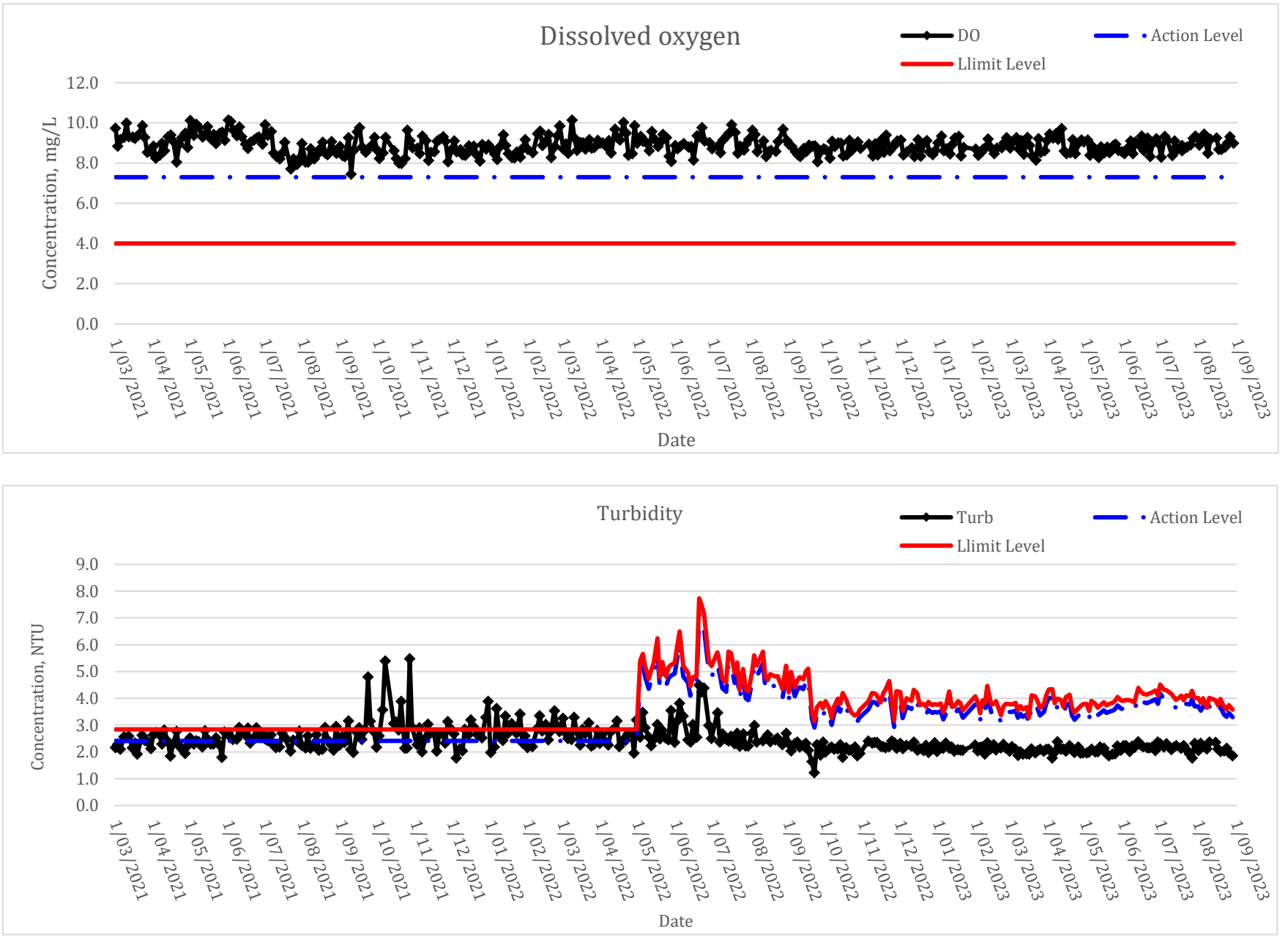
Appendix D-1
Construction Phase Impact Water Quality Monitoring

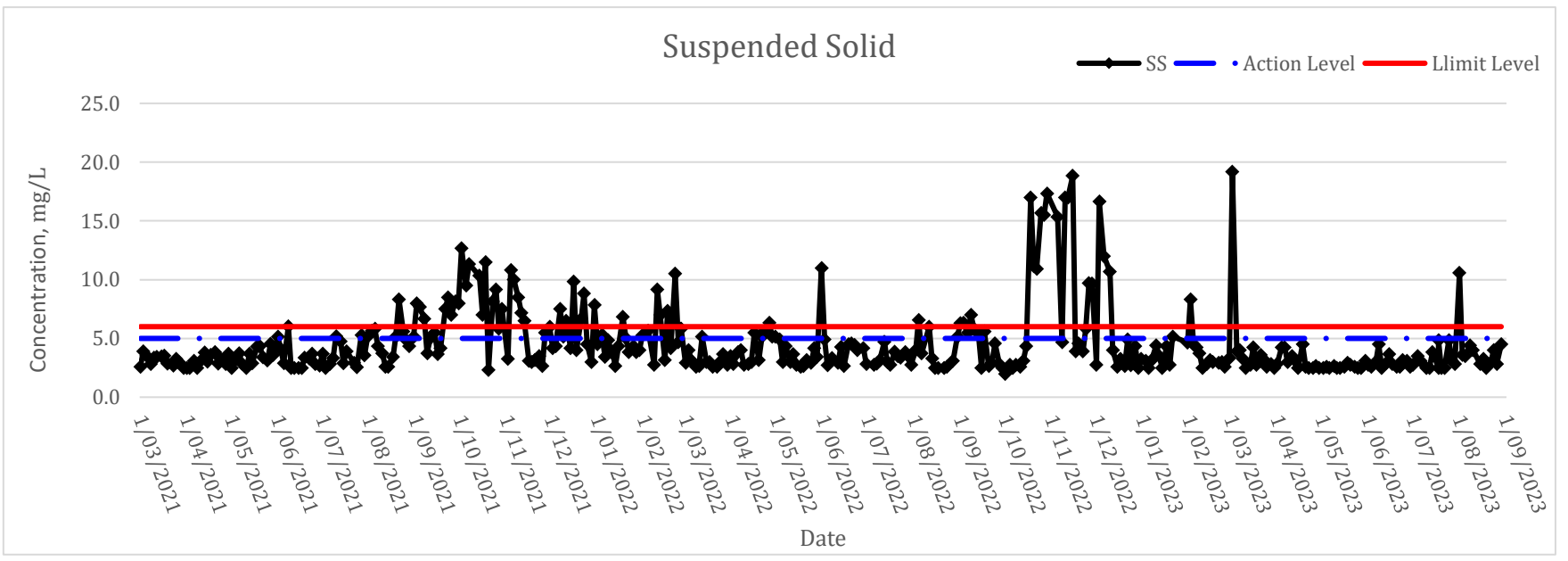
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Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Flood Tide

Monitoring Location : WSR 1

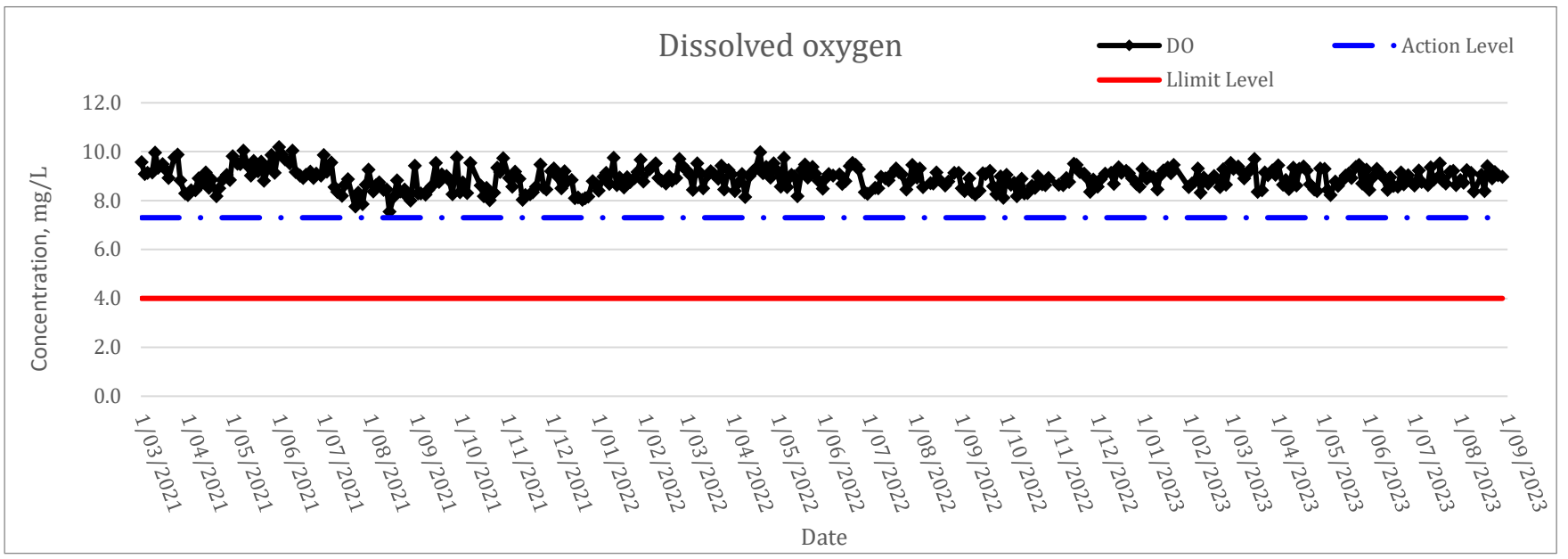


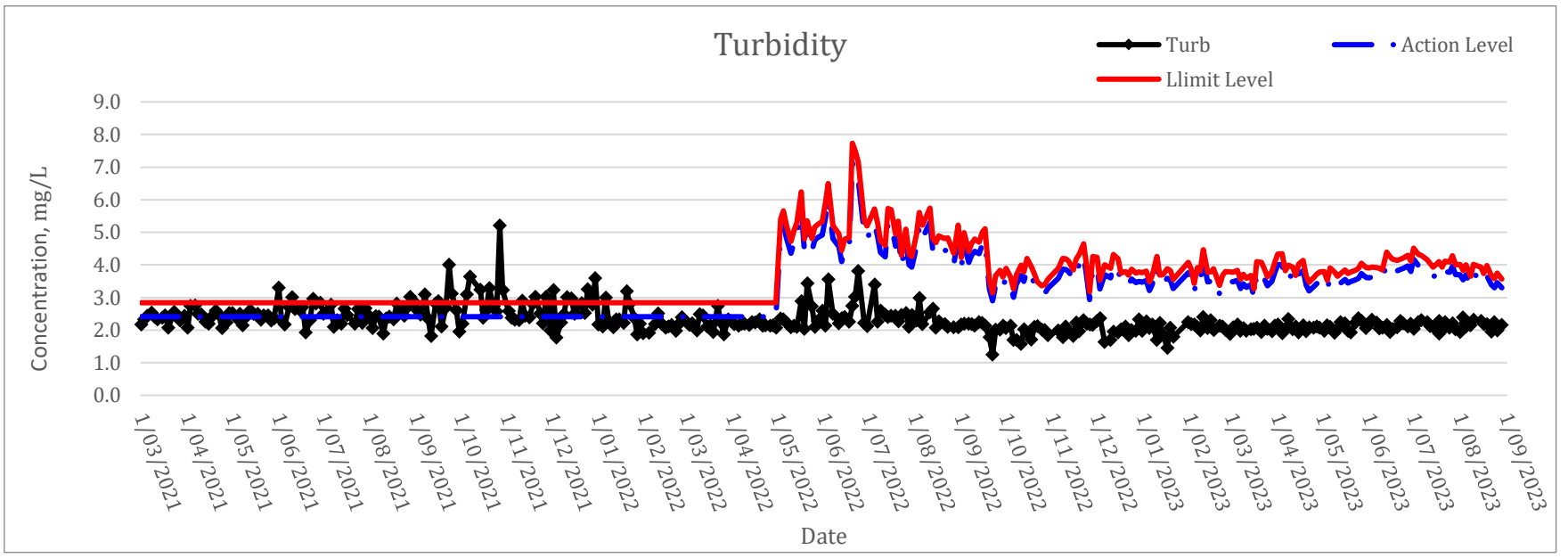


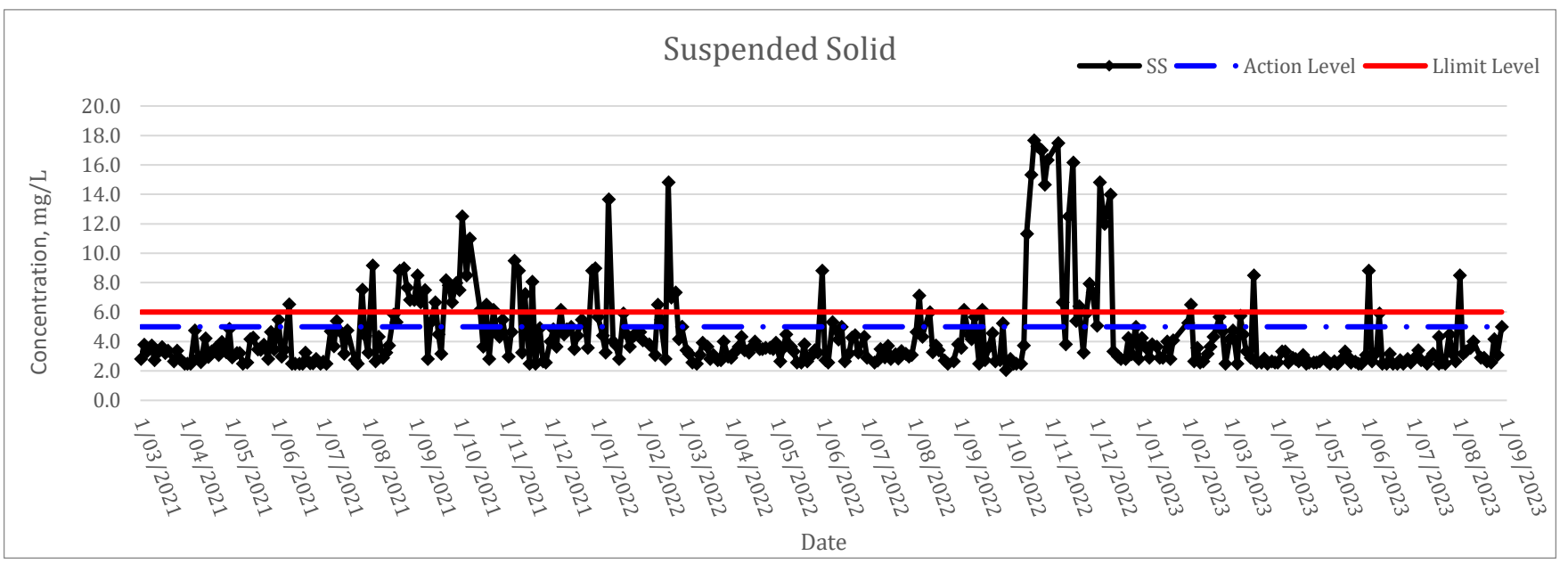
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Flood Tide

Monitoring Location : WSR 2



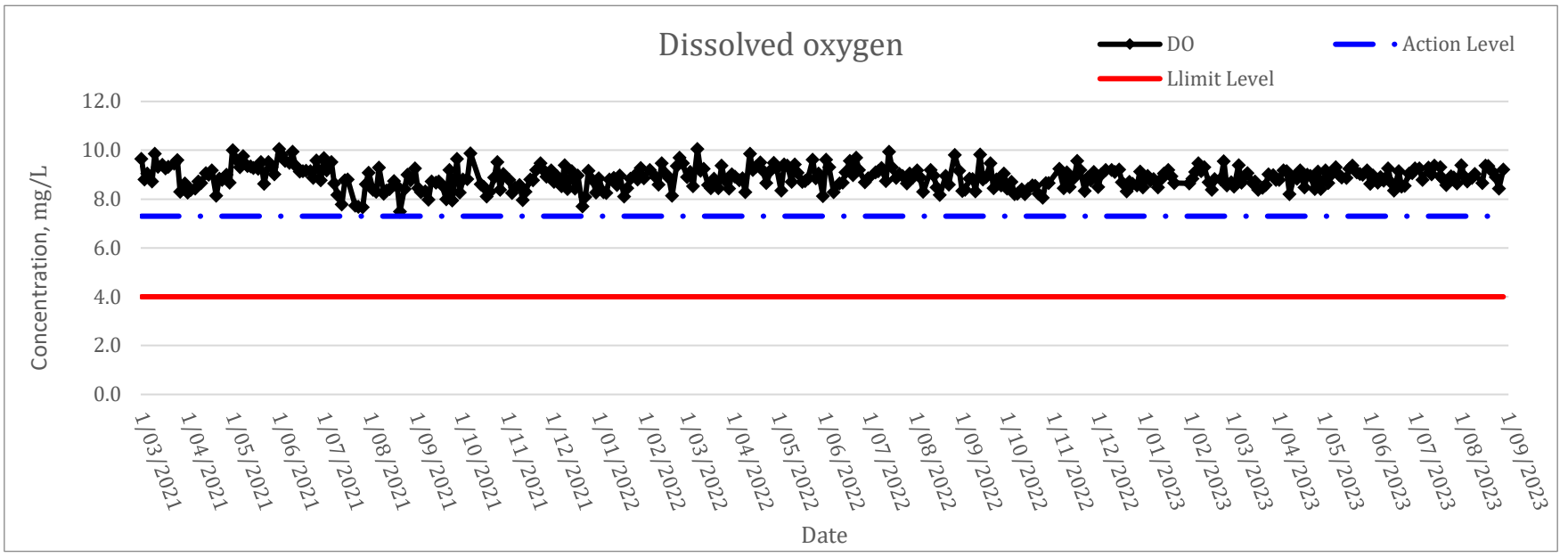


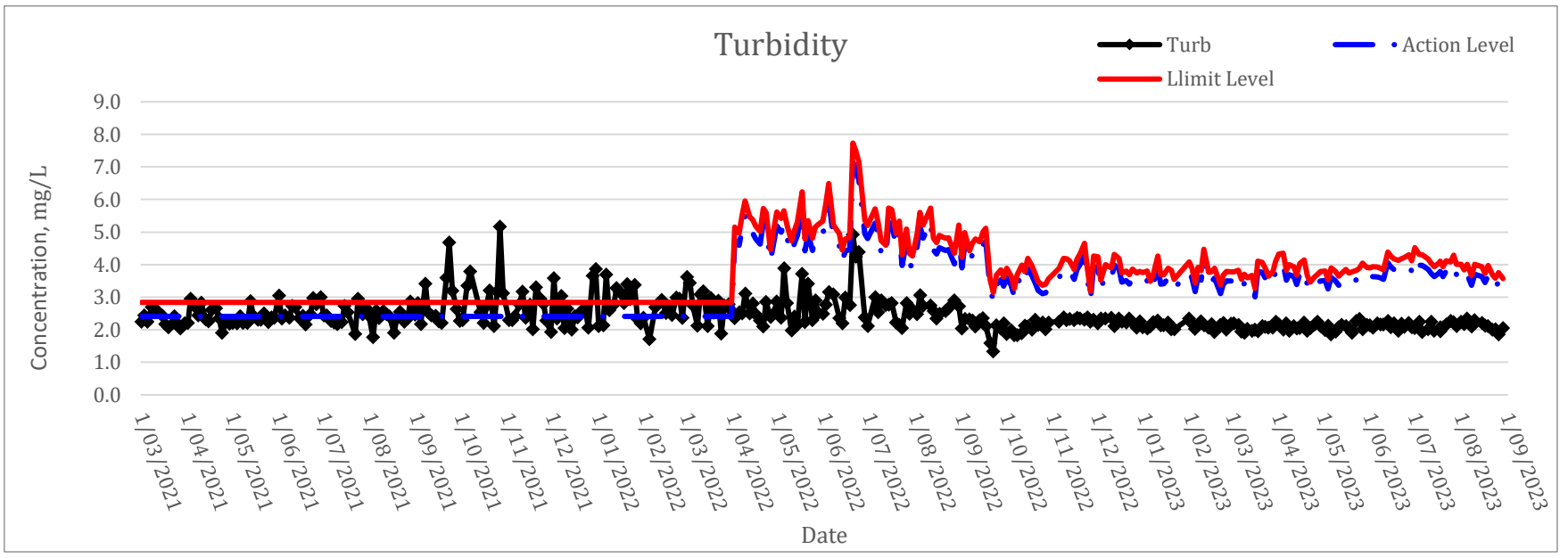


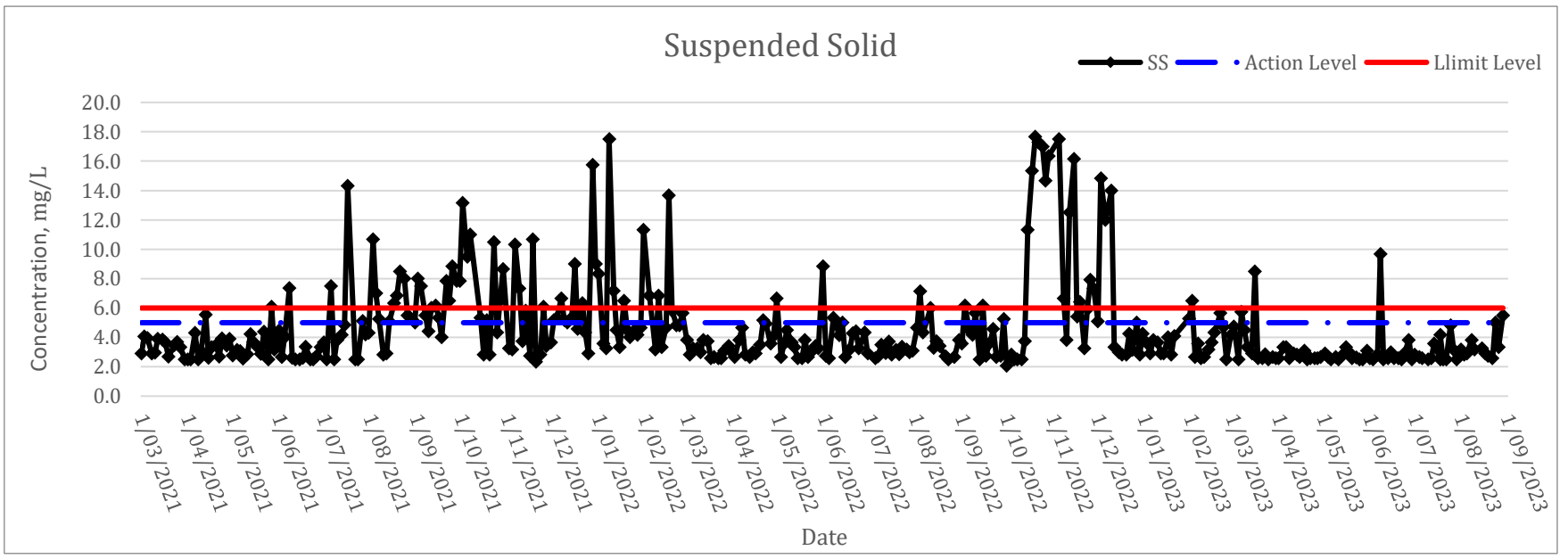
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Flood Tide

Monitoring Location : WSR 3



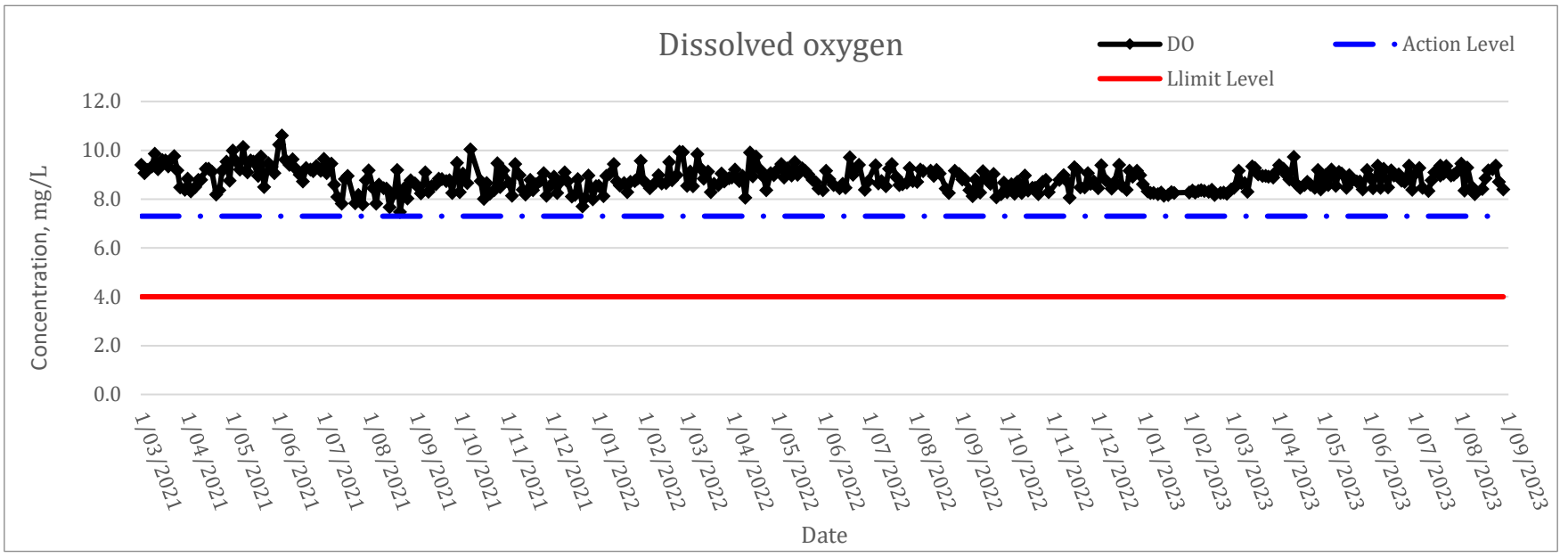


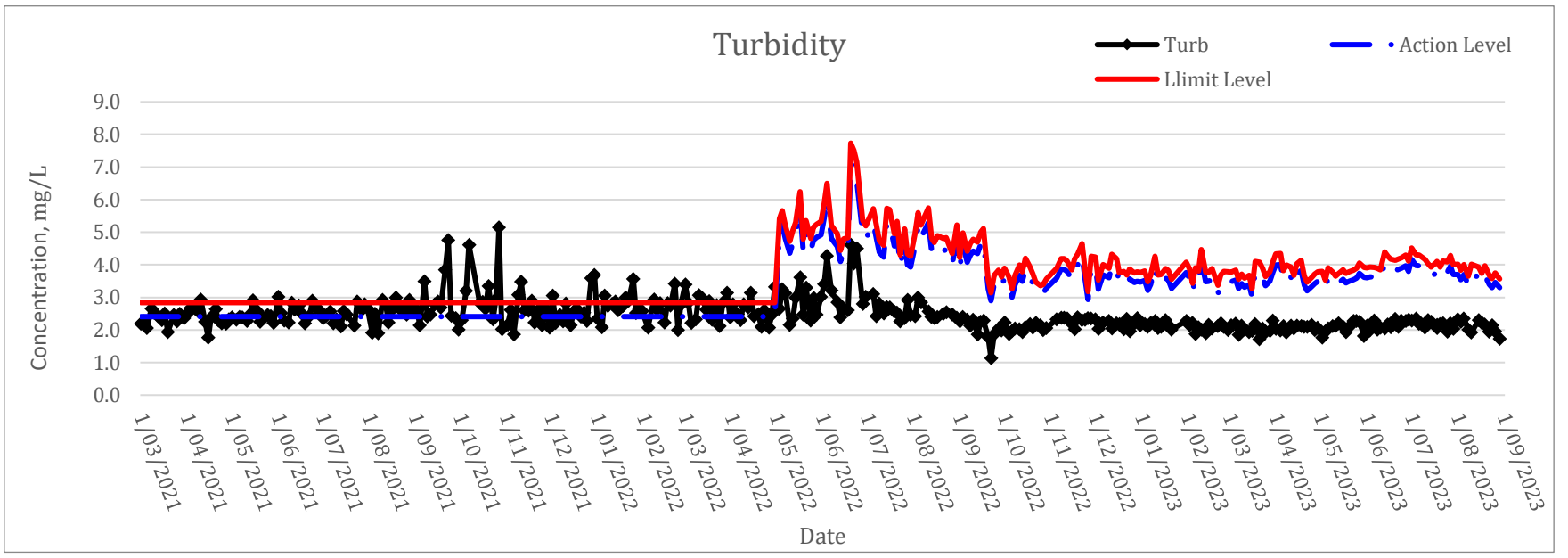


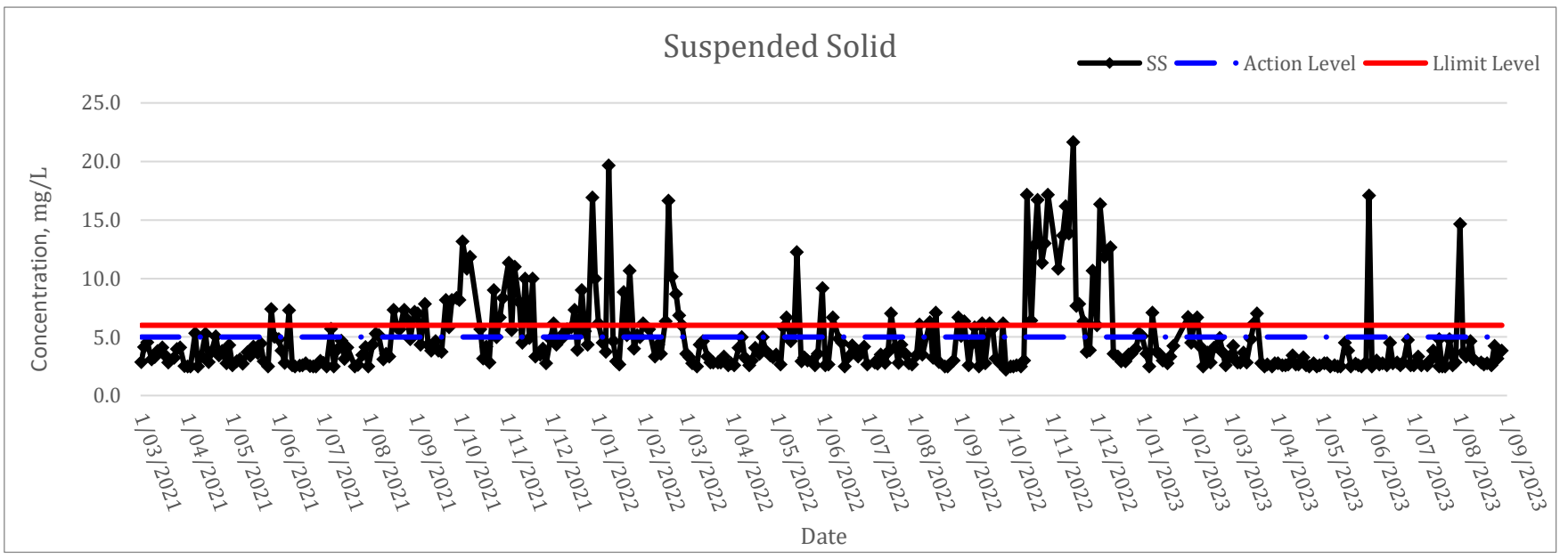
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Flood Tide

Monitoring Location : WSR 4



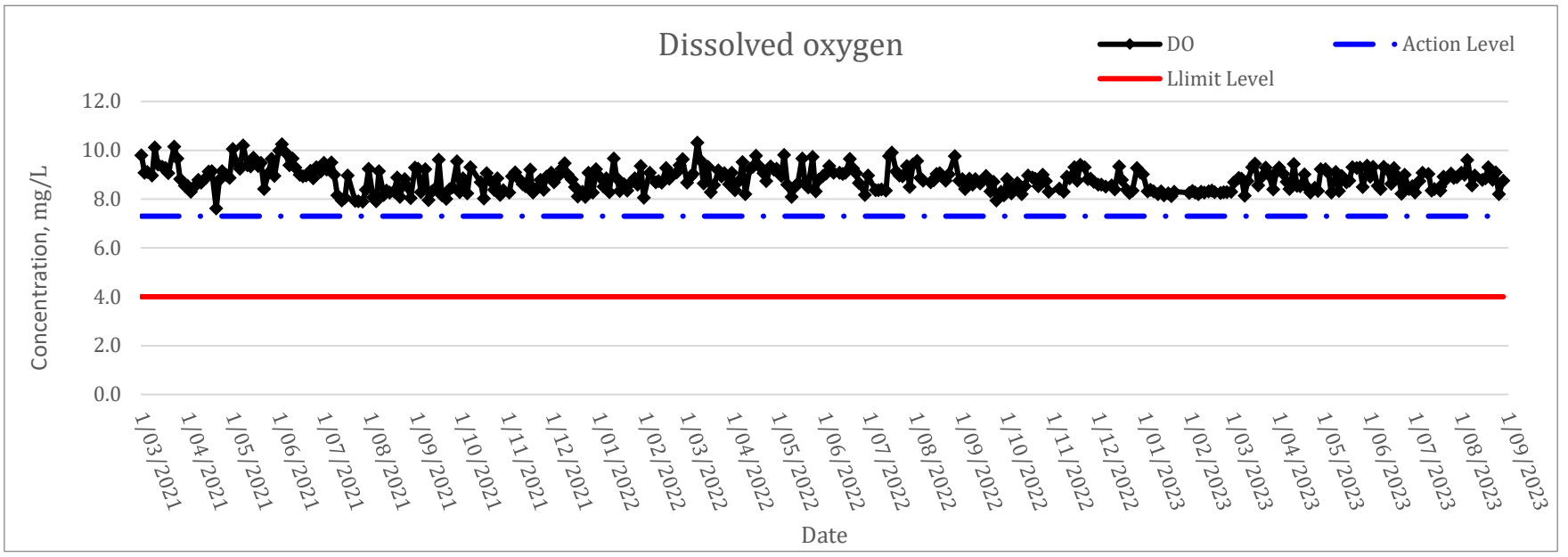


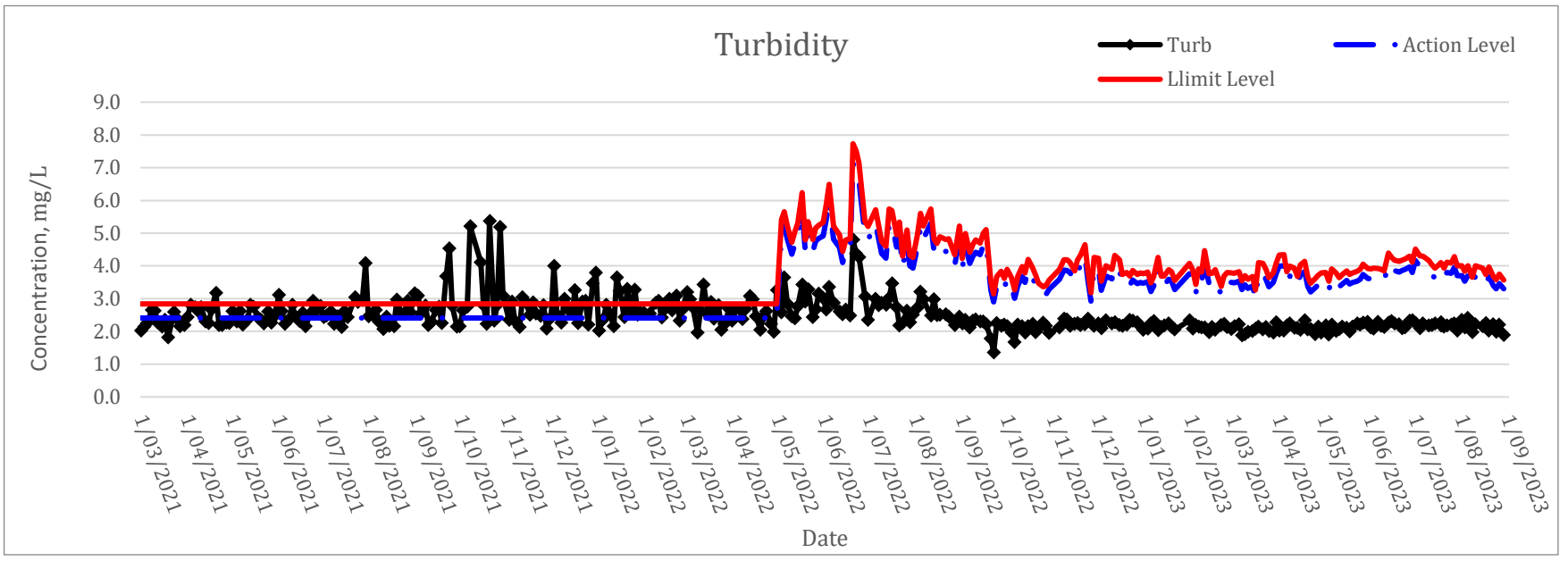


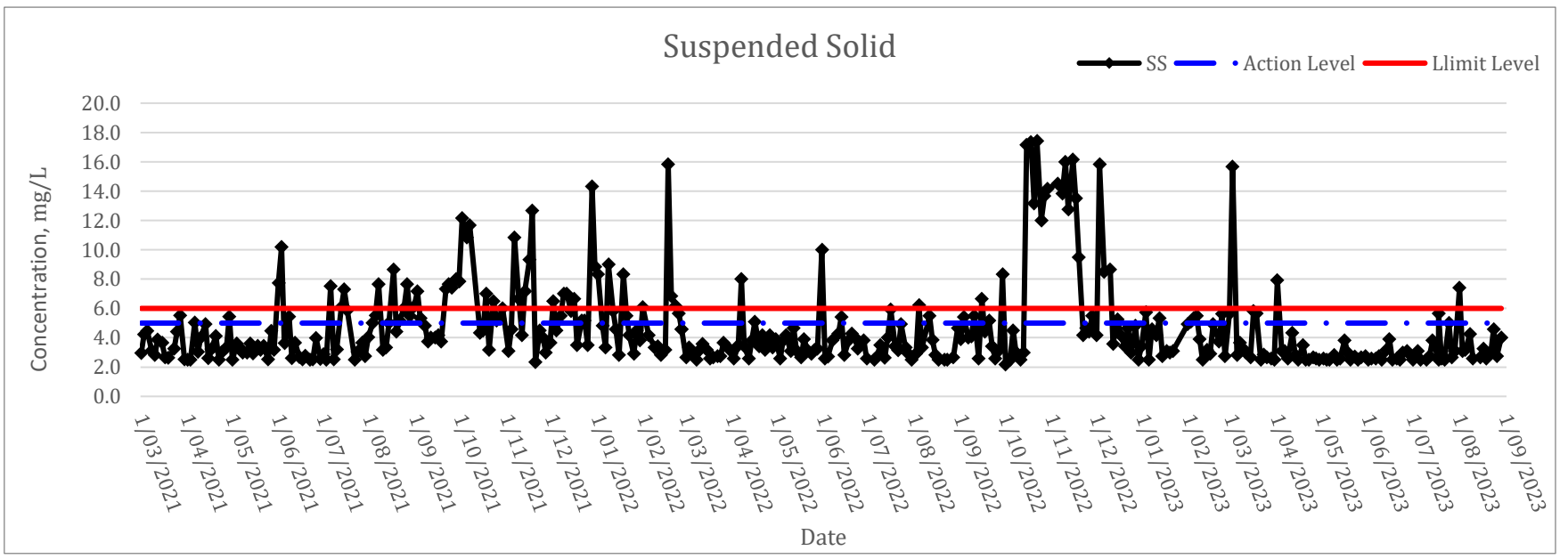
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Flood Tide

Monitoring Location : WSR 16



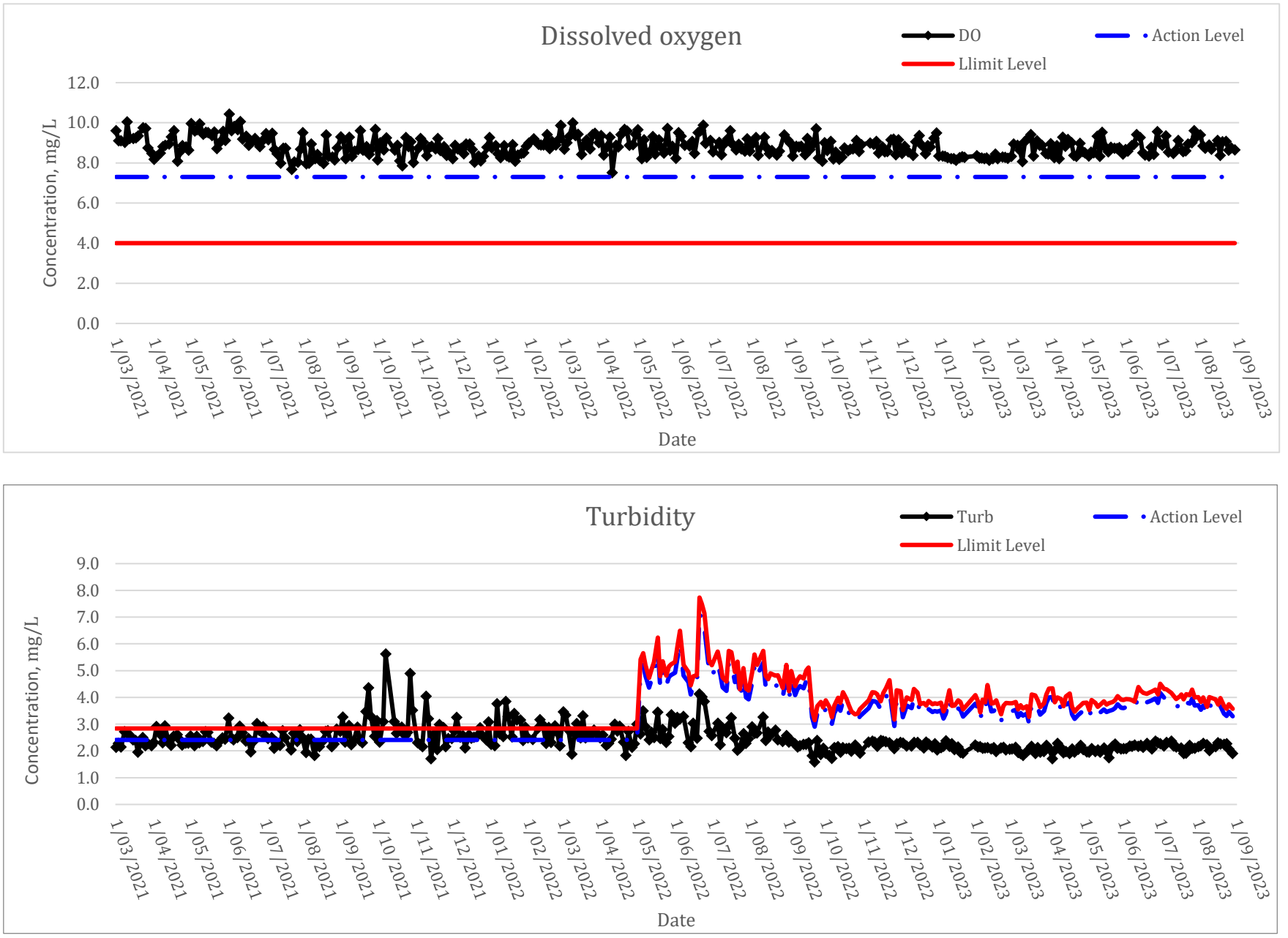


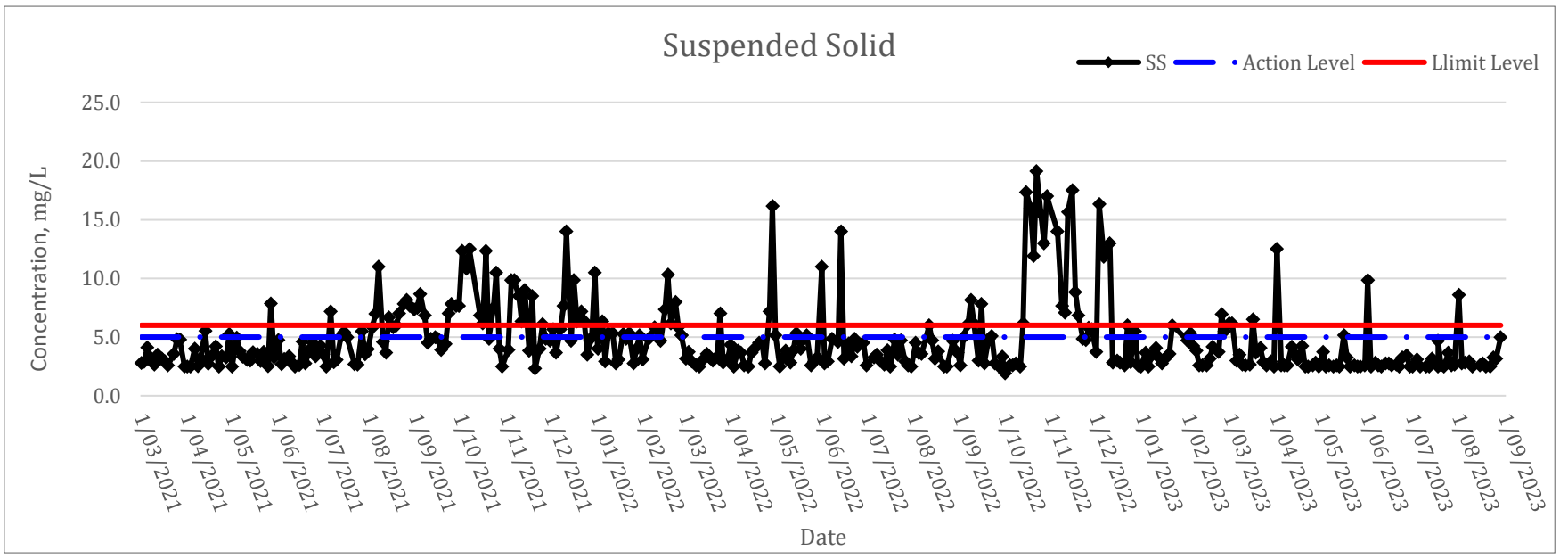


Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Flood Tide

Monitoring Location : WSR 33

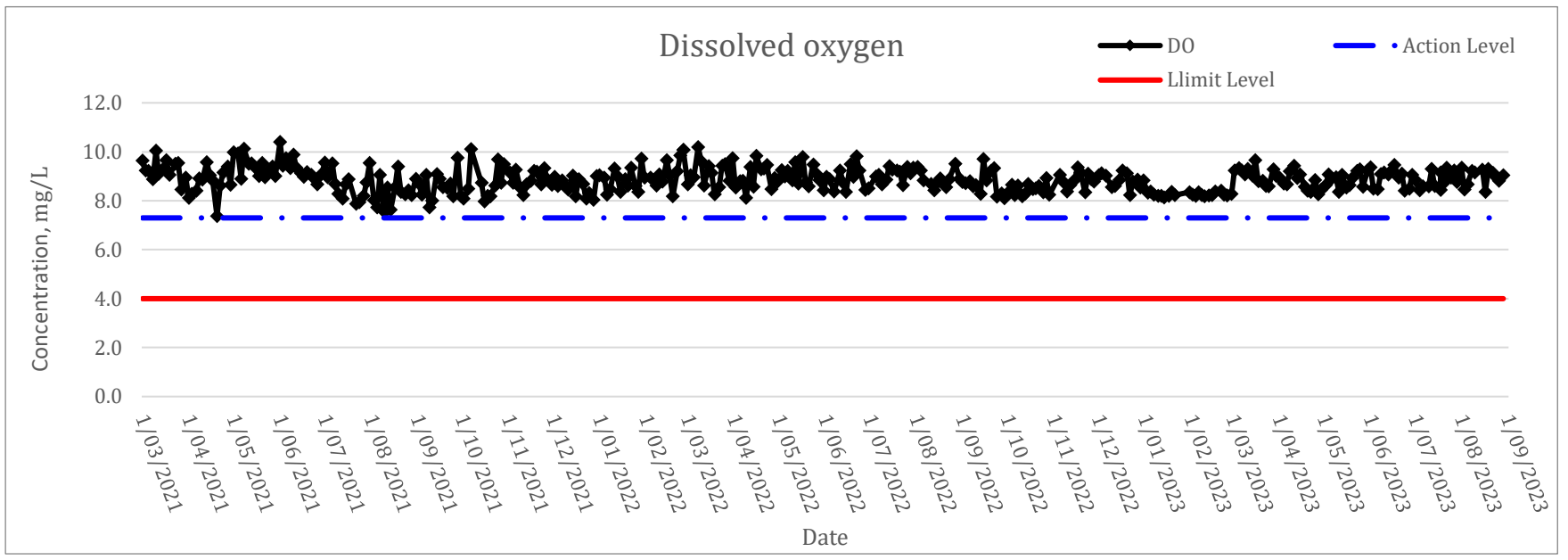


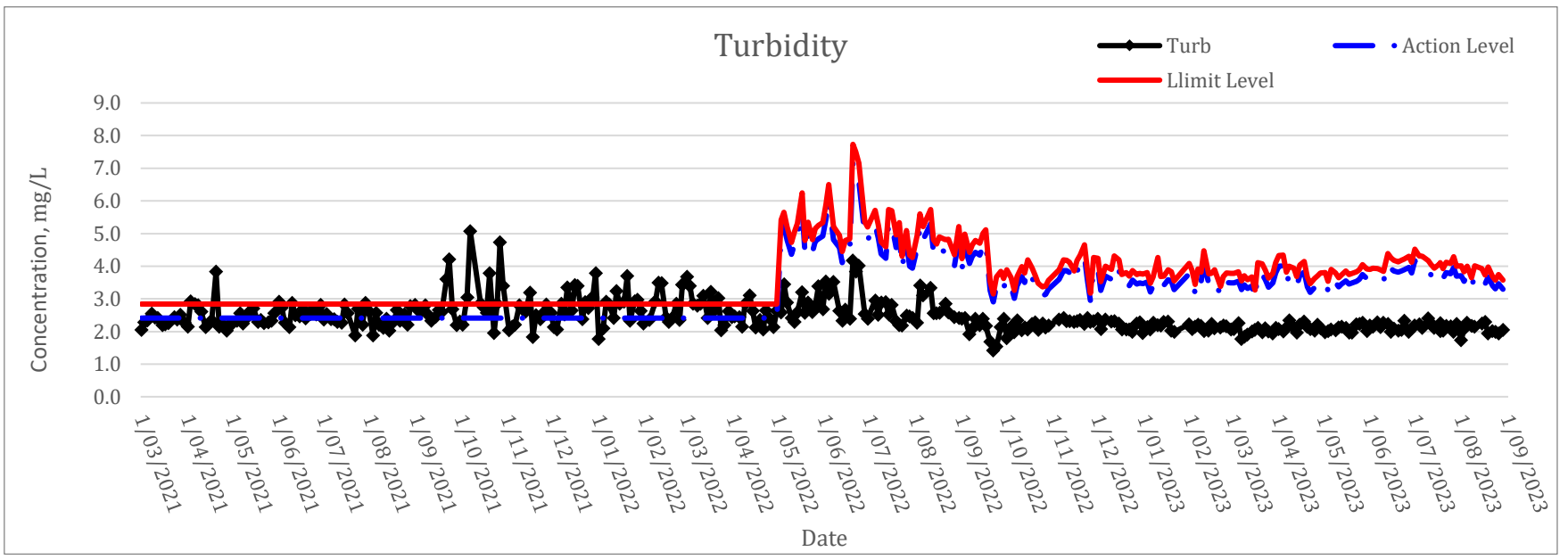


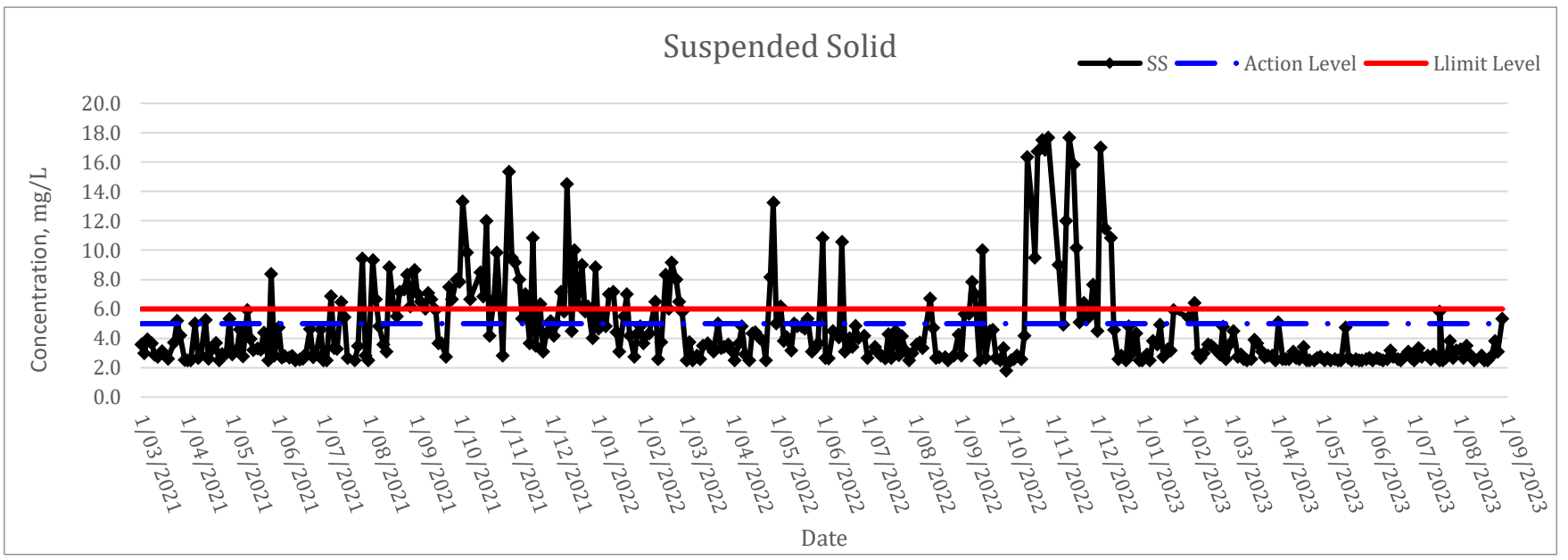
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Flood Tide

Monitoring Location : WSR 36



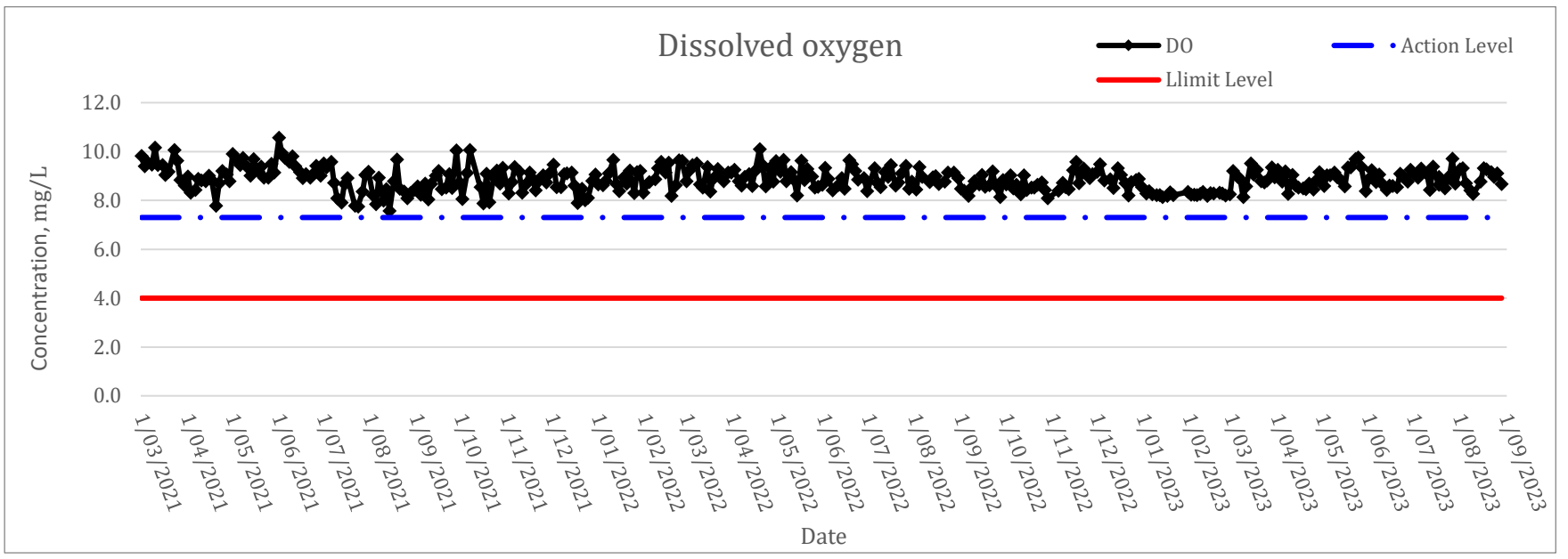


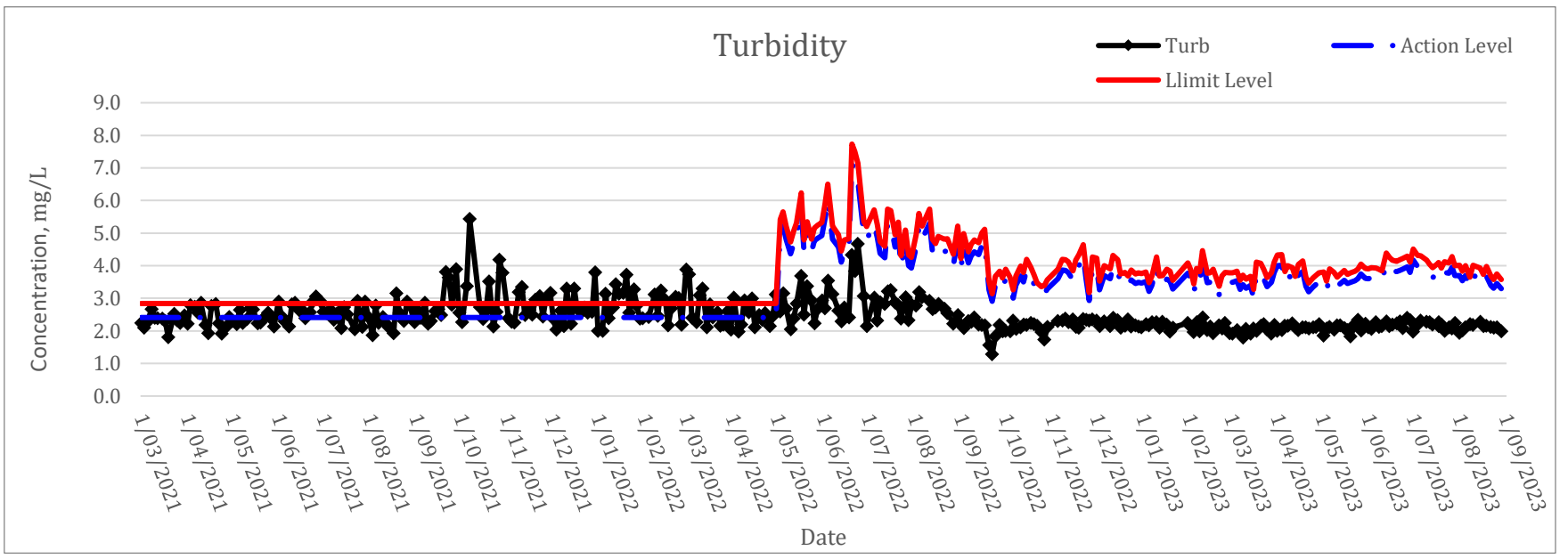


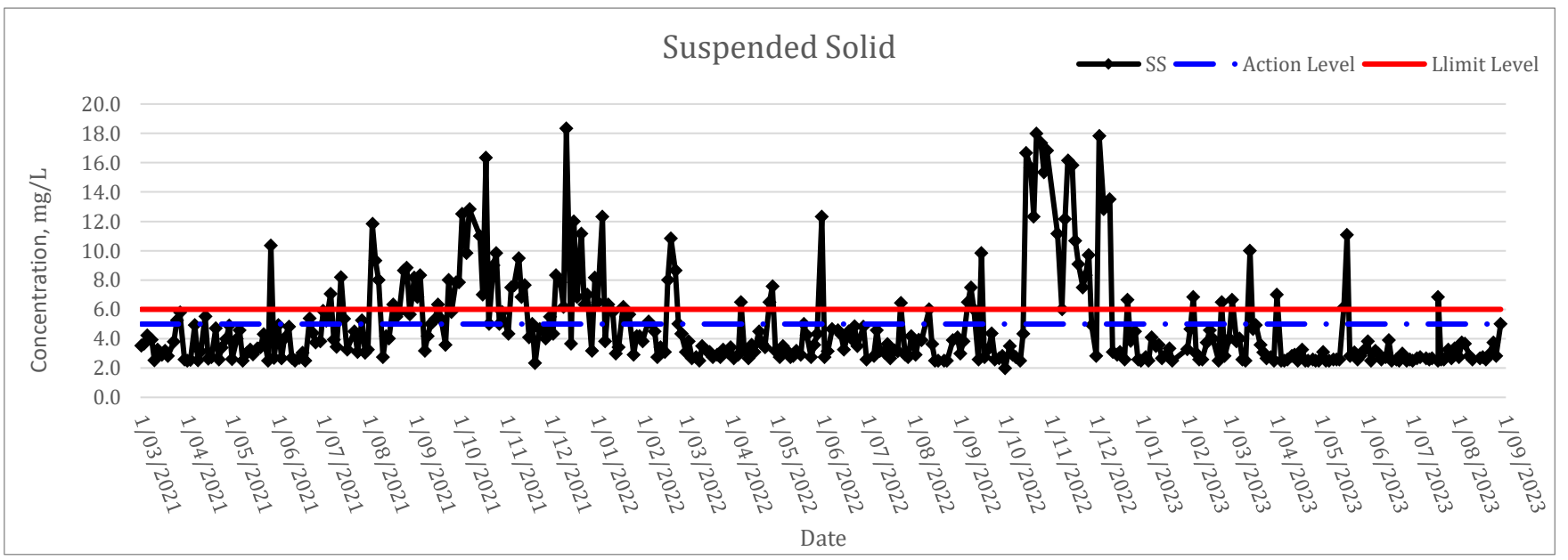
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Flood Tide

Monitoring Location : WSR 37



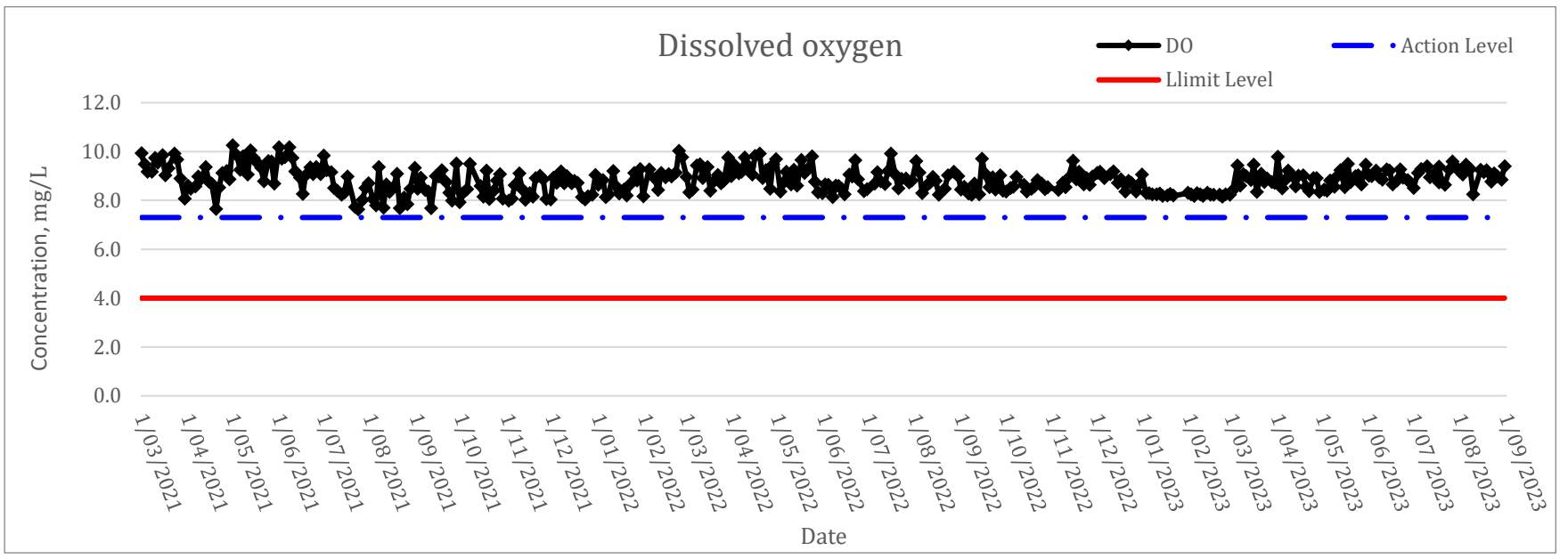


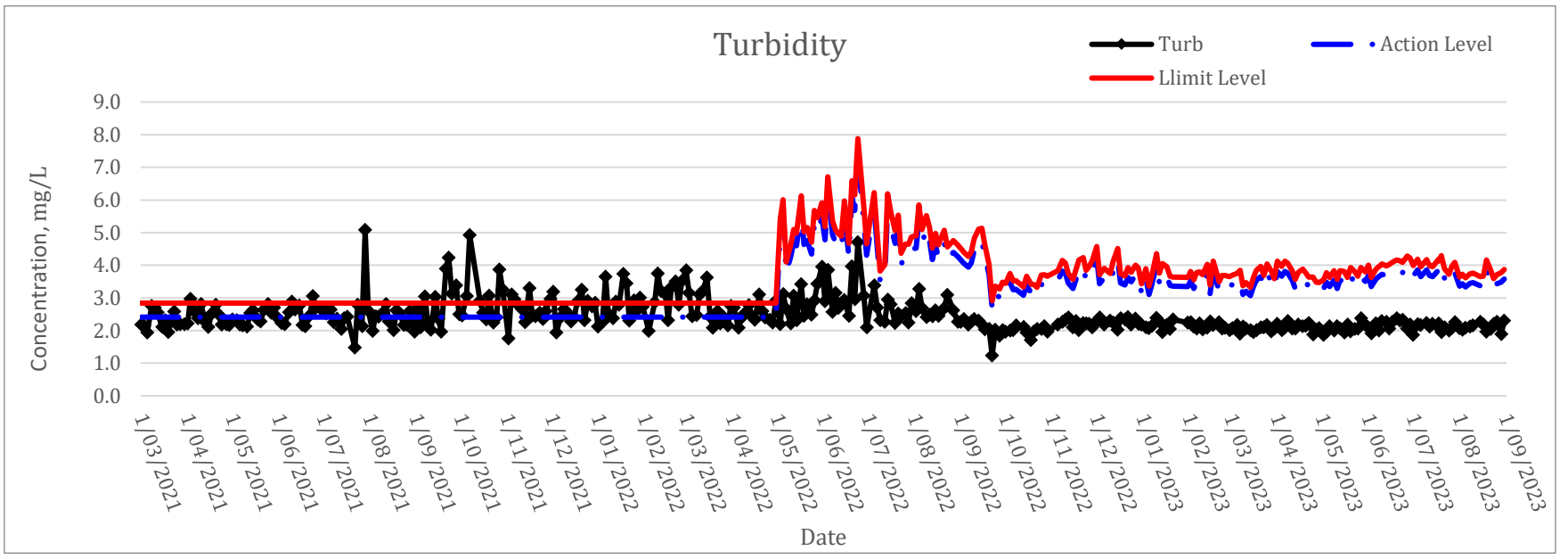


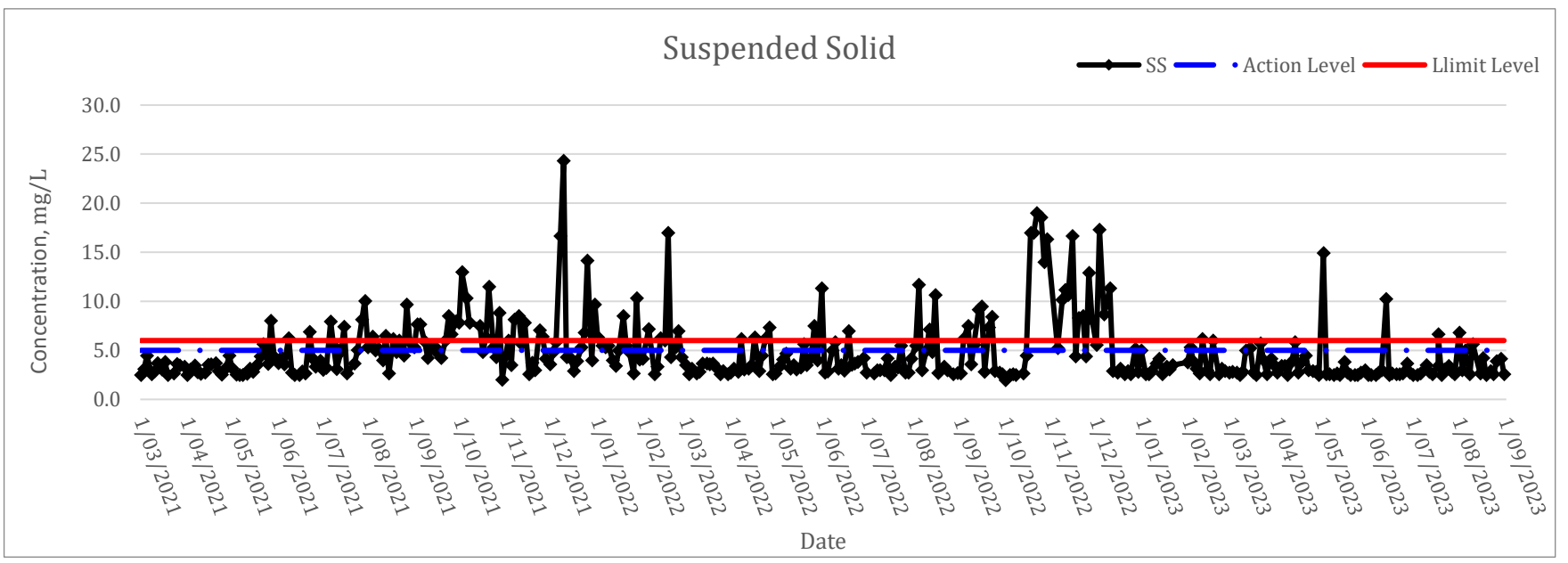
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Ebb Tide

Monitoring Location : WSR 1



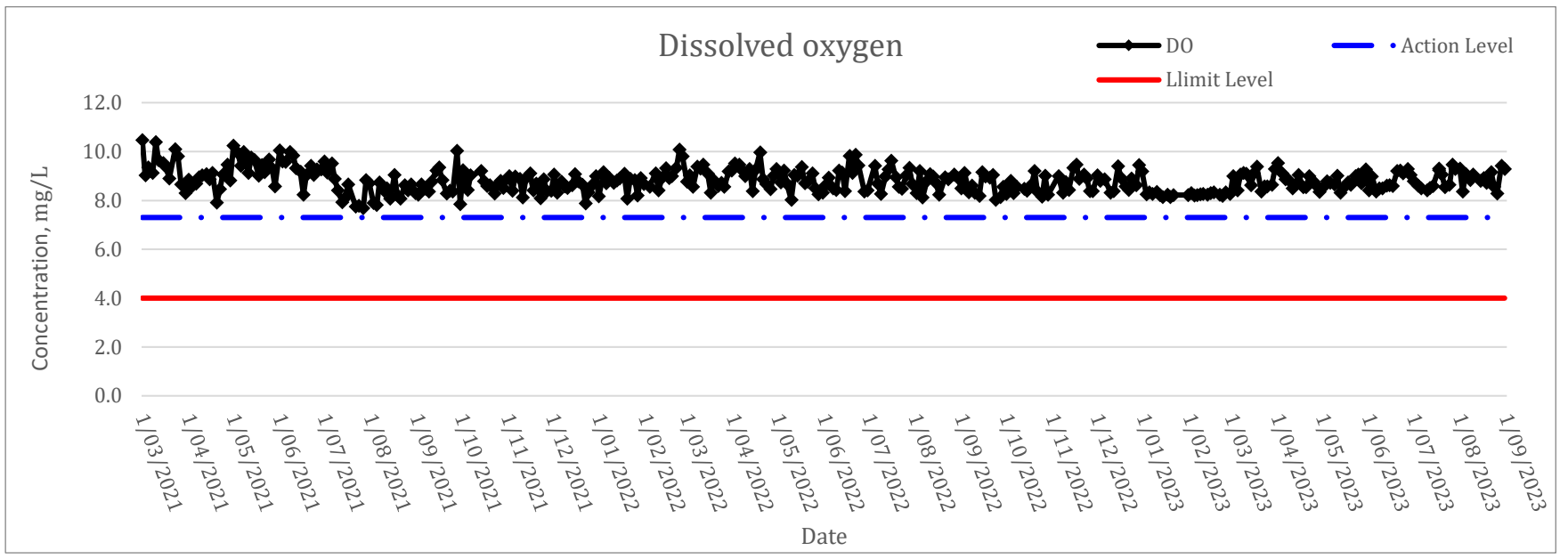


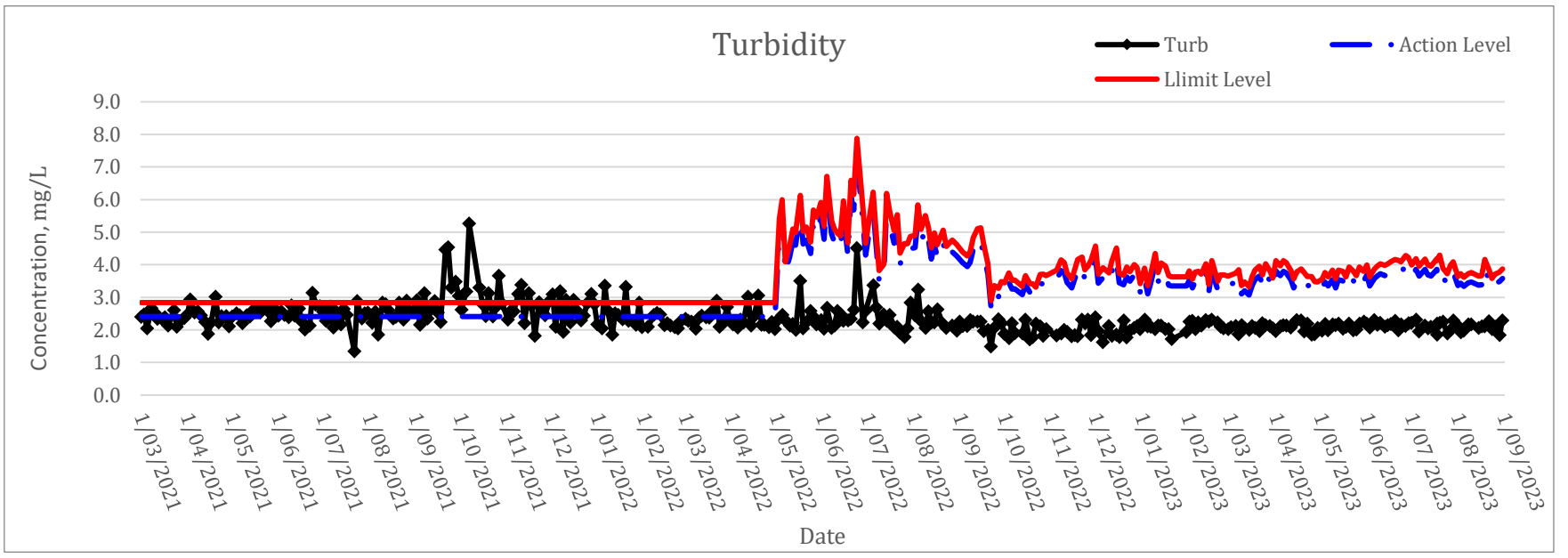


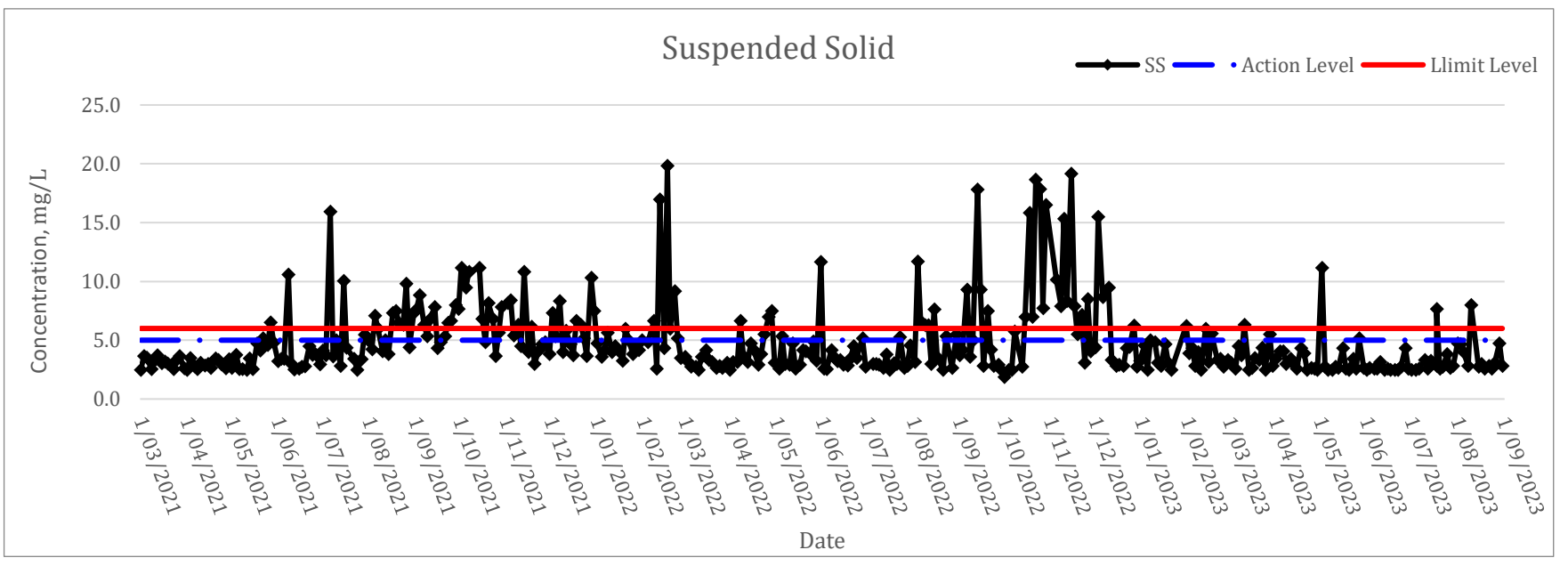
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Ebb Tide

Monitoring Location : WSR 2



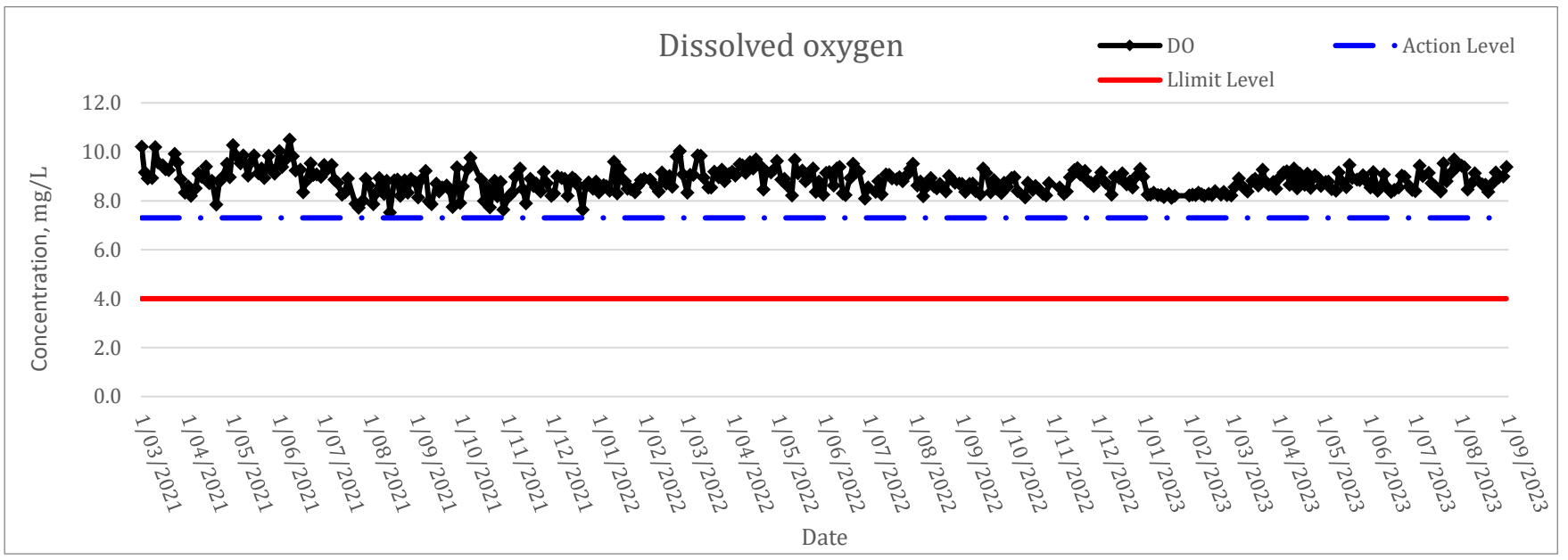


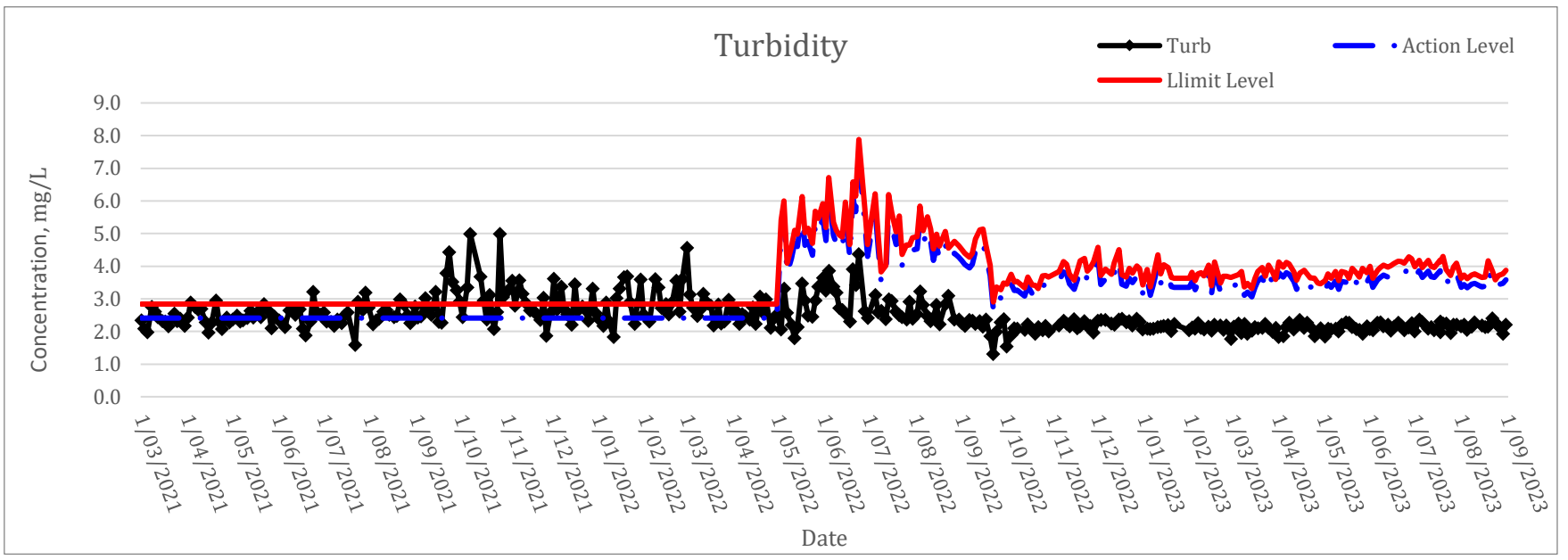


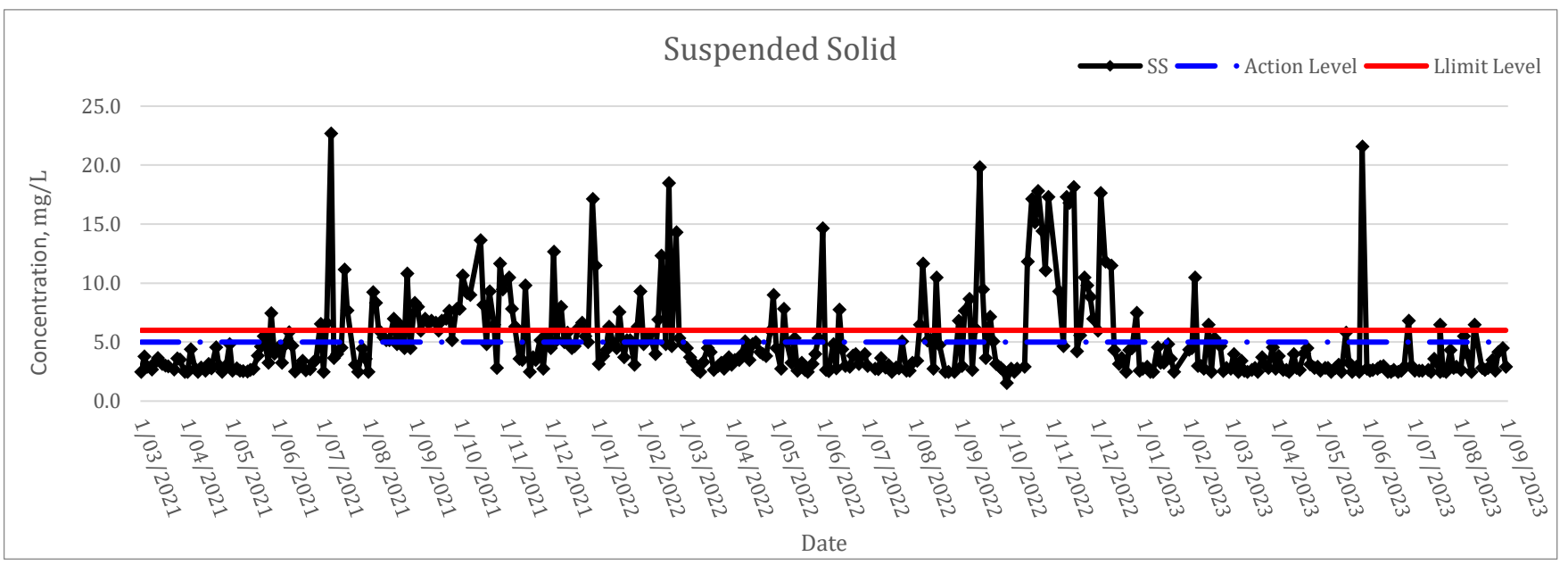
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Ebb Tide

Monitoring Location : WSR 3



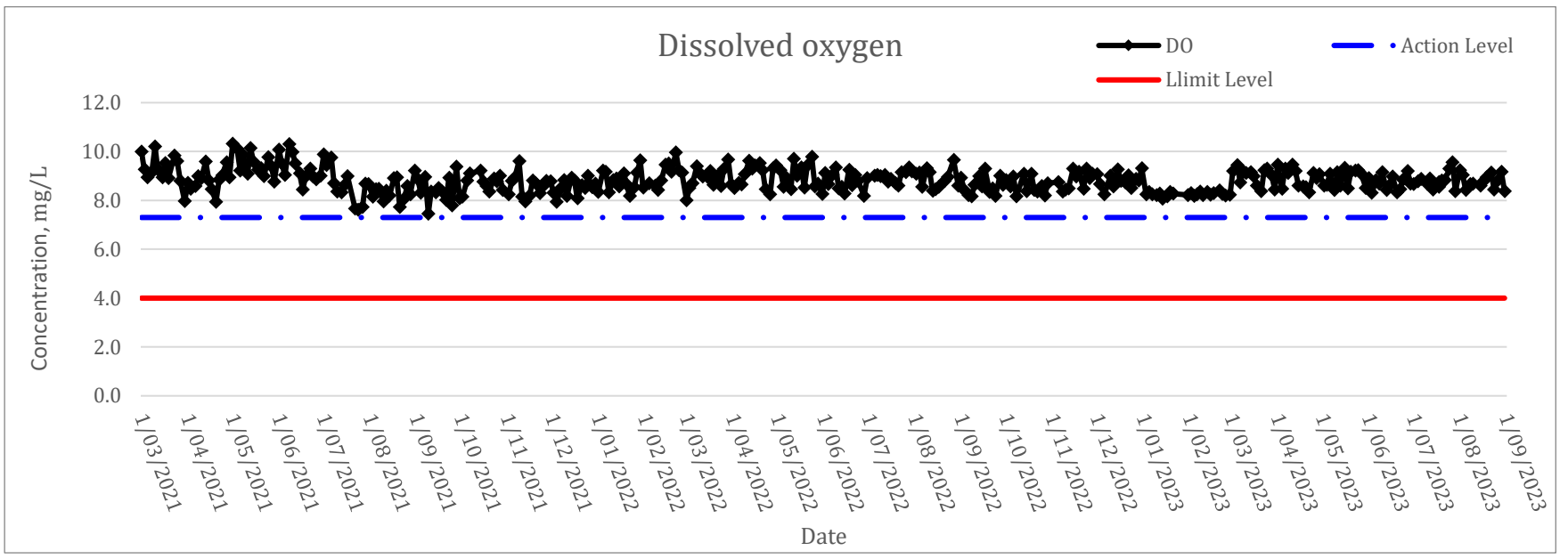


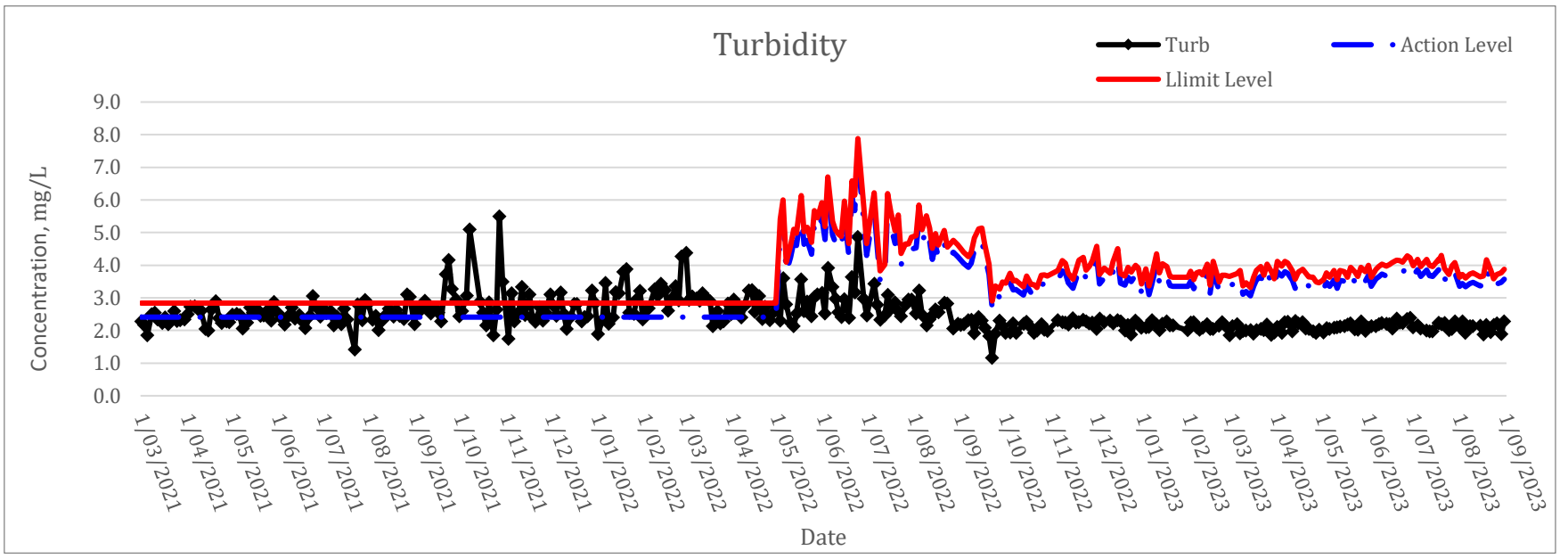


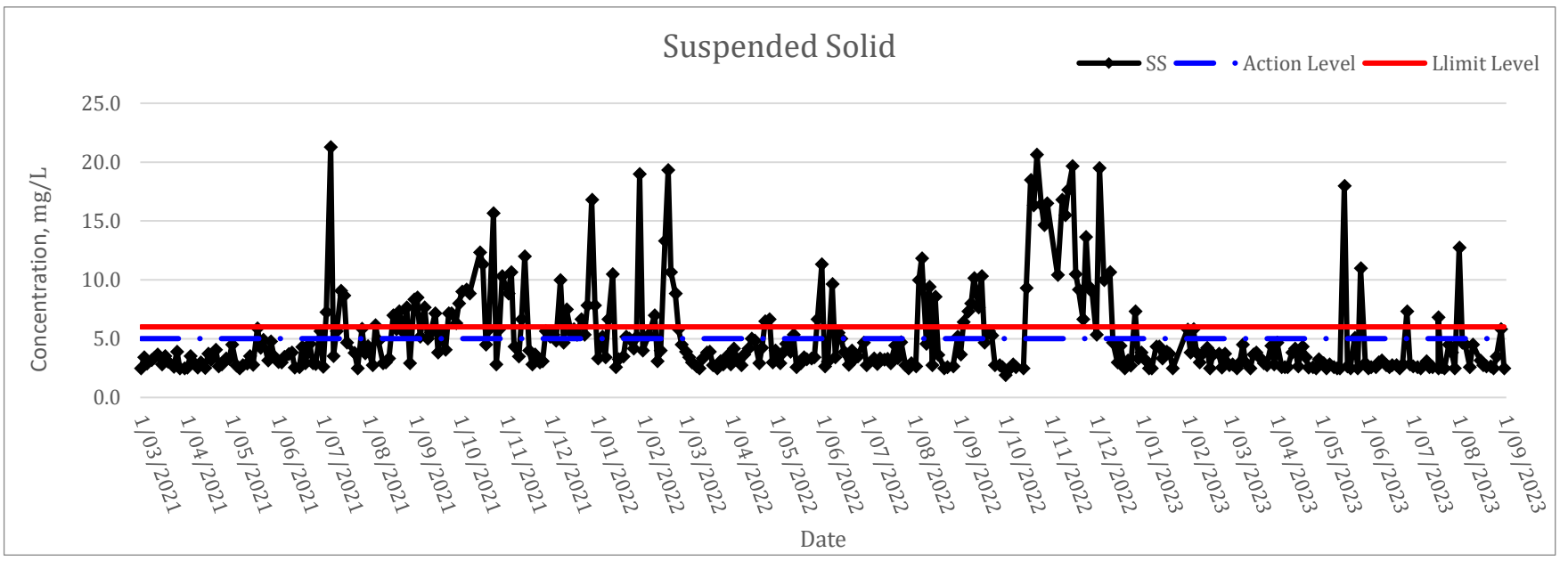
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Ebb Tide

Monitoring Location : WSR 4



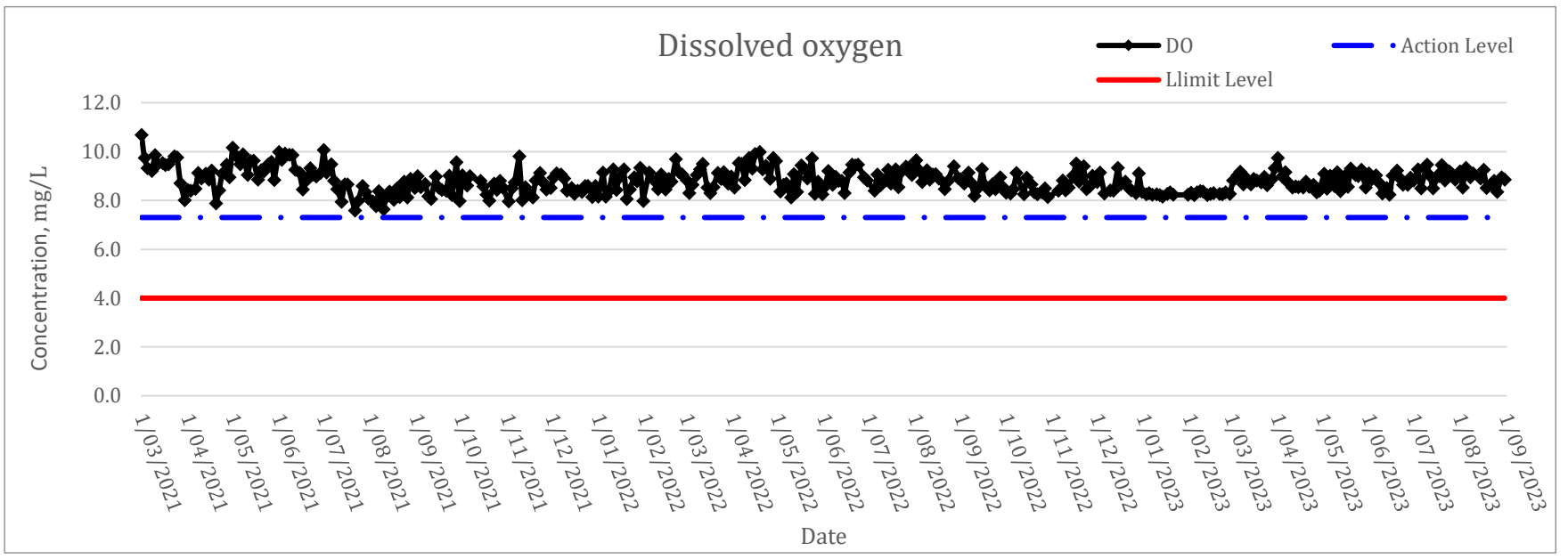


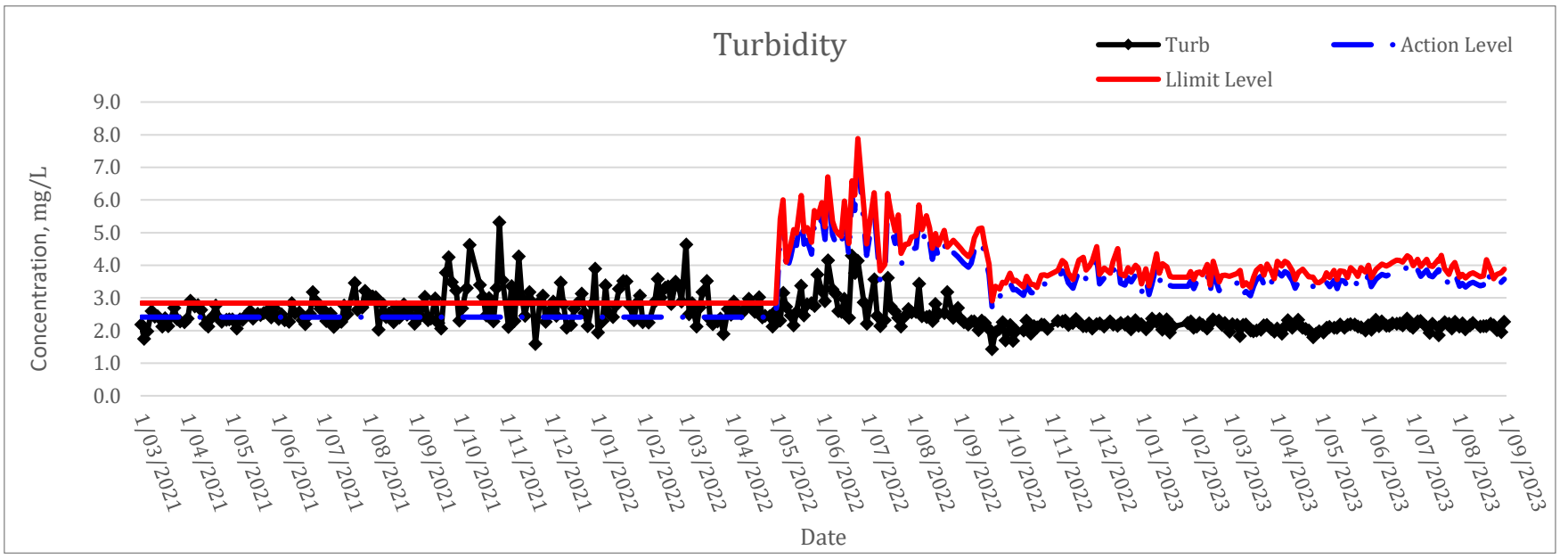


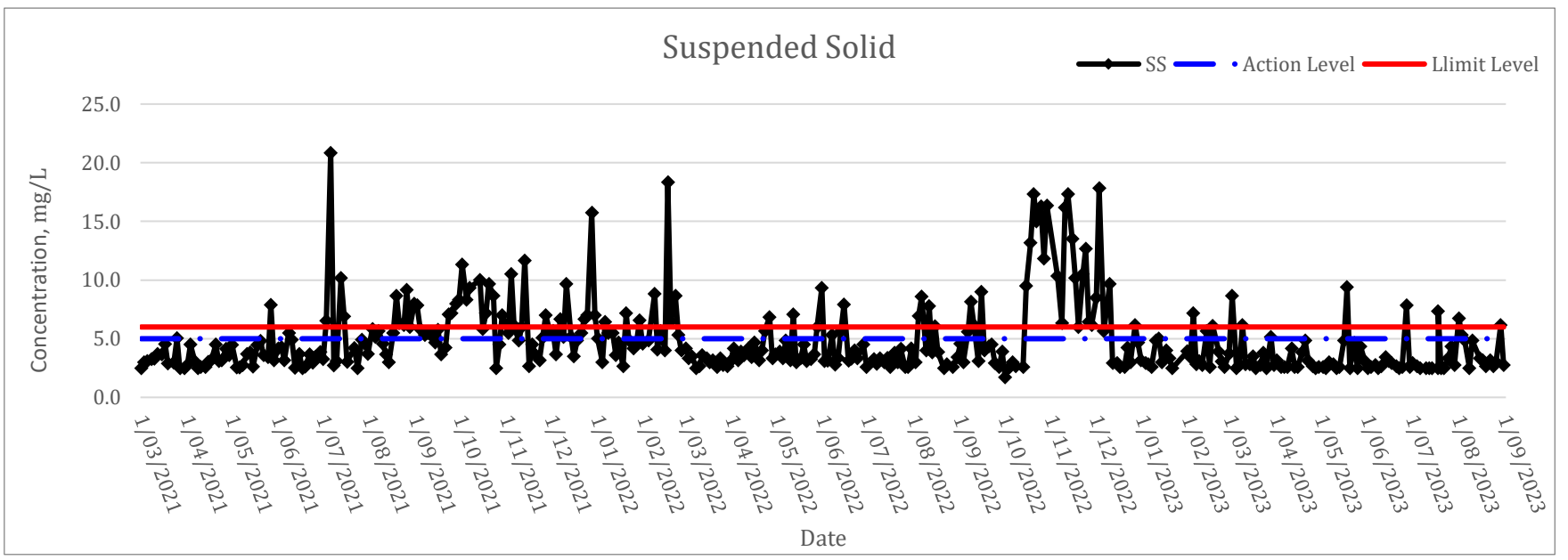
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Ebb Tide

Monitoring Location : WSR 16



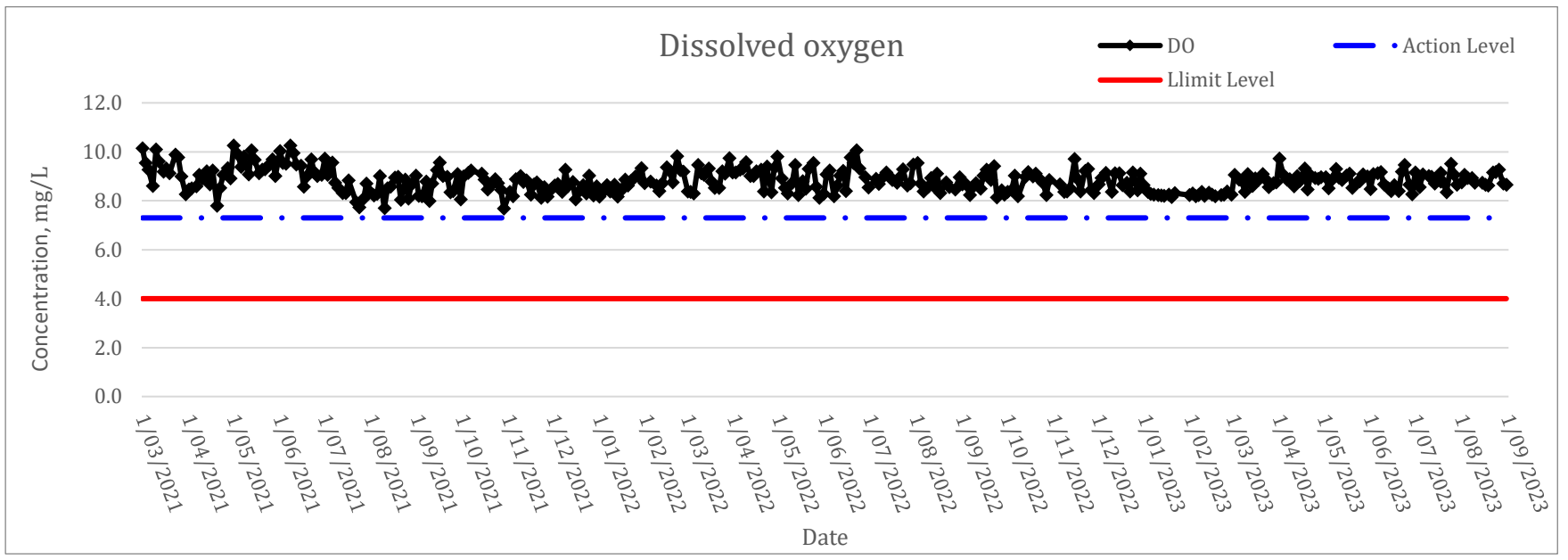


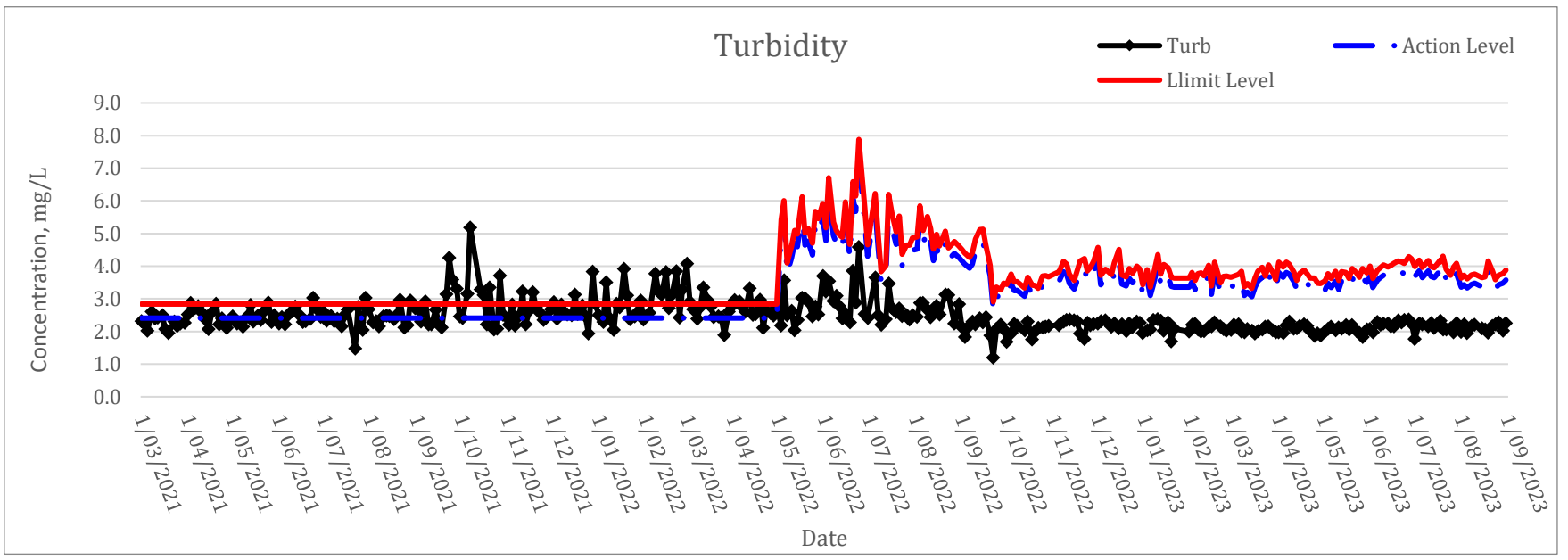


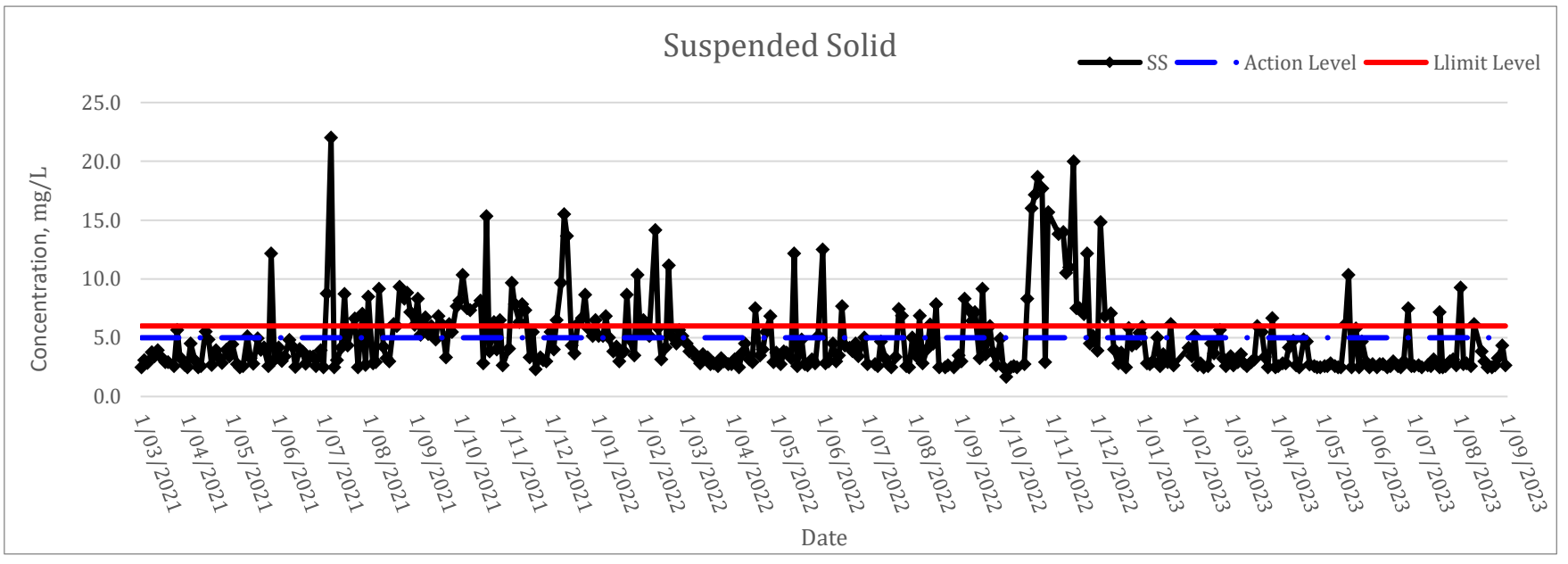
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Ebb Tide

Monitoring Location : WSR 33



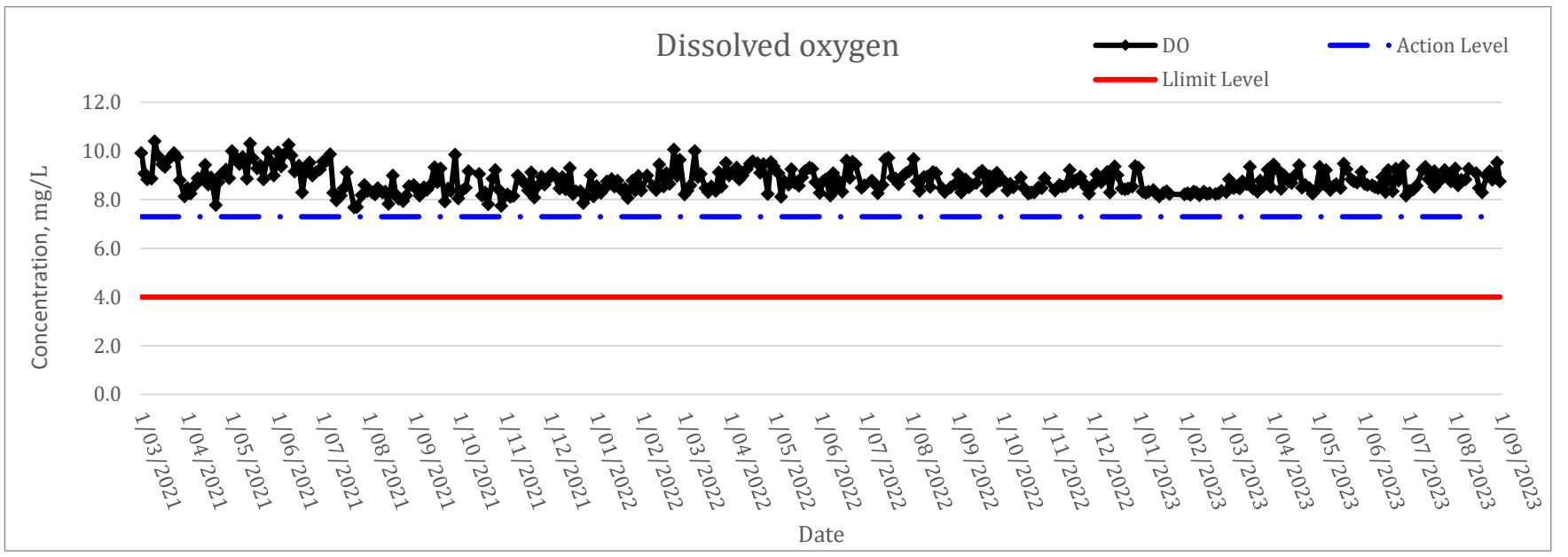


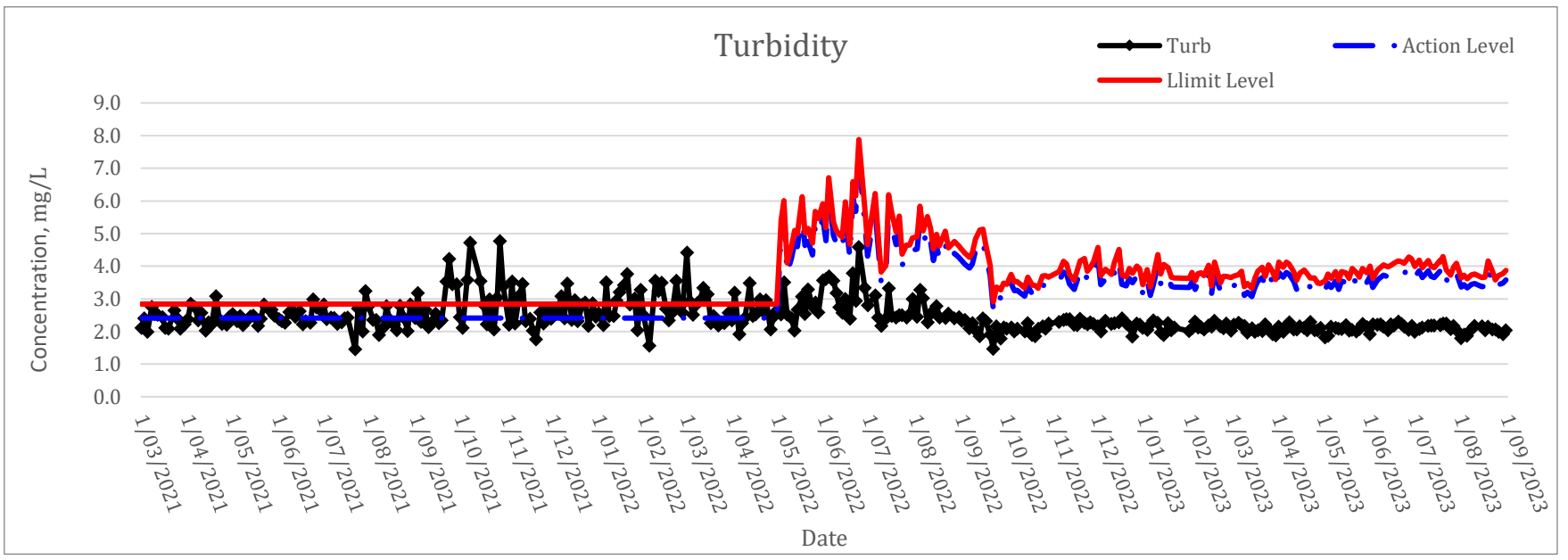


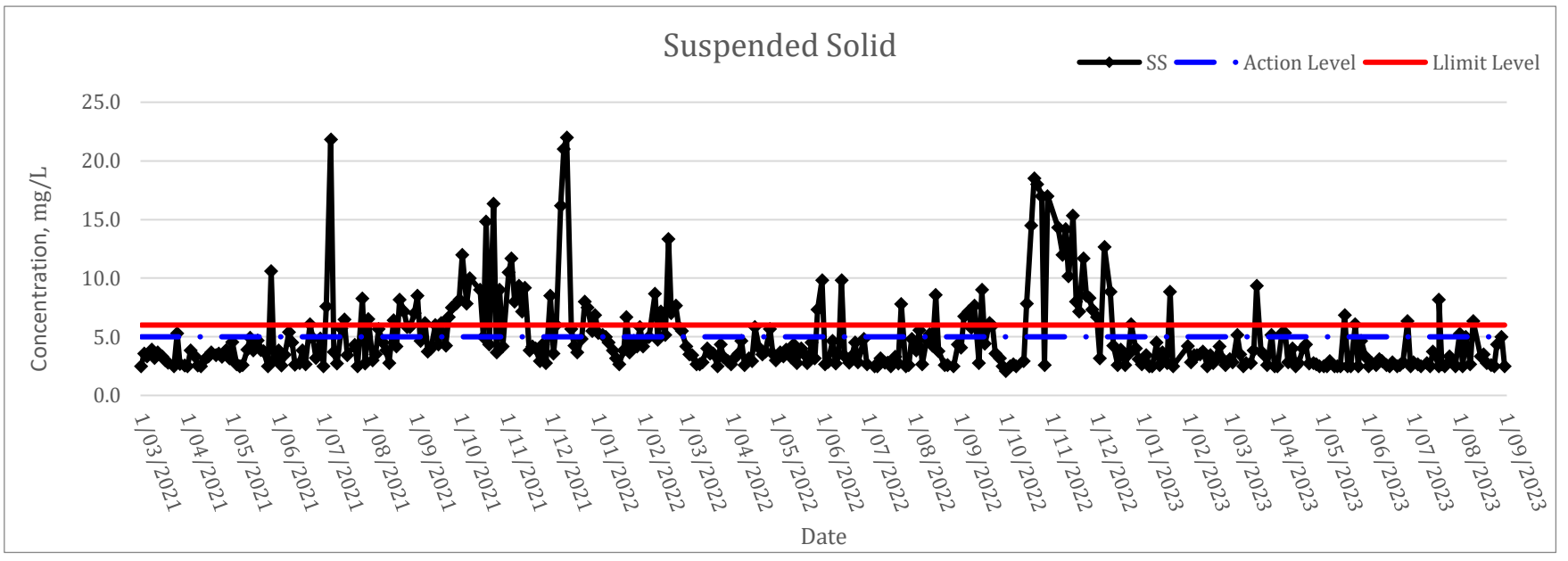
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Ebb Tide

Monitoring Location : WSR 36



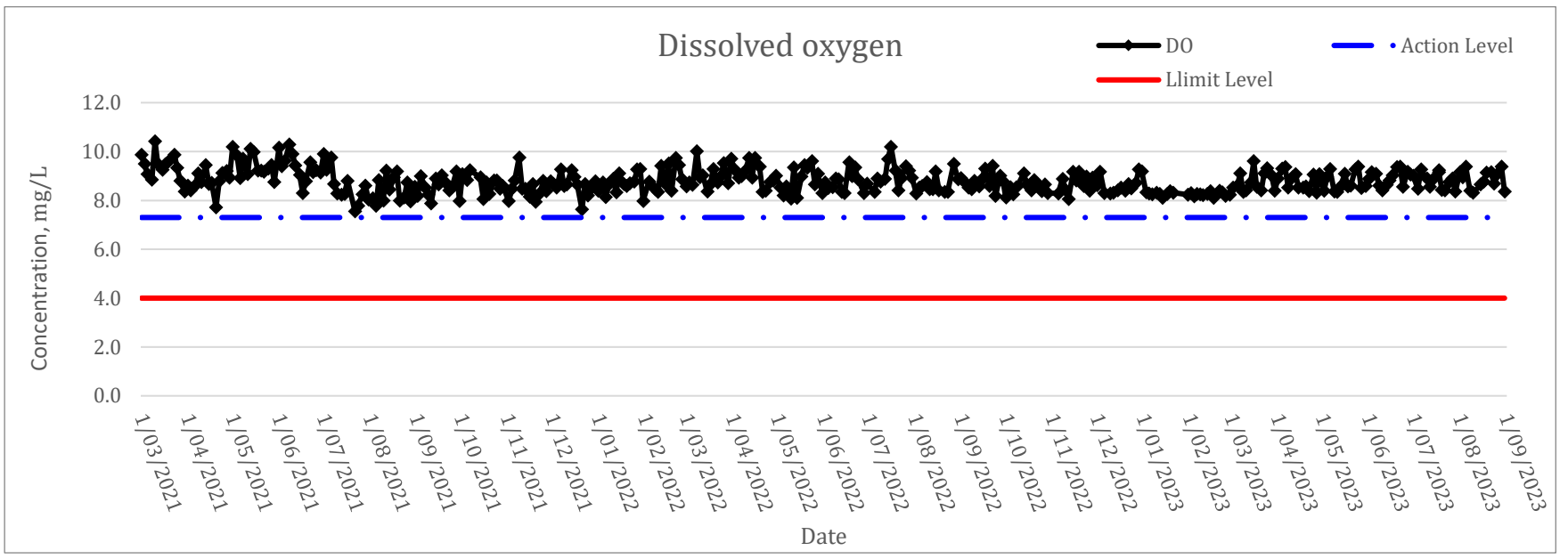


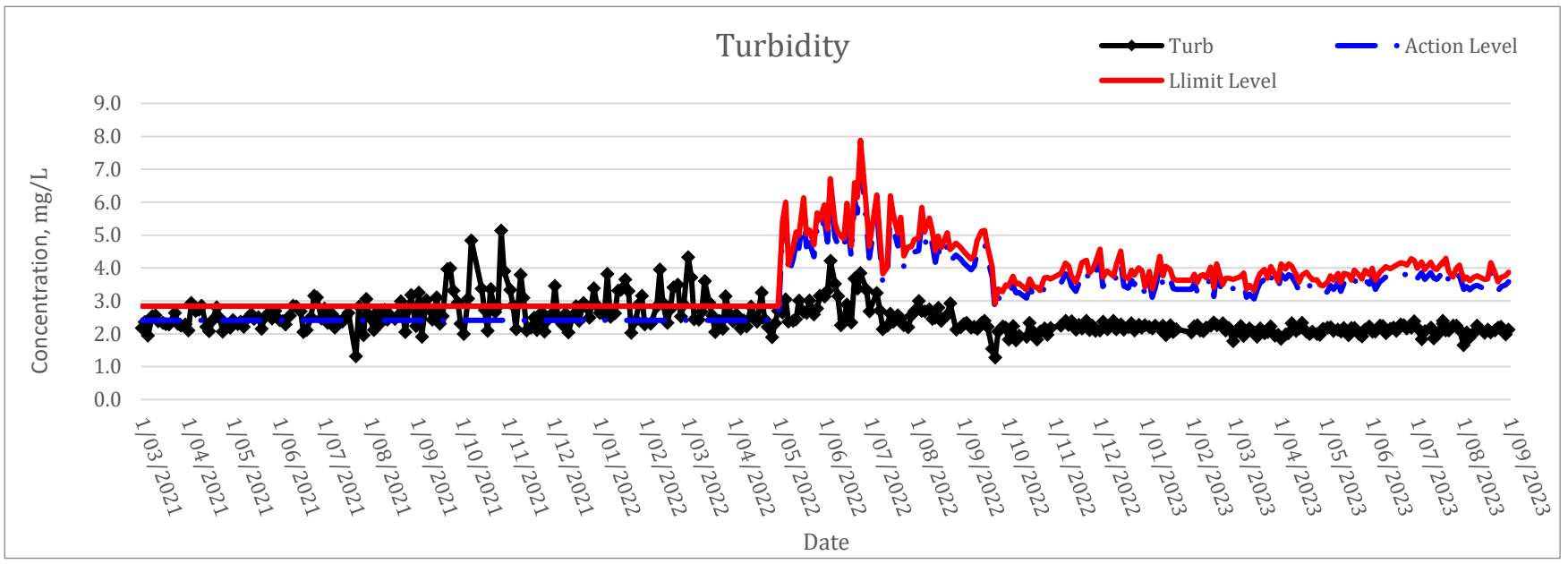


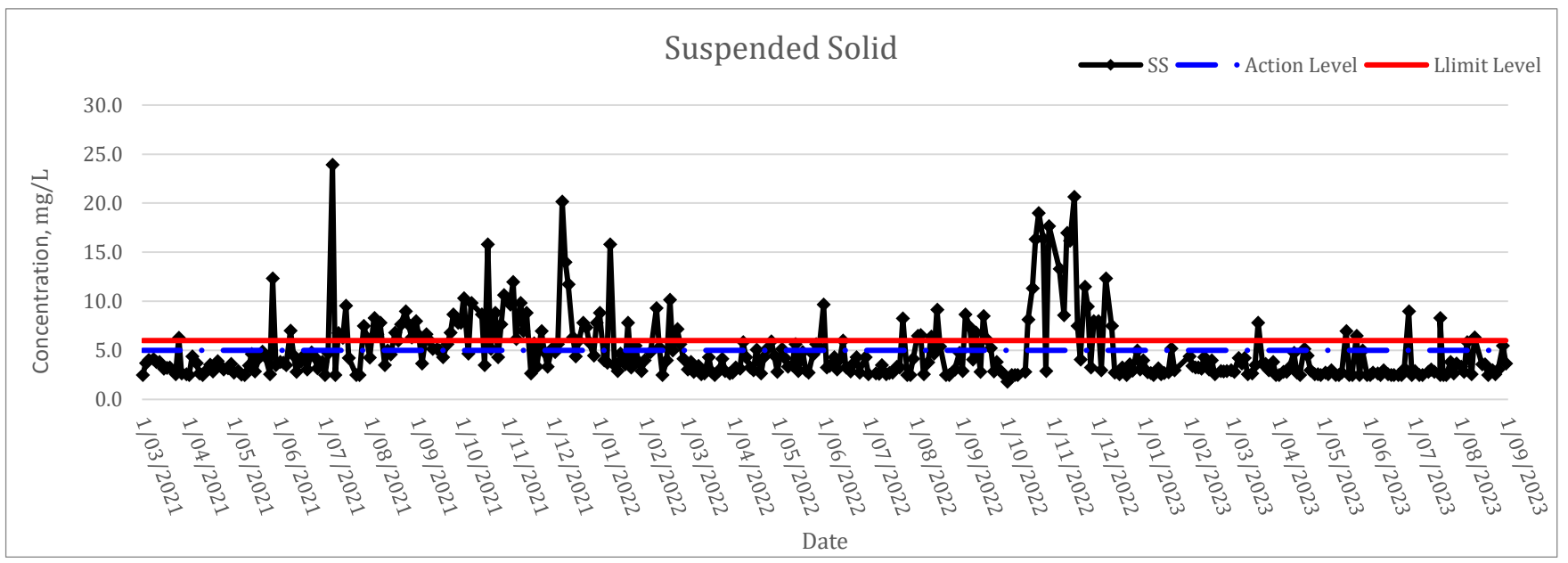
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Middle-Ebb Tide

Monitoring Location : WSR 37





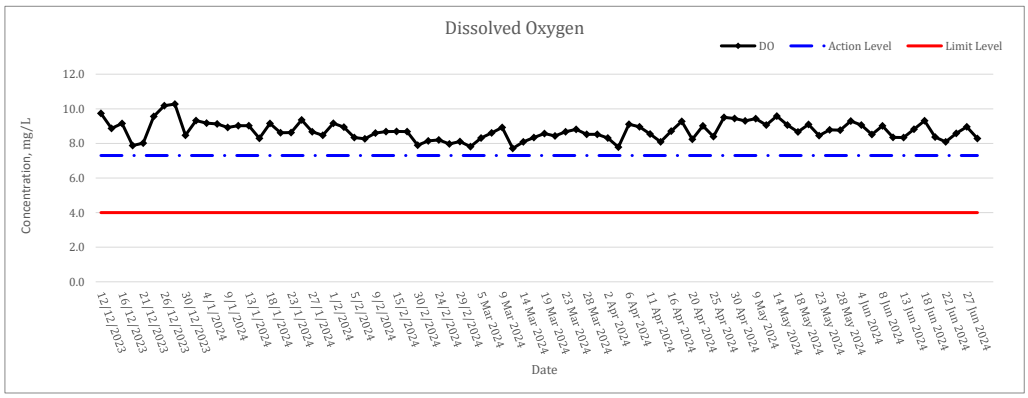


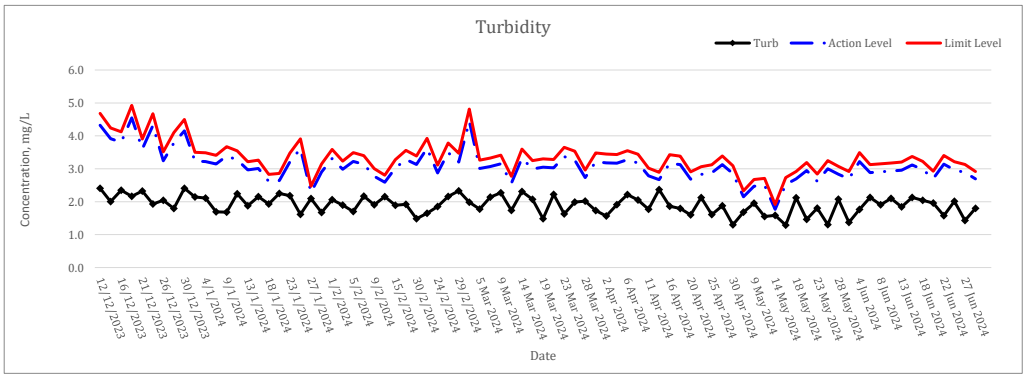
Appendix D-2
Pre-operation Phase Impact Water Quality Monitoring

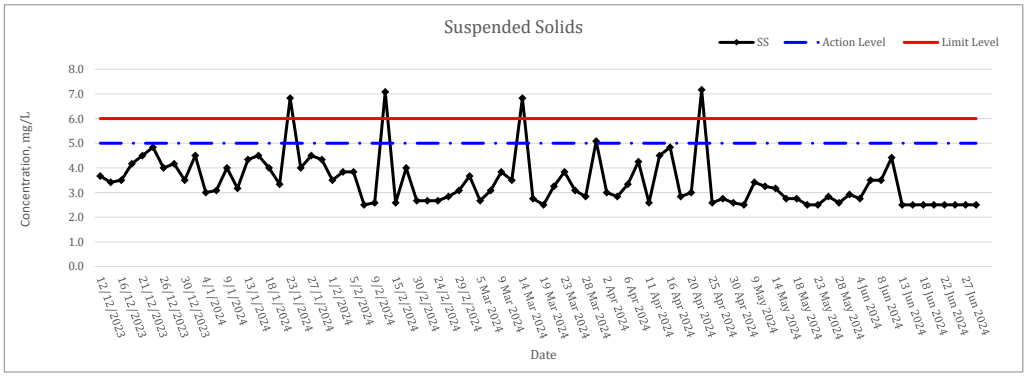
The water quality monitoring commenced in 12 December 2023.

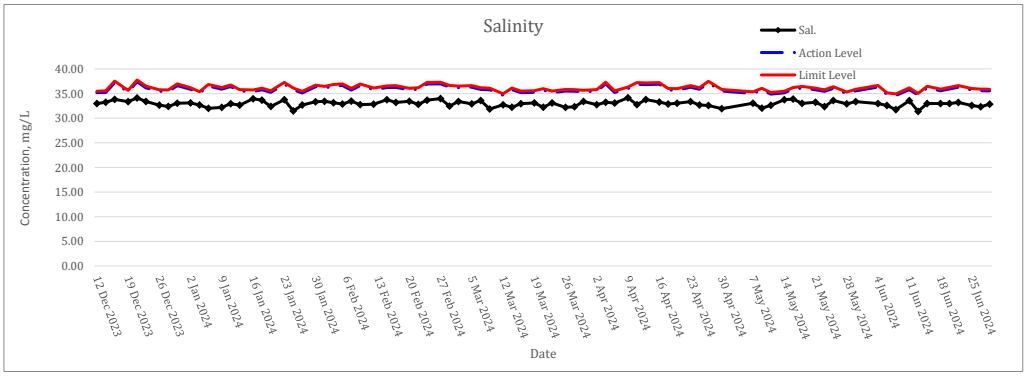
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Monitoring Location: WSR1

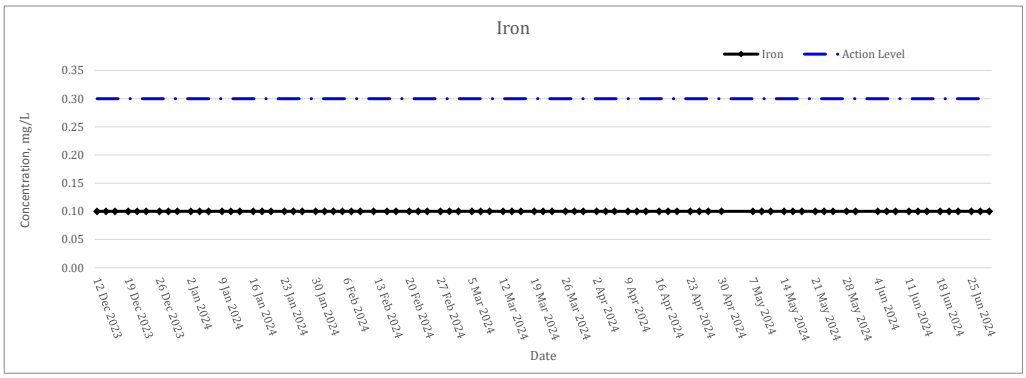




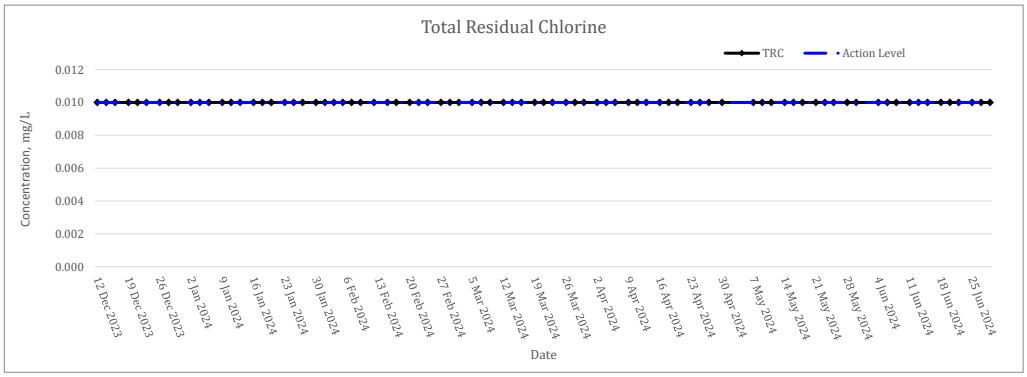




Monitoring Location: WSR1



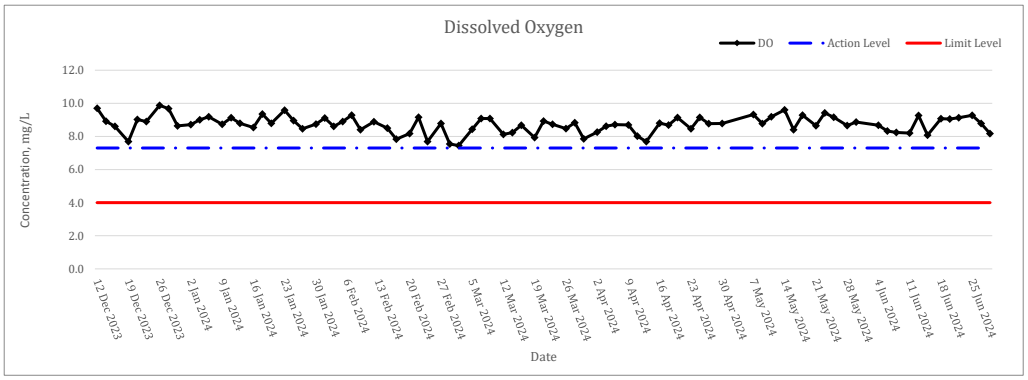
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

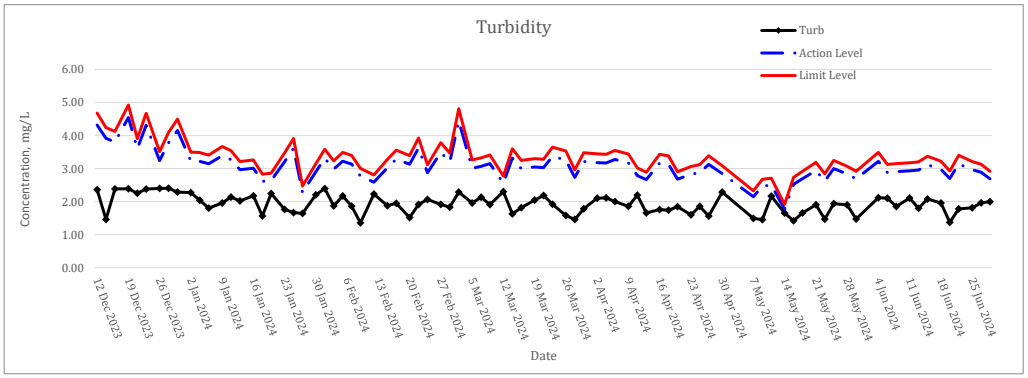


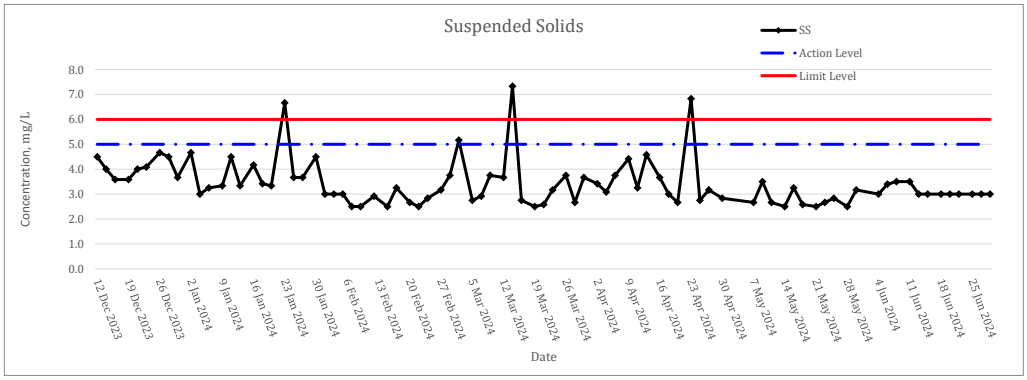
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

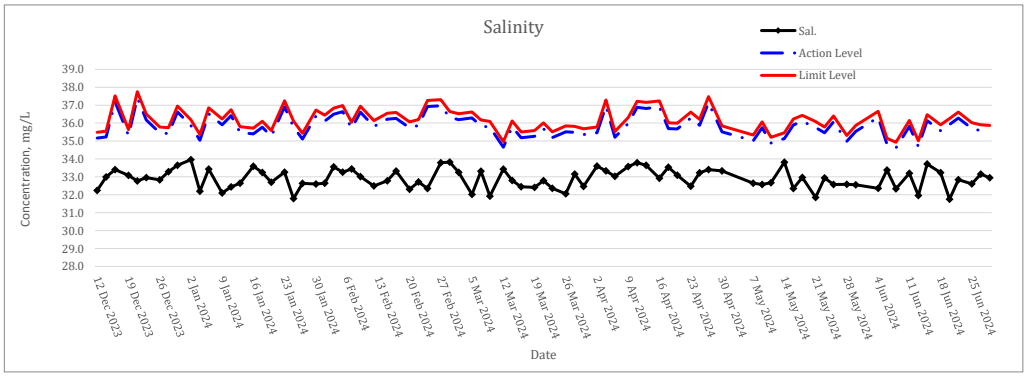
Contract No. 13/WSD/17
Design, Build and Operate First Stage of
Tseung Kwan O Desalination Plant

Monitoring Location: WSR2

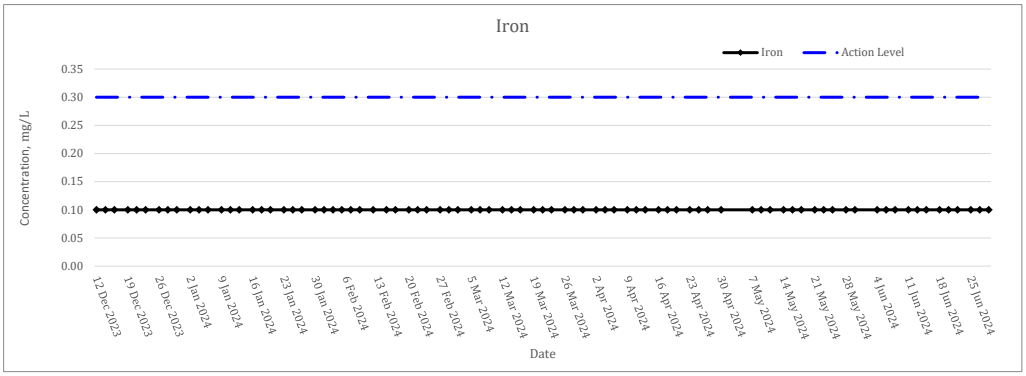




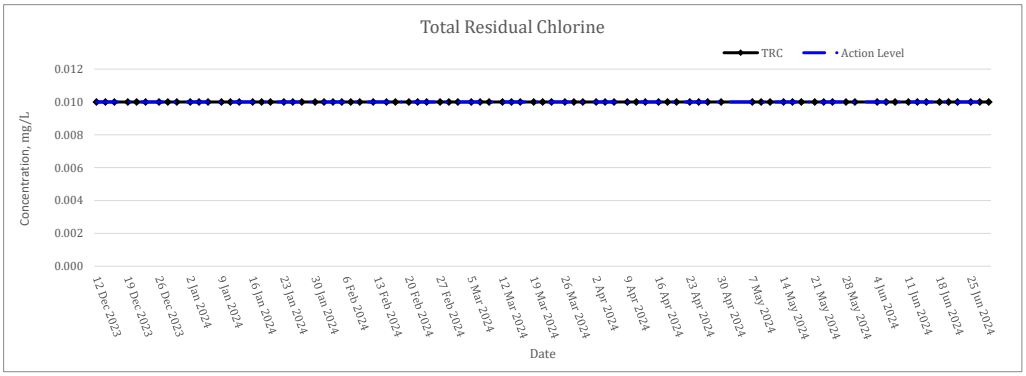




Monitoring Location: WSR2

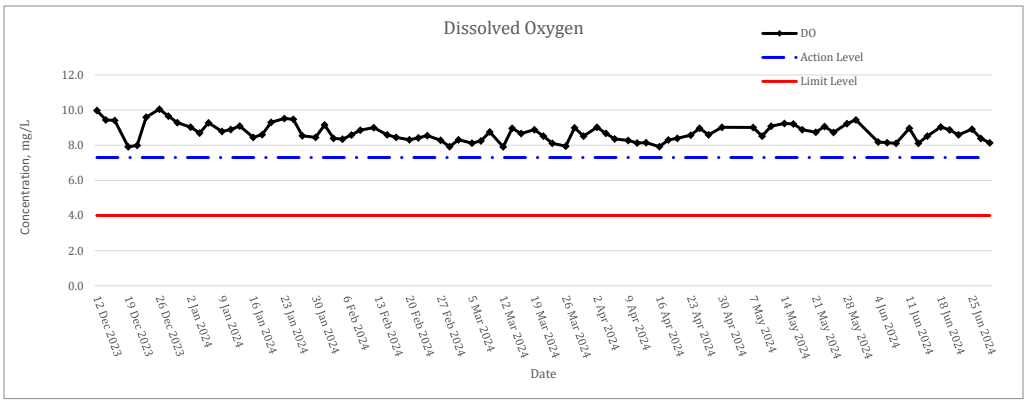


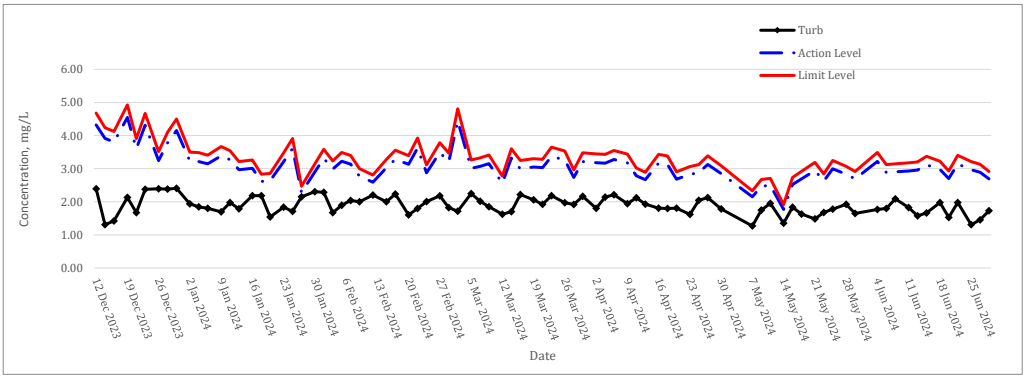
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

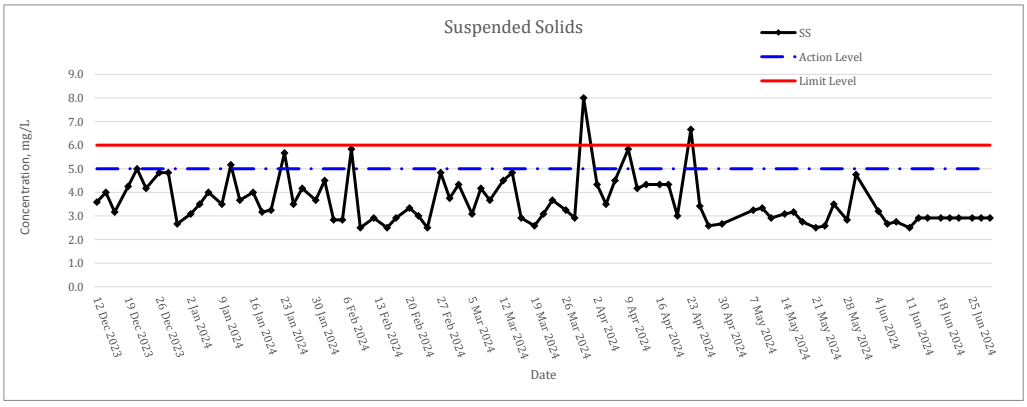


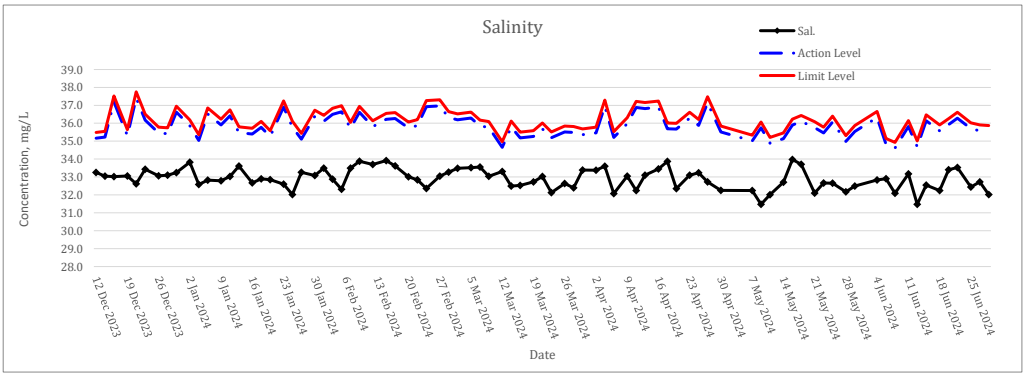
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: WSR3

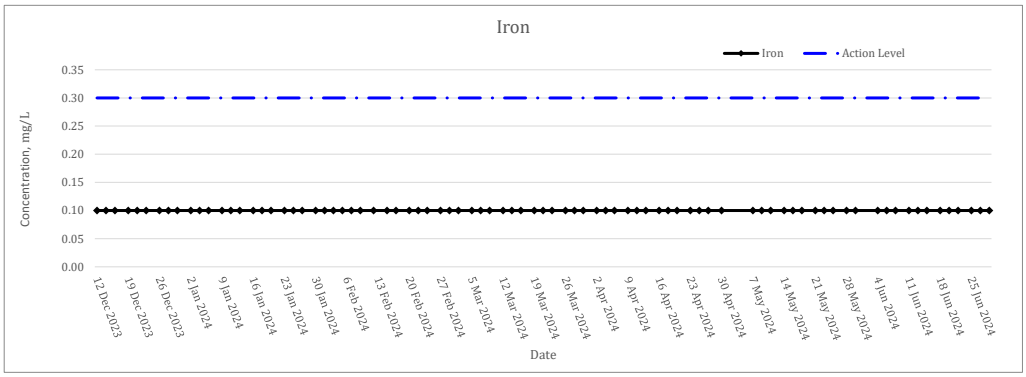




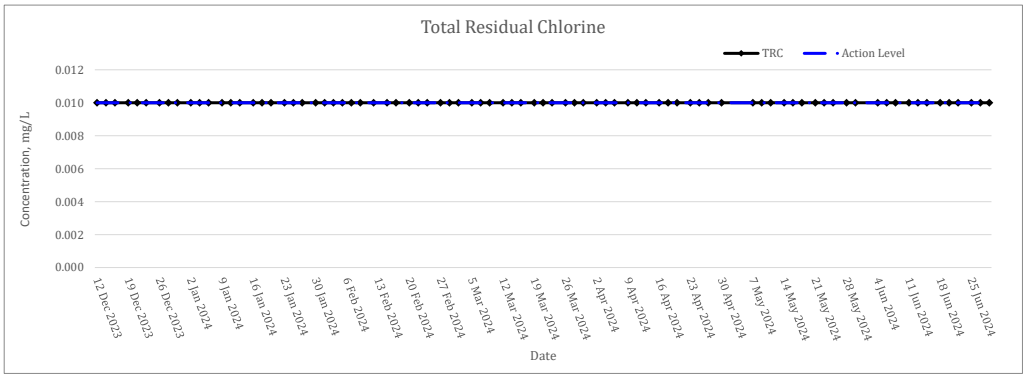




Monitoring Location: WSR3

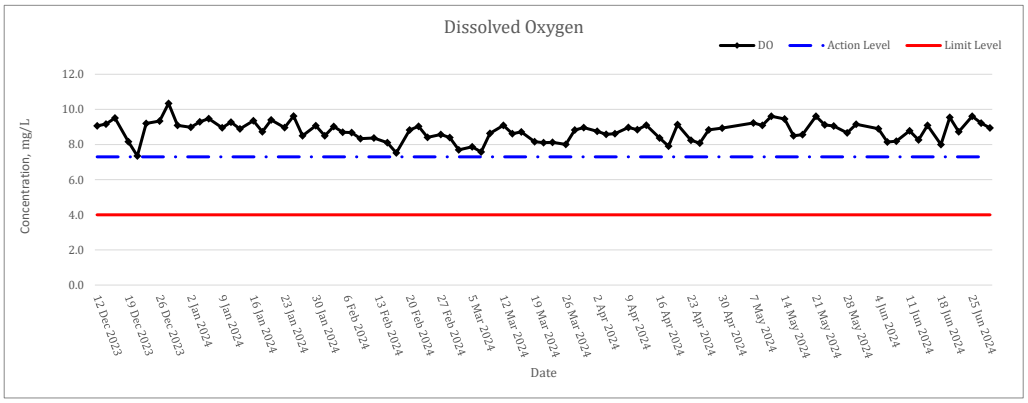


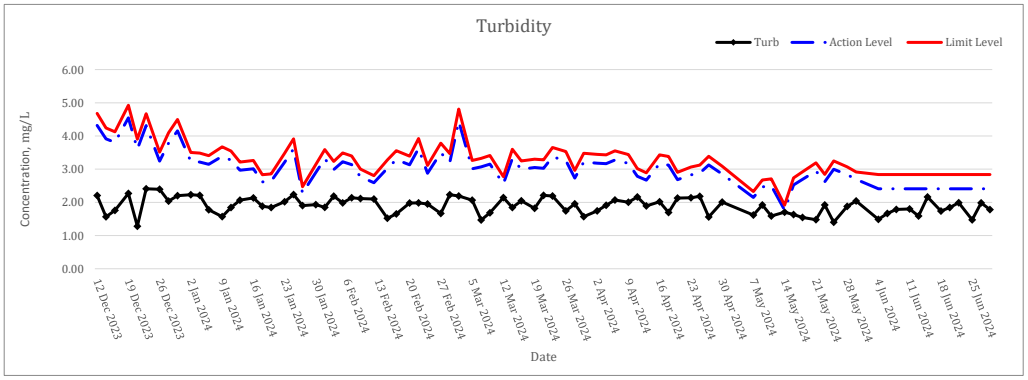
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

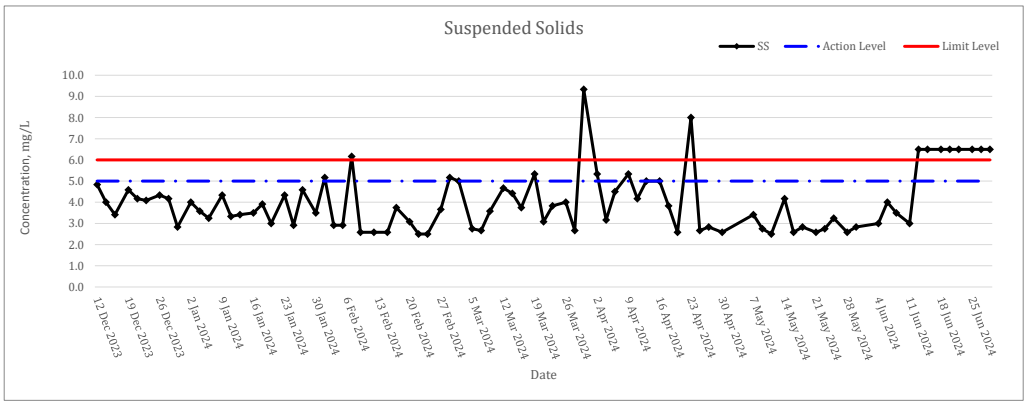


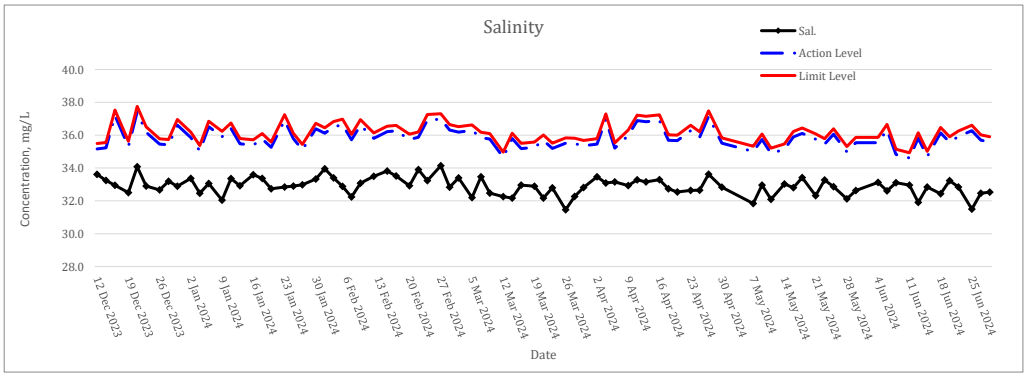
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: WSR4



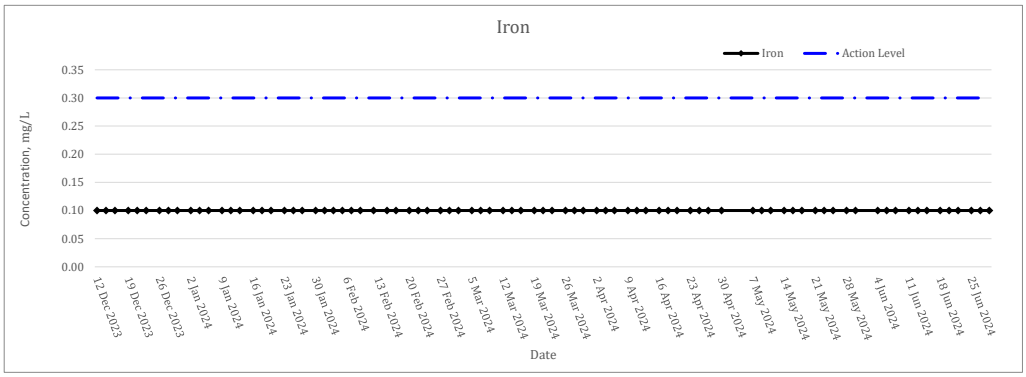




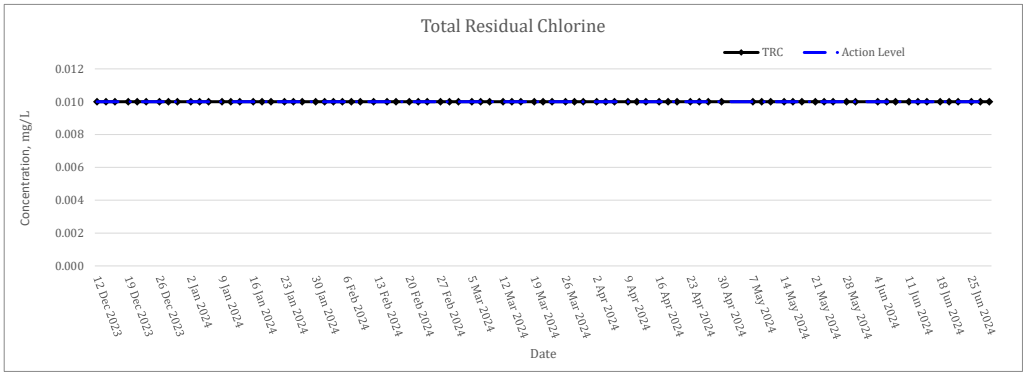


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Monitoring Location: WSR4

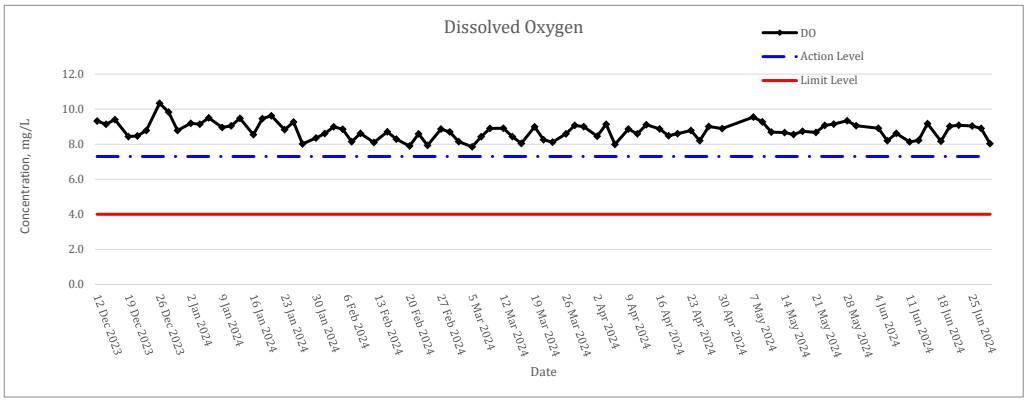


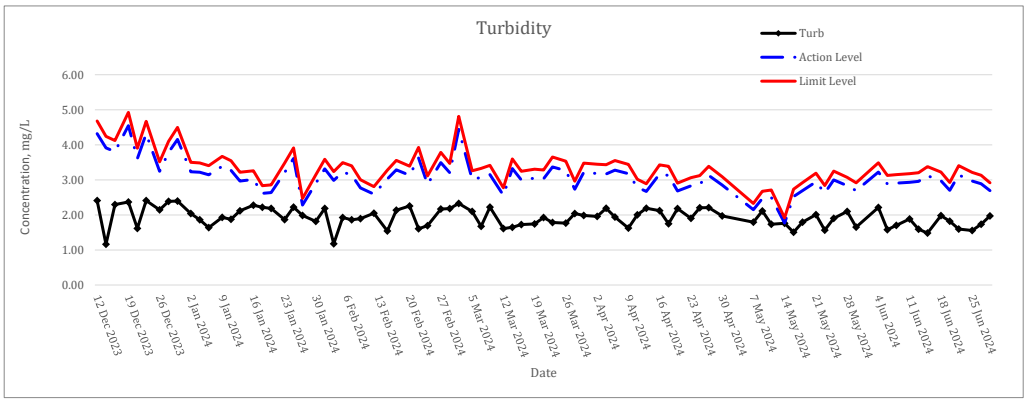
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

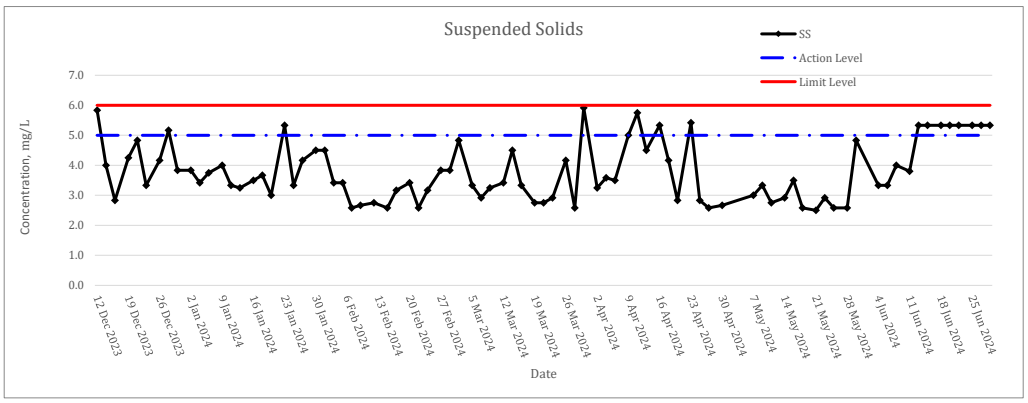


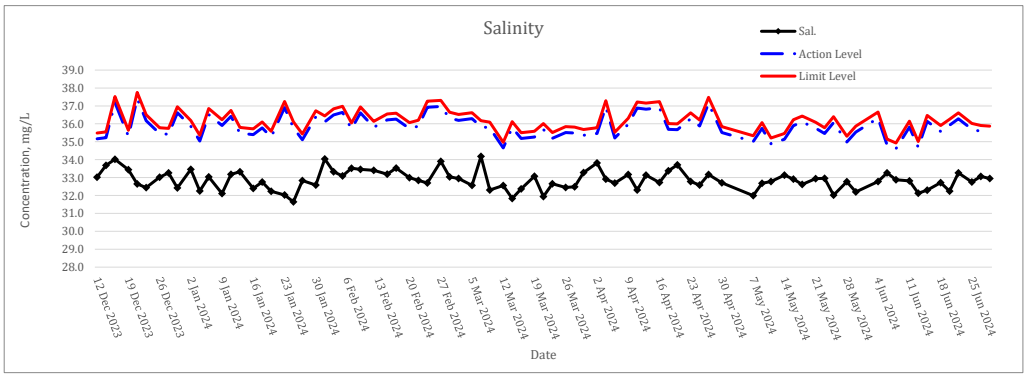
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: WSR16

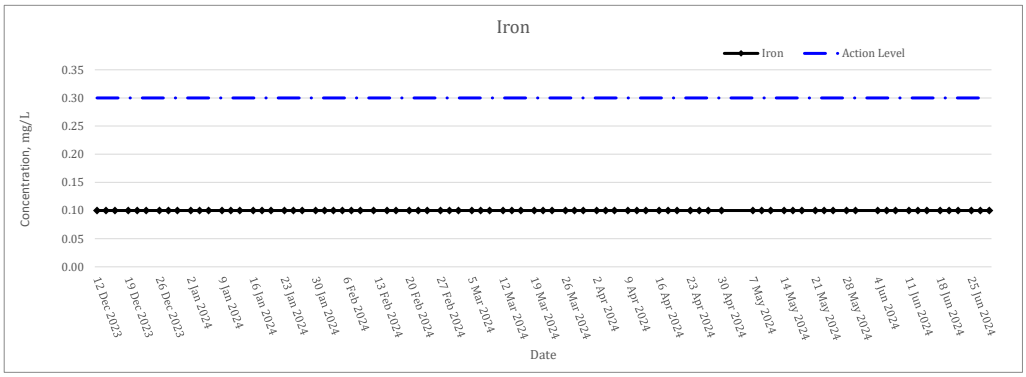




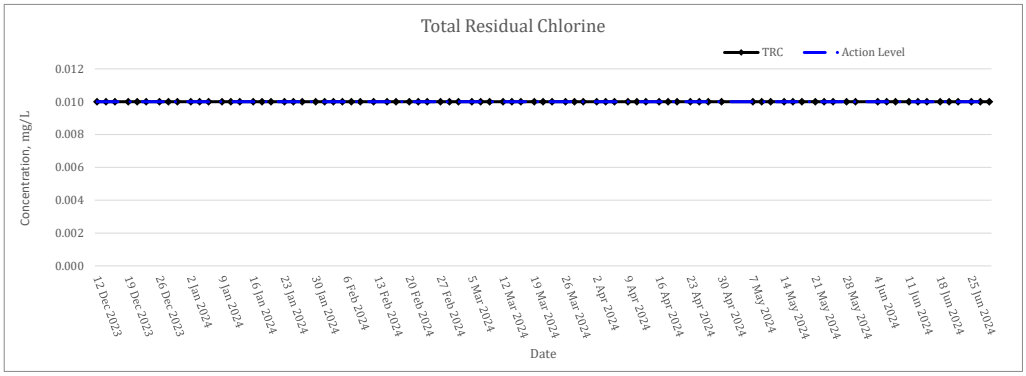




Monitoring Location: WSR16

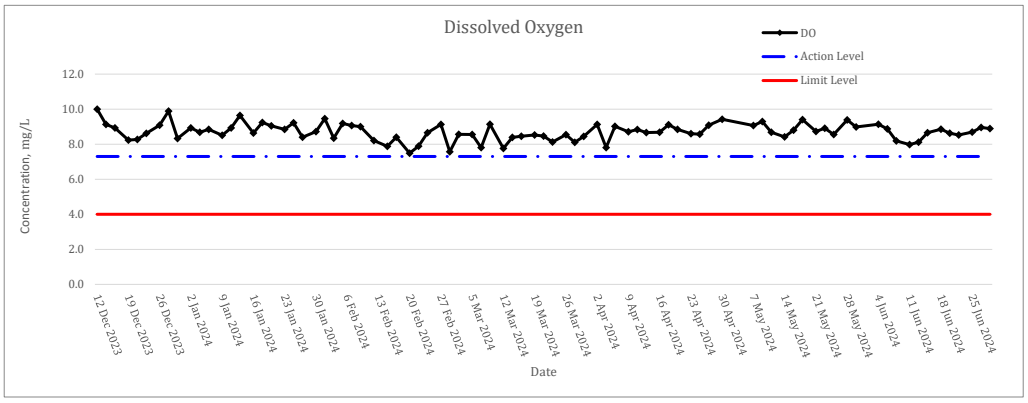


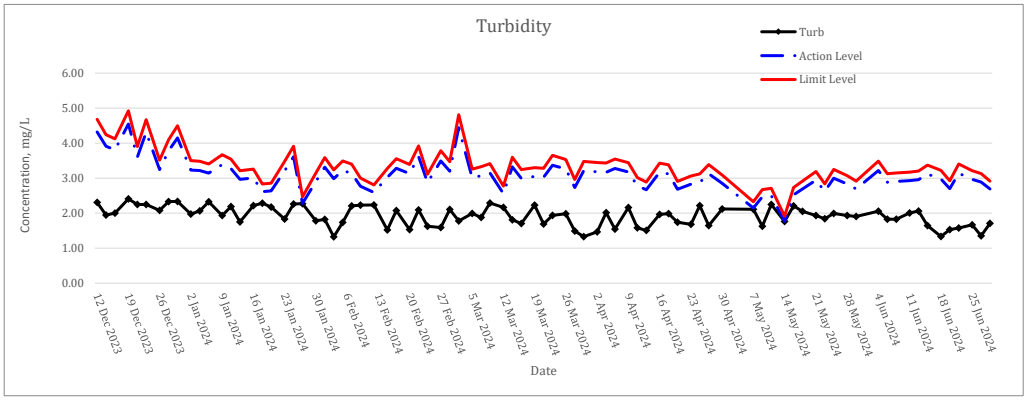
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

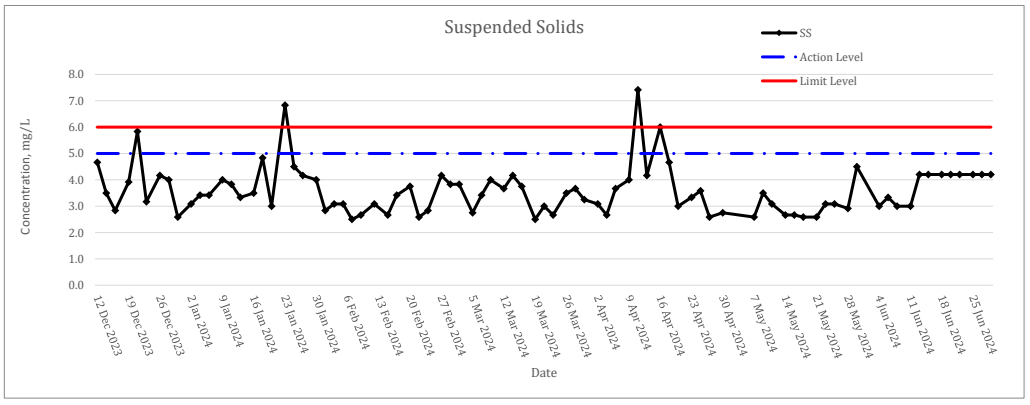


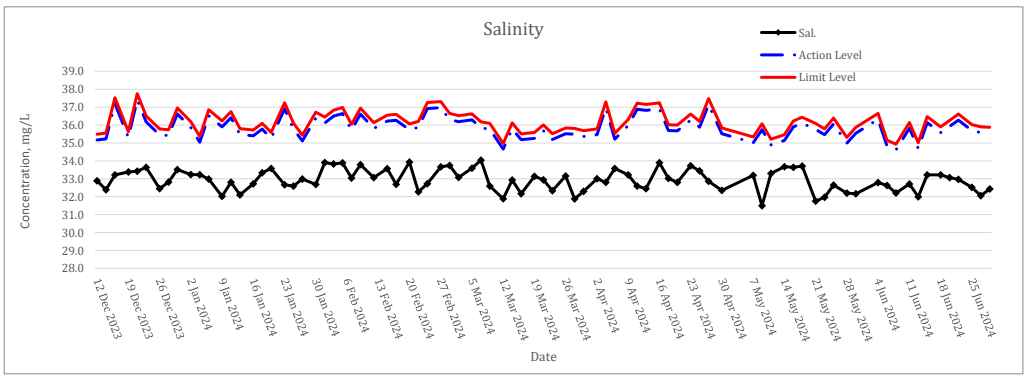
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: WSR33

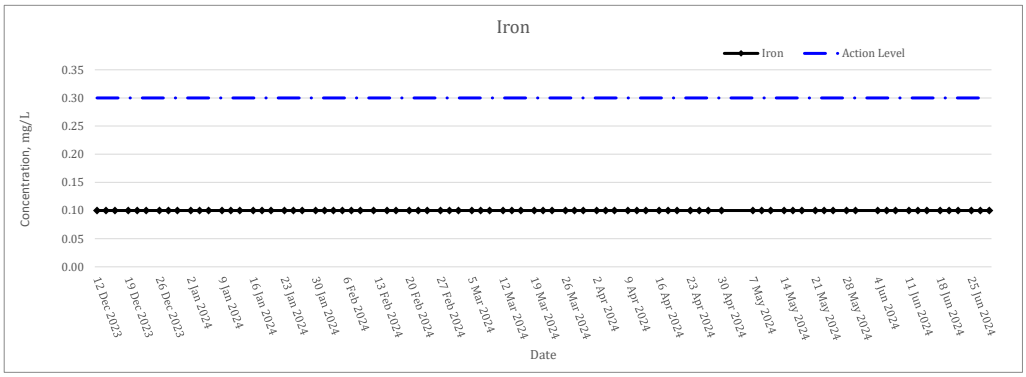




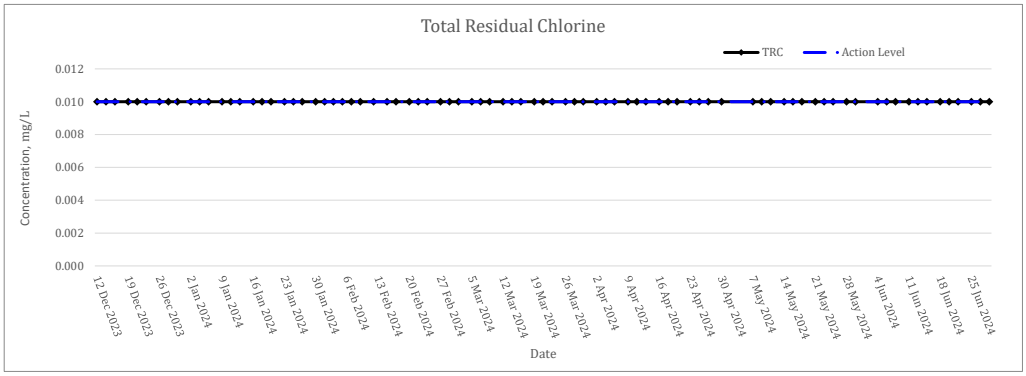




Monitoring Location: WSR33

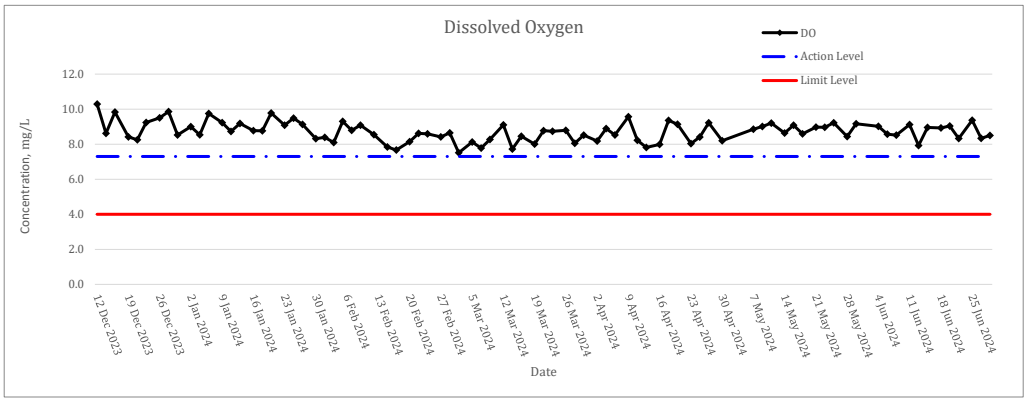


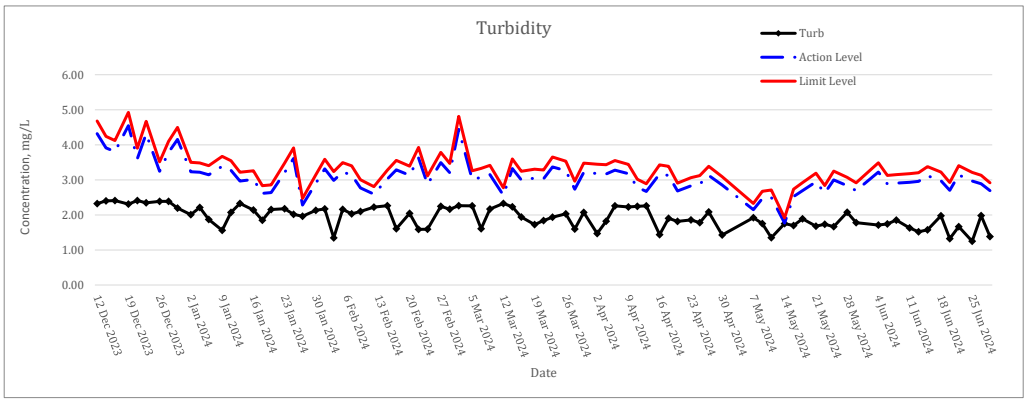
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

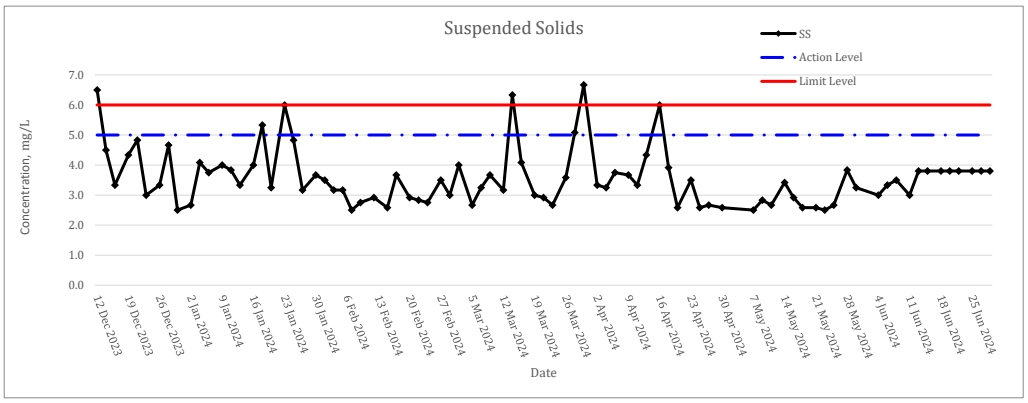


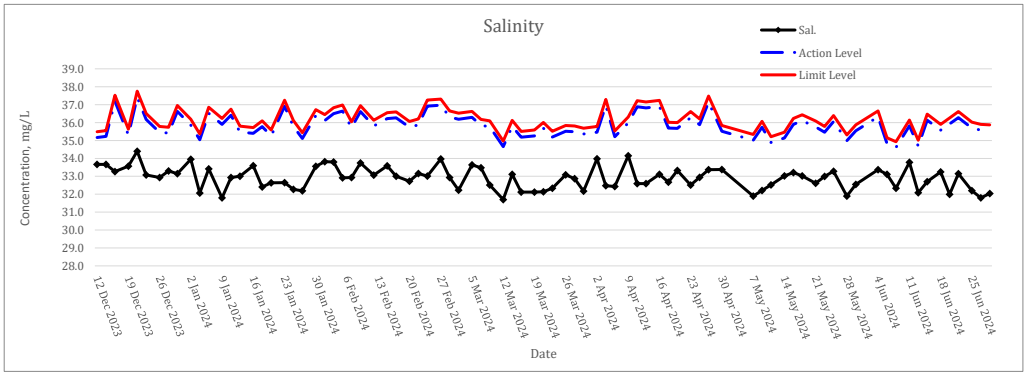
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: WSR36

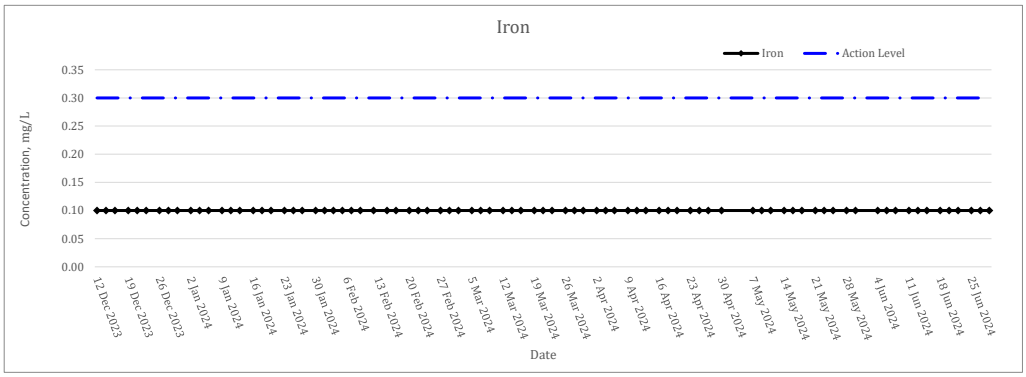




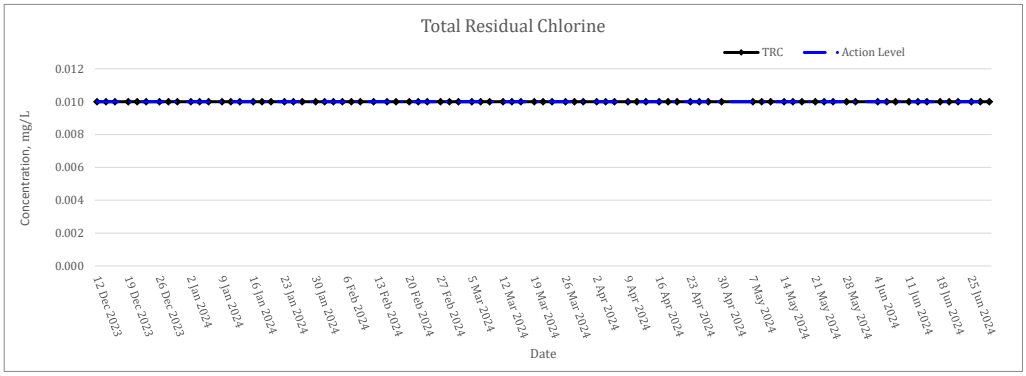




Monitoring Location: WSR36

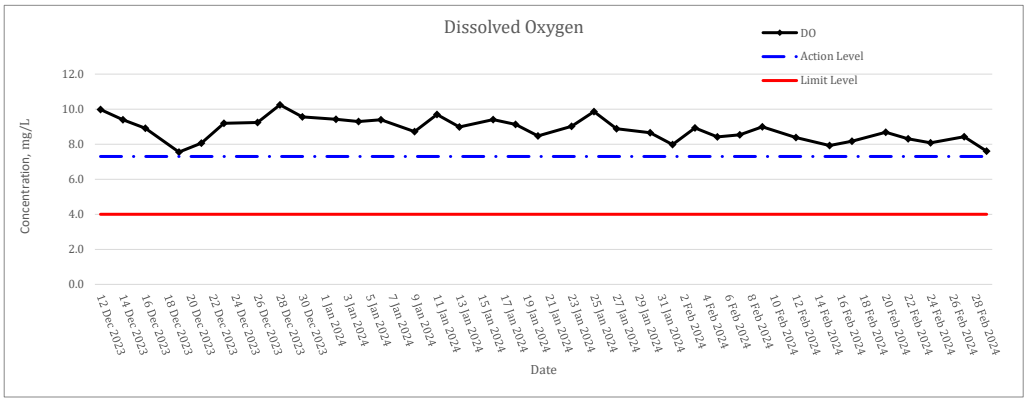


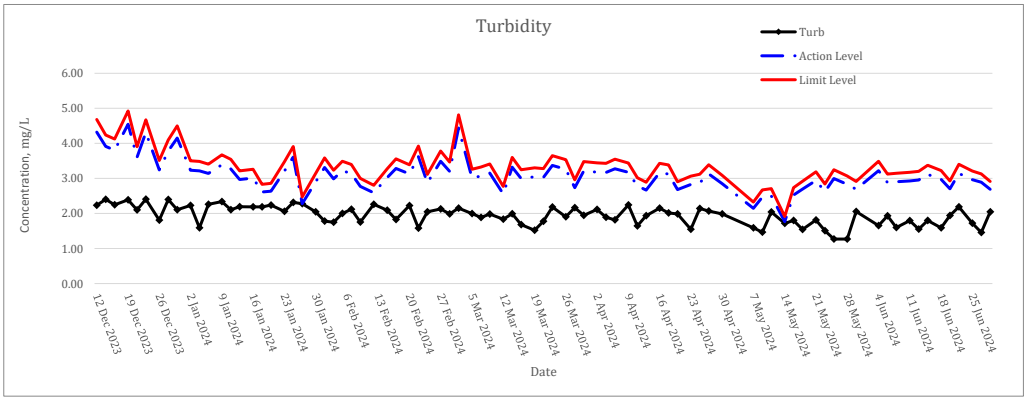
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

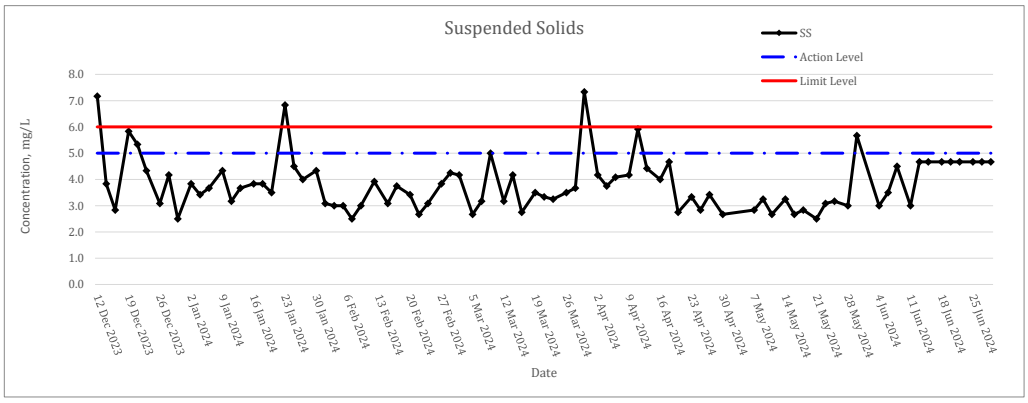


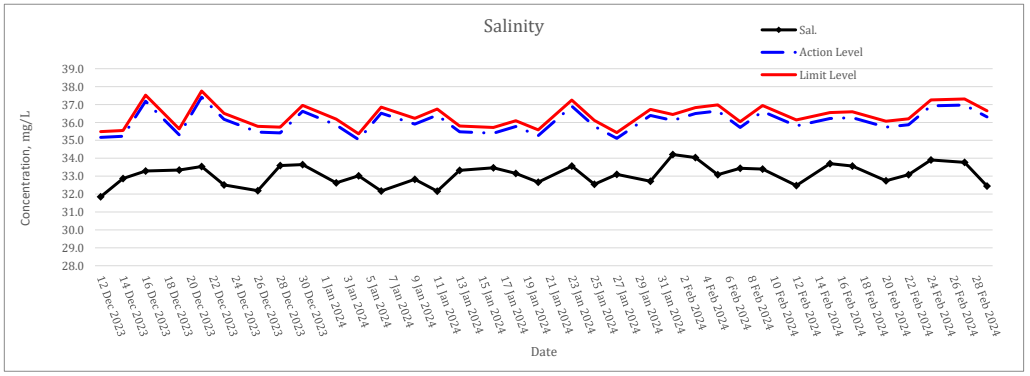
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: WSR37



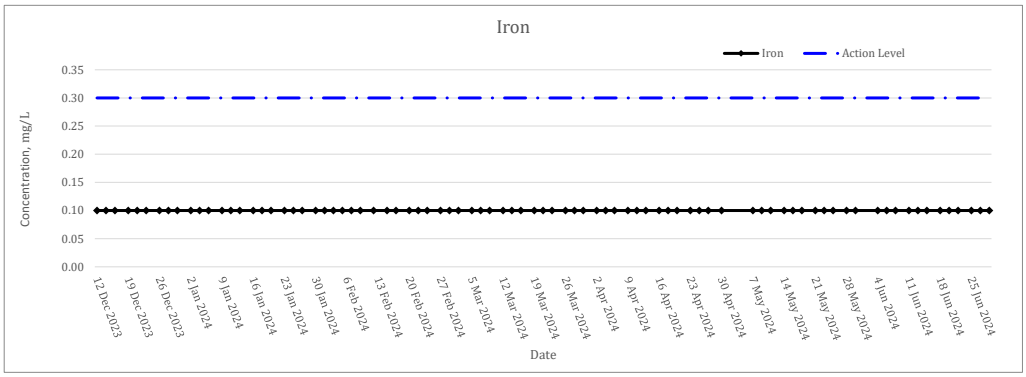




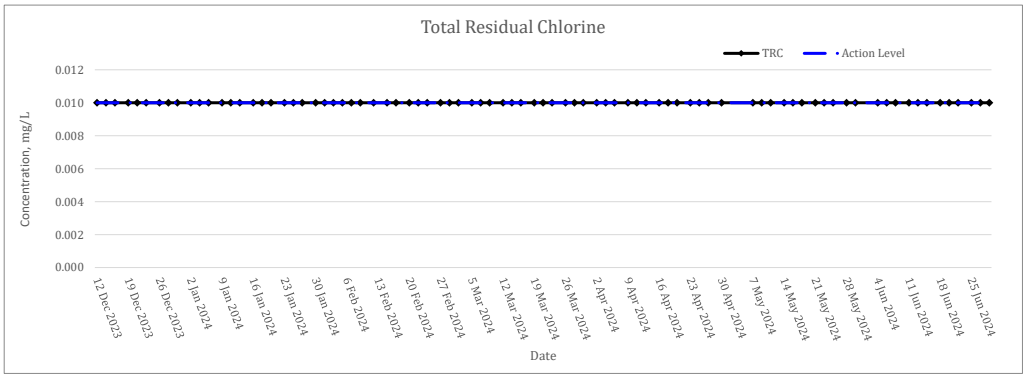


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Monitoring Location: WSR37

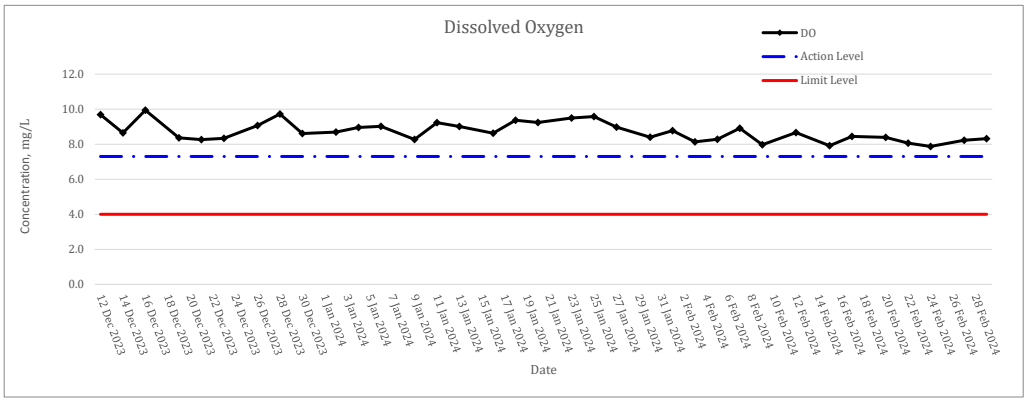


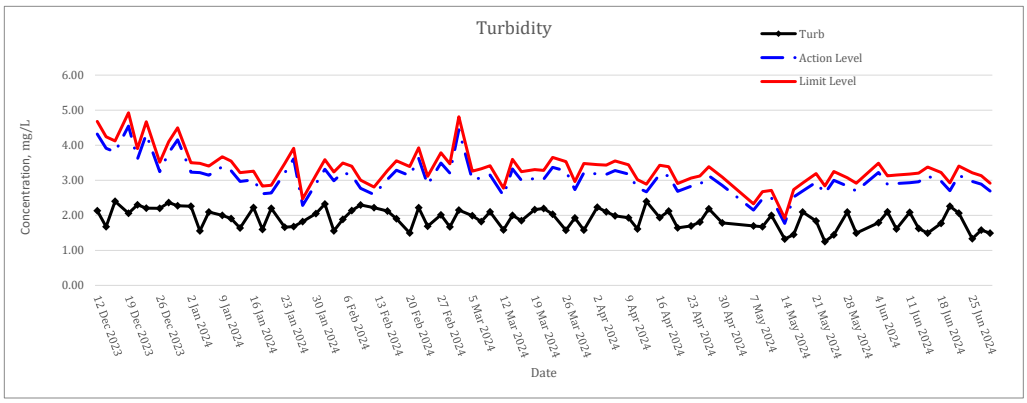
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

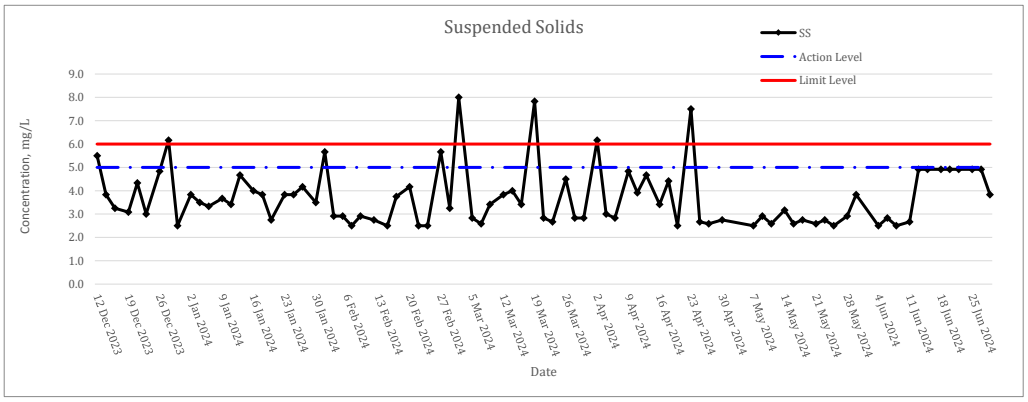


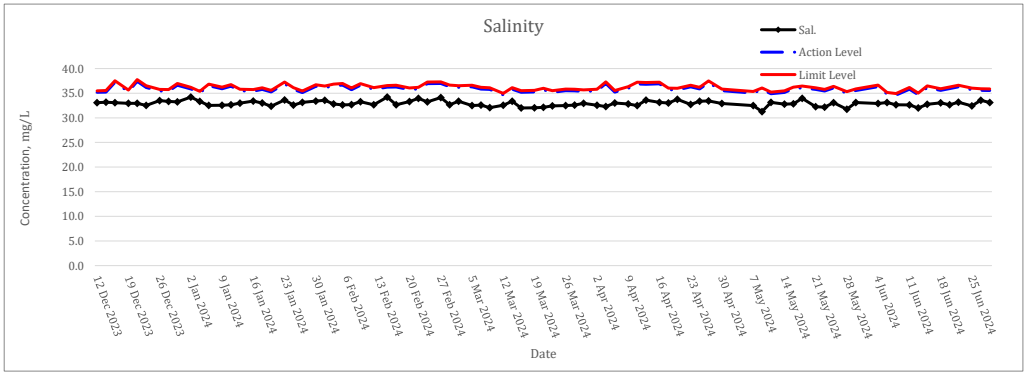
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: NF1

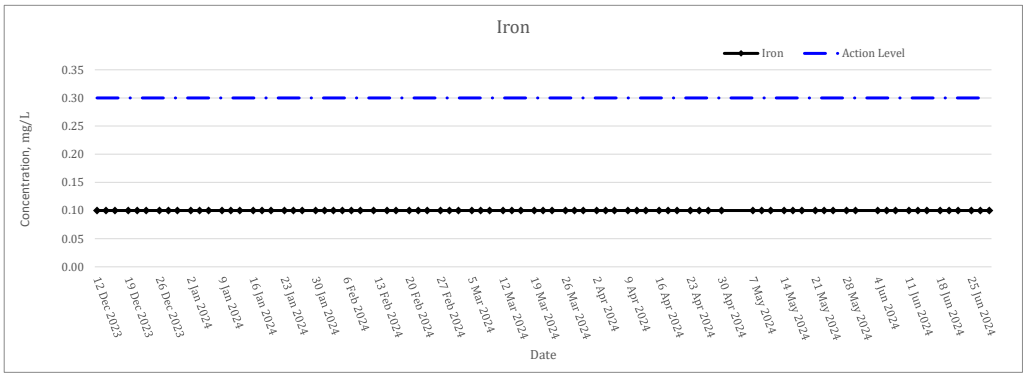




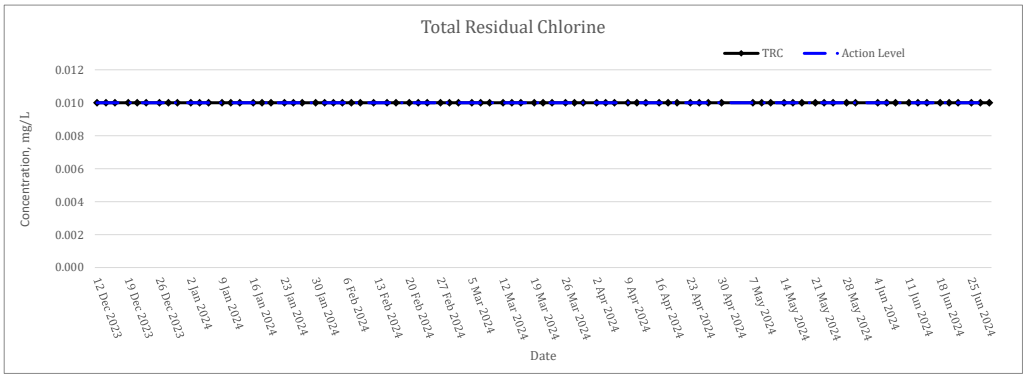




Monitoring Location: NF1

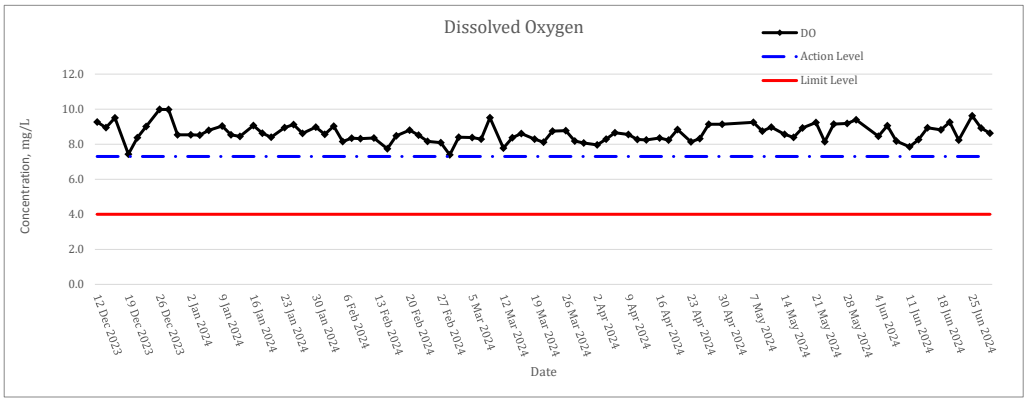


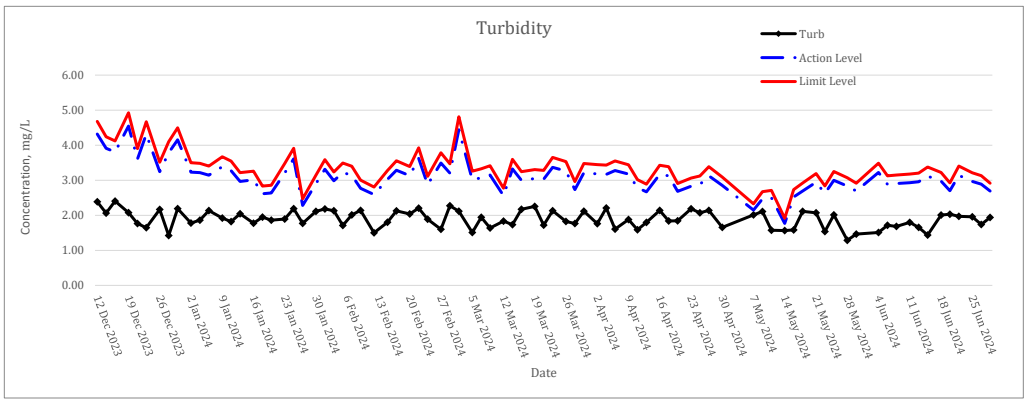
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

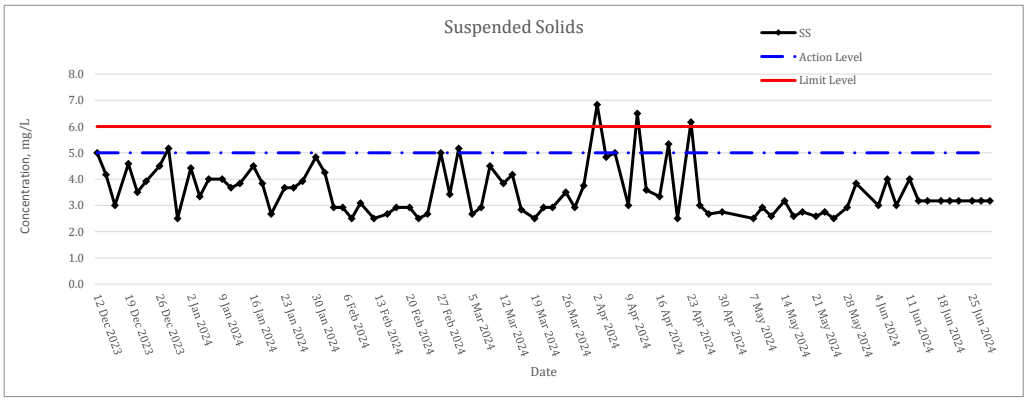


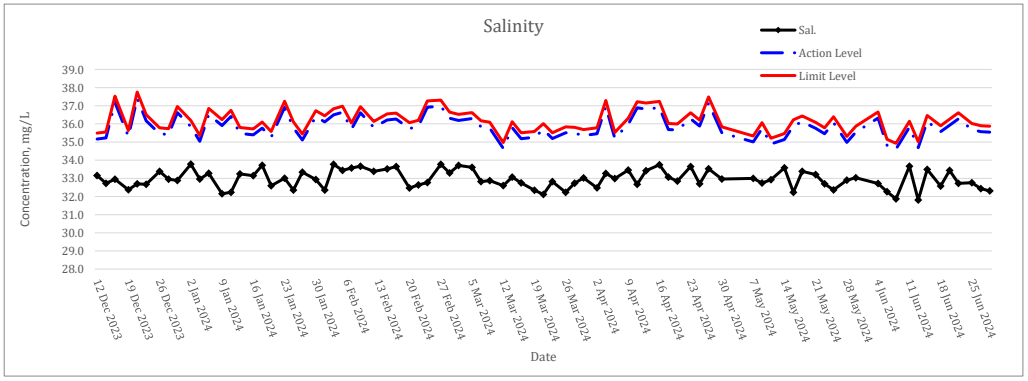
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: NF2



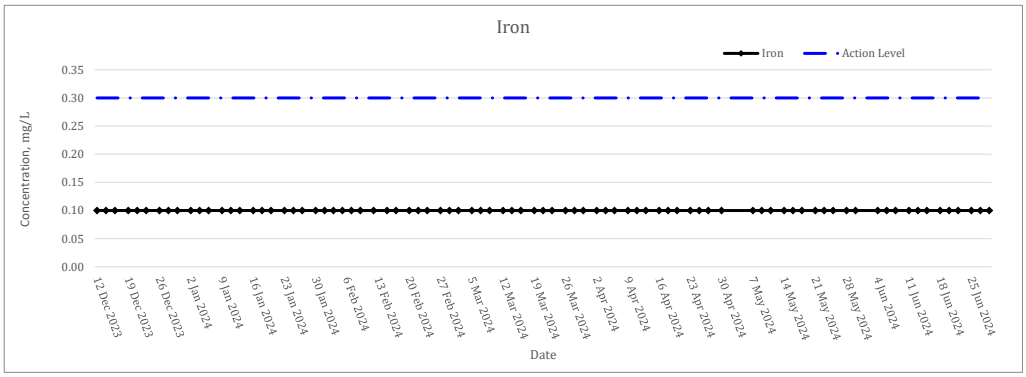




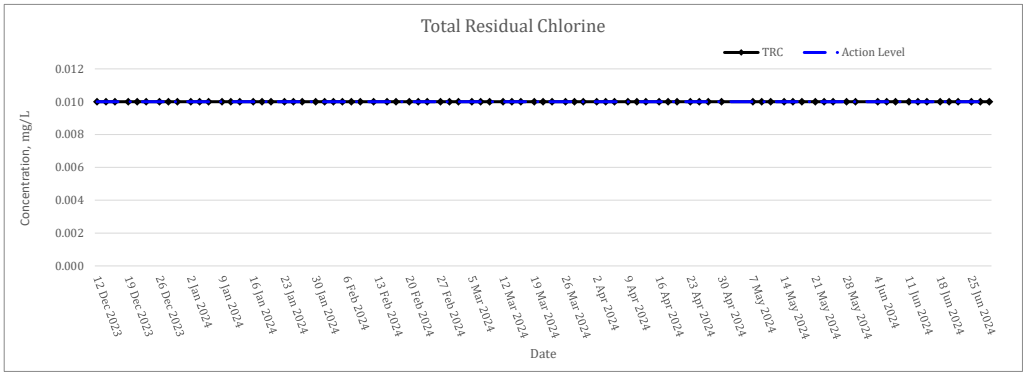


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Monitoring Location: NF2

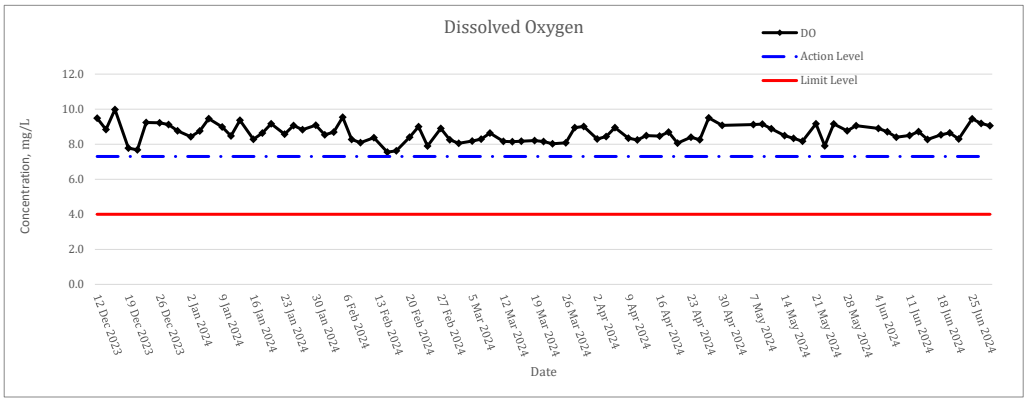


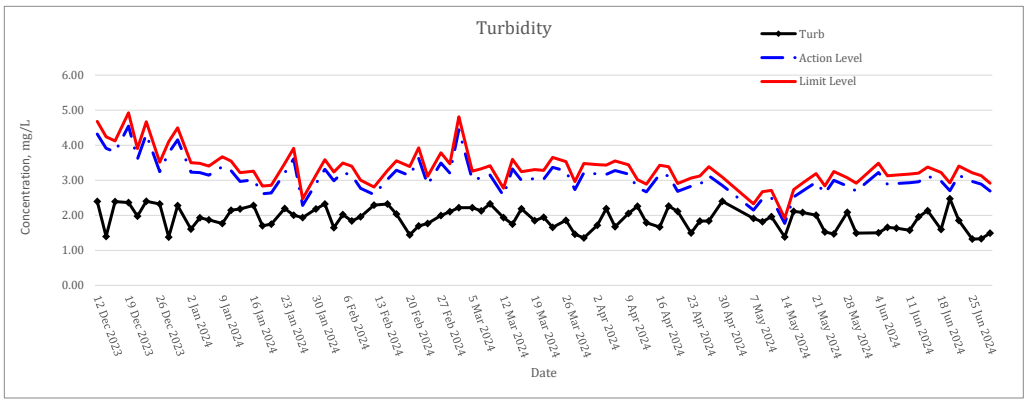
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

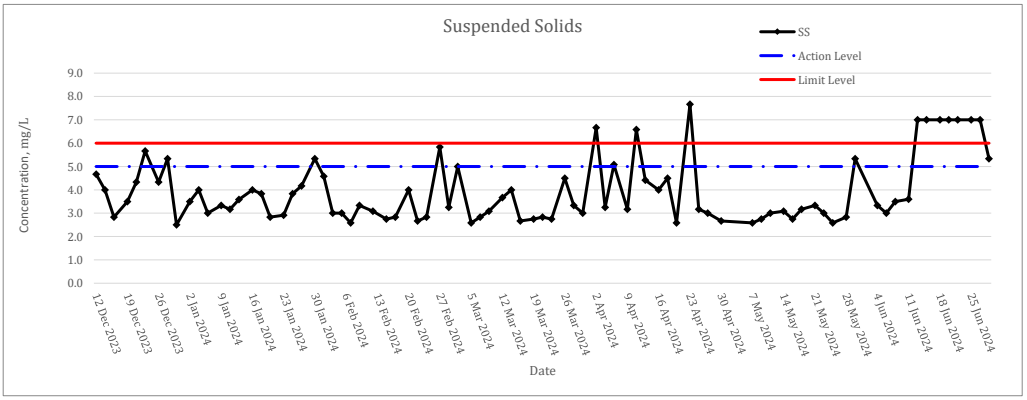


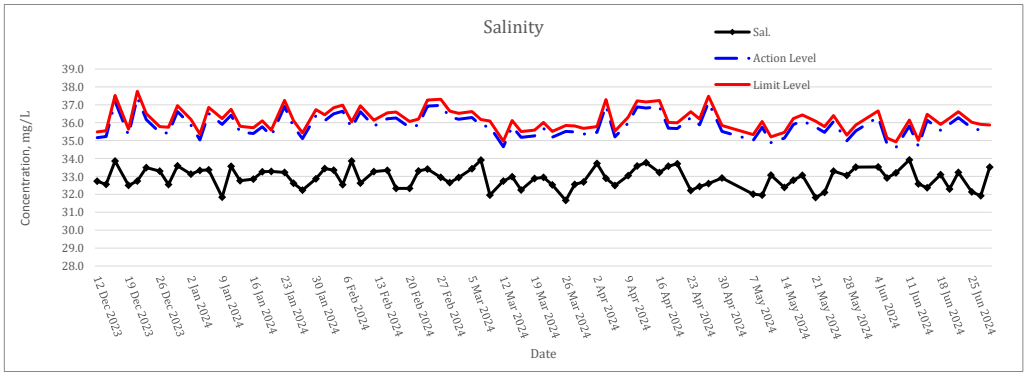
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: NF3

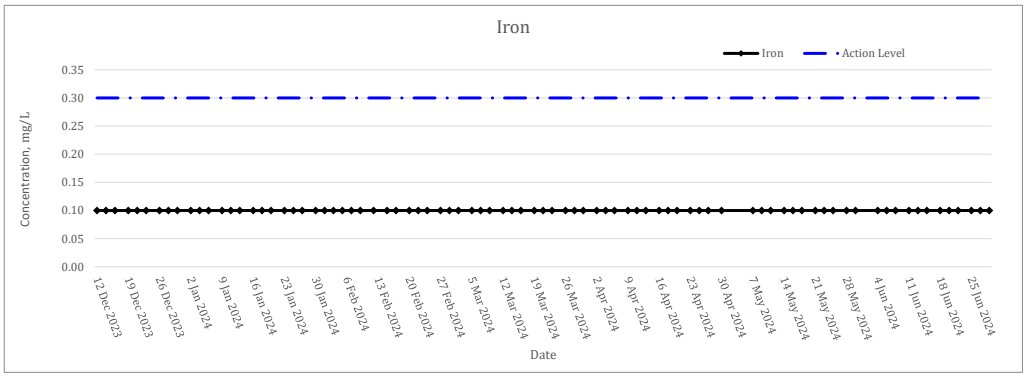




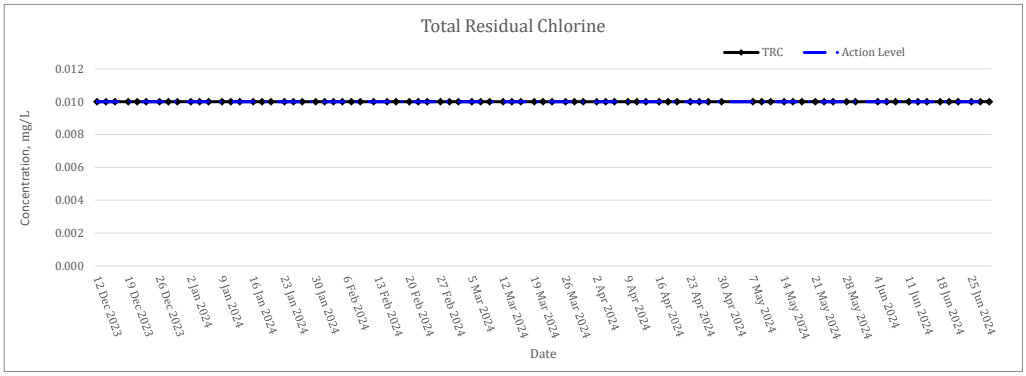




Monitoring Location: NF3



Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

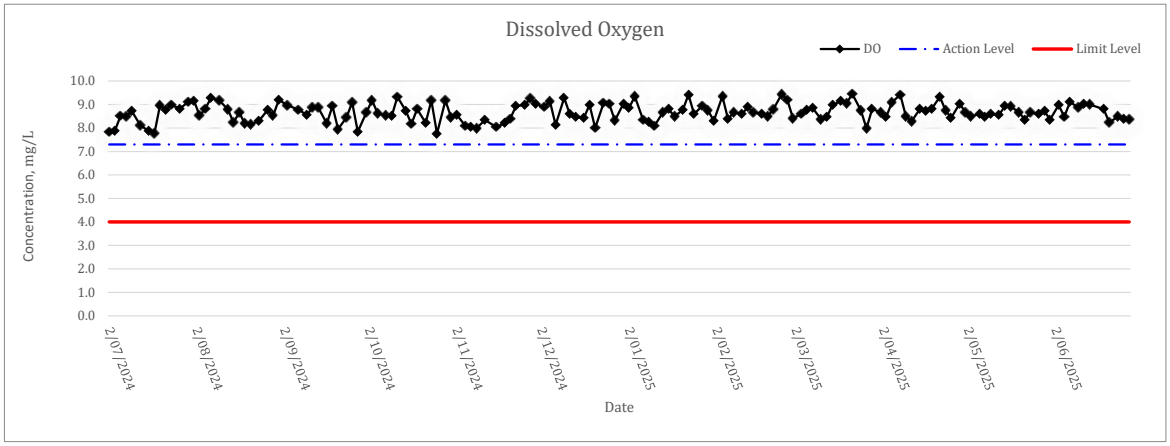


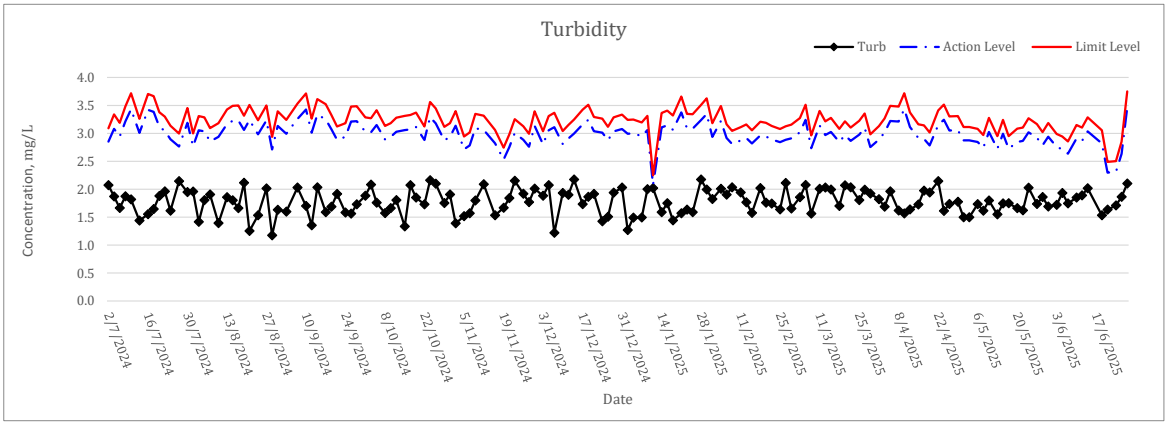
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

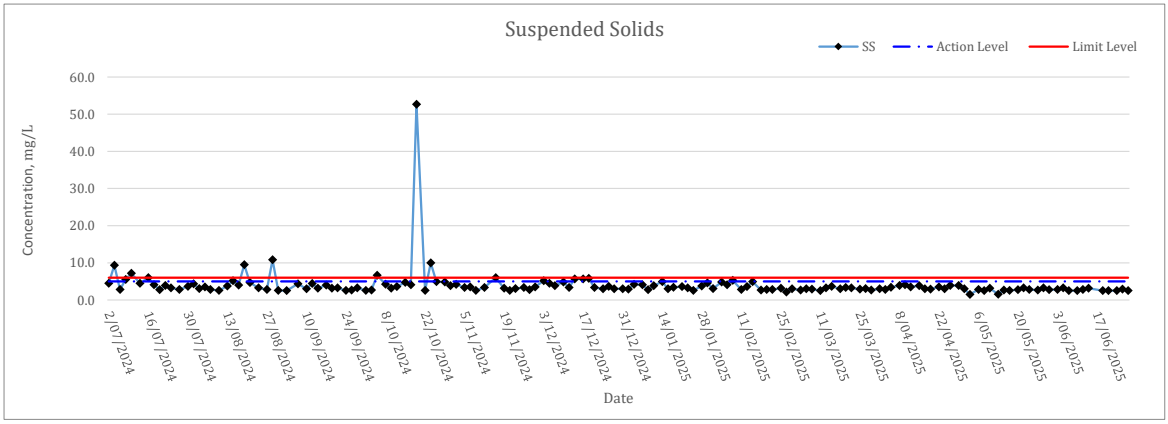
Appendix D-3
Operation Phase Impact Water Quality Monitoring

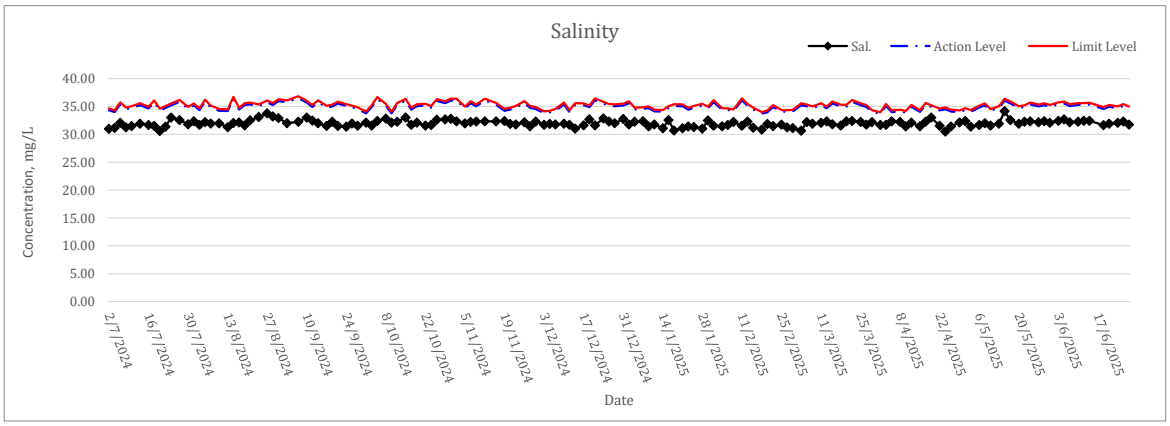
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Monitoring Location: WSR1

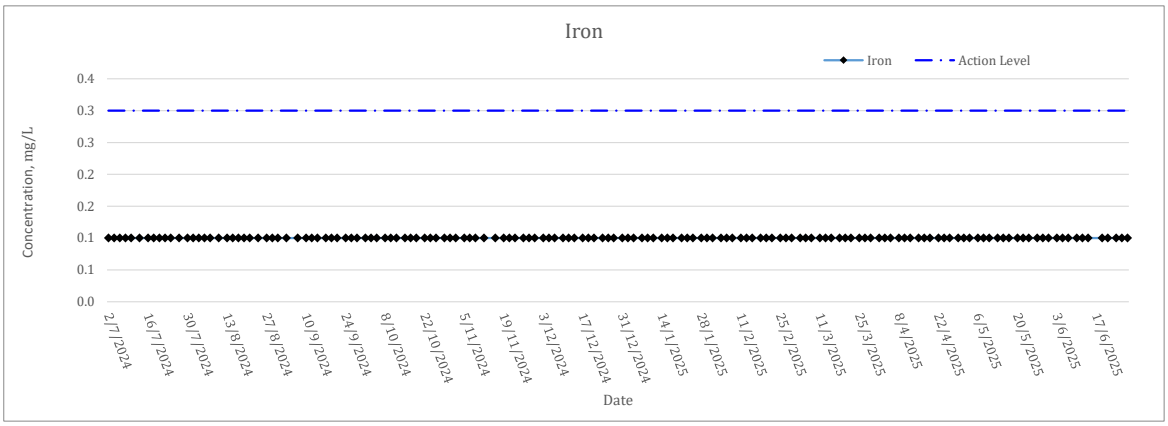




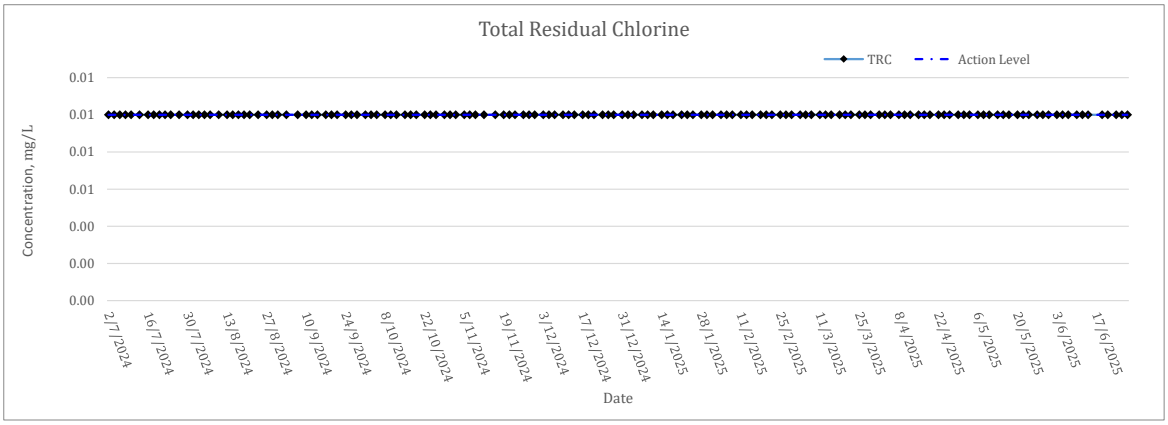




Monitoring Location: WSR1

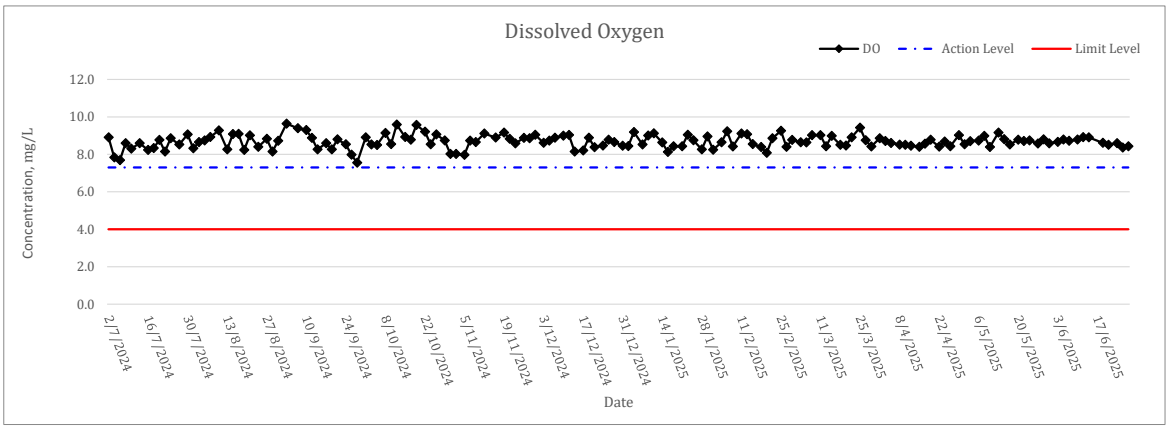


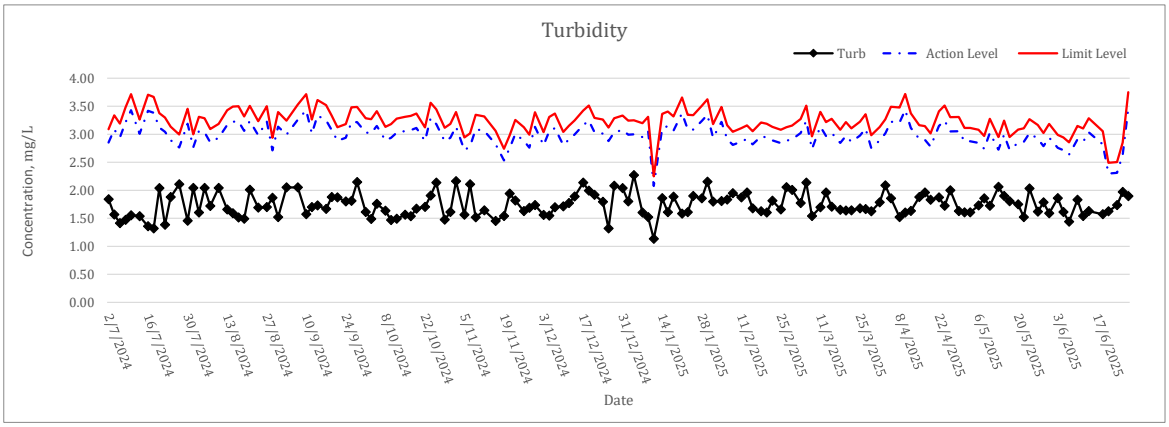
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

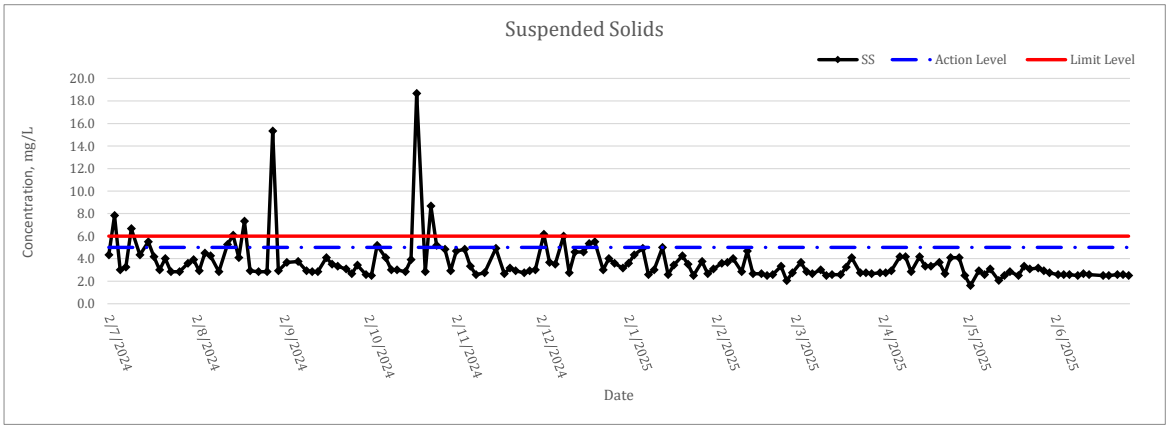


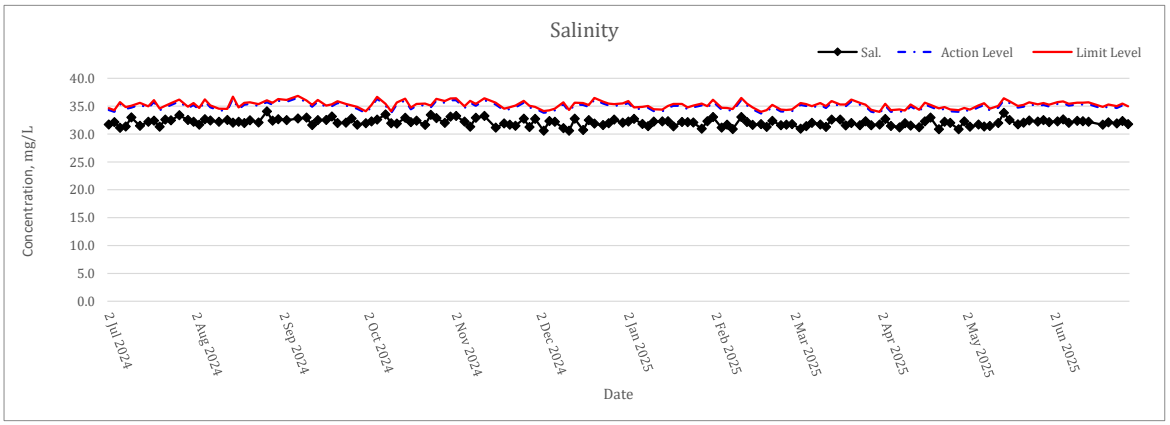
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: WSR2

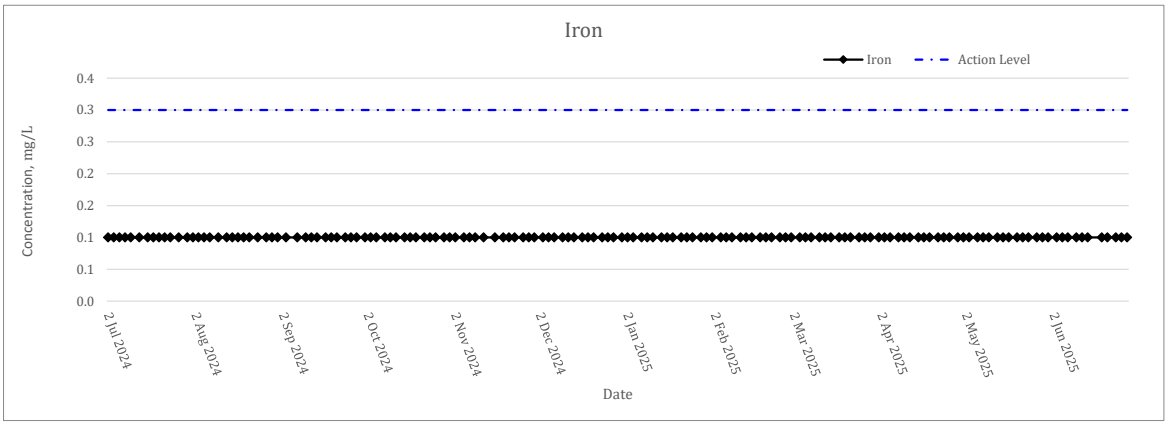




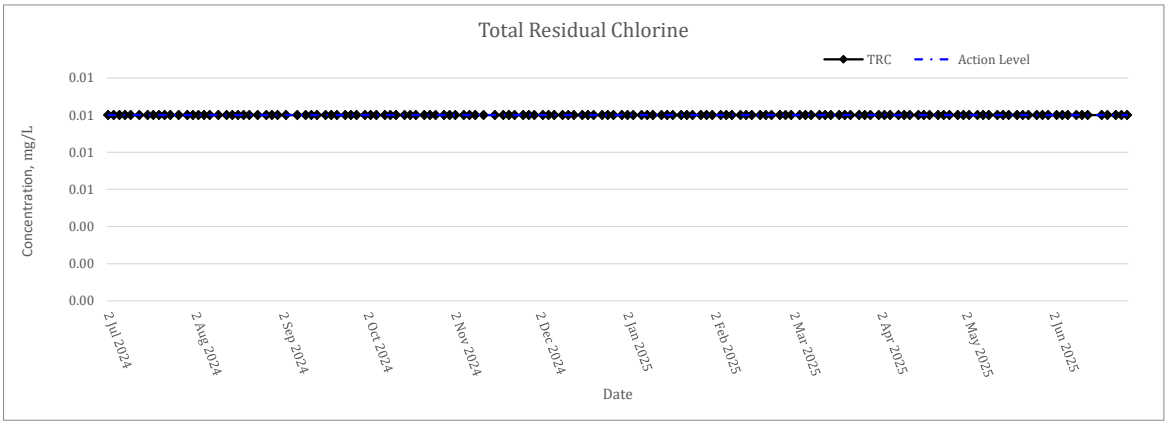




Monitoring Location: WSR2

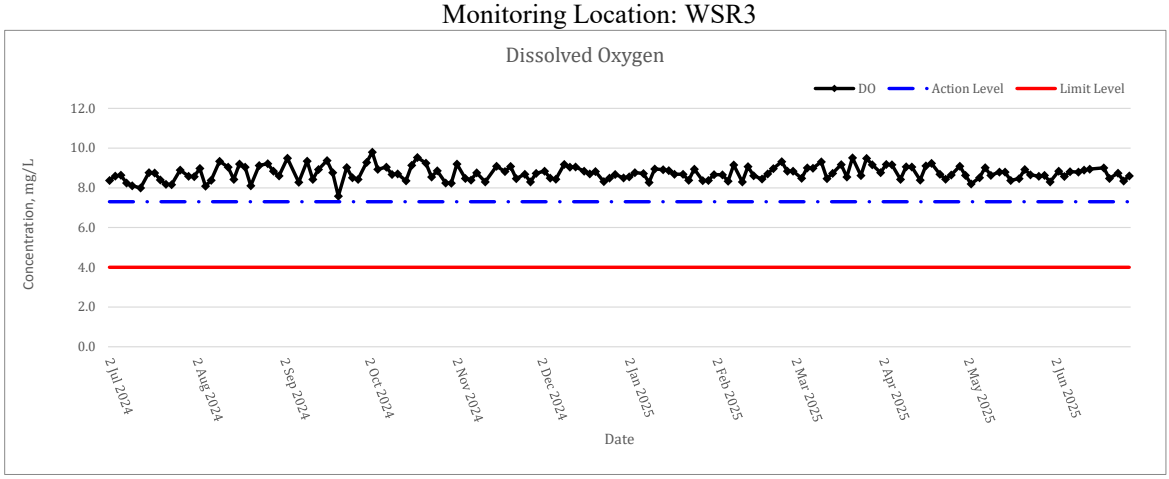


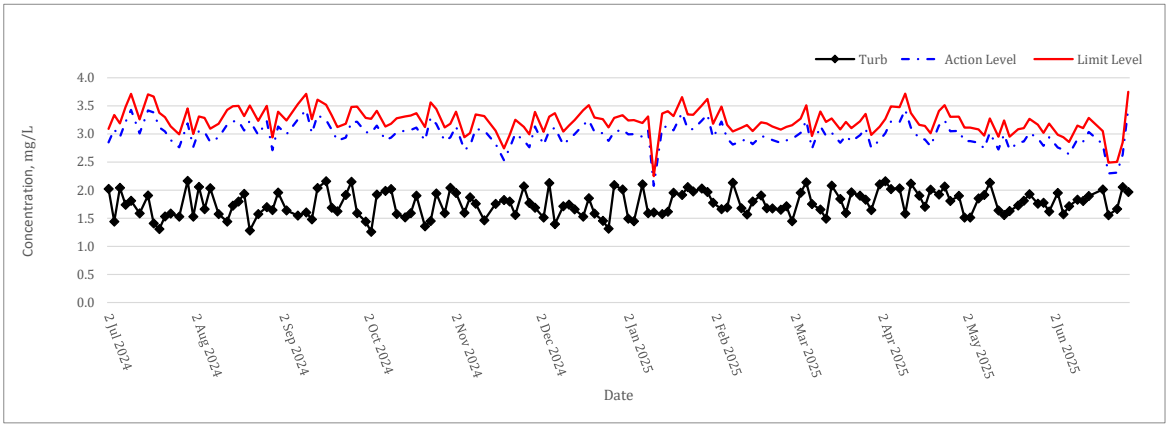
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

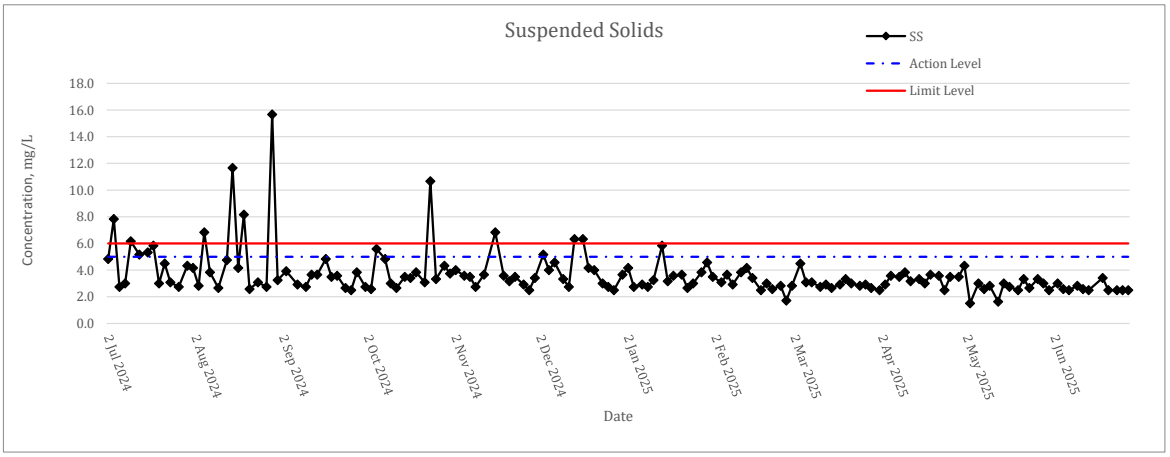


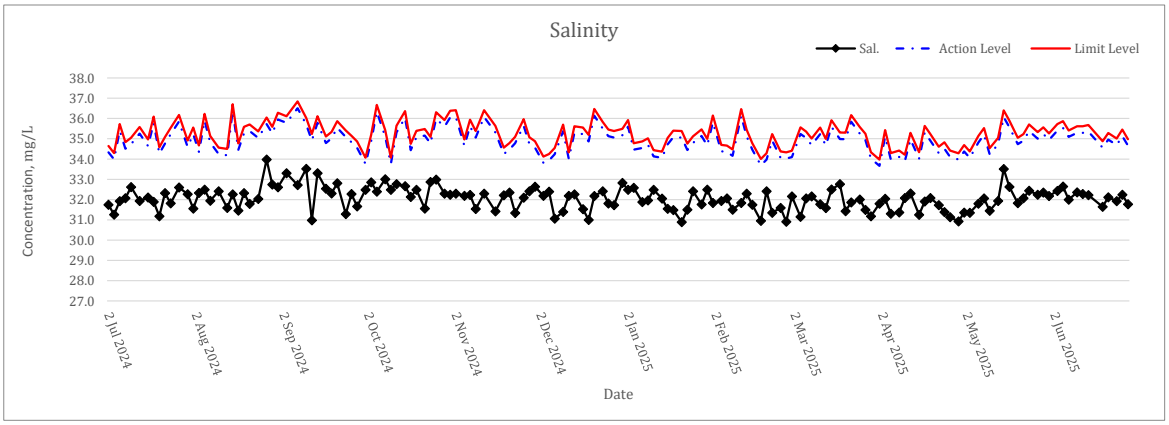
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: WSR3

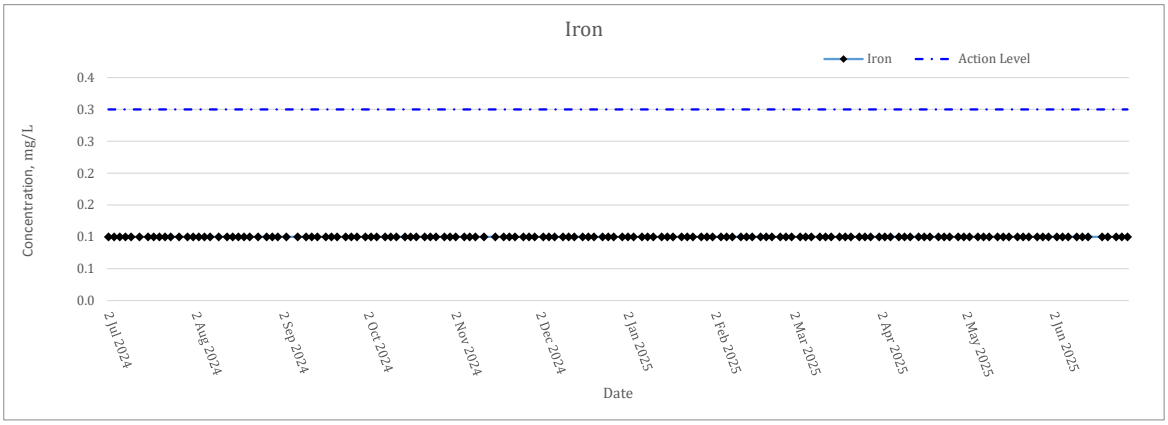




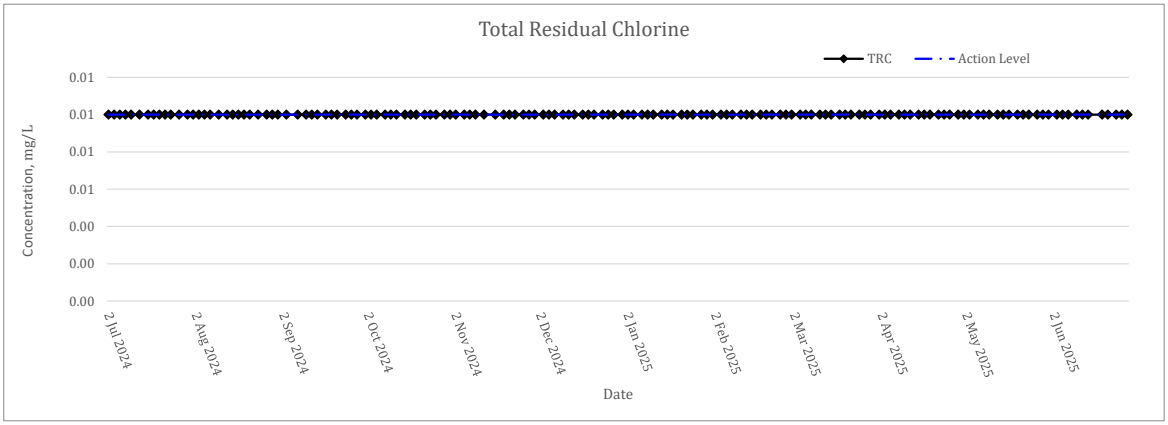




Monitoring Location: WSR3

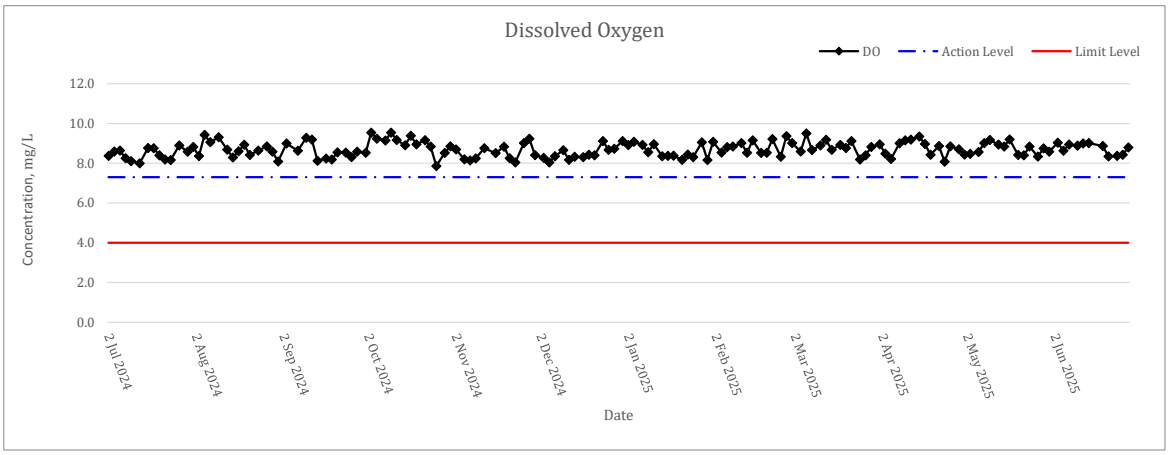


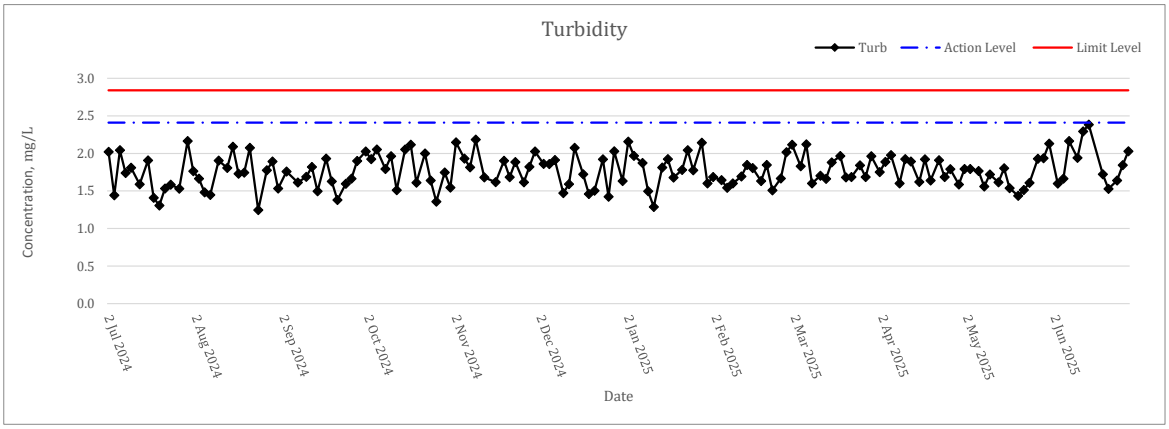
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

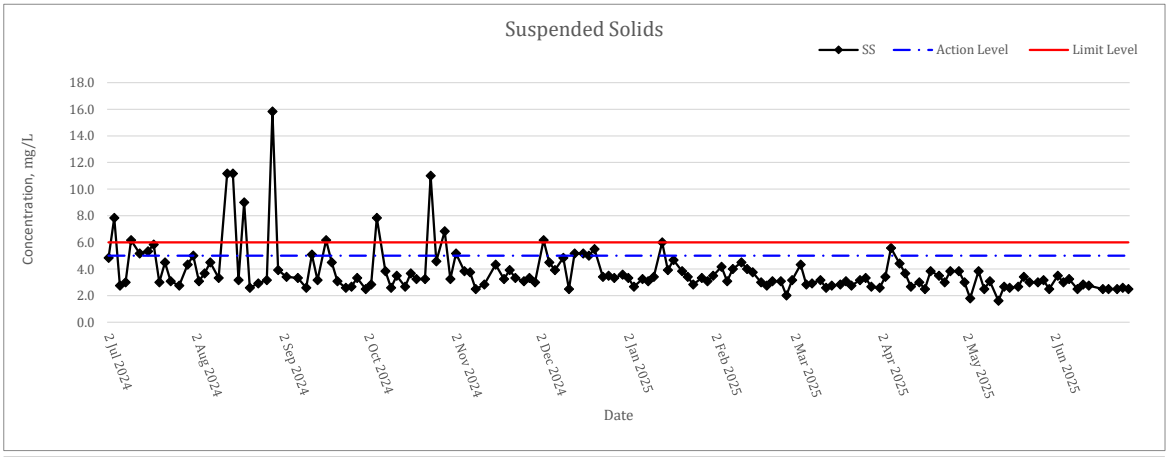


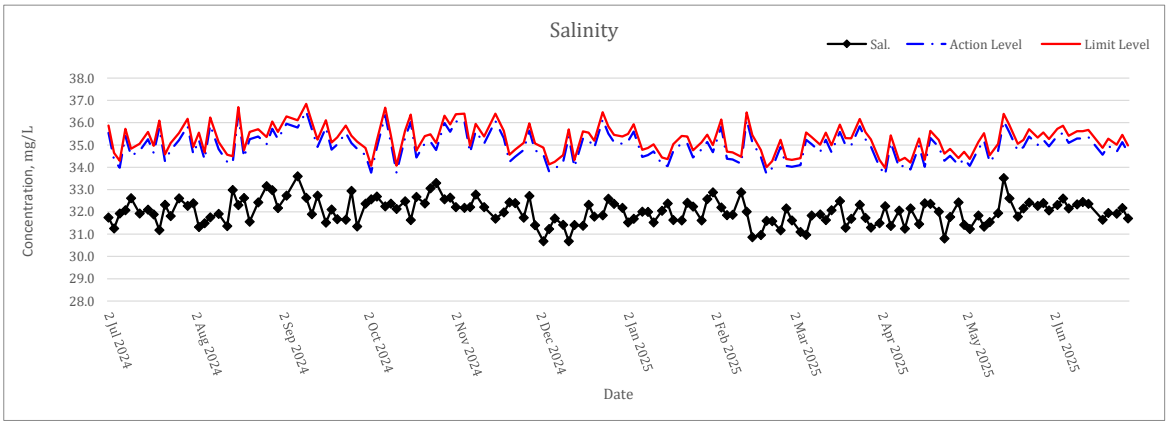
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: WSR4

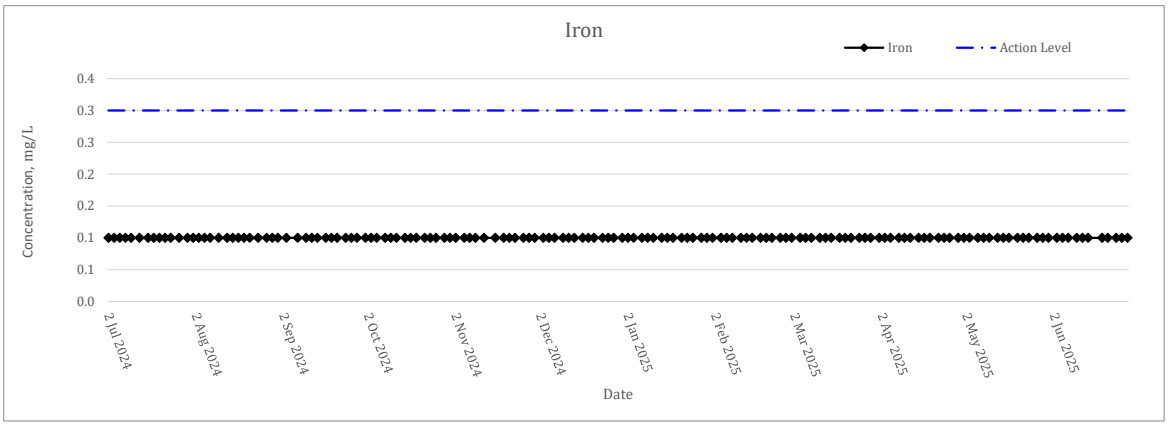




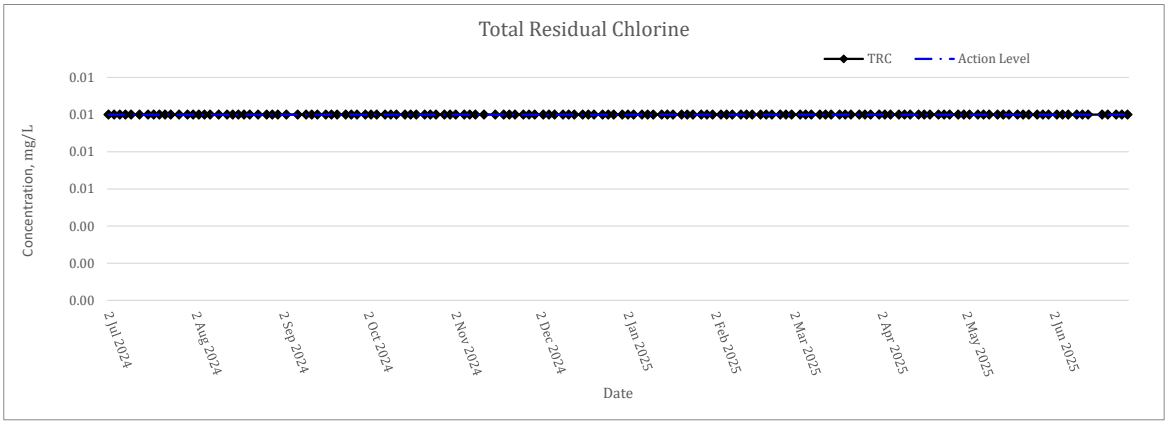




Monitoring Location: WSR4

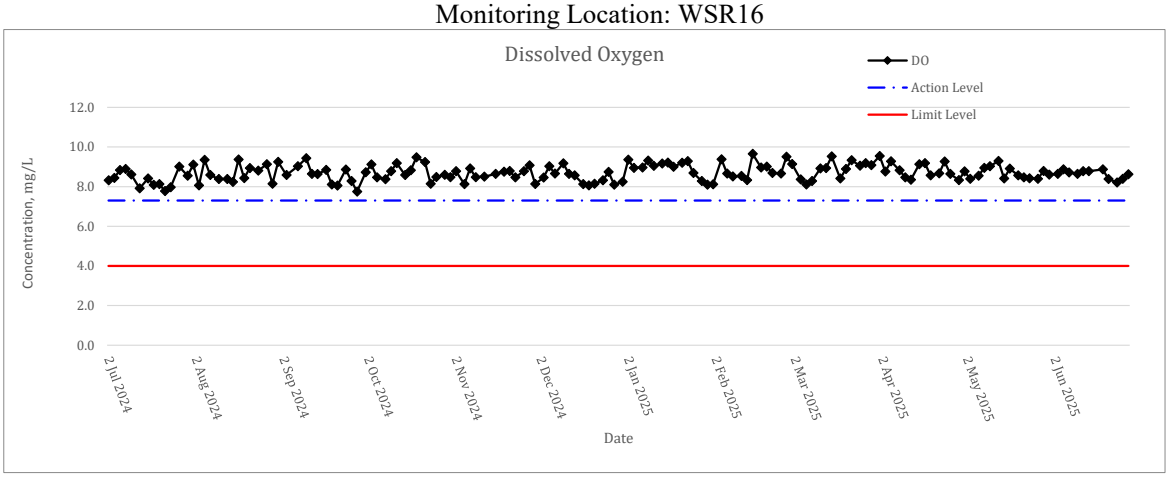


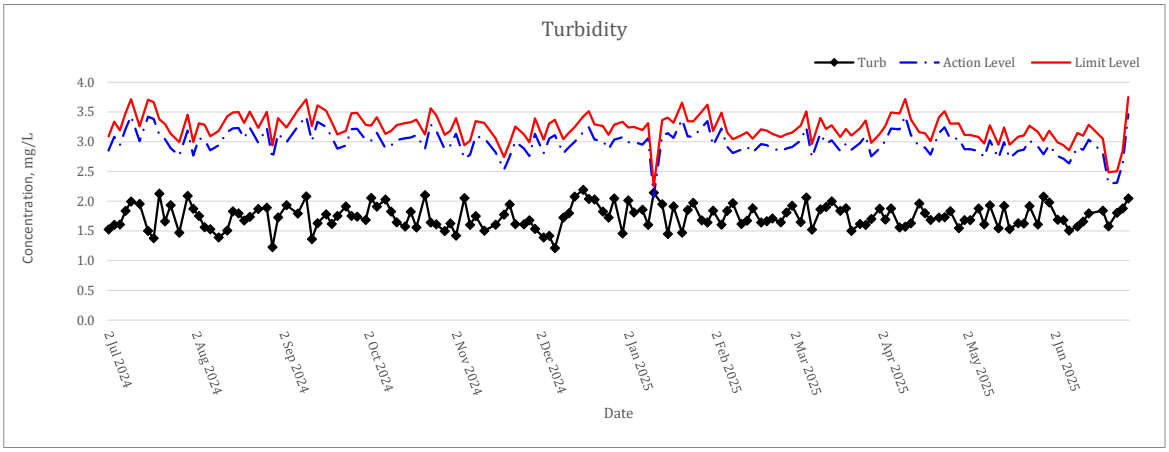
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

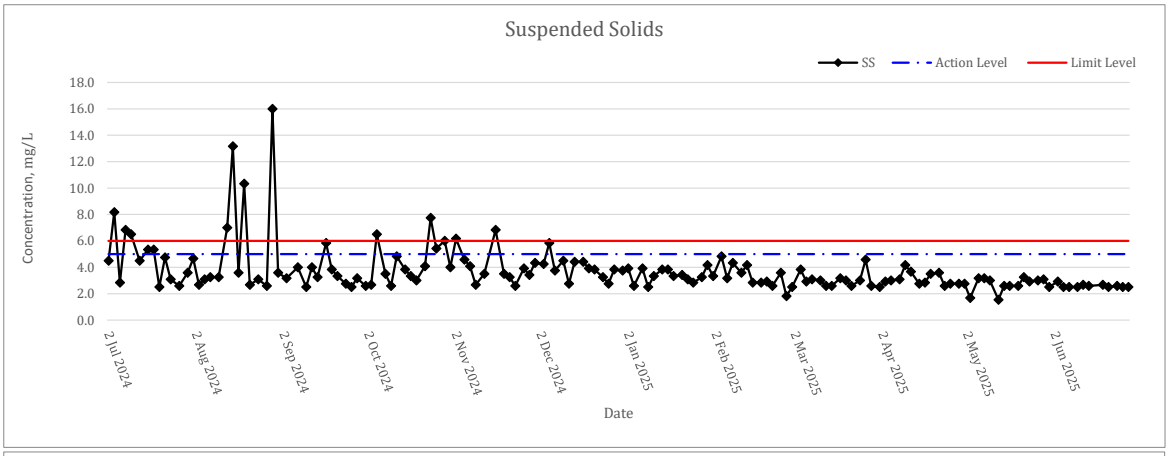


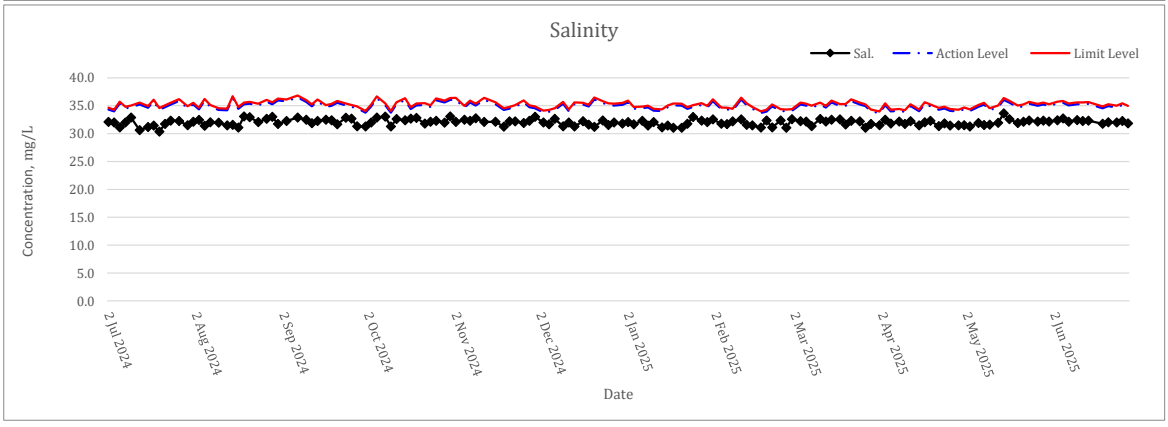
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: WSR16

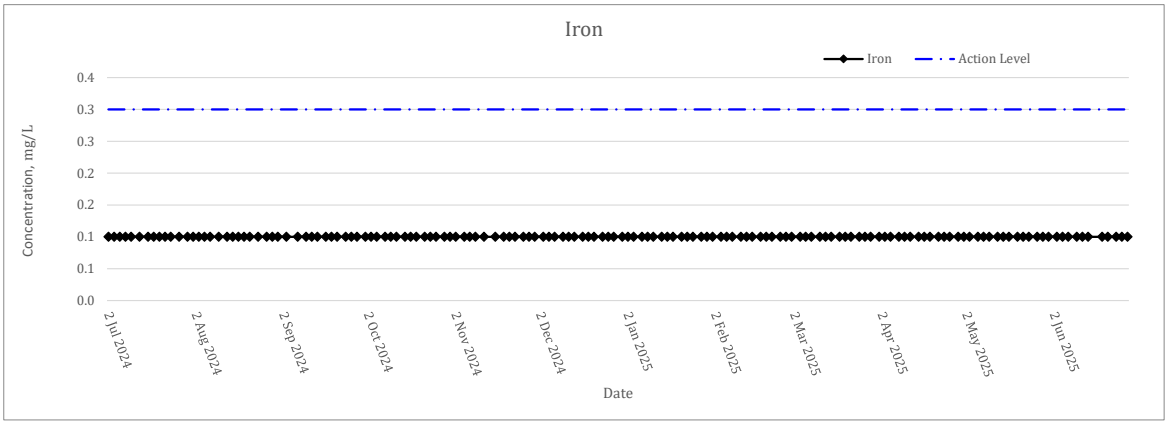




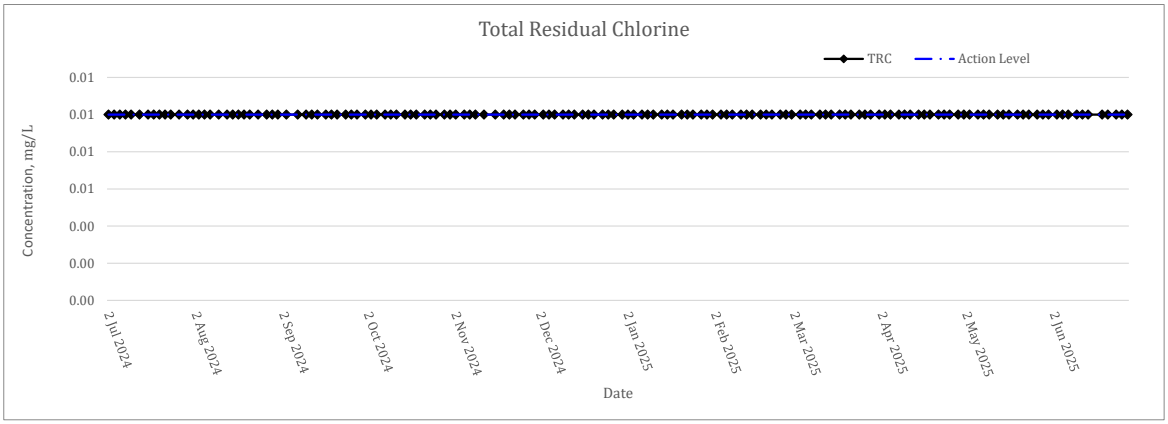




Monitoring Location: WSR16

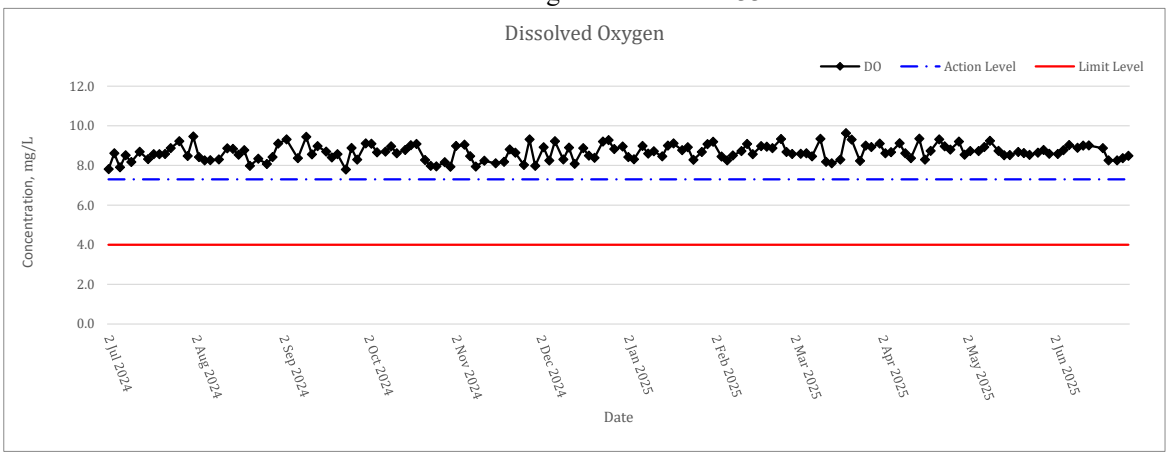


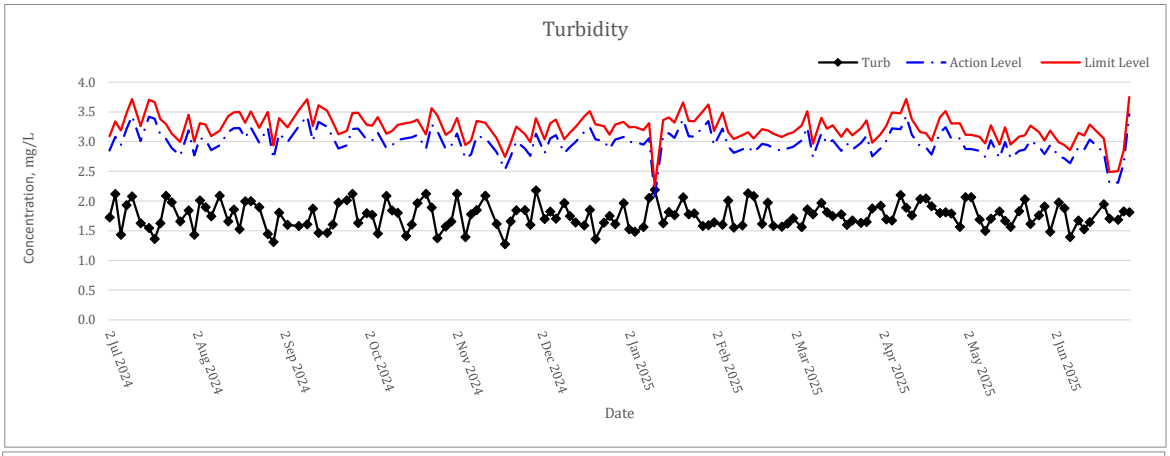
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

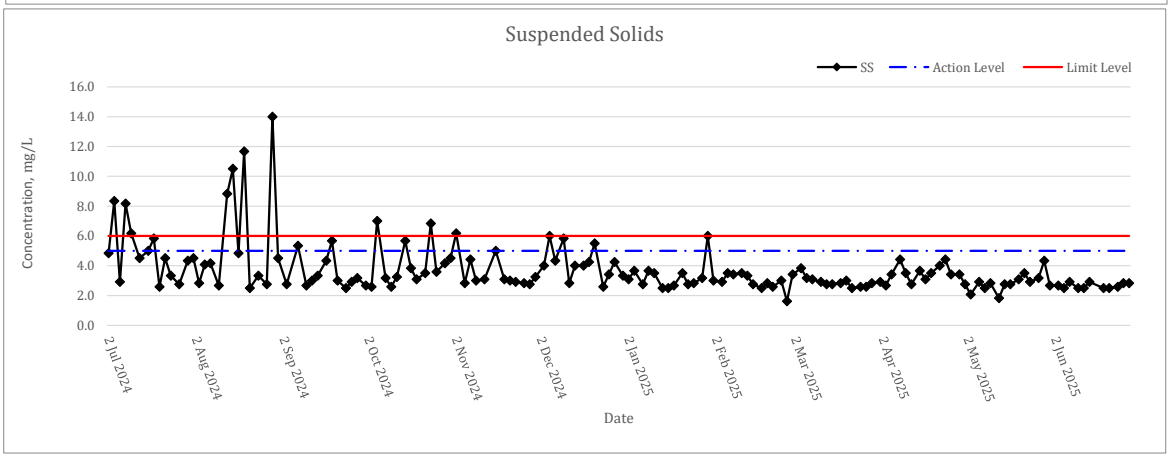


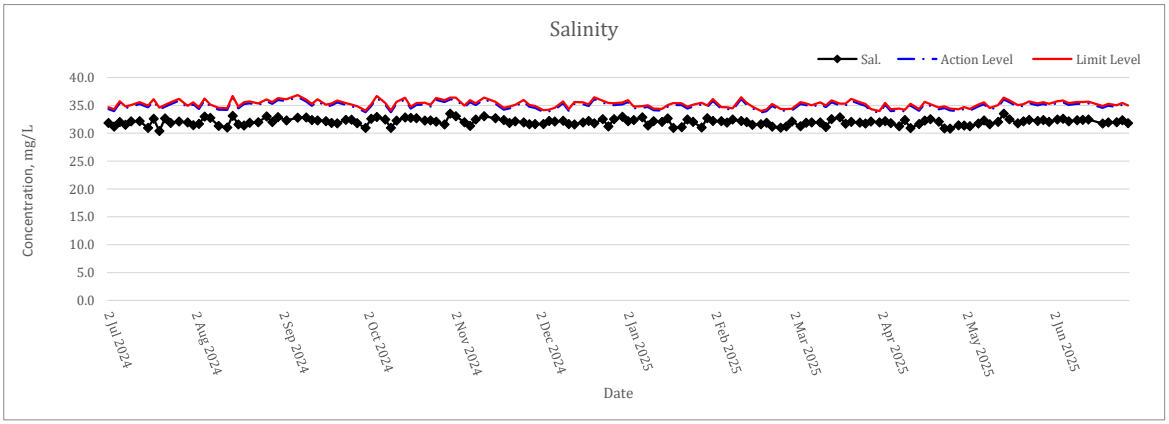
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: WSR33

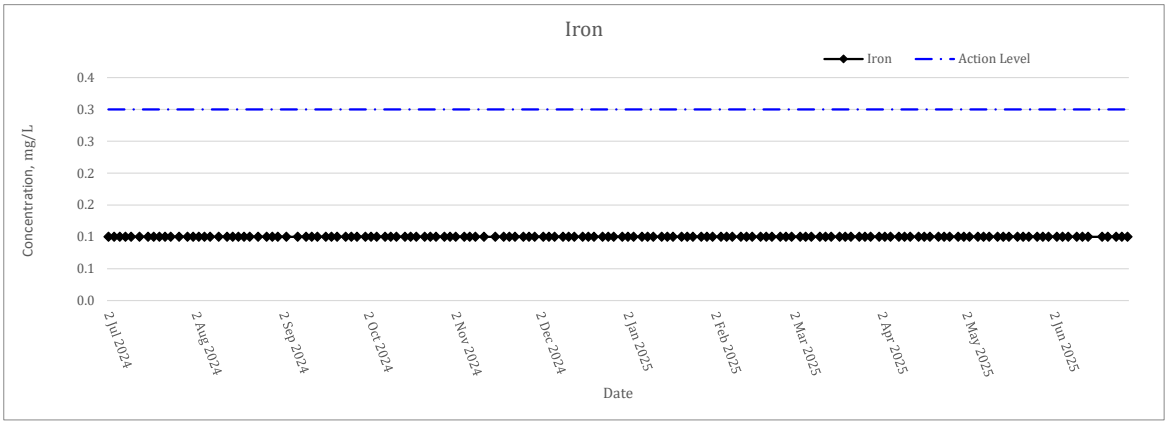




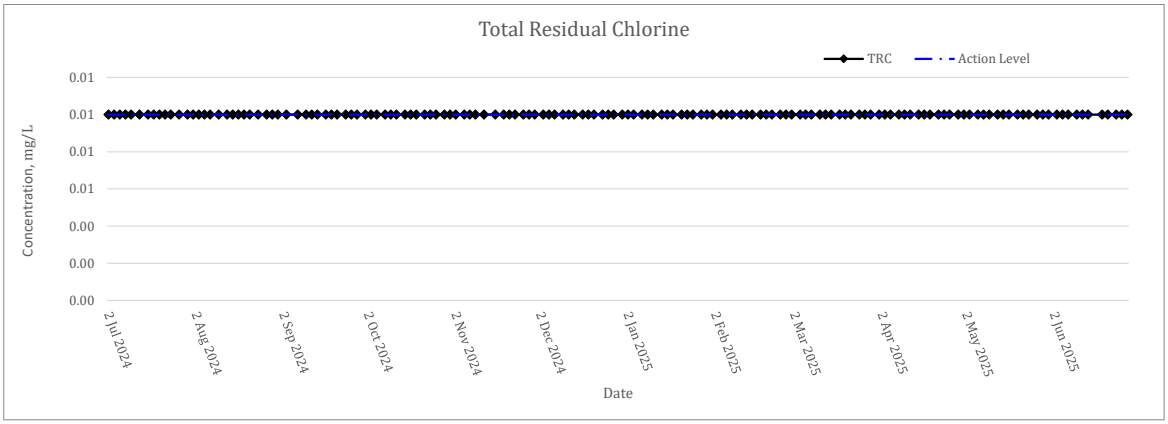




Monitoring Location: WSR33

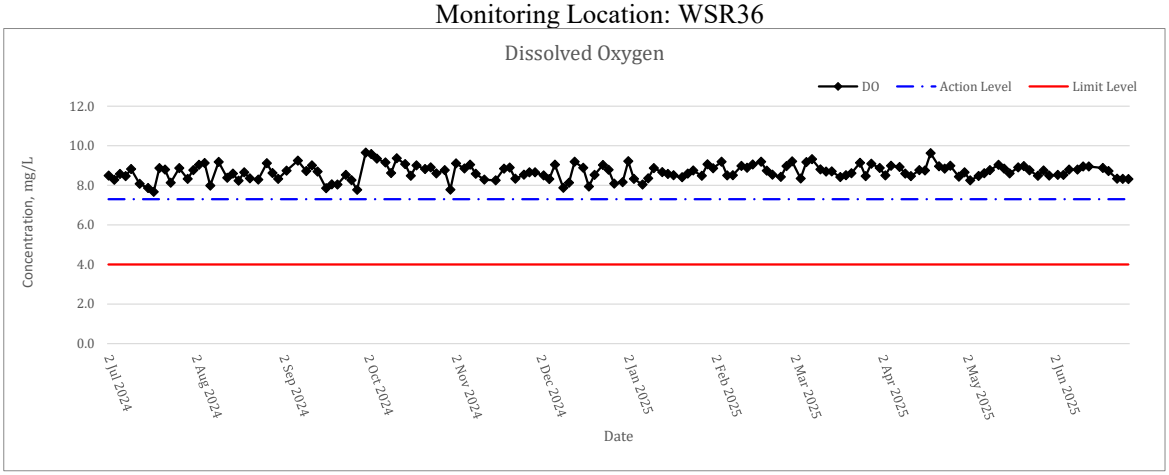


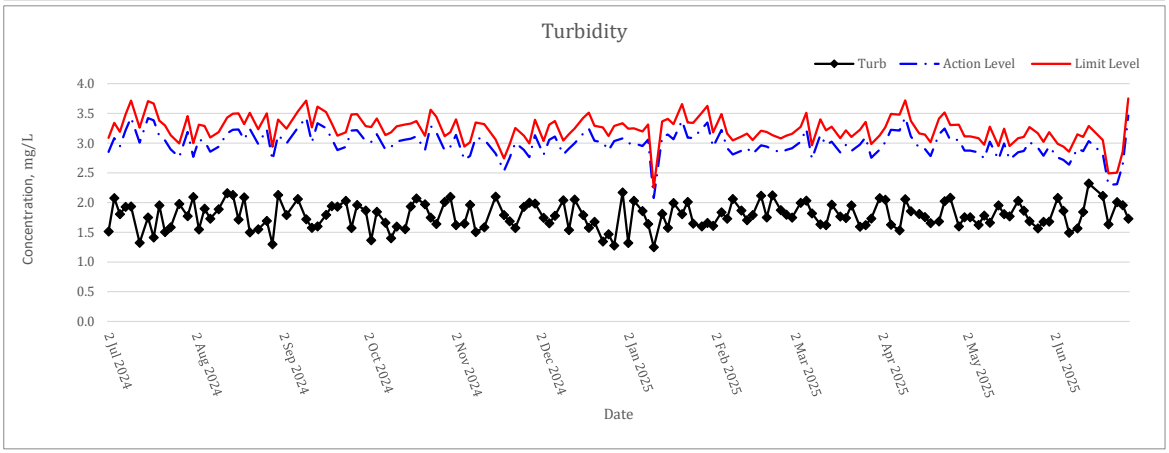
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

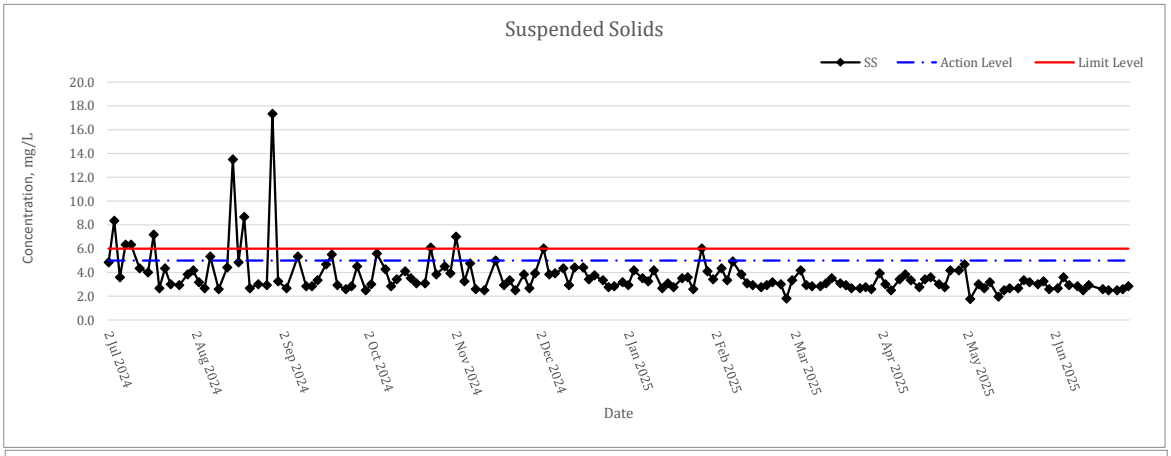


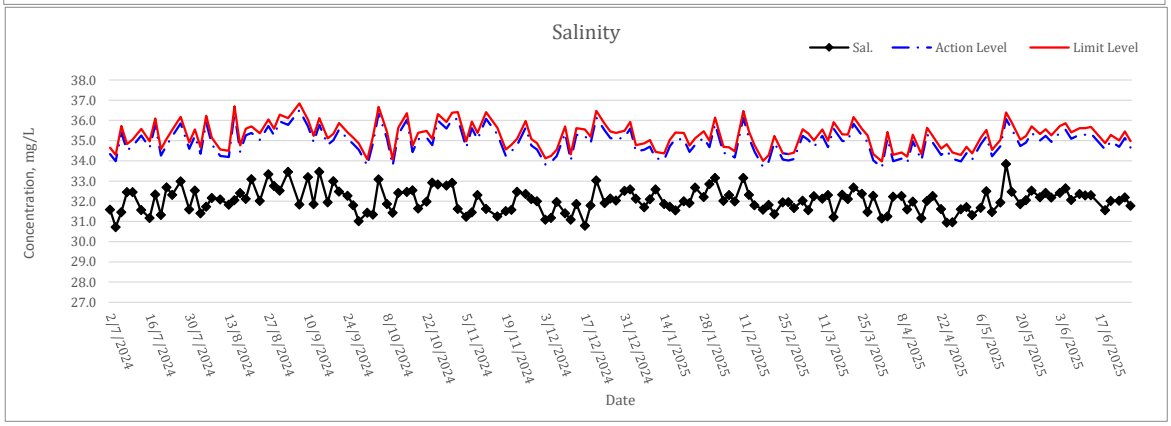
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: WSR36

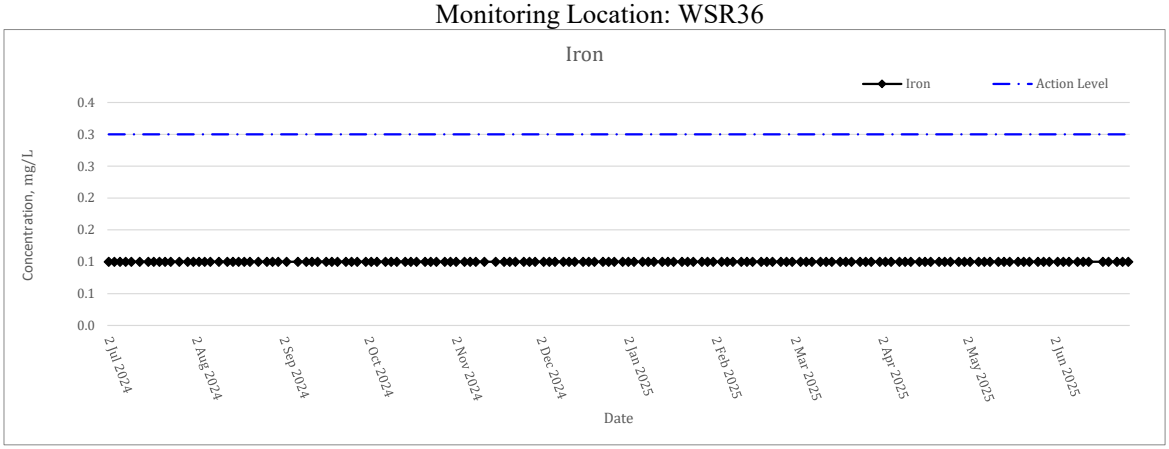




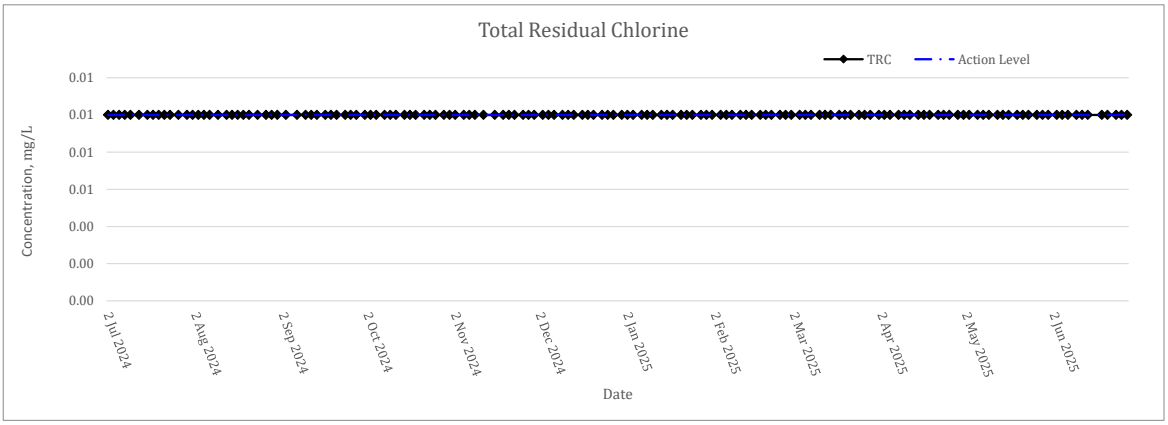




Monitoring Location: WSR36

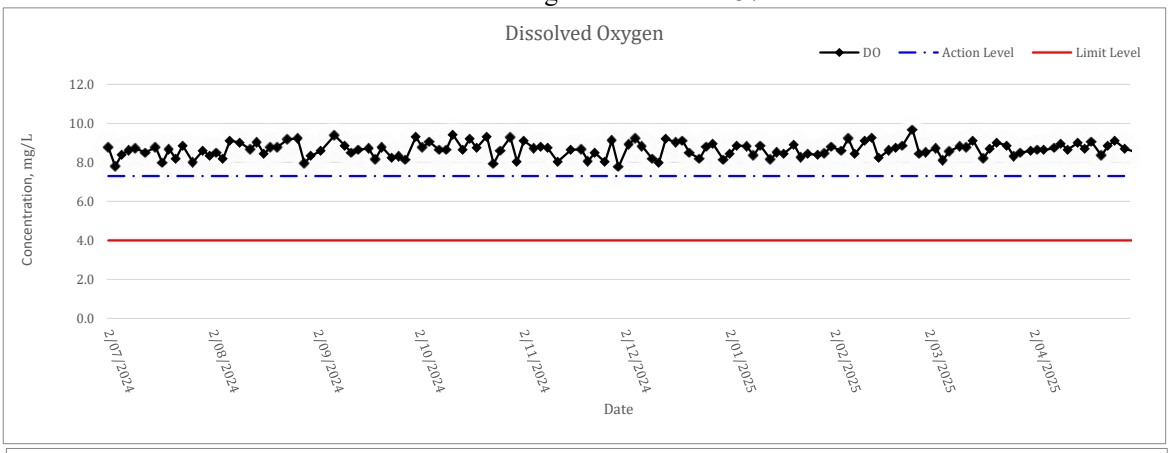


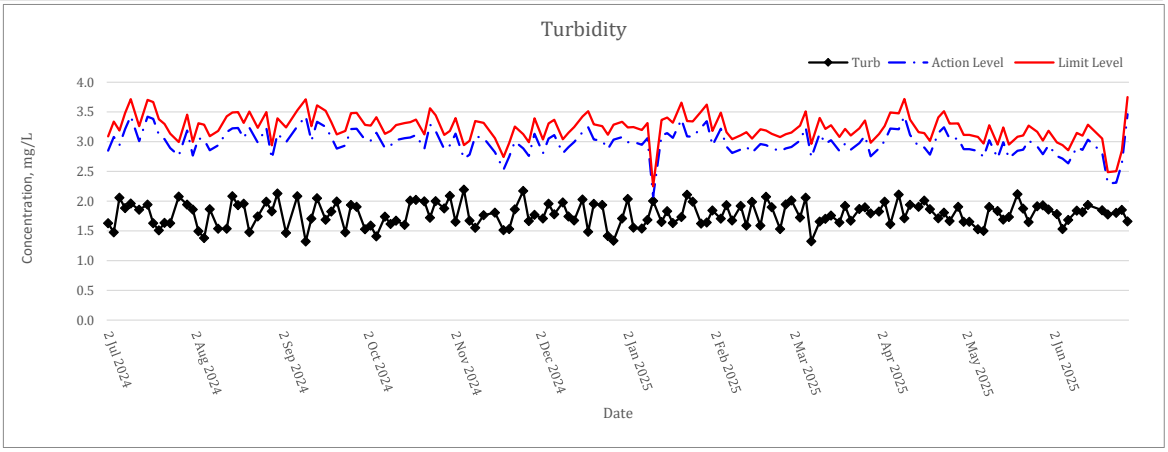
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

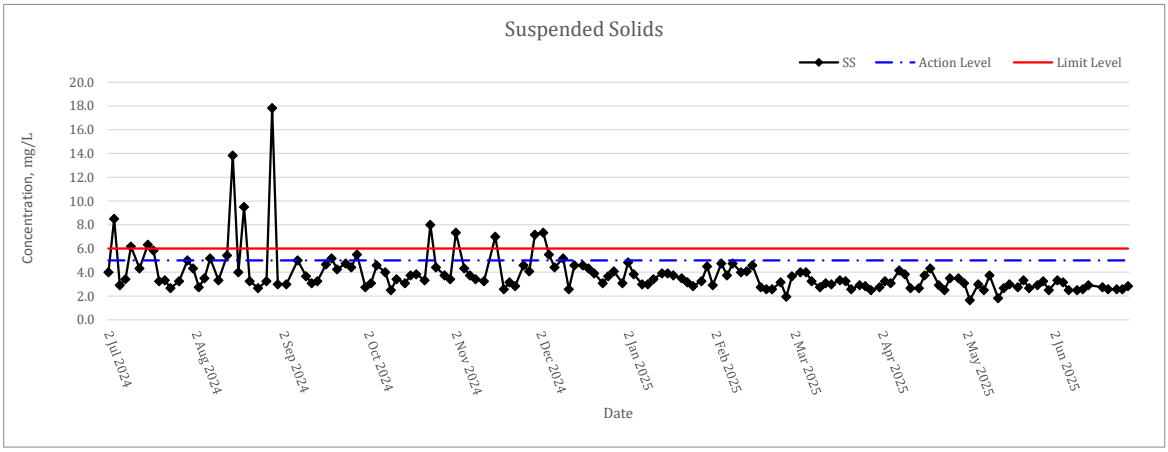


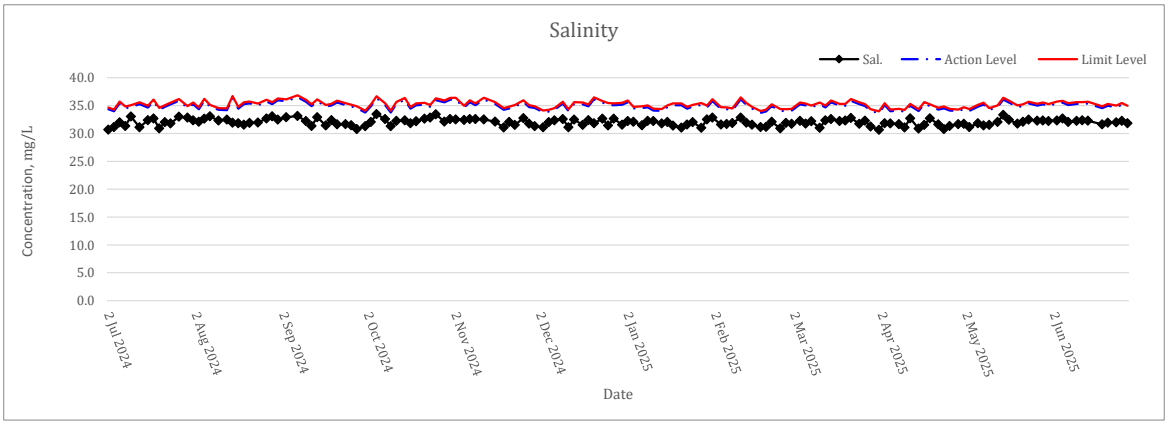
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: WSR37

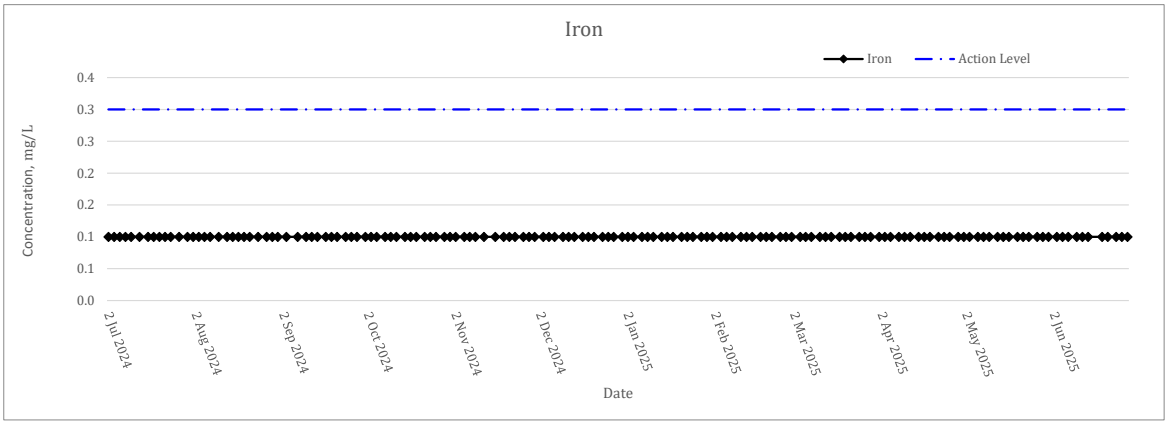




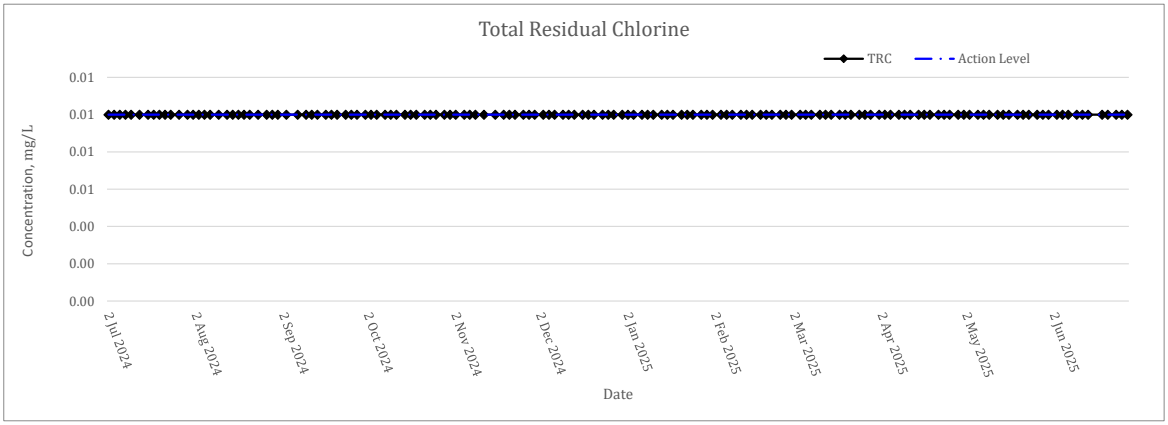




Monitoring Location: WSR37

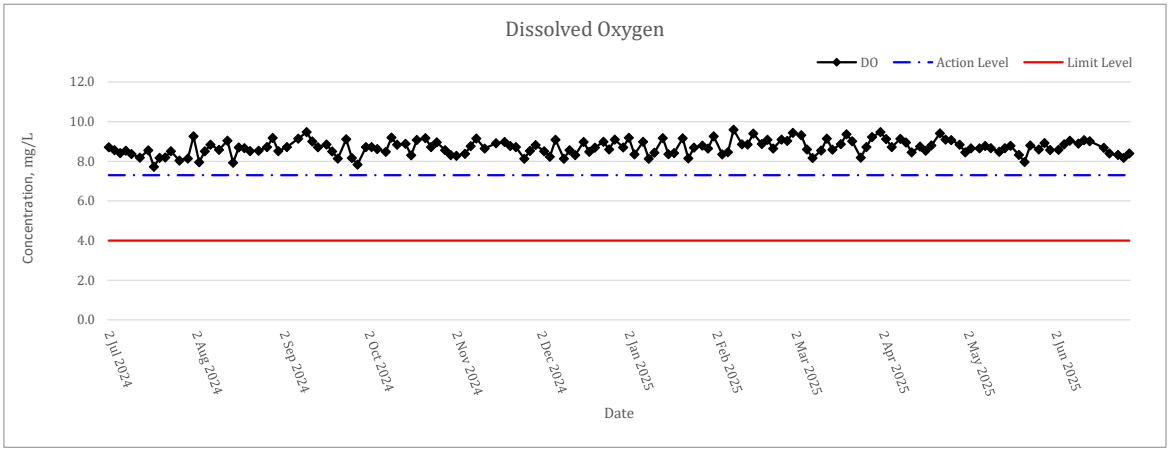


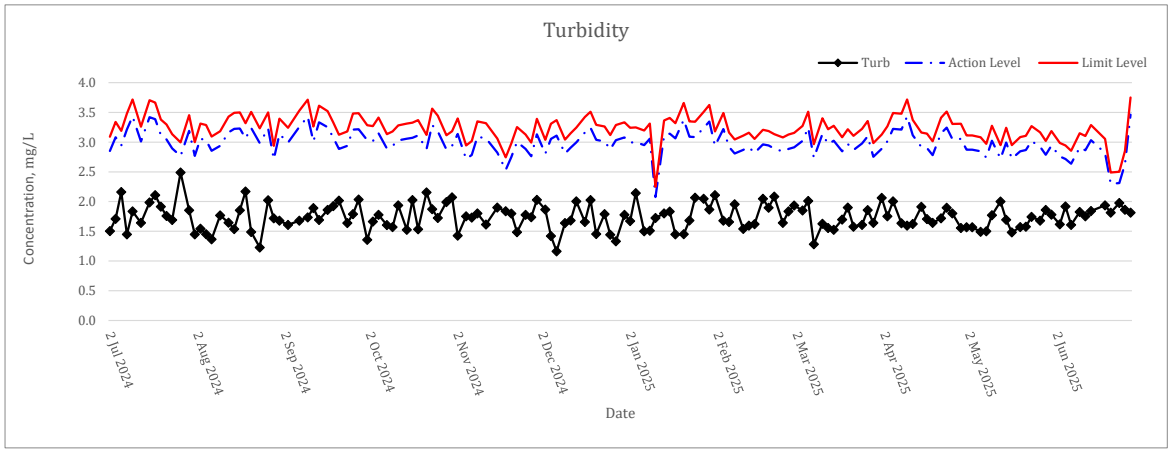
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

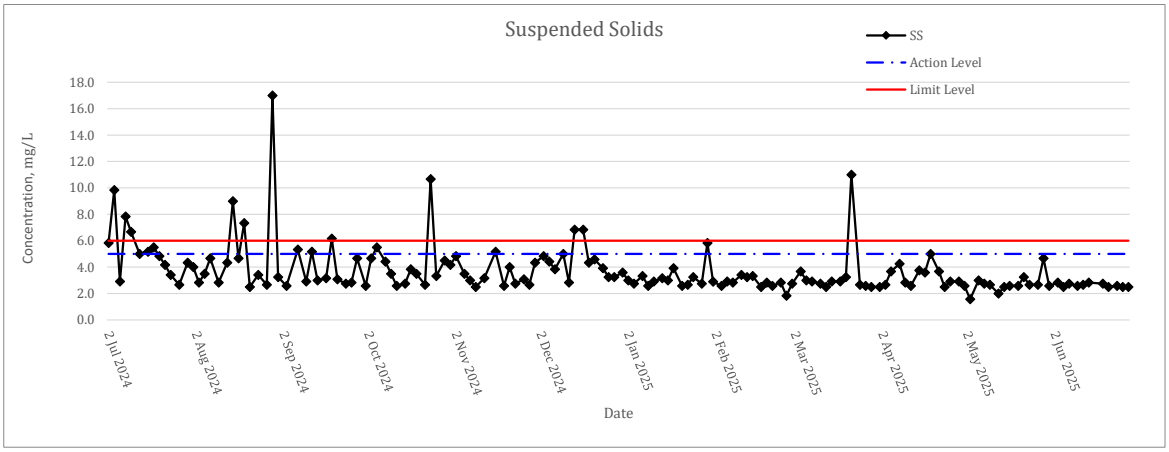


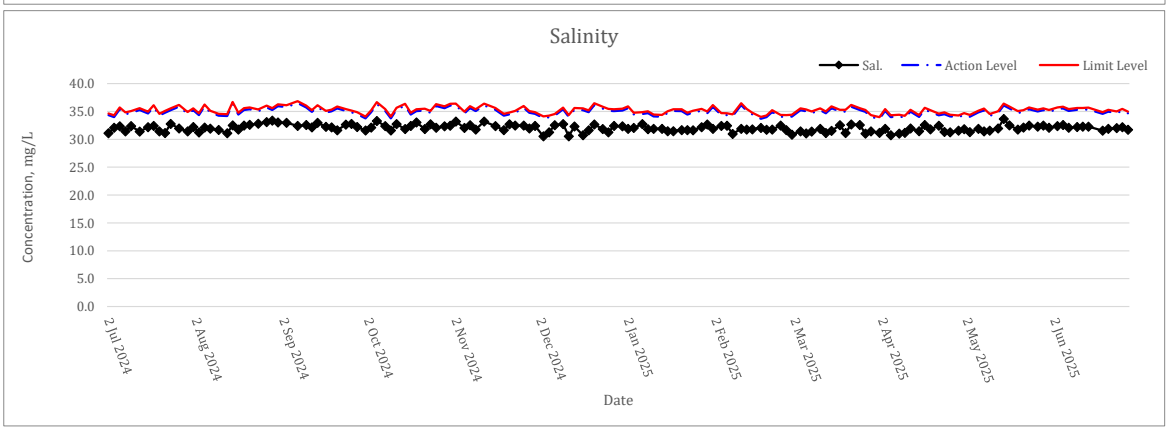
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: NF1

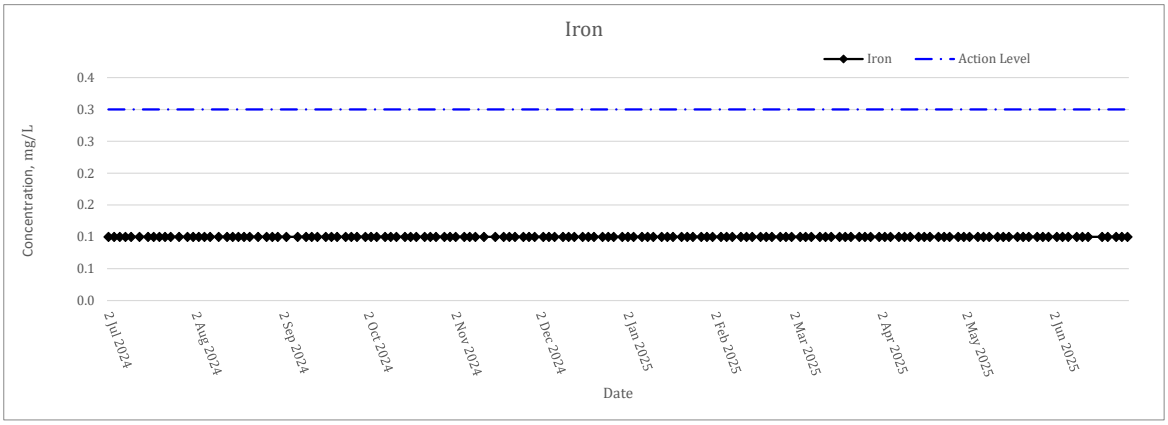




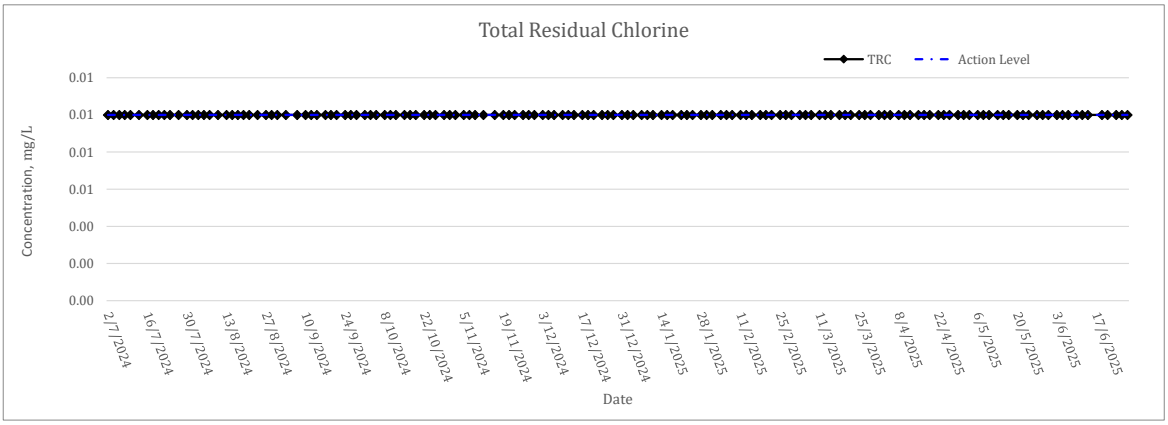




Monitoring Location: NF1

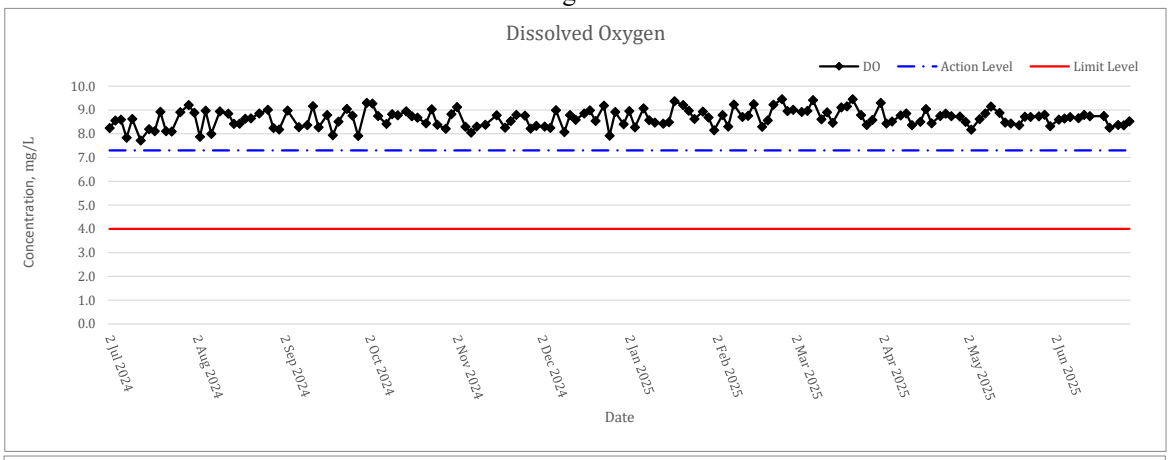


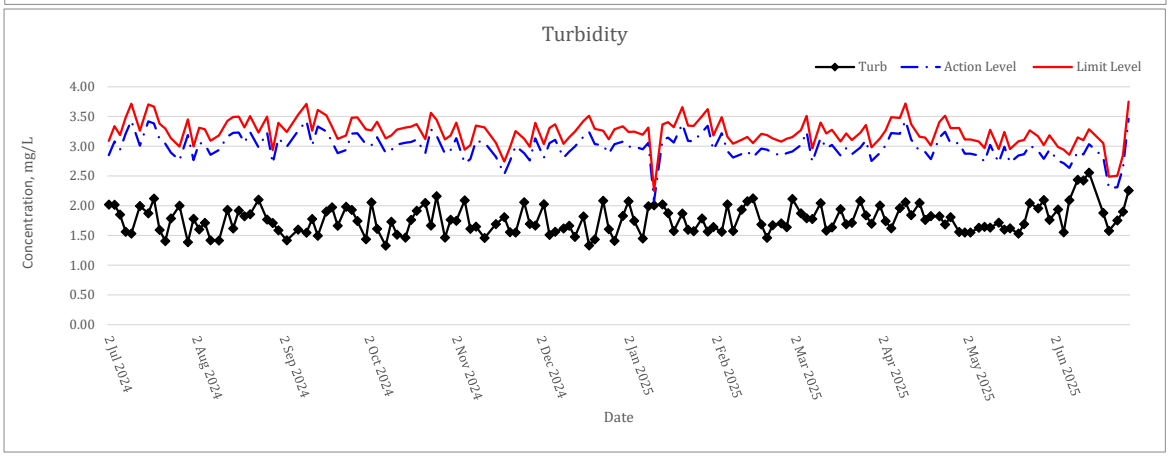
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

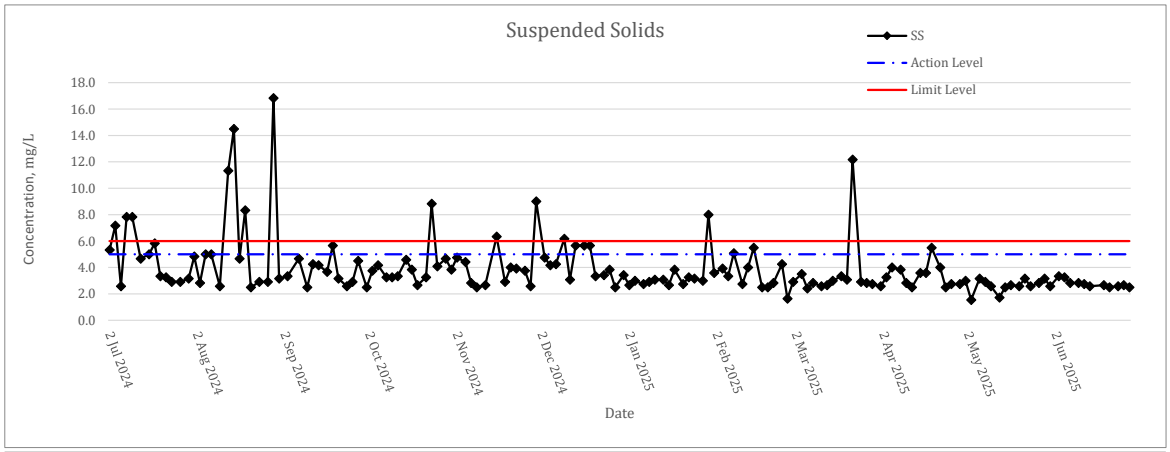


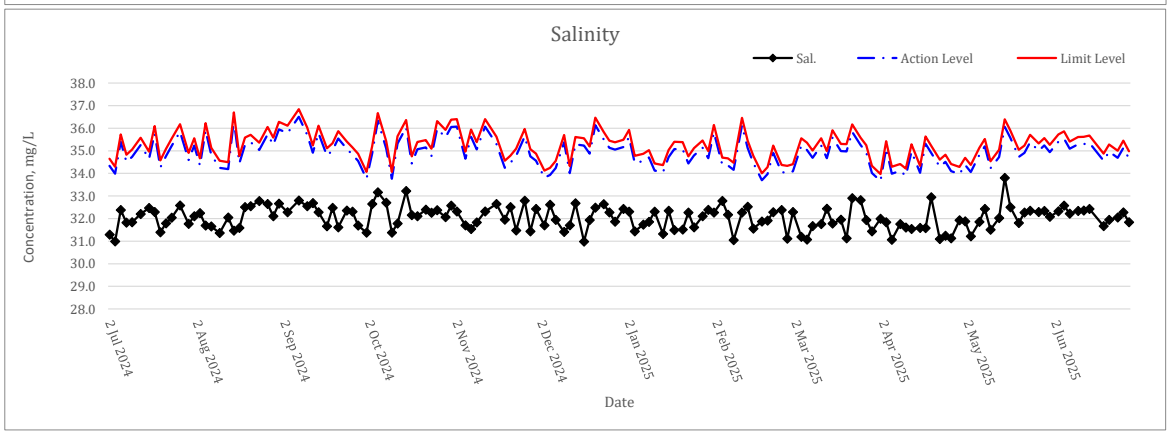
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: NF2

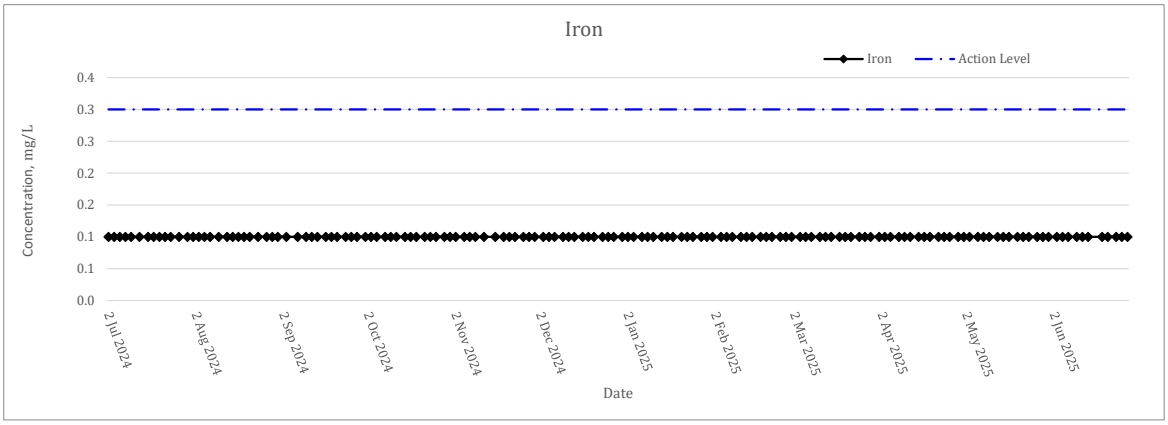




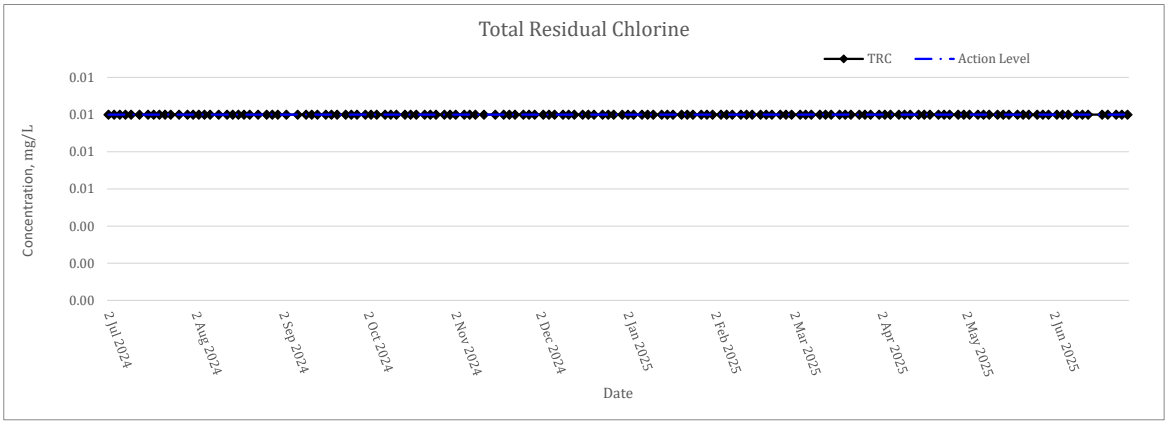




Monitoring Location: NF2

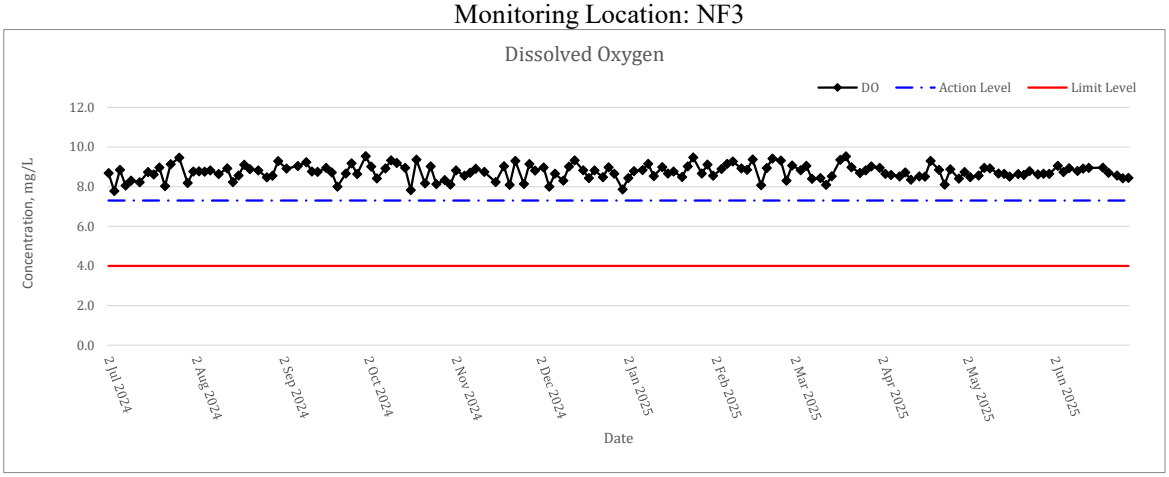


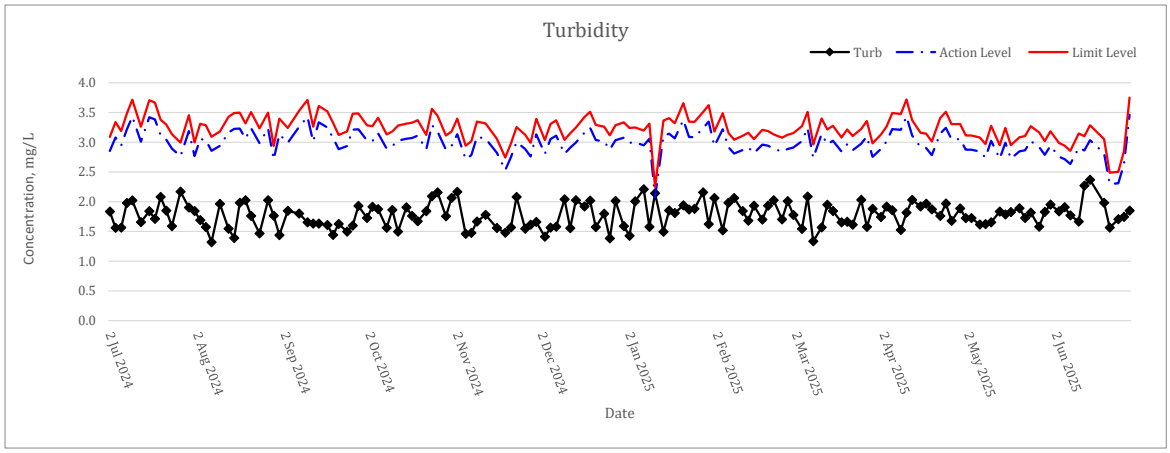
Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.

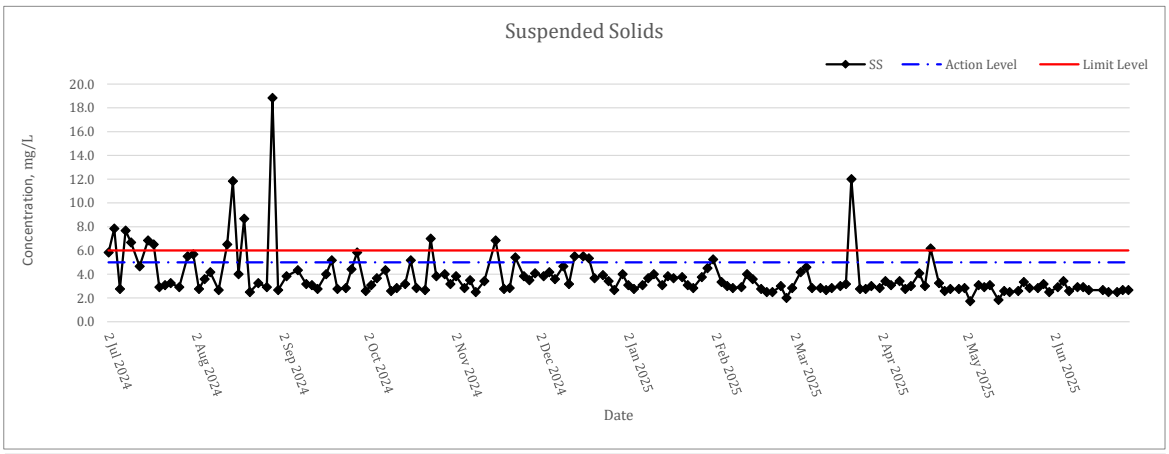


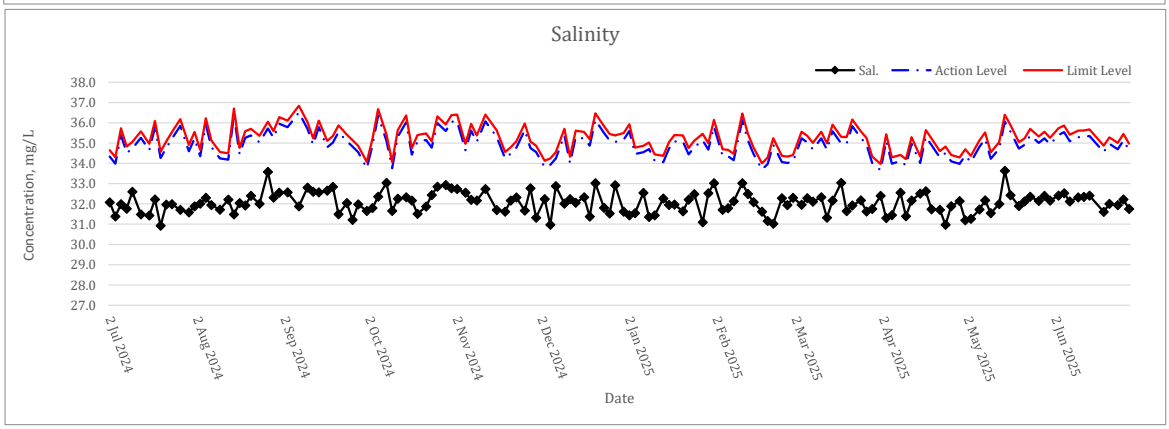
Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Monitoring Location: NF3

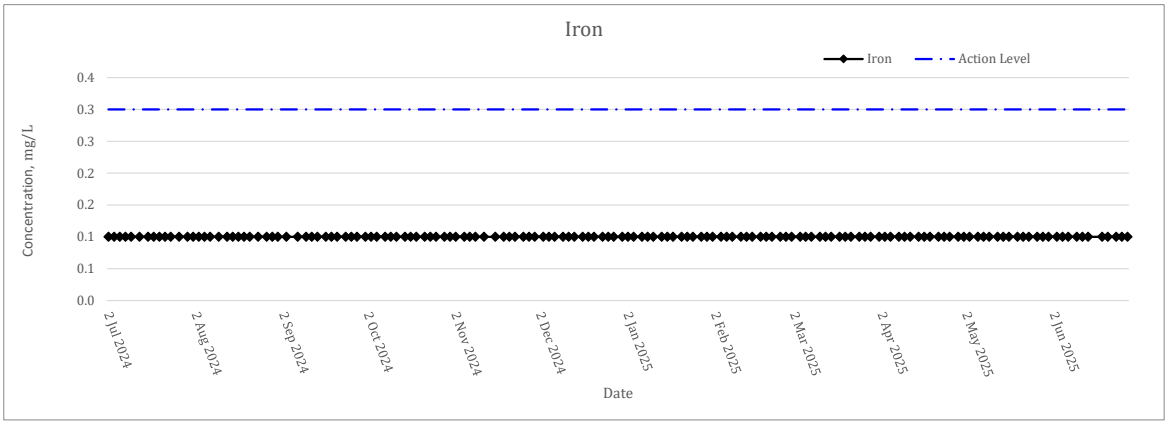




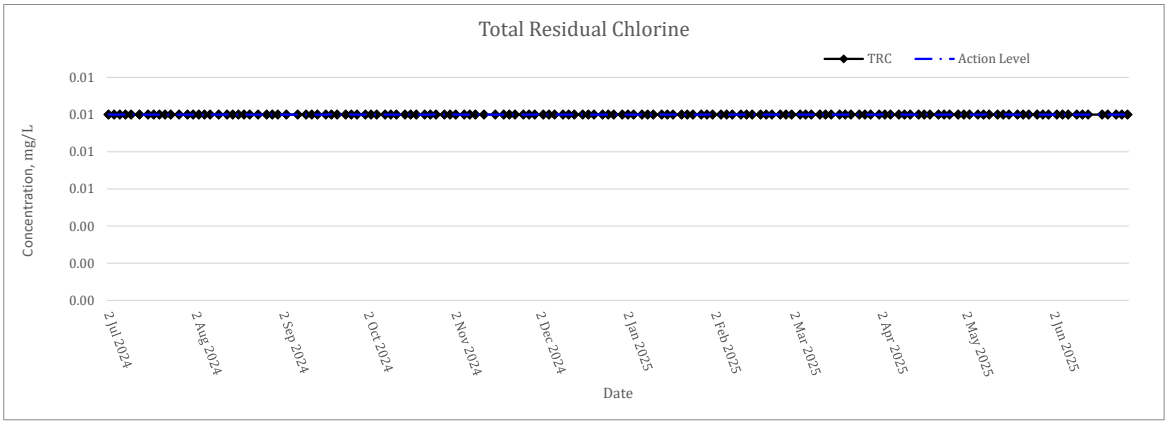




Monitoring Location: NF3



Remark: The lowest detection limit of the Iron is 0.1mg/L. All result of iron monitoring are lower than the detection limit.



Remark: The lowest detection limit of the Total Residual Chlorine is 0.01mg/L. All result of Total Residual Chlorine monitoring are lower than the detection limit.

Appendix E

Site Inspection Proforma

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Site Inspection Observation Record

Date	Environmental Observations	Follow-up Status
March 2020		
17 March 2020	Observation(s) and Recommendation(s) 1. Opened cement's package was observed. It should be removed to prevent dust emission.	1. Cement's package removed to waste temporary storage area.
24 March 2020	No Major observation was observed.	Nil
30 March 2020		
April 2020		
7 April 2020	No Major observation was observed.	Nil
14 April 2020		
21 April 2020		
29 April 2020	Observation(s) and Recommendation(s) 1. The chemical (i.e. bleach) should be placed in the proper storage area.	1. The chemical was removed and stored in proper storage area.
May 2020		
5 May 2020	Observation(s) and Recommendation(s) 1. Dust suppression mitigations were not implemented during construction activities. 2. Drip tray was observed without a plug / stopper. It should be added to prevent the leakage of chemicals. 3. NRMM label was not observed on the NRMM (crawler crane). 4. Chemical stain was observed on ground.	1. Water spraying for dust suppression. 2. Plug provided. 3. NRMM label provided. 4. Chemical stain removed and temporary stored at chemical waste storage.
13 May 2020	Observation(s) and Recommendation(s) 1. Dust suppression mitigations were not implemented. Follow up actions should be implemented on dusty stock piles to reduce dust emissions.	1. Cover provided for stockpile
19 May 2020	No Major observation was observed.	Nil
27 May 2020		
June 2020		
2 June 2020	Observation(s) and Recommendation(s)	1. The stagnant water had cleaned.

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Date	Environmental Observations	Follow-up Status
	1. Stagnant water was observed inside the drip tray. The stagnant water should be cleaned after raining.	
8 June 2020	No Major observation was observed.	Nil
17 June 2020		
23 June 2020		
30 June 2020		
July 2020		
2 July 2020	No Major observation was observed.	Nil
14 July 2020	Observation(s) and Recommendation(s) 1. Chemicals drums were not placed inside a drip tray t 132kV and combined shaft area.	1. Chemical drums were removed or placed inside drip tray.
21 July 2020	No Major observation was observed.	Nil
29 July 2020		
August 2020		
4 August 2020	No Major observation was observed.	Nil
11 August 2020		
18 August 2020		
27 August 2020		
September 2020		
1 September 2020	No Major observation was observed.	Nil
8 September 2020		
16 September 2020		
25 September 2020		
29 September 2020	Observation(s) and Recommendation(s) 1. Chemical were not placed inside the dip-tray at the RO area.	1. Chemical removed off site for proper storage.
October 2020		
6 October 2020	No Major observation was observed.	Nil
14 October 2020		
20 October 2020	Observation(s) and Recommendation(s)	1. Cover was provided.

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Date	Environmental Observations	Follow-up Status
	1. Stock of more than 20 bags of cement/dry pulverized fuel ash was not covered /enclosed in an area with 3 sides covered at Combine Shaft Area. (Observation)	
30 October 2020	Observation(s) and Recommendation(s) 1. Housekeeping was reminded as C&D materials and general wastes were observed not stored properly in designed containers at ActifDAFF and RO areas. (Observation)	1. Housekeeping was conducted.
November 2020		
3 November 2020	No Major observation was observed.	Nil
10 November 2020	Observation(s) and Recommendation(s) 1. Some connections of the silt curtain were observed detached and may reduce the subsequent filtering efficiency of dusty materials generated from the construction site. (observation)	1. Connections of slit curtain were repaired.
18 November 2020	No Major observation was observed.	Nil
26 November 2020	No Major observation was observed.	Nil
December 2020		
1 December 2020	No Major observation was observed.	Nil
8 December 2020	No Major observation was observed.	Nil
15 December 2020	No Major observation was observed.	Nil
22 December 2020	No Major observation was observed.	Nil
30 December 2020	No Major observation was observed.	Nil
January 2021		
5 January 2021	No Major observation was observed.	Nil
12 January 2021	No Major observation was observed.	Nil
19 January 2021	No Major observation was observed.	Nil
29 January 2021	No Major observation was observed.	Nil
February 2021		
2 February 2021	No Major observation was observed.	Nil
9 February 2021	No Major observation was observed.	Nil

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Date	Environmental Observations	Follow-up Status
18 February 2021	No Major observation was observed.	Nil
24 February 2021	No Major observation was observed.	Nil
March 2021		
2 March 2021	Observation(s) and Recommendation(s) 1. Chemicals were not placed inside a drip tray near the Product Water Storage Tank (observation).	1. Chemical removed and stored in proper storage
9 March 2021	Observation(s) and Recommendation(s) 1. Chemicals were not placed on a drip tray at Combined Shaft Area, Product Water Storage Tank and Formwork Storage Area (observation).	1. Chemical removed and stored in proper storage
16 March 2021	No Major observation was observed.	Nil
23 March 2021	No Major observation was observed.	Nil
30 March 2021	No Major observation was observed.	Nil
April 2021		
07 April 2021	No major observation was reported on the respective day.	Nil
13 April 2021		
20 April 2021		
30 April 2021		
May 2021		
04 May 2021	No major observation was reported on the respective day.	Nil
12 May 2021		
18 May 2021	2. Chemical waste container was observed in the general waste collection area at Combined Shaft Area (near to seafront)	2. Chemical drum was sorted out from the waste skip.
25 May 2021	1. Chemicals were not placed inside a drip tray at drainage channel near to No. 2 water treatment tank.	1. Drip tray was provided.
31 May 2021	No major observation was reported on the respective day.	Nil
June 2021		
08 June 2021	No major observation was reported on the respective day.	Nil
15 June 2021		

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22 June 2021	2. Overflow of trapped concrete water at sump pit near to worker resting area was observed. More stringent mitigation measure should be implemented to prevent the wastewater discharge into the open channel. The Contractor was reminded to consider capacity of sump pit especially at the area of concrete washing.	2. Soak/ sump pit excavated to expand, and sandbag were provided to enhance desilting capability.
30 June 2021	No major observation was reported on the respective day.	Nil
July 2021		
06 July 2021	No major observation was reported on the respective day.	Nil
13 July 2021		
20 July 2021		
30 July 2021	1. Oil stain/ spillage was observed on multiple areas of sea surface around Intake Shaft Area. The Main Contractor was reminded to take remediate actions immediately.	1. Oil stains cleaned up with absorbent.
August 2021		
03 August 2021	2. Chemicals were not placed inside a drip tray at Product Water Storage Area.	2. Drip tray provided.
10 August 2021	No major observation was reported on the respective day.	Nil
17 August 2021		
24 August 2021	1. Gillies were observed not protected by sandbags and geotextile at Wan Po Road.	1. Road gullies of concern were covered with tarpaulin sheet to avoid soil from dropping in and silty runoff from flowing in.
31 August 2021	1. Overflowing of concrete washing wastewater was observed at Concrete Washing Area. The Main Contractor was reminded to increase the wastewater holding capacity and add the earth bunds/ sandbags at the exit to prevent intreated water overflowing from the construction site.	1. Sandbags bunds provided to desilt the wastewater before darning to the perimeter drain.
September 2021		

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07 September 2021	1. Trapped general wastes materials were observed in the drainage open channel near to Reverse Osmosis Area. The Main Contractor was reminded to remove the trapped materials to allow efficient drainage.	1. Trapped materials was removed.
13 September 2021	1. Chemical wastes were observed along the general waste sorting area at ActiDAFF Area. The Main Contractor was reminded that chemical wastes should be stored in chemical waste storage container and separately from the general wastes. 2. General wastes were observed on the sea surface next to the marine barge at Outfall Shaft. The Main Contractor was reminded that all general wastes should be stored in wastes skips (observation). 3. General wastes were found in the open cannel. These materials should be removed to allow efficient drainage (Between ActiDAFF and Reverses Osmosis Area) 4. Chemicals were found not stored in drip tray at the derrick barge at Intake Shaft Area	1. Waste removed and separated in proper storage area (i.e.: chemical removed into chemical waste storage container) 2. Waste was removed. 3. Wastes in channel were removed. 4. Chemical removed into proper storage area.
21 September 2021	No major observation was reported on the respective day.	Nil
28 September 2021	1. Chemicals were found not stored in drip trays at barge at Intake Shaft Area.	1. Chemicals were stored in suitable storage area.
October 2021		
06 October 2021	No major observation was reported on the respective day.	Nil
15 October 2021	1. The Main Contractor was reminded to add sandbags/earth bunds at the exit of Concrete Washing Area to ensure no effluent should be discharged from the construction site without treatment (Concrete Washing Area) 2. Chemical container was observed at general waste storage area (Combined Shaft Area)	1. Sandbags were added. 2. Chemical waste stored on suitable area for proper disposal.
19 October 2021	No major observation was reported on the respective day.	Nil

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29 October 2021	2. Proper storage for chemicals and chemical waste shall be provided (i.e., drip tray) at Combined Shaft Area.	2. Drip tray was provided.
November 2021		
02 November 2021	No major observation was reported on the respective day.	Nil
09 November 2021	1. A drum of chemical was observed not placed on a drip tray at Worker Resting Area near to PWST Area	1. Chemical was stored in suitable area.
16 November 2021	No major observation was reported on the respective day.	Nil
26 November 2021	2. Chemicals were observed not placed on a drip tray at Worker Area, Reverse Osmosis Area, and Steel Bar Area.	2. Chemical were arranged to store into a proper storage area asap. After that there is no chemical to be found on the workplace.
30 November 2021	No major observation was reported on the respective day.	Nil
December 2021		
07 December 2021	1. Chemicals were not placed on a drip tray and cap added at Central Chiller Plant Building, metal storage area, between Reverse Osmosis/ActiDAFF Area and Administration Building	1. Removed the chemical to proper storage area as soon as possible.
15 December 2021	1. Chemicals were not placed on a drip tray at metal storage area, near to the area between Combined Shaft Area/ Seafront Area, near to VTEC Area.	2. Chemicals removed to proper storage area.
22 December 2021 31 December 2021	No major observation was reported on the respective day.	Nil
January 2022		
04 January 2022 11 January 2022	No major observation was reported on the respective day.	Nil
18 January 2022	1. It has been observed during the site inspection on 18 January 2022 that there is a new sources of underground seepage marine water in the outfall shaft caisson that was not by-pass through an uncontaminated isolation system. The main contractor was urged to take immediate	1. The seepage water is separated.

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	remediate action to ensure the seepage marine water should be contained in an isolation system before by-pass through a silt curtain	
26 January 2022	1. The main contractor was reminded that all chemical containers should be placed in drip tray (VTEC Area, Product water Storage Area and Reverse Osmosis Area) & Chemical waste should be stored in an appropriate chemical waste container at reverse osmosis area	1. Chemical moved to proper storage area.
31 January 2022	No major observation was reported on the respective day.	Nil
February 2022		
08 February 2022	No major observation was reported on the respective day.	Nil
17 February 2022		
23 February 2022		
28 February 2022		
March 2022		
08 March 2022	1. Drip tray should be provided for chemical storage.	1. Chemical moved and stored in proper area.
15 March 2022	No major observation was reported on the respective day.	Nil
23 March 2022		
30 March 2022		
April 2022		
06 April 2022	No major observation was reported on the respective day.	Nil
12 April 2022		
19 April 2022		
29 April 2022		
May 2022		
3 May 2022	No major observation was reported on the respective day.	Nil
10 May 2022		
17 May 2022	1. Drip tray should be provided for chemical storage and provide label for the chemical. (RO Building)	1. Chemical removed off-site.

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24 May 2022	1. The Contractors are reminded to provide drip trays for the oil drums near the power generator near outfall.	1. Drip tray provided.
31 May 2022	No major observation was reported on the respective day.	Nil
June 2022		
07 June 2022	No major observation was reported on the respective day.	Nil
14 June 2022		
21 June 2022		
28 June 2023		
July 2022		
05 July 2022	No major observation was reported on the respective day.	Nil
12 July 2022		
19 July 2022		
29 July 2022	1. General refuse, food package and plastic bottle were found around the site OSCG Building, the Contractors are reminder to clean up immediately. 2. Chemical tanks were found placed near the RO Building without drip tray or proper storage. The contractors are reminded to store the chemical tanks preoperly.	1. General refuse, food package and plastic bottle were clean up. 2. Chemical tanks were removed.
August 2022		
02 August 2022	1. There are two oil tanks found near the Administration Building without proper storage or drip tray. The Contractor is reminded to provide a proper storage asap.	1. Proper storage was provided.
09 August 2022	No major observation was reported on the respective day.	Nil
16 August 2022	1. Chemical containers found near the chemical Building shall be placed/ stored on a drip tray to avid oil leakage or spillage.	1. Drip tray was provided for chemical storage.
23 August 2022	1. General refuse (lunch box) should be disposed of preoperly at a proper waste storage point (Produce Waste Storage Tank).	1. Waste was cleaned.

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31 August 2022	No major observation was reported on the respective day.	Nil
September 2022		
06 September 2022	3. Chemical s found near the ActiDaff Building Shall be stored properly.	3. Chemical was removed.
13 September 2022	1. Chemical containers found near the R.O. Building shall be stored on drip tray or proper chemical storage,	1. Chemical was removed.
20 September 2022	No major observation was reported on the respective day.	Nil
30 September 2022	2. Chemical containers found in the R.O Building Shall be stored on a drip tray or with proper storage.	2. Chemical was removed.
October 2022		
05 October 2022	2. The Chemical containers and the bottle found on the ground near the CO2 Building and Administration Building shall be stored on a drip tray or proper storage area to prevent leakage.	2. Chemical was removed.
11 October 2022	No major observation was reported on the respective day.	Nil
18 October 2022	1. Drip tray shall be provided for chemical container at Administration Building.	1. Chemical was removed.
25 October 2022	2. Drip tray shall be provided for chemical storage. (Product water storage tank)	2. Chemical was removed.
31 October 2022	1. Chemical container shall be stored with drip tray (ActiDAFF).	1. Chemical was removed.
November 2022		
8 November 2022	1. Chemical containers found near the OSCG and staff office and ActiDAFF shall be stored on a drip tray or proper storage area to prevent leakage.	1. Chemical was removed.
15 November 2022	1. Chemical containers found near the OSCG shall be stored on a drip tray or proper storage. Excess chemicals on the ground shall be removed properly.	3. Chemical was removed.
22 November 2022	No major observation was reported on the respective day.	Nil
29 November 2022	3. Chemical containers found near the contractor rest area and Admin Building shall be stored on a drip or proper chemical storage.	3. Chemical was removed.

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December 2022		
06 December 2022	1. Black water puddles were found near the temporary backfilling stockpile and rest area near the Subcontractor office. The Contractor is reminded to provide the proper treatment to remove the black water.	1. The water removed to nearest wastewater treatment system and discharge after treatment.
13 December 2022	No major observation was reported on the respective day.	Nil
22 December 2022	1. Chemical containers found inside the OSCG shall be stored properly or placed on a drip tray to prevent leakage.	1. Chemical was removed.
29 December 2022	No major observation was reported on the respective day.	Nil
January 2023		
03 January 2023	No major observation was reported on the respective day.	Nil
10 January 2023		
17 January 2023		
27 January 2023		
31 January 2023	1. A chemical container found on the ground near the OSCG Building shall be stored properly. The chemical containers were removed immediately are notification.	1. The chemical containers were removed immediately.
February 2023		
07 February 2023	1. The Contactors are reminded to remove the wooden beam floating on the outfall asap.	1. The wooden beam had been removed.
15 February 2023	1. Chemical containers found near the Product Water Pumping Station combined shaft and Pre-cast site (Bridge) shall be removed or stored properly.	1. The chemical had been removed.
21 February 2023	2. The chemical containers found near the rest area near the ActiDAFF and bridge area shall be removed or stored properly.	2. The chemical had been removed.
28 February 2023	2. Chemical tanks and containers found near the Chemical Building shall be properly stored on a drip tray.	2. The chemical tanks and containers had removed.
March 2023		
07 March 2023	2. Chemical tanks found near the RO Building shall be properly stored or on a drip tray to	2. The chemical had been removed.

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	prevent leakage. The broken chemical label shall be also replaced asap.	
14 March 2023	1. Chemical container found near the Chemical Building shall be properly stored or placed on a drip tray to prevent leakage.	1. The chemical had been removed.
22 March 2023	1. The chemical containers found near mechanic workshop, combined Shaft area shall be properly stored or stored on a drip tray.	1. The chemical had been removed.
31 March 2023	No major observation was reported on the respective day.	Nil
April 2023		
04 April 2023	No major observation was reported on the respective day.	Nil
11 April 2023		
18 April 2023	1. Oil drums found near the shall be provided a proper storage or drip tray to prevent oil leakage.	1. Oil drums were removed.
24 April 2023	No major observation was reported on the respective day.	Nil
May 2023		
2 May 2023	No major environmental deficiency was observed.	N/A
9 May 2023	No major environmental deficiency was observed.	N/A
16 May 2023	No major environmental deficiency was observed.	N/A
23 May 2023	Chemical containers found near the South end of the site near the slope shall be provided with a proper storage or drip tray to prevent leakage.	Chemical was removed.
30 May 2023	No major environmental deficiency was observed.	N/A
June 2023		
6 Jun 2023	No major environmental deficiency was observed.	N/A

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13 Jun 2023	No major environmental deficiency was observed.	N/A
20 Jun 2023	The Contractors are reminded to remove the chemical containers along the haul road of the open channel either proper storage or disposed to avoid possible leakage or contamination.	The chemical along the haul road was removed.
27 Jun 2023	Chemical containers found near the Chemical Building shall be stored on a drip tray to prevent leakage.	The chemical was removed.
July 2023		
4 Jul 2023	No major environmental deficiency was observed.	N/A
11 Jul 2023	No major environmental deficiency was observed.	N/A
18 Jul 2023	The Chemical containers found near the R.O. Building shall be stored on a drip tray or proper storage.	Chemical container near the R.O. Building was removed.
25 Jul 2023	The chemical containers found near the R.O. Building shall store on a drip tray or provide proper storage to prevent leakage.	Chemical container near the R.O. Building was removed.
August 2023		
1 Aug 2023	No major environmental deficiency was observed.	N/A
8 Aug 2023	No major environmental deficiency was observed.	N/A
15 Aug 2023	No major environmental deficiency was observed.	N/A
22 Aug 2023	No major environmental deficiency was observed.	N/A
29 Aug 2023	No major environmental deficiency was observed.	N/A
September 2023		
5 Sept 2023	No major environmental deficiency was observed.	N/A

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12 Sept 2023	No major environmental deficiency was observed.	N/A
19 Sept 2023	No major environmental deficiency was observed.	N/A
26 Sept 2023	Chemical container found near the OSCG shall be properly storage.	Chemical was removed.
October 2023		
3 Oct 2023	No major environmental deficiency was observed.	N/A
10 Oct 2023	No major environmental deficiency was observed.	N/A
17 Oct 2023	No major environmental deficiency was observed.	N/A
27 Oct 2023	No major environmental deficiency was observed.	N/A
31 Oct 2023	Chemical containers found near the OSCG shall be store on a drip tray to prevent leakage.	Chemical removed to proper storage area
November 2023		
7 Nov 2023	No major environmental deficiency was observed.	N/A
14 Nov 2023	No major environmental deficiency was observed.	N/A
21 Nov 2023	No major environmental deficiency was observed.	N/A
27 Nov 2023	No major environmental deficiency was observed.	N/A
December 2023		
5 Dec 2023	No major environmental deficiency was observed.	N/A
12 Dec 2023	No major environmental deficiency was observed.	N/A
19 Dec 2023	No major environmental deficiency was observed.	N/A
27 Dec 2023	No major environmental deficiency was observed.	N/A
January 2024		
2 Jan 2024	No major environmental deficiency was observed.	N/A
9 Jan 2024	No major environmental deficiency was observed.	N/A

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16 Jan 2024	A chemical container found near RO Building without a drip tray, the contractors are reminded to provide a drip tray or proper storage for the chemical containers.	The chemical container was removed.
25 Jan 2024	No major environmental deficiency was observed.	N/A
29 Jan 2024	No major environmental deficiency was observed.	N/A
February 2024		
7 Feb 2024	No major environmental deficiency was observed.	N/A
16 Feb 2024	No major environmental deficiency was observed.	N/A
20 Feb 2024	No major environmental deficiency was observed.	N/A
28 Feb 2024	No major environmental deficiency was observed.	N/A
March 2024		
5 Mar 2024	No major environmental deficiency was observed.	N/A
12 Mar 2024	No major environmental deficiency was observed.	N/A
19 Mar 2024	No major environmental deficiency was observed.	N/A
25 Mar 2024	No major environmental deficiency was observed.	N/A
April 2024		
2 Apr 2024	No major environmental deficiency was observed.	N/A
9 Apr 2024	No major environmental deficiency was observed.	N/A
16 Apr 2024	No major environmental deficiency was observed.	N/A
23 Apr 2024	No major environmental deficiency was observed.	N/A
29 Apr 2024	No major environmental deficiency was observed.	N/A
May 2024		
7 May 2024	The contractor is reminded to maintain the landscape works after the adverse weather near RO building.	The greening works is maintained regularly.

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14 May 2024	The contractor is reminded to maintain the landscape works (ie: vertical greening).	The greening works is maintained regularly.
21 May 2024	No major environmental deficiency was observed.	N/A
28 May 2024	No major environmental deficiency was observed.	N/A
June 2024		
4 Jun 2024	No major environmental deficiency was observed.	N/A
11 Jun 2024	No major environmental deficiency was observed.	N/A
18 Jun 2024	Water spray should be provided during breaking.	Water spray was provided.
24 Jun 2024	No major environmental deficiency was observed.	N/A
July 2024		
2 Jul 2024	No major environmental deficiency was observed.	N/A
9 Jul 2024	No major environmental deficiency was observed.	N/A
16 Jul 2024	No major environmental deficiency was observed.	N/A
23 Jul 2024	No major environmental deficiency was observed.	N/A
29 Jul 2024	No major environmental deficiency was observed.	N/A
August 2024		
6 Aug 2024	No major environmental deficiency was observed.	N/A
13 Aug 2024	No major environmental deficiency was observed.	N/A
20 Aug 2024	No major environmental deficiency was observed.	N/A
26 Aug 2024	No major environmental deficiency was observed.	N/A
September 2024		
3 Sep 2024	No major environmental deficiency was observed.	N/A
10 Sep 2024	No major environmental deficiency was observed.	N/A

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17 Sep 2024	No major environmental deficiency was observed.	N/A
24 Sep 2024	The chemical container should be stored properly.	The chemical container was removed.
October 2024		
3 Oct 2024	No major environmental deficiency was observed.	N/A
8 Oct2024	No major environmental deficiency was observed.	N/A
15 Oct 2024	No major environmental deficiency was observed.	N/A
22 Oct2024	No major environmental deficiency was observed.	N/A
28 Oct2024	No major environmental deficiency was observed.	N/A
November 2024		
5 Nov2024	No major environmental deficiency was observed.	N/A
14 Nov 2024	No major environmental deficiency was observed.	N/A
18 Nov2024	No major environmental deficiency was observed.	N/A
26 Nov 2024	No major environmental deficiency was observed.	N/A
December 2024		
3 Dec 2024	No major environmental deficiency was observed.	N/A
10 Dec 2024	No major environmental deficiency was observed.	N/A
18 Dec 2024	No major environmental deficiency was observed.	N/A
23 Dec 2024	No major environmental deficiency was observed.	N/A
31 Dec 2024	No major environmental deficiency was observed.	N/A
January 2025		
7 Jan 2025	No major environmental deficiency was observed.	N/A
14 Jan 2025	No major environmental deficiency was observed.	N/A

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21 Jan 2025	No major environmental deficiency was observed.	N/A
27 Jan 2025	No major environmental deficiency was observed.	N/A
February 2025		
5 Feb 2025	No major environmental deficiency was observed.	N/A
11 Feb 2025	No major environmental deficiency was observed.	N/A
18 Feb 2025	No major environmental deficiency was observed.	N/A
25 Feb 2025	No major environmental deficiency was observed.	N/A
March 2025		
5 Mar 2025	No major environmental deficiency was observed.	N/A
11 Mar 2025	No major environmental deficiency was observed.	N/A
18 Mar 2025	No major environmental deficiency was observed.	N/A
25 Mar 2025	No major environmental deficiency was observed.	N/A
31 Mar 2025	No major environmental deficiency was observed.	N/A
April 2025		
9 Apr 2025	No major environmental deficiency was observed.	N/A
17 Apr 2025	No major environmental deficiency was observed.	N/A
24 Apr 2025	No major environmental deficiency was observed.	N/A
29 Apr 2025	No major environmental deficiency was observed.	N/A
May 2025		
7 May 2025	No major environmental deficiency was observed.	N/A
13 May 2025	No major environmental deficiency was observed.	N/A
20 May 2025	No major environmental deficiency was observed.	N/A

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30 May 2025	No major environmental deficiency was observed.	N/A
June 2025		
3 Jun 2025	No major environmental deficiency was observed.	N/A
10 Jun 2025	No major environmental deficiency was observed.	N/A
17 Jun 2025	No major environmental deficiency was observed.	N/A
23 Jun 2025	No major environmental deficiency was observed.	N/A
July 2025		
3 July 2025	No major environmental deficiency was observed.	N/A
10 July 2025	No major environmental deficiency was observed.	N/A
17 July 2025	No major environmental deficiency was observed.	N/A
24 July 2025	No major environmental deficiency was observed.	N/A
31 July 2025	No major environmental deficiency was observed.	N/A

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Appendix F

Waste Flow Table

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Contract No. 13/WSD/17
Environmental Management Plan for Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Appendix F - Monthly Summary Waste Flow Table

Name of Department: WSD Contract No.: 13/WSD/17

Monthly Summary Waste Flow Table for 2020 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.420
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.400
May	0.000	0.000	0.000	0.000	0.000	0.000	5.900	0.000	0.000	0.000	12.570
Jun	1081.950	0.000	0.000	0.000	1081.950	0.000	0.000	0.000	0.000	0.000	34.160
Sub-total	1081.950	0.000	0.000	0.000	1081.950	0.000	5.900	0.000	0.000	0.000	49.550
Jul	724.360	0.000	0.000	0.000	724.360	0.000	0.000	0.000	0.000	0.000	33.760
Aug	161.080	0.000	0.000	0.000	161.080	0.000	0.000	0.000	0.000	0.000	42.070
Sep	0.000	0.000	0.000	0.000	0.000	0.000	22.766	0.000	0.010	0.000	83.150
Oct	0.000	0.000	0.000	0.000	0.000	0.000	12.170	0.040	0.020	0.000	39.210
Nov	0.000	0.000	0.000	0.000	0.000	0.000	5.351	0.030	0.014	0.000	66.420
Dec	13791.930	0.000	0.000	13791.930	0.000	0.000	9.912	0.030	0.018	0.000	63.920
Total	15759.320	0.000	0.000	13791.930	1967.390	0.000	56.099	0.100	0.062	0.000	378.080

Notes:

(1) The performance targets are given in Section 1.69 of Specification B

(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

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

Contract No. 13/WSD/17
Environmental Management Plan for Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Appendix F - Monthly Summary Waste Flow Table

Name of Department: WSD Contract No.: 13/WSD/17

Monthly Summary Waste Flow Table for 2021 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
Jan	11823.060	0.000	0.000	11816.130	6.930	0.000	0.000	0.000	0.000	0.000	73.960
Feb	434.090	0.000	0.000	434.090	0.000	0.000	14.767	0.123	0.008	0.000	45.080
Mar	91.710	0.000	0.000	0.000	91.710	0.000	0.002	0.155	0.010	0.000	122.940
Apr	0.000	0.000	0.000	0.000	0.000	0.000	28.931	0.057	0.002	0.000	89.450
May	1557.500	0.000	0.000	0.000	1557.500	0.000	0.005	0.108	0.009	0.000	70.750
Jun	4278.380	0.000	0.000	0.000	4278.380	0.000	0.001	0.088	0.005	0.000	91.540
Sub-total	18184.740	0.000	0.000	12250.220	5934.520	0.000	43.706	0.530	0.034	0.000	493.720
Jul	365.150	0.000	0.000	0.000	365.150	0.000	0.003	0.120	0.005	0.000	65.770
Aug	42.340	0.000	0.000	0.000	42.340	0.000	0.000	0.001	0.006	0.000	74.070
Sep	66.690	0.000	0.000	0.000	66.690	0.000	0.004	0.002	0.003	0.000	75.880
Oct	578.870	0.000	0.000	0.000	578.870	0.000	0.006	0.510	0.018	0.000	88.390
Nov	470.660	0.000	0.000	0.000	470.660	0.000	0.000	0.000	0.000	0.000	162.500
Dec	457.090	0.000	0.000	0.000	457.090	0.000	0.000	0.130	0.030	0.000	131.270
Total	20165.540	0.000	0.000	12250.220	7915.320	0.000	43.718	1.293	0.096	0.000	1091.600

Notes:

(1) The performance targets are given in Section 1.69 of Specification B

(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

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

Monthly Summary Waste Flow Table for 2022 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Genertaed	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ carboard packaging	Plastics	Chemcial Waste	Other, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
Jan	233.850	0.000	0.000	0.000	233.850	0.000	0.000	0.069	0.005	0.000	109.020
Feb	175.850	0.000	0.000	0.000	175.850	0.000	0.000	0.000	0.000	0.296	293.110
Mar	68.790	0.000	0.000	0.000	68.790	0.000	0.000	0.000	0.000	0.000	54.140
Apr	29.050	0.000	0.000	0.000	29.050	0.000	0.001	0.165	0.004	0.000	113.780
May	6.300	0.000	0.000	0.000	6.300	0.000	0.000	0.000	0.000	0.000	139.130
Jun	80.960	0.000	0.000	0.000	80.960	0.000	0.000	0.124	0.004	0.000	271.000
Sub-total	594.800	0.000	0.000	0.000	594.800	0.000	0.001	0.357	0.013	0.296	980.180
Jul	2794.730	0.000	0.000	0.000	2794.730	0.000	0.000	0.000	0.000	0.000	252.740
Aug	10429.730	0.000	0.000	0.000	10429.730	0.000	0.000	0.000	0.090	0.000	240.470
Sep	13842.840	0.000	0.000	0.000	13842.840	0.000	0.000	0.170	0.090	0.000	196.910
Oct	20945.100	0.000	0.000	0.000	20945.100	0.000	0.000	0.000	0.000	0.000	230.900
Nov	7273.940	0.000	0.000	0.000	7273.940	0.000	0.020	0.230	0.020	0.000	195.360
Dec	16080.660	0.000	0.000	0.000	16080.660	0.000	0.000	0.000	0.000	0.000	211.410
Total	71961.800	0.000	0.000	0.000	71961.800	0.000	0.021	0.758	0.213	0.296	2307.970

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

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Contract No. 13/WSD/17
Environmental Management Plan for Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Appendix F - Monthly Summary Waste Flow Table

Name of Department: WSD Contract No.: 13/WSD/17

Monthly Summary Waste Flow Table for 2023 (year)

W

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
Jan	3383.820	0.000	0.000	0.000	3383.820	0.000	0.000	0.000	0.000	0.000	143.690
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.138	0.010	0.000	115.880
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	205.410
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	255.720
May	2088.990	0.000	0.000	0.000	2088.990	0.000	0.000	0.000	0.000	0.000	202.270
Jun	1955.240	0.000	0.000	0.000	1955.240	0.000	0.000	0.000	0.0017	0.000	189.680
Sub-total	7428.050	0.000	0.000	0.000	7428.050	0.000	0.002	0.138	0.012	0.000	1112.650
Jul	121.060	0.000	0.000	0.000	121.060	0.000	0.008	0.150	0.042	0.000	186.110
Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	168.220
Sep	762.550	0.000	0.000	0.000	762.550	0.000	0.000	148.944	0.000	0.000	172.440
Oct	568.600	0.000	0.000	0.000	568.600	0.000	0.000	18.574	0.010	0.000	185.010
Nov	15.430	0.000	0.000	0.000	15.430	0.000	0.000	0.000	0.000	0.000	116.960
Dec	215.220	0.000	0.000	0.000	215.220	0.000	0.000	0.000	0.000	0.000	79.680
Total	9110.910	0.000	0.000	0.000	9110.910	0.000	0.010	167.806	0.064	0.000	2021.070

Notes:
(1) The performance targets are given in Section 1.69 of Specification B
(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(3) Plastics refer to plastic bottles/containers, plastic sheets/ foam from packaging material

Contract No. 13/WSD/17
Environmental Management Plan for Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Appendix F - Monthly Summary Waste Flow Table

Name of Department: WSD Contract No.: 13/WSD/17

Monthly Summary Waste Flow Table for 2024 (year)

w

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
Jan	4978.345	0.000	0.000	4667.745	310.600	0.000	0.000	0.000	0.000	0.000	77.800
Feb	22561.796	0.000	0.000	21883.006	678.790	0.000	0.000	0.000	0.000	0.000	53.480
Mar	81.140	0.000	0.000	0.000	81.140	0.000	0.000	0.000	0.000	0.000	52.260
Apr	57.130	0.000	0.000	0.000	57.130	0.000	0.000	0.000	0.000	0.000	47.390
May	91.370	0.000	0.000	0.000	91.370	0.000	0.000	0.000	0.000	0.000	77.260
Jun	61.590	0.000	0.000	0.000	61.590	0.000	0.000	0.000	0.002	0.000	59.320
Sub-total	27831.371	0.000	0.000	26550.751	1280.620	0.000	0.000	0.000	0.002	0.000	367.510
Jul	60378.440	0.000	0.000	0.000	60378.440	0.000	0.000	0.000	0.000	0.000	66.800
Aug	163.330	0.000	0.000	0.000	163.330	0.000	0.000	0.000	0.000	2.460	42.260
Sep	834.890	0.000	0.000	0.000	834.890	0.000	0.000	0.000	0.000	0.805	27.020
Oct	78.140	0.000	0.000	0.000	78.140	0.000	0.000	0.000	0.000	0.000	71.810
Nov	237.790	0.000	0.000	0.000	237.790	0.000	0.000	0.000	0.000	0.000	62.300
Dec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	31.470
Total	89523.961	0.000	0.000	26550.751	62973.210	0.000	0.000	0.000	0.002	4.265	669.170

Notes:

(1) The performance targets are given in Section 1.69 of Specification B

(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

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

Name of Department: WSD Contract No.: 13/WSD/17

Monthly Summary Waste Flow Table for 2025 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	38.740
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18.330
Mar	30.520	0.000	0.000	0.000	30.520	0.000	0.000	0.000	0.000	0.000	29.050
Apr	21.290	0.000	0.000	0.000	21.290	0.000	0.000	0.000	0.000	0.000	73.450
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	35.720
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	28.950
Sub-total	51.810	0.000	0.000	0.000	51.810	0.000	0.000	0.000	0.000	0.000	224.240
Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.434	13.330
Aug											
Sep											
Oct											
Nov											
Dec											
Total	51.810	0.000	0.000	0.000	51.810	0.000	0.000	0.000	0.000	1.434	237.570

Notes:

(1) The performance targets are given in Section 1.69 of Specification B

(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

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

Appendix G

Summary of Exceedances

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Table G1 Cumulative Statistics on Exceedances

Environmental Monitoring	Parameter	No. of non-Project related exceedance in the reporting period		Total No. of non-Project related exceedance in the reporting period	No. of Project related exceedance in the reporting period		Total No. of Project related exceedance in the reporting period	Total No. recorded since the project commencement
		AL	LL		AL	LL		
Noise	$L_{eq\ (30min)}$	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Quality	DO	0	0	0	0	0	0	0
	Turbidity	0	0	0	0	0	0	0
	SS	1725	1560	3285	0	0	0	3285
	pH	0	0	0	0	0	0	0
Landfill Gas	O_2	0	0	0	0	0	0	0
	CH_4	0	0	0	0	0	0	0
	CO_2	0	0	0	0	0	0	0
Coral	Mortality	0	0	0	0	0	0	0

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Appendix H

Complaint Log

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Statistical Summary of Environmental Complaints

Environmental Parameters	Cumulative Project
*Air	1
Noise	1
*Water	1
Waste	0
Total	2

*Remark: The complaint received on 22 July 2022 were included both air and water parameters, the total number of complaints is counted as one.

Statistical Summary of Environmental Summons and Prosecutions

Environmental Parameters	Cumulative Project
Air	0
Noise	0
Water	0
Waste	0
Total	0

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Appendix I

Event / Action Plan for Noise, Water Quality and Coral Monitoring Exceedance

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Event and Action Plan for Construction Noise Monitoring

Event	Action			
	ET	IEC	ER	Contractor
Action Level	1. Carry out investigation to identify the source and cause of the complaint/ exceedance(s) 2. Notify IEC, ER, and Contractor and report the results of investigation to the Contractor, ER and the IEC 3. Discuss with the Contractor and IEC for remedial measures required 4. If the complaint is related to the Project, conduct additional monitoring for checking mitigation effectiveness and report the findings and results to the IEC, ER and the Contractor	1. Review the analyzed results submitted by the ET 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly 3. Supervise the implementation of remedial measures	1. Confirm receipt of Notification of Exceedance in writing 2. Require Contractor to propose remedial measures for the analysed noise problem 3. Ensure remedial measures are properly implemented	1. Submit noise mitigation proposals, if required, to the IEC and ER 2. Implement noise mitigation proposals.
Limit Level	1. Carry out investigation to identify the source and cause of the exceedance 2. Notify IEC, ER, Project Proponent, EPD and Contractor 3. Repeat measurements to confirm findings 4. Provide investigation report to IEC, ER, EPD and Contractor he causes of the exceedances 5. If the exceedance is related to the Project, assess effectiveness by additional monitoring. 6. Report the remedial action implemented and the additional monitoring results to IEC, EPD, ER and Contractor 7. If exceedance stops, cease additional monitoring	1. Review the analyzed results submitted by the ET 2. Discuss the potential remedial measures with ER, ET Leader and Contractor 3. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly 4. Supervise the implementation of remedial measures	1. Confirm receipt of Notification of Exceedance in writing 2. Require the Contractor to propose remedial measures for the analysed noise problem 3. Ensure remedial measures are properly implemented 4. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor, in agreement with the Project Proponent, to stop that activity of work until the exceedance is abated	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification 3. Implement the agreed proposals 4. Resubmit proposals if problem still not under control 5. Stop the relevant activity of works as determined by the Project Proponent until the exceedance is abated

Notes : ET = Environmental Team, IEC = Independent Environmental Checker; ER = Engineering Representatives

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Event and Action Plan for Water Quality Monitoring

Event	Action			
	ET	IEC	Contractor(s)	ER
Action Level being exceeded by one sampling day	1. Repeat *in situ* measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER.	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice	1. Confirm receipt of notification of exceedance in writing.
Action Level being exceeded by two or more consecutive sampling days	1. Repeat *in situ* measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Consider changes of working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented.
Limit Level being exceeded by one sampling day	1. Repeat *in situ* measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Critically review the need to change working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented. 4. Request Contractor(s) to critically review the working methods.
Limit Level being exceeded by two or more consecutive sampling days	1. Repeat *in situ* measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Critically review the need to change working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures. 6. As directed by ER, slow down or stop all or part of the marine construction works/ production volume of the desalination plant until no exceedance of Limit Level.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented. 4. Request Contractor(s) to critically review the working methods; 5. Consider and instruct, if necessary, the Contractor(s) to slow down or to stop all or part of the marine construction works/ production volume of the desalination plant until no exceedance of Limit Level.

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The above actions should be taken within 1 working day after the exceedance is identified during operation phase.

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Event and Action Plan for Ecology during Construction Phase

Event	Action			
	ET	IEC	Contractor(s)	ER
Non-conformity on one occassion	1. Identify source 2. Inform IEC and ER 3. Discuss remedial actions with IEC, the ER and the Contractor 4. Monitor/ audit/ review remedial actions until rectification has been completed	1. Check monitoring/ auditing results 2. Check the Contractor's working method 3. Discuss with the ET and Contractor on possible remedial measures 4. Advise the ER on effectiveness of proposed remedial measures 5. Check the implementation of remedial measures	1. Take immediate action to avoid further problem 2. Amend working methods if needed 3. Submit proposals for remedial actions to ET, ER and IEC 4. Rectify damage and implement the agreed remedial actions	1. Notify Contractor 2. Ensure remedial measures are properly implemented 3. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the works in case of serious non-conformity until situation is rectified
Repeated Non-comformity	1. Identify source 2. Inform IEC, ER, EPD and AFCD 3. Increase monitoring and audit frequency 4. Discuss remedial actions with the IEC, the ER and the Contractor 5. Monitor/ audit/ review remedial actions until rectification has been completed 6. If non-conformity stops, cease additional monitoring/ auditing	1. Check monitoring/ auditing results 2. Check the Contractor's working method 3. Discuss with the ET and Contractor on possible remedial measures 4. Supervise the implementation of remedial measures 5. Advise the ER on effectiveness of proposed remedial measures and keep EPD and AFCD informed	1. Take immediate action to avoid further problem 2. Amend working methods if needed 3. Submit proposals for remedial actions to ET, ER and IEC 4. Rectify damage and implement the agreed remedial actions	1. Notify Contractor 2. Ensure remedial measures are properly implemented 3. Consider and instruct, if necessary, the Contactor to slow down or to stop all or part of the works in the case of serious non-conformity until situation is rectified

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Event and Action Plan for Coral Monitoring

Event	Action			
	ET Leader	**IEC**	**SOR ****	**Contractor**
Action Level Exceedance	1. Check monitoring data 2. Inform the IEC, SOR and Contractor of the findings; 3. Increase the monitoring to at least once a month to confirm findings; 4. Propose mitigation measures for consideration	1. Discuss monitoring with the ET and the Contractor; 2. Review proposals for additional monitoring and any other measures submitted by the Contractor and advise the SOR accordingly.	1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET; 2. Make agreement on the measures to be implemented.	1. Inform the SOR and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the SOR; 3. Implement the agreed measures.
Limit Level Exceedance	1. Undertake Steps 1-4 as in the Action Level Exceedance. If further exceedance of Limit Level, propose enhancement measures for consideration.	1. Discuss monitoring with the ET and the Contractor; 2. Review proposals for additional monitoring and any other measures submitted by the Contractor and advise the SOR accordingly.	1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET; 2. Make agreement on the measures to be implemented.	1. Inform the SOR and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the SOR; 3. Implement the agreed measures.

*Remark: ** The "SOR" is equivalent to the "ER" as defined in the EM&A Manual of the Project*

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