環境保護署
Environmental Protection Department

Contract No. EP/SP/66/12
Integrated Waste Management Facilities, Phase 1
18th Quarterly EM&A Report

Keppel Seghers
吉寶西格斯－振華聯營公司
KEPPEL SEGHERS - ZHEN HUA JOINT VENTURE

Quarterly EM&A Report No.18
(Period from 1 October to 31 December 2022)

(Clause 3.3, Further Environmental Permit FEP-01/429/2012/A)

Document No.

KSZHJV	/	312	/	Quarterly EM&A	/	00018	/	B
Issuer		**Project Code**		**Type of Document**		**Sequential No.**		**Revision Index**

	Prepared by:	Certified by:	Verified by:
Name	Joe Ho	F.C Tsang	Mandy To
Position	Environmental Team Member	Environmental Team Leader	Independent Environmental Checker
Signature			
Date:	20 March 2024	20 March 2024	20 March 2024

Revision History

Rev.	DESCRIPTION OF MODIFICATION	DATE
B	Updated Appendix C&D	18 March 2024
A	First Submission	20 January 2023

CONTENT

1. Basic Project Information 1
2. Marine Water Quality Monitoring 5
3. Noise Monitoring 12
4. Waste 17
5. Coral 19
6. Marine Mammal 27
7. White-Bellied Sea Eagle 35
8 Summary of Monitoring Exceedance, Complaints, Notification of Summons and Prosecutions 38
9. EM&A Site Inspection 39
10. Conclusion and Recommendations 40

Appendix A	Master Programme
Appendix B	Summary of Implementation Status of Environmental Mitigation
Appendix C	Water Quality Monitoring Data Trending
Appendix D	Noise Monitoring Data Trending
Appendix E	Waste Flow Table
Appendix F	Photo Records for Coral Monitoring
Appendix G	Photo Records for Marine Mammal Monitoring
Appendix H	Photo Records for White-bellied Sea Eagle Monitoring
Appendix I	Complaint Log

EXECUTIVE SUMMARY

A1. The Project, Integrated Waste Management Facility (IWMF), is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) and is currently governed by a Further Environmental Permit (FEP No. FEP-01/429/2012/A) for the construction and operation of the Project.

A2. In accordance with the Updated Environmental Monitoring and Audit (EM&A) Manual for the Project, 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 Project.

A3. This is the 18th Quarterly EM&A Report, prepared by ASCL, for the Project summarizing and concluding the monitoring results and audit findings of the EM&A programme at and around Shek Kwu Chau (SKC) during the reporting period from 1 October 2022 to 31 December 2022.

A4. The EM&A works for construction noise, water quality, construction waste, coral, marine mammal and White-Bellied Sea Eagle (WBSE) were conducted during the reporting period in accordance with the Updated EM&A Manual.

A5. Weekly site inspections of the construction works were carried out by ET to audit the mitigation measures implementation status. Monthly joint site inspections were carried out by ET and IEC.

1. BASIC PROJECT INFORMATION

1.1. The Reporting Scope

1.1.1 This is the 18h Quarterly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 October 2022 to 31 December 2022.

1.2. Project Organization

1.2.2 The Project Organization structure for Construction Phase is presented in **Figure 1.1**.

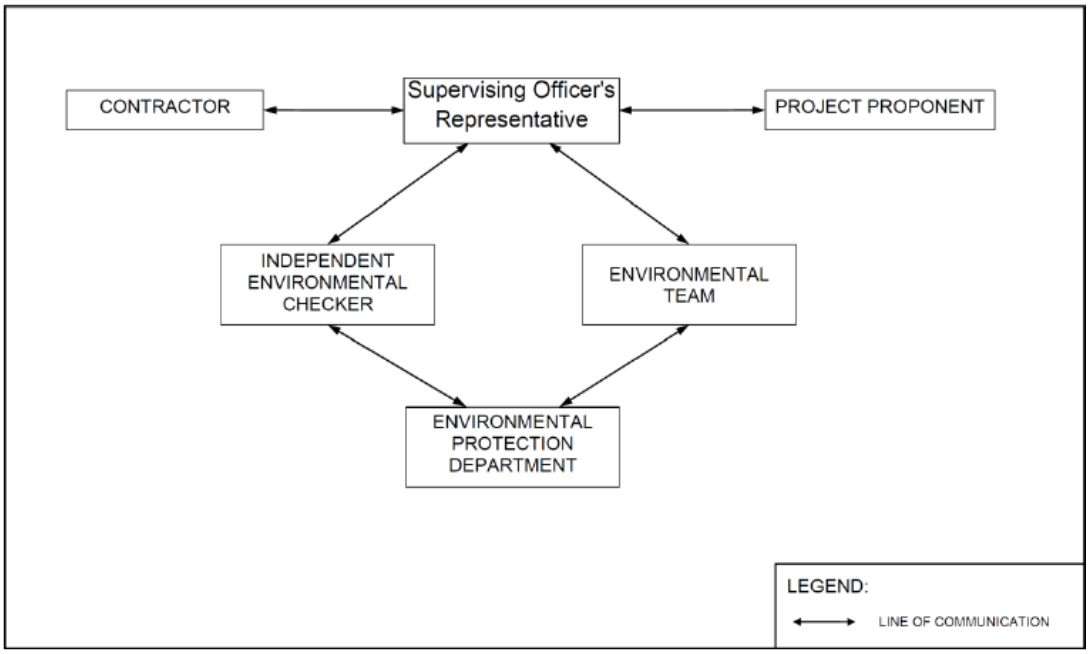


Figure 1.1 Project Organization Chart

1.2.3 Contact details of the key personnel are presented in **Table 1.1** below:

Table 1.1 Contact Details of Key Personnel

Party	Position	Name	Telephone no.
Environmental Protection Department	Project Proponent	Cheng Tak-Kuen	2594-6111
Keppel Seghers – Zhen Hua Joint Venture	Project Manager	Kenny Yu	2192-0606
Acuity Sustainability Consulting Limited	Environmental Team Leader	F.C. Tsang	2698-6833
ERM-Hong Kong, Limited	Independent Environmental Checker	Mandy To	2271-3000

1.3. Summary of Construction Works

1.3.1 Details of the major construction activities undertaken in this reporting period are shown in **Table 1.2** below. The construction programme is presented in **Appendix A**.

Table 1.2 Summary of the Construction Activities Undertaken during the Reporting Period

Location of works	Construction activities undertaken	Remarks on progress
Reclamation area	• Reclamation works	• On-going
	• Installation of Instrumentation	• On-going
	• Site Investigation works for foundation	• On-going
	• Foundation works (including Driven H Pile and Socketed H Pile)	• On-going
	• Pile cap construction	• On-going
	• Structural steel work	• On-going
Seawall portion	• Installation of Chinese Pod	• On-going
	• Caisson extension works, from +3mPD to +6mPD, at Seawall A and B	• On-going
	• Construction of wave wall along the vertical seawall	• On-going

1.3.2 The status for all environmental aspects is presented in **Table 1.3**.

Table 1.3 Summary of Status for Key Environmental Aspects under the Updated EM&A Manual

Parameters	Status
Water Quality	
Baseline Monitoring under Updated EM&A Manual and Detailed Plan on DCM	The baseline water quality monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under FEP Condition 3.4
Impact Monitoring	On-going
Regular DCM Monitoring	All DCM was completed on 14 October 2020, regular DCM monitoring for further 4 weeks (i.e from 16 October 2020 to 14 November 2020) was completed according to the approved Detailed Plan on Deep Cement Mixing
Initial Intensive DCM Monitoring	Conducted from 11 February 2019 to 10 March 2019, had not been resumed since there was no DCM related parameter exceeding the AL/LL.
Baseline Water Quality of wet season	Completed over 13 August 2018 to 7 September 2018
Noise	
Baseline Monitoring	The baseline noise monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under FEP Condition 3.4
Impact Monitoring	On-going
Waste Management	
Mitigation Measures in Waste Monitoring Plan	On-going
Coral	
Pre-translocation Survey and Coral Mapping	The Coral Translocation Plan was submitted and approved by EPD under EP Condition 2.12
Coral Translocation	Completed on 28 March 2018
Post-Translocation Coral Monitoring	Survey affected by missing of translocated and tagged coral colonies after typhoons in September 2018, completed on 28 March 2019.
Pre-construction Coral Survey and Tagging	Completed on 26 June 2018
Tagged Coral Monitoring	Survey obstructed due to missing of tagged coral colonies after typhoons in September 2018
Coral Survey and Re-tagging	Re-tagging at Indirect Impact Site was conducted on 23 November and Re-tagging at Control Site was conducted on 3 December 2018.
Post Re-tagging Coral Quarterly Monitoring	On-going
Marine Mammal	
Baseline Monitoring	The baseline marine mammal monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under FEP Condition 3.4
Impact Monitoring	On-going
Land-based Theodolite Tracking	30 days of theodolite surveys were started on 21 Feb 2019 and completed in May 2019.

Parameters	Status
Passive Acoustic Monitoring	30 days of PAM surveys were started on 1 May 2019 and completed at the end of May 2019.
White-bellied Sea Eagle	
Baseline Monitoring	The baseline WBSE monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under FEP Condition 3.4
Impact Monitoring	On-going, Incubation activity was recorded during the monitoring on 29 December 2022, the frequency of impact monitoring will changed to weekly monitoring starting from January 2023.
Environmental Audit	
Site Inspection covering Measures of Air Quality, Noise Impact, Water Quality, Waste, Ecological Quality, Fisheries, Landscape and Visual	On-going
Mitigation Measures in Marine Mammal Watching Plan (MMWP)	Installation of caisson No.19 was completed on 18 March 2021, which the reclamation area had been totally enclosed by permanent structure. Floating type silt curtain at marine access was removed on 18 March 2021. No enclosed area shall be formed by deployment of silt curtain for the remaining works programme.
Mitigation Measures in Detailed Monitoring Programme on Finless Porpoise (DMPFP)	Installation of caisson No.19 was completed on 18 March 2021, which the reclamation area had been totally enclosed by permanent structure. Floating type silt curtain at marine access was removed on 18 March 2021. No enclosed area shall be formed by deployment of silt curtain for the remaining works programme.
Mitigation Measures in Vessel Travel Details	On-going
Daily Site Audit and Monitoring for Dredging Work	Completed

1.3.3 Other than the EM&A works 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.

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

2. MARINE WATER QUALITY MONITORING

2.1 Water Quality Parameters

2.1.1 Measurement of Dissolved Oxygen (DO), Turbidity, Suspended Solids (SS), Salinity and pH have been undertaken at the eleven monitoring stations during general water quality monitoring.

2.1.2 DO, temperature, salinity, turbidity and pH were measured in-situ and the SS was assayed in a HOKLAS laboratory.

2.1.3 In associate with the water quality parameters, other relevant data were also measured, such as monitoring location/position, time, water depth, sampling depth, tidal stages, weather conditions and any special phenomena or work underway nearby were also recorded.

2.1.4 Impact water quality monitoring was conducted 3 days per week in the reporting period. All parameters were monitored during mid-flood and mid-ebb tides at three water depths for water quality monitoring. The interval between two sets of monitoring has not been less than 36 hours.

2.1.5 **Table 2.1** summarizes the monitoring parameters, frequency and duration of the impact water quality monitoring.

Table 2.1 Water Quality Monitoring Parameters, Frequency and Duration

Parameter, unit	Frequency	No. of Depths
• Water Depth(m) • Temperature(°C) • Salinity(ppt) • pH (pH unit) • Dissolved Oxygen (DO)(mg/L and % of saturation) • Turbidity(NTU) • Suspended Solids (SS), mg/L • Current velocity (m/s) • Direction (in NESW)	General water quality monitoring: 3 days per week, at mid-flood and mid-ebb tides	3 water depths: 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth is less than 6m, mid-depth may be omitted.

2.2 Water Quality Monitoring Locations

2.2.1 Impact water quality monitoring was conducted at eleven monitoring locations (i.e. B1-B4, H1, C1A, C2A, F1A, CR1, CR2 and M1) during general water quality monitoring as shown in **Figure 2.1**.

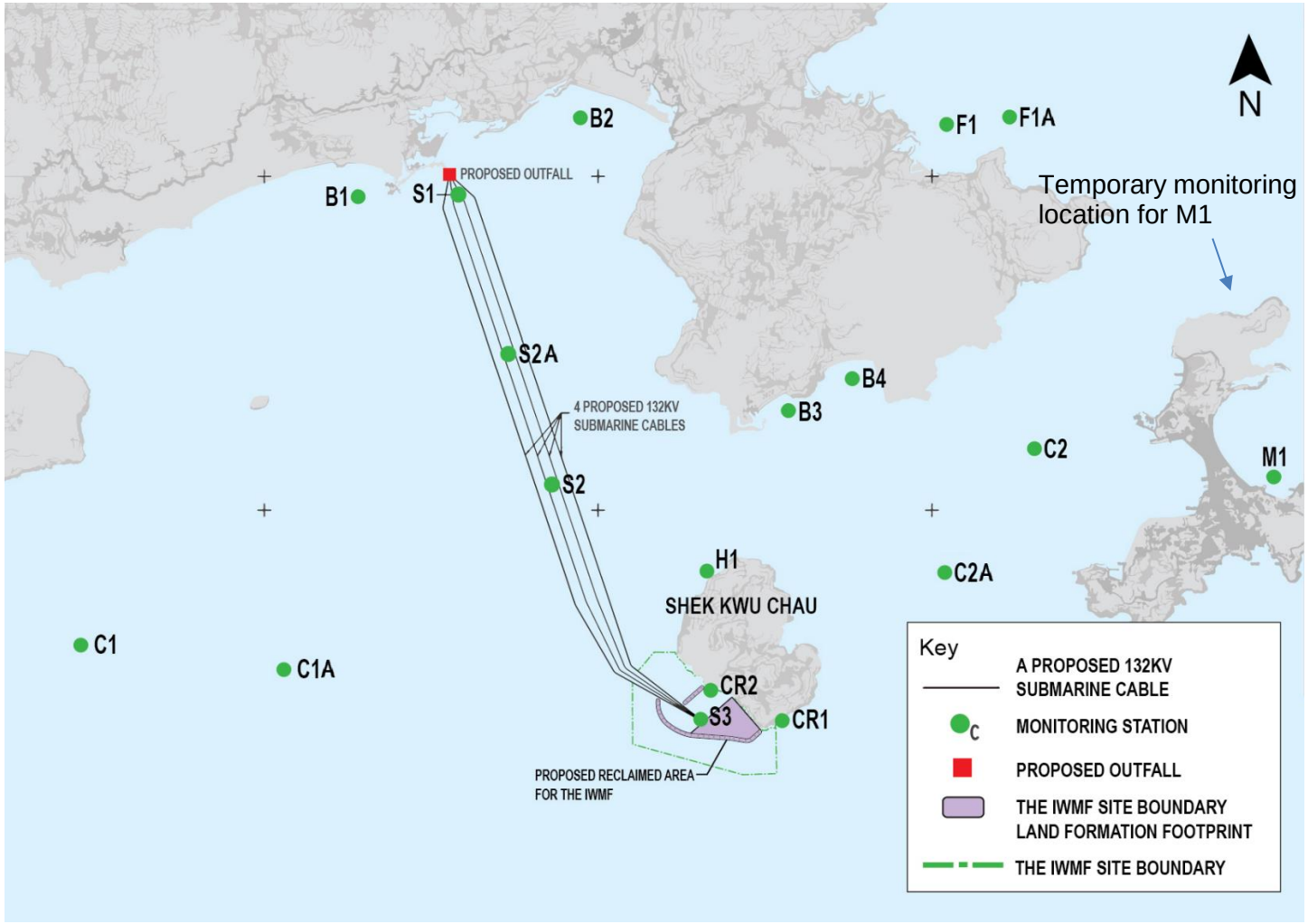


Figure 2.1 Water monitoring locations at Artificial Island near SKC

2.3 Action and Limit Levels

2.3.1 Based on the baseline monitoring data and the derivation criteria presented in the Baseline Monitoring Report, the Action/Limit Levels have been derived and are presented in **Table 2.2** and **Table 2.3** for both dry seasons (October – March) and wet seasons (April – September).

Table 2.2 Derived Action and Limit Levels for Water Quality Monitoring (Dry Season)

Parameters	Action	Limit
Construction Phase Impact Monitoring		
DO in mg/L	≤ 7.13	≤ 4
SS in mg/L	≥ 8 or 120% of control station's SS at the same tide of the same day of measurement, whichever is higher	≥ 10 or 130% of control station's SS at the same tide of the same day of measurement, whichever is higher
Turbidity in NTU	≥ 5.6 or 120% of control station's turbidity at the same tide of the same day of measurement, whichever is higher	≥ 12.81 or 130% of control station's turbidity at the same tide of the same day of measurement, whichever is higher
Temperature in°C	1.8°C above the temperature recorded at representative control station at the same tide of the same day	2°C above the temperature recorded at representative control station at the same tide of the same day

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 and Salinity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

Table 2.3 Derived Action and Limit Levels for Water Quality (Wet Season)

Parameters	Action	Limit
Construction Phase Impact Monitoring		
DO in mg/L	≤ 5.28	≤ 4
SS in mg/L	≥ 12 or 120% of control station's SS at the same tide of the same day of measurement, whichever is higher	≥ 14 or 130% of control station's SS at the same tide of the same day of measurement, whichever is higher
Turbidity in NTU	≥ 4.0 or 120% of control station's turbidity at the same tide of the same day of measurement, whichever is higher	≥ 4.3 or 130% of control station's turbidity at the same tide of the same day of measurement, whichever is higher
Temperature in°C	1.8°C above the temperature recorded at representative control station at the same tide of the same day	2°C above the temperature recorded at representative control station at the same tide of the same day

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 and Salinity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

2.4 Monitoring Results and Observations

2.4.1 As confirmed by the Contractor on 14 October 2020, all DCM works was completed on 14 October 2020, the post DCM water quality monitoring was completed for further 4 weeks (i.e. from 16 October 2020 to 14 November 2020) according to the approved Detailed Plan on Deep Cement Mixing. As all DCM work and post DCM water quality monitoring were completed on 14 November 2020, no water quality monitoring was conducted at S1, S2A and S3 after 14 November 2020. Monitoring results of 6 key parameters: Salinity, DO, turbidity, SS, pH and temperature for general water quality monitoring during the reporting period, are summarized in **Table 2.4**, and results trending are presented graphically in **Appendix C.**

Table 2.4 Summary of Regular Impact Water Quality Monitoring Results

Locations		Parameters																				
		Salinity (ppt)			Dissolved Oxygen (mg/L)						pH			Turbidity (NTU)			Suspended Solids (mg/L)			Temp. (°C)		
					Surface & Middle			Bottom														
		Oct	Nov	Dec	Oct	Nov	Dec	Oct	Nov	Dec	Oct	Nov	Dec	Oct	Nov	Dec	Oct	Nov	Dec	Oct	Nov	Dec
B1	Avg.	32.64	32.67	32.45	8.58	8.89	8.94	8.59	8.89	8.95	8.24	8.29	8.29	3.1	3.1	3.7	10.11	7.76	6.94	27.0	24.8	21.3
	Min.	31.21	30.96	30.51	7.90	8.30	8.13	7.97	8.33	8.15	8.12	8.16	8.18	2.0	2.3	2.6	2.50	2.50	2.00	25.2	23.2	20.0
	Max.	34.47	33.97	33.90	9.63	9.50	9.70	9.53	9.62	9.65	8.35	8.62	8.42	4.0	3.9	7.4	28.00	21.00	21.00	28.7	25.7	23.6
B2	Avg.	32.62	32.54	32.45	8.69	8.77	8.85	8.68	8.76	8.82	8.22	8.26	8.27	3.1	3.1	3.4	9.91	8.56	7.90	27.0	24.8	21.3
	Min.	31.14	31.08	30.27	7.84	8.07	8.24	7.84	8.08	8.24	8.02	8.10	8.12	2.2	2.3	2.6	2.50	2.50	2.00	25.0	23.4	20.1
	Max.	34.70	34.17	34.26	9.38	9.44	9.48	9.34	9.48	9.49	8.35	8.38	8.43	3.9	5.9	6.0	25.00	21.00	23.00	28.8	25.6	23.2
B3	Avg.	32.38	32.65	32.19	8.59	8.85	8.64	8.58	8.86	8.64	8.23	8.29	8.28	4.3	4.4	4.7	10.20	9.86	7.88	27.0	24.8	21.3
	Min.	31.00	31.41	30.51	8.08	8.23	8.19	8.08	8.21	8.20	8.06	8.16	8.16	3.1	3.3	3.2	2.50	2.50	2.00	25.3	23.4	20.0
	Max.	33.54	34.35	33.31	9.48	9.47	9.57	9.45	9.43	9.61	8.39	8.84	8.38	5.6	5.5	6.5	23.00	26.00	23.00	28.7	25.6	23.3
B4	Avg.	32.62	32.57	32.41	8.63	8.81	8.69	8.64	8.85	8.71	8.23	8.28	8.30	4.3	4.4	4.7	10.14	10.17	8.80	26.9	24.7	21.3
	Min.	31.02	31.05	30.97	7.94	7.87	8.06	7.98	7.94	8.19	8.10	8.08	8.19	3.2	3.2	3.2	2.50	2.50	2.00	25.3	23.2	19.9
	Max.	34.57	34.20	34.23	9.41	9.66	9.52	9.47	9.70	9.54	8.37	8.77	8.42	6.0	5.9	6.2	22.00	20.00	29.00	28.6	25.6	23.6
C1A	Avg.	32.75	32.45	32.48	8.45	8.82	8.57	8.50	8.80	8.58	8.24	8.30	8.28	5.5	5.6	5.9	10.08	9.42	8.07	27.0	24.8	21.3
	Min.	31.42	30.99	30.40	7.83	8.29	8.02	7.85	8.20	8.07	8.10	8.12	8.19	3.8	3.6	3.7	2.50	2.50	2.00	25.3	23.3	20.0
	Max.	34.81	33.64	34.21	9.27	9.54	9.64	9.27	9.58	9.68	8.37	9.38	8.42	7.5	7.6	7.9	22.00	24.00	21.00	28.6	25.5	23.5
C2A	Avg.	32.60	32.43	32.48	8.65	8.77	8.80	8.64	8.77	8.80	8.23	8.31	8.28	5.3	5.6	5.9	10.33	10.06	8.40	27.0	24.8	21.2
	Min.	30.89	30.91	30.26	7.70	8.14	8.08	7.76	8.16	8.02	8.09	8.08	8.11	3.6	3.7	4.1	2.50	2.50	2.00	25.4	23.3	20.0
	Max.	33.98	34.28	33.86	9.56	9.65	9.55	9.60	9.51	9.60	8.39	9.43	8.37	8.0	7.3	8.7	22.00	24.00	22.00	28.6	25.7	23.3
CR1	Avg.	32.66	32.30	32.53	8.64	8.87	8.73	8.65	8.86	8.74	8.23	8.28	8.29	4.4	4.6	4.9	9.96	8.61	8.20	26.9	24.9	21.3
	Min.	30.83	30.96	30.73	7.86	8.13	7.85	7.93	8.19	7.85	8.13	8.11	8.14	2.9	2.3	3.3	2.50	2.50	2.00	25.1	23.5	20.0
	Max.	34.32	33.92	34.06	9.60	9.78	9.74	9.56	9.66	9.69	8.34	8.76	8.40	7.2	6.2	7.7	25.00	20.00	25.00	28.6	25.6	23.2
CR2	Avg.	32.59	32.70	32.37	8.48	8.76	8.78	8.50	8.73	8.81	8.26	8.28	8.28	4.1	4.5	5.0	11.08	9.60	8.51	26.9	24.8	21.2
	Min.	31.17	30.98	30.39	7.88	7.86	8.14	7.88	7.94	8.22	8.14	8.12	8.15	2.7	2.8	3.2	2.50	2.50	2.00	25.1	23.3	19.9
	Max.	34.92	34.42	33.46	9.33	9.63	9.58	9.30	9.59	9.60	8.37	8.48	8.39	6.2	6.1	6.9	25.00	24.00	26.00	28.6	25.7	23.2
F1A	Avg.	32.73	32.58	32.28	8.52	8.80	8.81	8.52	8.83	8.81	8.24	8.28	8.28	4.2	4.3	4.5	10.53	9.38	8.02	27.0	24.9	21.3
	Min.	31.07	31.12	30.06	7.75	8.23	7.96	7.75	8.33	8.02	8.06	8.14	8.20	2.9	2.8	3.0	2.50	2.50	2.00	25.2	23.2	20.0
	Max.	33.85	34.54	33.72	9.44	9.49	9.61	9.38	9.57	9.60	8.37	8.81	8.38	6.6	6.3	6.1	23.00	23.00	22.00	28.7	25.7	23.2
H1	Avg.	32.61	32.66	32.37	8.51	8.92	8.66	8.50	8.92	8.67	8.23	8.32	8.30	4.1	4.4	4.7	9.94	9.16	8.26	27.0	24.8	21.2
	Min.	30.91	31.07	30.60	7.80	8.20	7.89	7.81	8.29	7.90	8.12	8.12	8.19	2.9	3.1	3.3	2.50	2.50	2.00	25.4	23.2	20.0

Locations		Parameters																			
		Salinity (ppt)			Dissolved Oxygen (mg/L)						pH			Turbidity (NTU)			Suspended Solids (mg/L)			Temp. (°C)		
					Surface & Middle			Bottom														
		Oct	Nov	Dec	Oct	Nov	Dec	Oct	Nov	Dec	Oct	Nov	Dec	Oct	Nov	Dec	Oct	Nov	Dec	Oct	Nov	Dec
	Max.	34.04	34.29	33.90	9.25	9.70	9.48	9.24	9.69	9.40	8.36	9.60	8.44	6.2	6.9	7.4	23.00	25.00	32.00	28.8	25.6	23.2
M1	Avg.	32.63	32.80	32.41	8.62	8.86	8.81	8.65	8.87	8.82	8.25	8.28	8.29	4.2	4.2	4.5	11.08	10.01	8.43	27.0	24.8	21.3
	Min.	30.87	31.29	30.29	7.91	8.29	8.14	7.93	8.32	8.15	8.13	8.11	8.19	2.7	2.1	2.8	2.50	2.50	3.00	25.1	23.3	19.9
	Max.	34.63	34.16	33.96	9.41	9.72	9.64	9.40	9.77	9.60	8.36	8.50	8.47	6.7	6.0	7.7	27.00	24.00	23.00	28.7	25.6	23.4

Notes:

i. "Avg", “Min” and “Max” is the average, minimum and maximum respectively of the data from measurements conducted under mid-flood and mid-ebb tides at three water depths, except that of DO where the data for “Surface & Middle” and “Bottom” are calculated separately.

2.4.2 All of the monitoring results for temperature, DO and turbidity obtained in the reporting period complied with their corresponding Action and Limit levels. Forty (40) of the general water quality monitoring results of SS had exceeded Action Level during the reporting period, while Fifty (50) exceedances of the Limit Level of SS were also recorded. For the salinity, pH, DO, turbidity, temperature and SS, their trends were fluctuated independent to the site activities and presented in **Appendix C**.

2.4.3 No major pollution source which might affect the results was observed during the impact monitoring.

2.4.4 During the water quality monitoring for ebb tide on 17 October 2022, the location for monitoring station M1 was temporarily changed to the north of Cheung Chau (as shown on Figure 2.1) due to strong swell brought by typhoon NESAT. During the water quality monitoring for ebb tide and flood tide on 2 and 5 December 2022, the location for monitoring station M1 was temporarily changed to the north of Cheung Chau (as shown on Figure 2.1) due to strong swell brought by monsoon. The coordinate of temporary monitoring location for M1 on 17 October 2022, 2 and 5 December 2022 2022 was E809305, N821294.

2.4.5 The impact water monitoring event for flood tide on 17 October 2022 was cancelled due to the adverse weather under typhoon NESAT and the scheduled impact water monitoring event on 2 November 2022 was cancelled due to the adverse weather under typhoon NALGAE.

2.4.6 Details of the exceedance are presented in **Section 8**.

2.4.7 Implemented mitigation measures minimizing the adverse impacts on water are listed in the implementation schedule given in **Appendix B**.

3. NOISE MONITORING

3.1 Noise Monitoring Parameters

3.1.1 Impact noise monitoring was conducted weekly in the reporting period between 0700 and 1900 hours on normal weekdays. Additional impact noise monitoring was conducted weekly in the reporting period between 1900 and 0700 hours on all days as well as public holidays and Sundays.

3.1.2 Construction noise level measured in terms of the A-weighted equivalent continuous sound pressure level (L_{Aeq}). $L_{eq\ 30min}$ was used as the monitoring parameter for the time period between 0700 and 1900 hours on normal weekdays. $L_{eq\ 5min}$ was used as the monitoring parameter for the time period between 1900 and 0700 hours as well as public holidays and Sundays. **Table 3.1** summarizes the monitoring parameters, frequency and duration of the impact noise monitoring and additional impact noise monitoring.

Table 3.1 Noise Monitoring Parameters, Time, Frequency and Duration

Monitoring Station	Time	Duration	Parameters
M1/ N_S1, M2/ N_S2, M3/ N_S3	Day time: 0700-1900 hrs (during normal weekdays)	Once per week $L_{eq\ 5min}$/$L_{eq\ 30min}$ (average of 6 consecutive $L_{eq\ 5min}$)	L_{eq}, L_{10} & L_{90}
	Evening time: 1900-2300 hrs (including normal weekdays, also public holidays and Sundays)	Once per week $L_{eq\ 5min}$ (3 sets of $L_{eq\ 5min}$)	L_{eq}, L_{10} & L_{90}
	Night time: 2300-0700 hrs (including normal weekdays, also public holidays and Sundays)	Once per week $L_{eq\ 5min}$ (3 sets of $L_{eq\ 5min}$)	L_{eq}, L_{10} & L_{90}

3.2 Noise Monitoring Locations

3.2.1 Three noise monitoring locations for impact monitoring and additional impact monitoring at the nearby sensitive receivers are shown in **Figure 3.1**

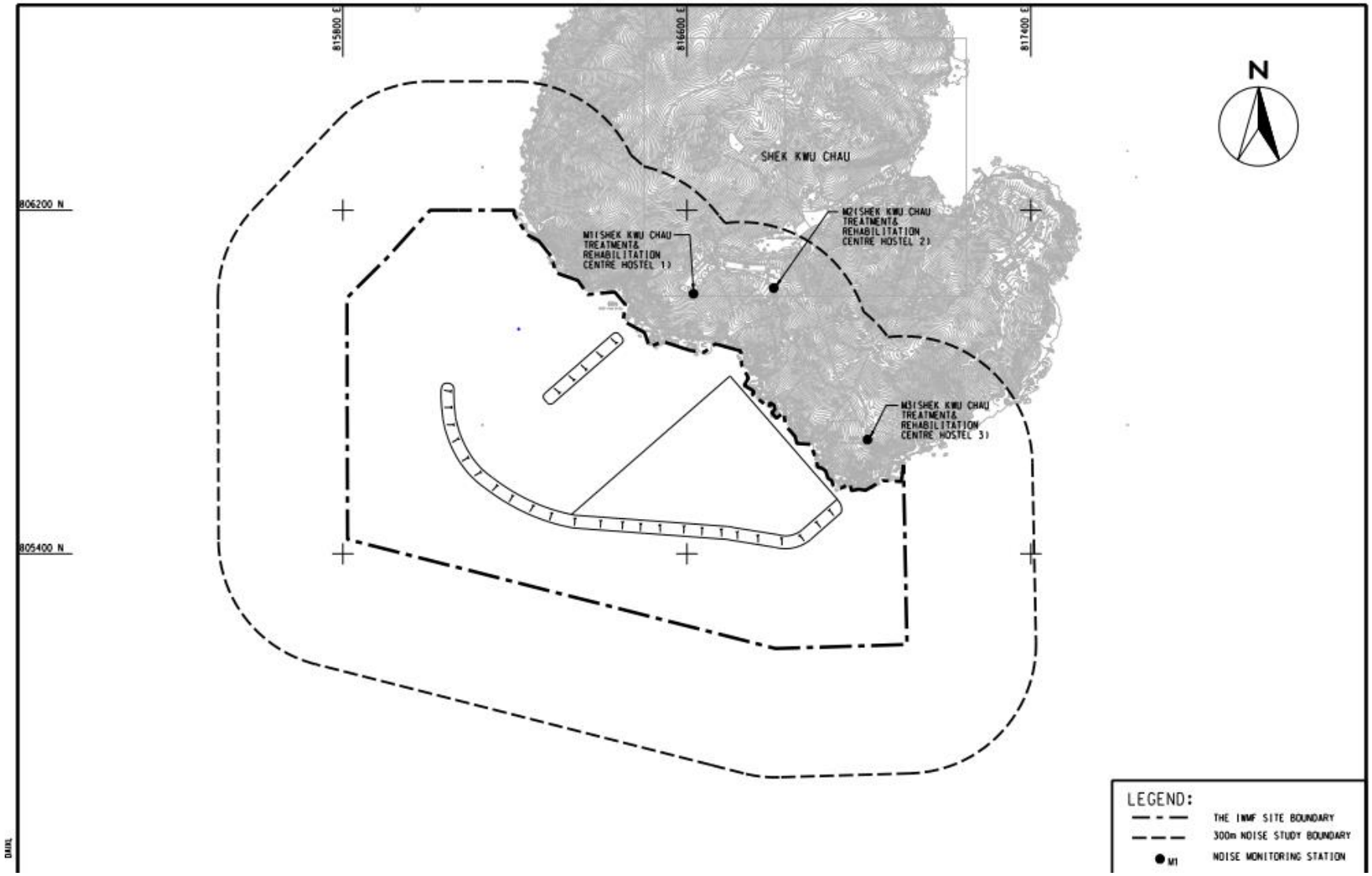


Figure 3.1 Noise monitoring locations at SKC

3.2.2 M1, M2 and M3 are Shek Kwu Chau Treatment and Rehabilitation Centre Hostel 1, 2 and 3 respectively of The Society for the Aid and Rehabilitation of Drug Abusers (SARDA) located at southern part of Shek Kwu Chau.

3.2.3 Measurements at M1 & M3 were conducted at a point 1m from the exterior of the sensitive receivers building façade and at a position 1.2m above the ground. Measurement setup at M3 has been varying with minor adjustment to minimize the disturbance to the users of Treatment Centre. Measurement at M2 was conducted at a point 1m from building façade of the ceiling of 1st floor level for avoidance of mutual disturbance with users of Treatment Centre. The minor adjustment of monitoring locations, which were in favour to mutual convenience with the users of Treatment Centre, were found with no effect on monitoring result based on on-site observation and experience from the Baseline monitoring of the Project.

3.2.4 The noise monitoring stations are summarized in **Table 3.2** below.

Table 3.2 Noise Monitoring Location

Station	NSR ID in EIA Report	Noise Monitoring Location	Type of sensitive receiver(s)	Measurement Type
M1	N_S1	Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 1	Residential	Façade
M2	N_S2	Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 2	Residential	Façade
M3	N_S3	Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 3	Residential	Façade

3.3 Action and Limit Levels

3.3.1 The Action/Limit Levels 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 HKSAR Environmental Protection Department ["EPD"] under the Environmental Impact Assessment Ordinance, Cap 499, S.16 is presented in **Table 3.3.**

Table 3.3 Action and Limit Levels for Noise per Updated EM&A Manual

Time Period	Action	Limit (dB(A))
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A)

Notes: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

3.4 Monitoring Results and Observations

3.4.1 Impact monitoring for noise impact for daytime was conducted in the reporting period. The impact noise levels at Noise Monitoring Stations at SKC (i.e. M1/ N_S1 to M3/ N_S3) are summarized in **Table 3.5**. Additional impact monitoring during restricted hours was conducted in the reporting period. The additional impact noise levels at Noise Monitoring Stations at SKC (i.e. M1/ N_S1 to M3/ N_S3) are summarized in **Table 3.6** and **Table 3.7** respectively. Trending of the noise monitoring results is presented graphically in **Appendix D**.

3.4.2 Major construction activity, major noise source and extreme weather which might affect the results were recorded during the impact monitoring.

3.4.3 According to our field observations, the major noise source identified at the noise monitoring station in the reporting quarter are summarised in **Table 3.4**. Sound from the intermittent piling work was the noticeable noise source for monitoring stations M1, M2 and M3. Air conditioning units were also observed at station M3 during the impact monitoring.

Table 3.4 Summary of Field Observation

Monitoring Station	Major Noise Source
M1	Sound from the intermittent piling work
M2	Sound from the intermittent piling work
M3	Sound from the intermittent piling work, air-conditioners

3.4.4 No data from impact monitoring during daytime had exceeded the stipulated limit level at 75 dB(A).

Table 3.5 Summary of Impact Noise Monitoring Results during Daytime (0700 – 1900 hrs)

Location	Noise in dB(A)								
	Range of $L_{eq\ 30min}$			Range of $L_{10\ 30min}$			Range of $L_{90\ 30min}$		
	Oct	Nov	Dec	Oct	Nov	Dec	Oct	Nov	Dec
M1	62.4 – 65.9	58.3 – 64.5	58.6 – 65.5	65.9 – 70.2	61.4 – 69.6	59.8 – 70.2	54.9 – 59.6	50.8 – 57.6	52.6 – 55.5
M2	57.9 – 62.0	57.8 – 62.5	52.8 – 57.6	59.8 – 64.9	61.6 – 65.4	54.4 – 59.9	53.6 – 55.8	51.8 – 55.9	50.8 – 52.9
M3	60.0 – 60.6	55.5 – 62.3	57.7 – 68.1	62.8 – 64.0	57.8 – 63.2	61.7 – 70.4	52.3 – 55.6	50.8 – 56.9	51.3 – 56.6

3.4.5 Applicable mitigation measures for construction works are fully implemented as shown in **Appendix B**, where double-glazed windows and air conditioning system were also installed and confirmed operable for the NSRs (N_S1, N_S2 & N_S3).

3.4.6 During the noise monitoring event, frontline staff of ET have inquired the treatment centre users on any noise disturbance from the construction activities at evening and night time, where no complaint and adverse opinions was received.

3.4.7 Data from impact monitoring during evening time and night time were compared with the NCO criteria. Where site inspection and auditing on Contractor's record have shown that the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority for construction works during restricted hours were followed. No inappropriate practice were spotted during evening time and night time construction works, thus the stipulated requirement on noise impact control during night time and evening time was achieved.

Table 3.6 Summary of the Additional Impact Noise Monitoring Results during Evening Time (1900-2300 hrs)

Location	Noise in dB(A)								
	Range of $L_{eq\ 5min}$			Range of $L_{10\ 5min}$			Range of $L_{90\ 5min}$		
	Oct	Nov	Dec	Oct	Nov	Dec	Oct	Nov	Dec
M1	44.8 – 54.9	42.5 – 52.0	41.6 – 47.5	45.9 – 58.2	44.0 – 53.9	43.3 – 54.1	43.4 – 49.4	40.6 – 49.0	39.6 – 45.1
M2	46.2 – 53.4	41.6 – 59.0	46.6 – 55.3	47.0 – 54.5	42.9 – 65.4	47.8 – 61.4	44.9 – 51.6	39.4 – 53.6	44.6 – 50.1
M3	42.9 – 61.9	42.1 – 58.6	42.7 – 46.5	44.5 – 62.6	42.9 – 60.0	43.5 – 48.8	41.0 – 61.2	40.6 – 51.5	41.3 – 45.6

Table 3.7 Summary of Additional Impact Noise Monitoring Results during Night Time (2300 – 0700 hrs)

Location	Noise in dB(A)								
	Range of $L_{eq\ 5min}$			Range of $L_{10\ 5min}$			Range of $L_{90\ 5min}$		
	Oct	Nov	Dec	Oct	Nov	Dec	Oct	Nov	Dec
M1	42.7 – 57.3	43.3 – 46.5	39.8 – 44.6	44.2 – 60.3	44.7 – 49.0	41.1 – 45.9	39.1 – 51.7	38.8 – 45.4	38.1 – 43.0
M2	44.1 – 55.4	38.1 – 54.8	45.1 – 58.4	44.6 – 57.0	39.4 – 57.4	46.6 – 61.4	43.3 – 51.9	37.0 – 50.4	43.9 – 53.7
M3	41.9 – 50.9	40.1 – 54.4	40.2 – 49.5	42.6 – 54.6	40.9 – 56.9	40.9 – 50.3	38.4 – 46.5	36.5 – 49.7	39.4 – 47.7

4. WASTE

4.1 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.

4.2 As advised by the Contractor, for C&D waste, 69,013.3m^3 C&D material was generated on site in the reporting months and disposed as public fill. 580.0kg of paper was generated on site and collected by registered recycling collector. 78,100.00kg of metal waste was collected by registered recycling collector. No chemical waste was collected by the licensed chemical waste collector. 598.0m^3 of other types of wastes (e.g. general refuse) were generated on site and disposed of at Landfill. 22,589.4m^3 of fill rock was imported during the reporting quarter.

4.3 Chemical waste generated from land-based construction activities was stored in the chemical waste cabinet for temporary storage.

4.4 With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting period are summarised in **Table 4.1**. Details of cumulative waste management data are presented as a waste flow table in **Appendix E**.

4.5 The Contractor is advised to sort and store any solid and liquid waste on-site properly prior to disposal.

Table 4.1 Quantities of Waste Generated from the Project

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 (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill			Metals	Paper / cardboard packaging	Plastics (see Note 2)	Chemical Waste		Others, e.g. general refuse (see Note 3)
						Sand	Public Fill	Rock						
	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)			(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000m^3)
Oct 2022	13.3139	0	0	13.3006	0.0133	0	0	11.8665	78.1000	0.5800	0	0	0	0.2340
Nov 2022	26.5583	0	0	26.5583	0	0	0	7.2055	0	0	0	0	0	0.1105
Dec 2022	29.1411	0	0	29.1411	0	0	0	3.5174	0	0	0	0	0	0.2535

Notes:

1. Broken concrete for recycling into aggregates.
2. Plastic refer to plastic bottles / containers, plastic sheets / foam from packaging materials.
3. Use the conversion factor: 1 full load of dumping truck being equivalent to 6.5 m^3 by volume.
4. Use the conversion factor: rock density = 2 T/m^3.

5. CORAL

5.1 Coral Monitoring Parameters

5.1.1 Ten (10) tagged coral colonies at each site of suggested control site and indirect impact site are being monitored weekly for the first month and followed by monthly monitoring for three months. The selected Control Site is located at Yuen Kong Chau of Soko Islands about 7 km away from the project area. After the hitting of super typhoon Mangkhut in mid-September 2018, the coral re-tagging activities at indirect impact site and control site were conducted in November and December 2018 respectively. Tagged coral colonies at the proposed recipient site are being monitored quarterly for one year and the last post-translocation coral monitoring was completed on 28 Mar 2019. The selected recipient site R3 is located the opposite side of the Project area at about 2 km away.

5.1.2 Monitoring recorded the following parameters (using the same methodology adopted during the pre-translocation survey); the size, presence, health conditions (percentage of mortality/bleaching) and percentage of sediment of each trans-located coral colony. The general environmental conditions including weather, sea, and tidal conditions of survey sites were monitored.

5.1.3 Health status of coral was assessed by the following criteria:
Hard coral: Percentage of surface area exhibiting partial mortality and blanched/bleached area of each coral colony and degree of sedimentation.

5.2 Coral Monitoring Locations

Location of the ten tagged coral colonies at each of the proposed indirect impact site, control site, the recipient site R3 and REA transect at proposed indirect impact site are shown in **Figure 5.1**, **Figure 5.2** and **Figure 5.3** respectively:

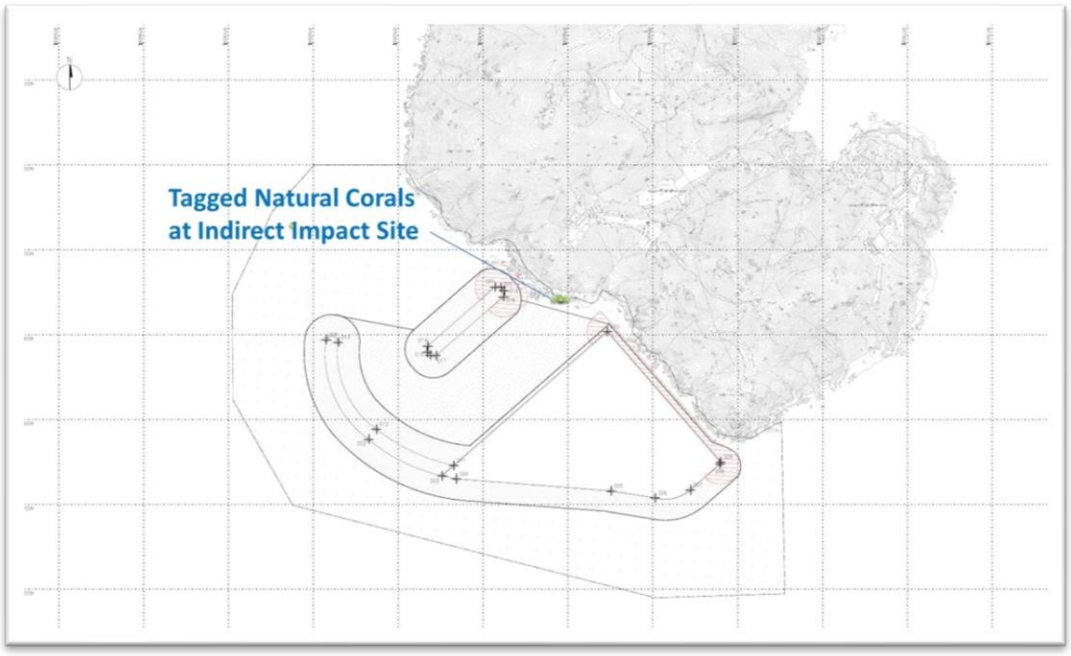


Figure 5.1 Tagged Natural Corals at Indirect Impact Site Near SKC for re-tagging after typhoon Mangkhut

Figure 5.2 Tagged Natural Corals at Control Site Near Yuen Kong Chau for re-tagging after typhoon Mangkhut

Figure 5.3 Tagged Translocation Corals at Recipient Site R3 near SKC

5.2.1 The GPS coordinates of the tagged coral colonies and retagged coral colonies at both indirect impact site, control site and recipient site R3 were shown in **Table 5.1**, **Table 5.2** and **Table 5.3** respectively.

Table 5.1 Tagged Natural Corals during Baseline and Re-tagged Natural Corals after Typhoon Manghkut at Control Site near Yuen Long Chau

Coral # note i	GPS Coordinates	
1	N22°09'45.96"	E113°54'57.81"
2R	N22°11'29.12"	E113°59'09.01"
3	N22°09'45.81"	E113°54'57.78"
4	N22°09'45.70"	E113°54'57.95"
5R	N22°11'29.10"	E113°59'09.18"
6	N22°09'45.75"	E113°54'58.02"
7R	N22°11'29.17"	E113°59'08.86"
7	N22°09'45.65"	E113°54'57.94"
8	N22°09'45.53"	E113°54'57.90"
9	N22°09'46.23"	E113°54'54.70"
10R	N22°11'29.18"	E113°59'08.91"

Notes:
i. The re-tagged corals were marked as ##**R**.

Table 5.2 Re-tagged Natural Corals after Typhoon Manghkut at Indirect Impact Site near SKC

Coral # note i	GPS Coordinates	
11R	N22°11'29.14"	E113°59'08.92"
12R	N22°11'29.12"	E113°59'09.01"
13R	N22°11'29.11"	E113°59'09.07"
14R	N22°11'29.13"	E113°59'09.12"
15R	N22°11'29.10"	E113°59'09.18"
16R	N22°11'29.07"	E113°59'09.23"
17R	N22°11'29.17"	E113°59'08.86"
18R	N22°11'29.14"	E113°59'08.94"
19R	N22°11'29.20"	E113°59'08.81"
20R	N22°11'29.18"	E113°59'08.91"

Notes:
i. The re-tagged corals were marked as ##**R**.

Table 5.3 GPS Coordinates of Recipient Site R3

Site	GPS Coordinates	
R3	N22°11'43.69"	E113°28.99"

5.3 Action and Limit Levels

5.3.1 Monitoring result was reviewed and compared against the below Action Level and Limit Level (AL/LL) as set with the below **Table 5.4** and **Table 5.5**.

Table 5.4 Action and Limit Levels for Construction Phase Coral Monitoring

Parameter	Action Level	Limit Level
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.

Table 5.5 Action and Limit Levels for Post-Translocation Coral Monitoring

Parameter	Action Level	Limit Level
Mortality	If during Post-Translocation Monitoring a 15% increase in the percentage of partial mortality on the corals occurs at more than 20% of the translocated coral colonies that is not recorded on the original corals in the recipient site, then the Action Level is exceeded.	If during Post-Translocation Monitoring a 25% increase in the percentage of partial mortality on the corals occurs at more than 20% of the translocated coral colonies that is not recorded on the original corals in the recipient site, then the Limit Level is exceeded.

5.4 Monitoring Results and Observations

5.4.1 Ten (10) hard coral colonies were monitored at each site of Control and Indirect Impact sites as suggested in the Construction Phase Monitoring Plan. The general health conditions (size, mortality, bleaching and sediment) were recorded and summarized in **Table 5.7** and **Table 5.8**. Photos of each tagged coral colonies were taken during the monitoring activities and shown in **Appendix F.**

5.4.2 The 16th quarterly coral monitoring during construction phase at both Indirect Impact Site and Control Site was conducted on 29 December 2022 and the weather condition was summarized in **Table 5.6**.

Table 5.6 Weather Condition for the 16th Quarterly Coral Monitoring during Construction Phase at both Indirect Impact Site and Control Site

Date	Condition	Average Underwater Visibility
29 December 2022	- Northeast wind force 5 to 6 - Sunny	Less than 10 cm

Table 5.7 Sizes, Condition, Mortality, Bleaching and Sediment of 10 Natural Coral Colonies at Control Site of 16th Quarterly Coral Monitoring (29 December 2022) during 52nd to 54th Monthly Construction Phase Monitoring

Coral #	Species	Size (cm) – Max. Diameter	Condition	Mortality (%)		Bleaching (%)		Sediment (%)	
				Baseline (26 Jun 2018 & 3 Dec 2018)	29 Dec 2022	Baseline (26 Jun 2018 & 3 Dec 2018)	29 Dec 2022	Baseline (26 Jun 2018 & 3 Dec 2018)	29 Dec 2022
1	*Goniopora stutchburyi*	25	Good	0	0	0	0	0	0
2R	*Goniopora stutchburyi*	10	Good	0	0	0	0	0	0
3	*Psammocora superficialis*	18	Good	0	0	0	0	0	0
4	*Turbinaria peltata*	13	Good	0	0	0	0	0	0
5R	*Goniopora stutchburyi*	18	Good	0	0	0	0	0	0
6	*Cyphastrea serailia*	43	Good	0	0	0	0	0	0
7R	*Coscinaraea* sp.	15	Good	0	0	0	0	0	0
8	*Goniopora stutchburyi*	21	Good	0	0	0	0	0	0
9	*Goniopora stutchburyi*	11	Good	0	0	0	0	0	0
10R	*Goniopora stutchburyi*	20	Good	0	0	0	0	0	0

Notes:

i. The re-tagged corals were marked as ##R.

Table 5.8 Sizes, Condition, Mortality, Bleaching and Sediment of 10 Natural Coral Colonies at Indirect Impact Site of 16th Quarterly Coral Monitoring (29 December 2022) during 52nd to 54th Monthly Construction Phase Monitoring

Coral #	Species	Size (cm) – Max. Diameter	Condition	Mortality (%)		Bleaching (%)		Sediment (%)	
				Baseline (23 Nov 2018)	29 Dec 2022	Baseline (23 Nov 2018)	29 Dec 2022	Baseline (23 Nov 2018)	29 Dec 2022
11R	*Cyphastrea serailia*	48	Good	0	0	0	0	0	0
12R	*Favites chinensis*	27	Good	0	0	0	0	0	0
13R	*Turbinaria peltata*	21	Good	0	0	0	0	0	0
14R	*Favites chinensis*	8	Good	0	0	0	0	0	0
15R	*Goniopora stutchburyi*	11	Good	0	0	0	0	0	0
16R	*Psammocora superficialis*	27	Good	0	0	0	0	0	0
17R	*Favites chinensis*	15	Good	0	0	0	0	0	0
18R	*Psammocora superficialis*	39	Good	0	0	0	0	0	0
19R	*Psammocora superficialis*	42	Good	0	0	0	0	0	0
20R	*Psammocora superficialis*	29	Good	0	0	0	0	0	0

Notes:

i. The re-tagged corals were marked as ##R.

5.4.3 The re-tagging activity had been done at both Indirect Impact Site and Control Site in November 2018 and December 2018 respectively. A total of 20 tagged coral colonies (10 at control site and 10 at indirect impact site including the re-tagged coral colonies) were monitored. Similar to the baseline results performed in June, November and December 2018 and the results of the previous quarterly coral monitoring during construction phase, the health condition of all tagged and re-tagged coral colonies at Indirect Impact Site and Control site were good in general. No increased mortality was recorded during the survey in December 2022.

5.4.4 No sediment, bleaching or increased mortality in the general condition of coral colonies were observed during the 16th quarterly coral monitoring period. No deterioration of the coral community was observed in the ecological monitoring results when compared with the baseline ecological monitoring results. There is no AL/LL exceedance during the monitoring period.

6. MARINE MAMMAL

6.1 Survey Methods

6.1.1 Vessel-based Line-transect Survey

6.1.1.1 For the vessel-based marine mammal surveys, the monitoring team adopted the standard line-transect method (Buckland et al. 2001) as same as that adopted during the EIA study and pre-construction phase monitoring to allow fair comparison of marine mammal monitoring results.

6.1.1.2 Eight transect lines are set at Southeast Lantau survey area, including Shek Kwu Chau, waters between Shek Kwu Chau and the Soko Islands, inshore waters of Lantau Island (e.g. Pui O Wan) as well as southwest corner of Cheung Chau as shown in **Figure 6.1** below:

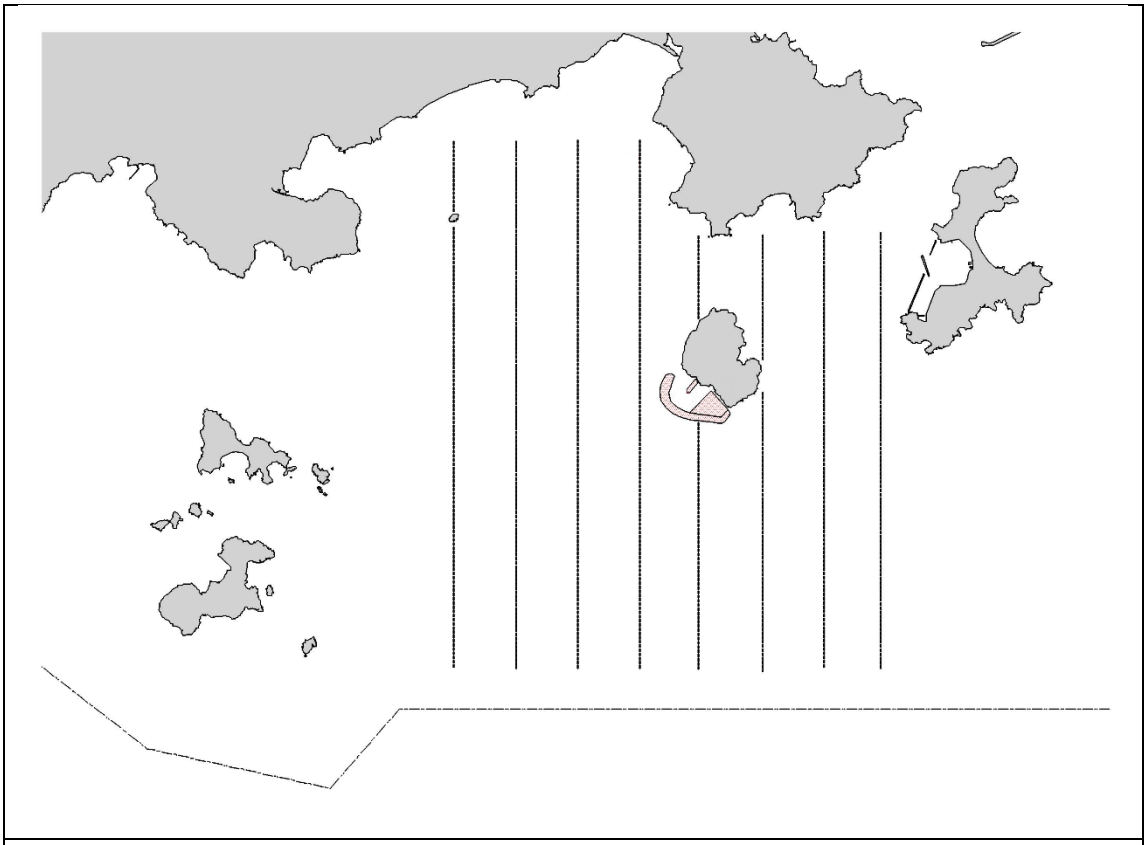


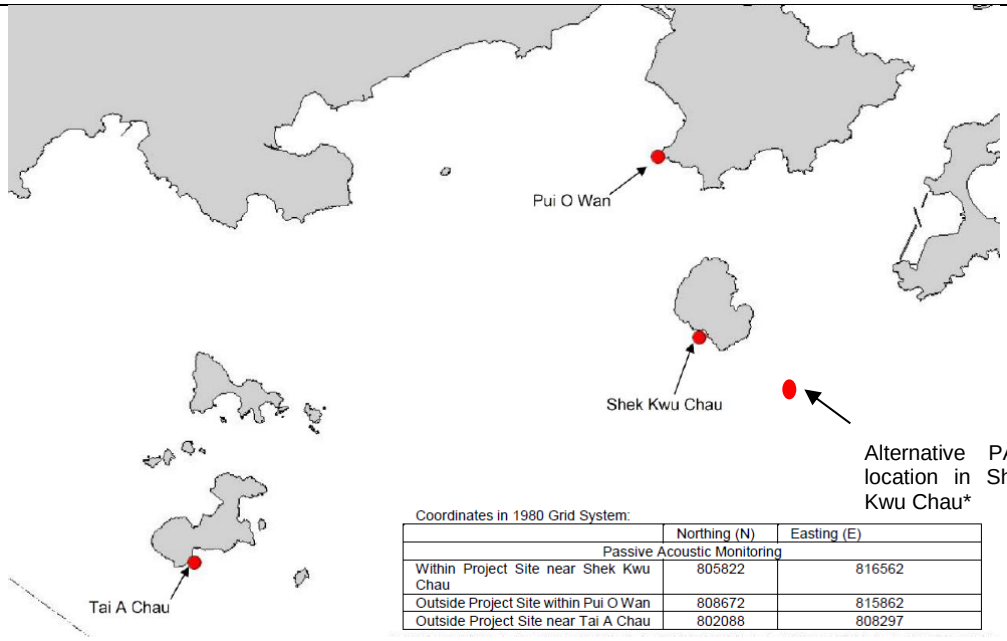
Figure 6.1 Line Transects for Marine Mammal Surveys

6.1.1.3 In comparison to the baseline monitoring results, results from the analyzed construction phase monitoring data would allow the detection of any changes of their usage of habitat, in response to the scheduled construction works.

6.1.2 Passive Acoustic Monitoring (PAM)

6.1.2.1 The PAM aims to study the usage of an area by Finless Porpoise by using an array of automated static porpoise detectors (e.g. C-POD) which would be deployed at different locations to detect the unique ultra-high frequency sounds produced by

Finless Porpoise. During the construction period, the PAM survey will be conducted including placement of two passive porpoise detectors outside the Project Area as control site (i.e. within Pui O Wan and to the south of Tai A Chau) and one porpoise detector within the Project Area (i.e. near Shek Kwu Chau) as shown in **Figure 6.2** below.



Coordinates in 1980 Grid System:

	Northing (N)	Easting (E)
Passive Acoustic Monitoring		
Within Project Site near Shek Kwu Chau	805822	816562
Outside Project Site within Pui O Wan	808672	815862
Outside Project Site near Tai A Chau	802088	808297

Note*: The alternative PAM device adjacent to the Project site was deployed from 5 Mar to 11 Apr 2019, which contained a full 37 days acoustic monitoring data set. After the confirmation of loss of the original PAM within the Project site, this data set was proposed to replace that of the original one, as consulted with AFCD accordingly.

Figure 6.2 Locations of Passive Acoustic Monitoring

6.1.2.2 These three detectors will be deployed on-site to carry out 24-hours monitoring for a period listed as **Table 6.1** below during the construction phase.

Table 6.1 PAM Deployment Period

Season	Months	Deployment Period
Peak Season	December, January, February, March, April or May	At least 30 days during the peak months of porpoise occurrence in South Lantau waters

6.1.2.3 The automated static porpoise detectors shall detect the presence and number of finless porpoise and Chinese White Dolphins respectively over the deployment period, with the false signal such as boat sonar and sediment transport noise distinguished and filtered out. The detectors shall be deployed and retrieved by professional dive team on the seabed of the three selected location shown in **Figure 6.2**. During each deployment, the C-POD unit serial numbers as well as the time and date of deployments shall be recorded. Information including the GPS positions and water depth at each of the deployment locations shall also be obtained.

6.1.2.4 The diel patterns (i.e. 24-hour activity pattern) of finless porpoise occurrence among the three sites at Shek Kwu Chau, Tai A Chau and Pui O Wan shall be analyzed. Peaks and troughs of finless porpoise occurrence per hour of day would be identified and compared with the results obtained from pre-construction monitoring.

6.1.3 Land-based Theodolite Tracking

6.1.3.1 The Land-based Theodolite Tracking study would use the same station as in the AFCD monitoring study(same as the baseline monitoring location), which is situated at the southwest side of Shek Kwu Chau (GPS position: 22°11.47' N and 113°59.33' E) as shown in below **Figure 6.3**. The station was selected based on its height above sea level (at least 20 metres), close proximity to shore, and relatively unobstructed views of the entire Project Area to the southwest of Shek Kwu Chau. The height of the Shek Kwu Chau Station established by the HKCRP team is 74.6 m high at mean low water, and only a few hundred metres to the IWMF reclamation site, which is ideal for the purpose for the present behavioural and movement monitoring of finless porpoises as well during construction phase considering there as an un-obstructed vantage point at a height above the Project Site.

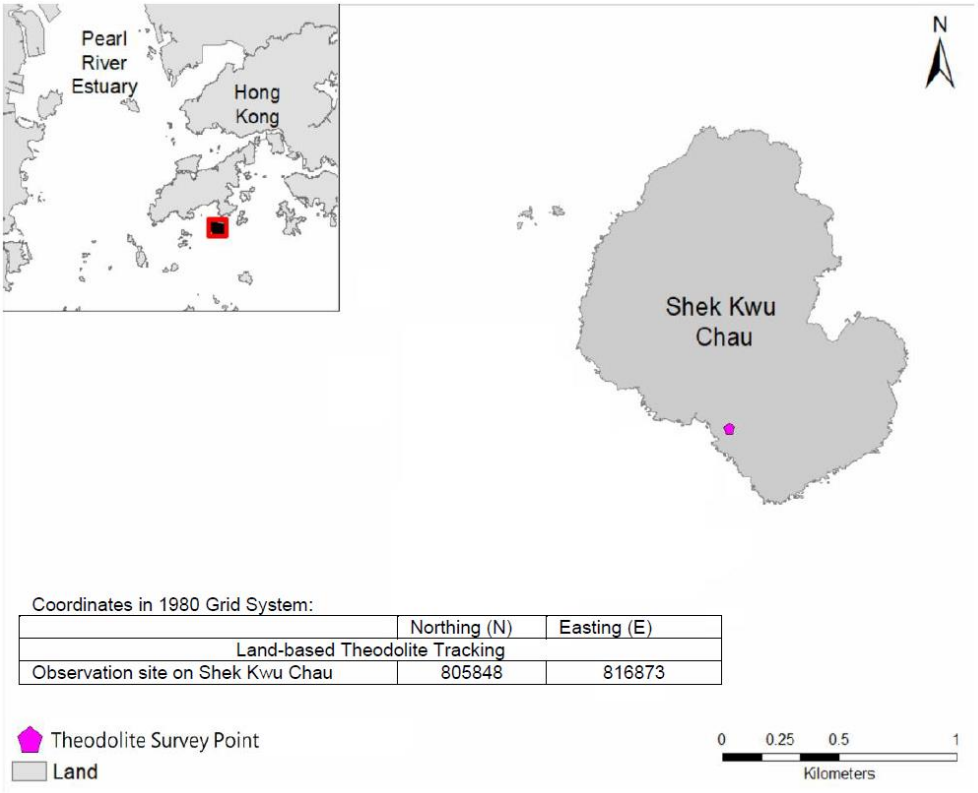


Figure 6.3 Locations of Land-based Theodolite Tracking

6.1.3.2 During the construction phase, Land-based Theodolite Tracking will be carried out for approximately six hours of tracking for each day of field work for a period listed as **Table 6.2** below, preferably at the initial stage of the construction period (i.e. December 2018 to May 2019).

Table 6.2 Land-based Theodolite Tracking Survey Period

Season	Months	Survey Period
Peak Season	December, January, February, March, April or May	30 days during the peak months of porpoise occurrence in South Lantau waters

6.1.3.3 The monitoring period for land-based theodolite tracking will be proposed to be overlapped with the PAM. The monitoring team consists of one experienced theodolite operator and at least two field observers for assistance. To conduct

theodolite tracking, the observers will search systematically for Finless Porpoise using the unaided eye and 7 x 50 handheld binoculars on each survey day throughout the study area. When an individual or group of porpoises is located, a theodolite tracking session will be initiated and focal follow methods will be used to track the porpoise(s). Behavioural state data (i.e. resting, milling, travelling, feeding and socializing) shall also be recorded every 5 minutes for the focal individual or group. Positions of porpoises and boats shall be measured using a digital theodolite connected to a laptop computer. This tracking survey will be conducted during the peak season between December 2018 and May 2019 for 30 surveys spanning across 15-16 weeks during the peak season to provide good temporal coverage during the initial stage of the construction period.

6.2 Specific Mitigation Measures

6.2.1 Monitored exclusion zones

6.2.1.1 During the installation/re-installation/relocation process of floating type silt curtains, in order to avoid the accidental entrance and entrapment of marine mammals within the silt curtains, a monitored exclusion zone of 250 m radius from silt curtain should be implemented and monitored by competent Marine Mammal Observers (MMOs). Marine Mammal Exclusion Zone (MMEZ) would also be implemented for precautionary purpose for DCM works.

6.2.2 Marine mammal watching plan

6.2.2.1 Upon the completion of silt curtain installation/re-installation/relocation, marine mammal watching plan would be implemented to observe the presence of any marine mammal around the localized silt curtain or being trapped by the localized silt curtain.

6.3 Results and Observations

6.3.1 Vessel-based Line-transect Survey

6.3.1.1 Four monthly surveys were conducted during the reporting period. As this covered both the off-peak season (June - November) and designated peak season (December - May), one survey was conducted in October and November 2022 and two surveys were conducted in December 2022 respectively. A total on effort (transects only) survey length of 159.3 km was completed, 132.7 km at Beaufort Sea State 2 or better (**Table 6.3**). One (1) on-effort finless porpoise sighting and one (1) one opportunistic finless porpoise sighting were recorded and confirmed by qualified ecologist (**Table 6.4, Figure 6.4**).

Table 6.3 Summary of Vessel-based Line-transect Survey Effort

Date	Area*	Beaufort	Effort (km)	Season	Vessel	Effort Type**
28 October 2022	SEL	1	9.8	AUTUMN	SEAMAR HK	P
		2	23.7			
		3	6.4			
10 November 2022	SEL	1	19.7	AUTUMN	SEAMAR HK	P
		2	19.8			
5 December 2022	SEL	1	1.1	WINTER	SEAMAR HK	P
		2	18.5			
		3	11.9			
		4	7.9			
		5	0.3			
8 December 2022	SEL	1	13.6	WINTER	SEAMAR HK	P
		2	26.5			
		3	0.1			

* As shown in **Figure. 6.1**
** P (from AFCD) denotes the ON EFFORT survey on the transect line, not the adjoining passages

Table 6.4 Summary of Sightings Recorded during October 2022 to December 2022 of Vessel-based Line-transect Survey Effort

Date	Species	Sighting No.	Time	Group Size	PSD	Behaviour	Lat.	Long.	Area	Effort	Season
10 Nov 2022	Finless Porpoise	130	10:31	1	N/A	Unknow	22.16348	113.9452	SEL	On	Autumn
10 Nov 2022	Finless Porpoise	131	11:13	2	131	Travelling	22.18204	113.9541	SEL	Opp	Autumn

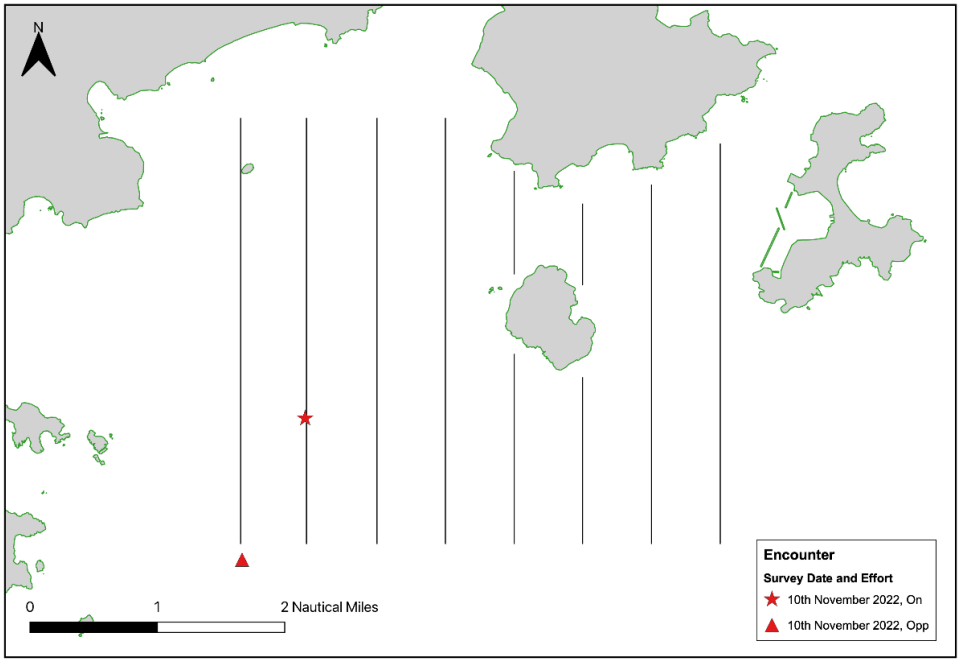


Figure 6.4 Location of sightings recorded during October to December 2022 Vessel-based Line-transect Survey

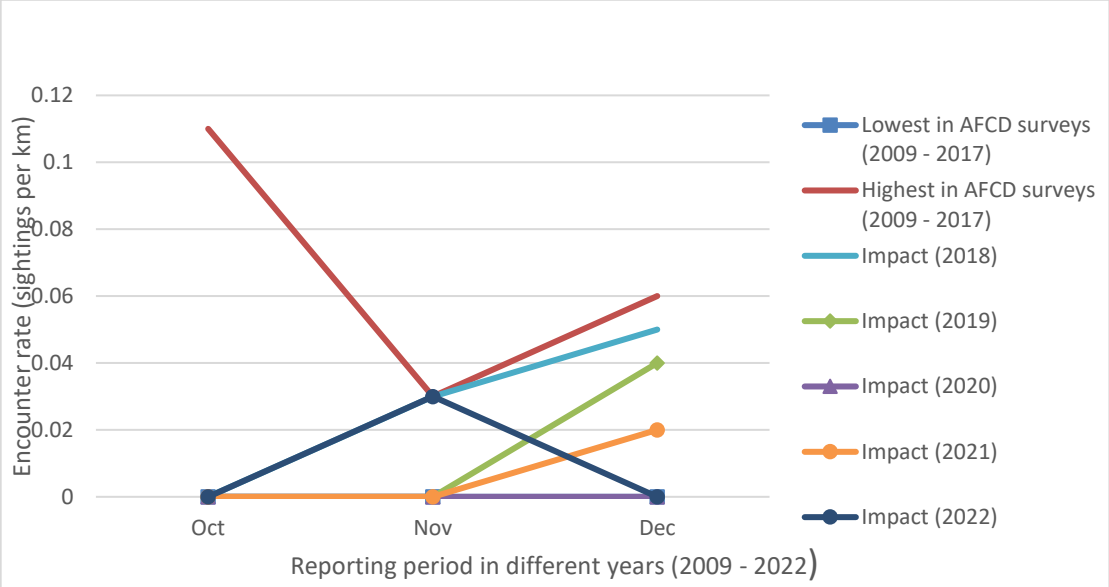


Figure 6.5 Plot of encounter rate during October to December in 2009 – 2022 from different surveys

6.3.1.2 A review of the long term AFCD marine mammal monitoring programme, the EIA and the pre-construction baseline monitoring report for this project was conducted. Both the EIA and the pre-construction baseline monitoring were conducted during the peak porpoise months December 2008 to May 2009 and February to April 2018, respectively. The AFCD long term monitoring data and impact monitoring in October and December 2019, 2020, 2021 and 2022 should be compared directly to Impact Survey results of the reporting periods.

6.3.1.3 A review of the Beaufort Sea state survey conditions between 2009 and 2017 (only data available from AFCD at time of writing; (AFCD 2018; 2017; 2016; 2015; 2014; 2013; 2012; 2011; 2010)) show that the survey condition in October, November and December 2022 were better than the average of previous AFCD long-term monitoring surveys.

6.3.1.4 A review of all the porpoise sightings in the survey area for October to December between 2009 and 2017 show that three (3) of the seven (7) years surveyed in October record no porpoise sightings while there are fluctuations between the number of sightings usually recorded in November and December. Given the similar survey conditions and the encounter rate recorded for porpoise in the project area during the reporting period, the encounter rate for October to December 2022 were between 0.00 sighting km^{-1} and 0.03sighting km^{-1} (see Figure 6.5), it is noted that the encounter rates of impact survey in October 2022 as 0 sighting rate was not unusual to other years. The encounter rate of impact survey in November 2022 was within the upper bounds of the encounter rates noted for the long term marine mammal monitoring programme, prior to construction commencement. The 0 encounter rate of impact survey in December 2022 was within the bounds of encounter rates noted for the long term marine mammal monitoring programme, prior to construction commencement.

6.3.1.5 Data and records of the implemented mitigation measures, including construction vessel routing and speed control, marine mammal watching plan and avoidance of noisy work during the peak season, are collected from the Contractor and now under detail review. As surveys continue for this project, data shall be constantly re-evaluated across survey months to discern trends and impacts, if any.

6.3.1.6 Photo records of the line-transect survey during the reporting period are presented in **Appendix G**.

6.3.2 PAM and Land-based Theodolite Tracking

6.3.2.1 30 days of PAM surveys were started at 1 May 2019 and completed until the end of May 2019. Multiple PAM systems were deployed at three sites. The PAM system located at the IWMF was lost, however, an alternative data set has been identified. The PAM systems at the two control sites Tai A Chau and Pui O were recovered on 3 August 2019. A summary of marine mammal detections shows that porpoise were recorded every day of deployment at each site, but at varying frequencies. The detailed theodolite result was presented in 17th Monthly EM&A report (November 2019) while detailed PAM result was presented in 18th Monthly EM&A report (December 2019).

6.3.2.2 For the baseline study, the DPM for each site was 11,160 (Shek Kwu Chau), 16,089 (Tai A Chau) and 3645 (Pui O Wan), totalling 30,894 DPM across all three sites, compared to DPMs of 4740 (Shek Kwu Chau), 7725 (Tai A Chau) and 23,986 (Pui O Wan), totalling 36,451 DPM, for the impact phase study. As the impact phase study was longer than the baseline study, it is not appropriate to directly compare total counts of DPM, however, the DPM rate (the average number of detections per day) for each site can be more directly compared. During the baseline study, Shek Kwu Chau averaged 338.2 DPM per day compared to 124.8 DPM per day, during the impact phase study. This showed a decrease in the daily average of porpoise detection at Shek Kwu Chau. During the baseline study, Tai A Chau averaged 487.6 DPM per day compared to 179.7 DPM per day, during the impact phase study. This showed a decrease in the daily average of porpoise detection at Tai A Chau. During the baseline study, Pui O Wan averaged 98.5 DPM per day compared to 557.8 DPM per day, during the impact phase study. This showed a significant increase in the daily average of porpoise detections at Pui O Wan (**Table 6.6**).

6.3.2.3 Overall, the PAM study showed that porpoise continue to consistently utilise the Shek Kwu Chau habitat immediately adjacent to the IWMF construction activities, although to a lesser degree than that prior to construction activities. In addition, the Pui O Wan site, which is 2.5 km away from the IWMF construction area, was also consistently utilised during the impact phase PAM study. A continued assessment of fine scale habitat use, particularly through PAM which yields large quantities of data, would allow a more comprehensive assessment of the EIA predictions.

Table 6.6 Summary Statistic Comparison of Baseline (2018) and Impact Phase (2019) Passive Acoustic Monitoring

Baseline data									
Site	**Unit ID**	**Start**	**End**	**Days**	**DPD % Days**	**Total DPM**	**DPM /Day**	**% False Positive DPM**	**Time Lost %**
Shek Kwu Chau	2891	2018/02/09	2018/03/13	32.11	100	11160	338.2	0.0	1.00
Tai A Chau	2868	2018/02/09	2018/03/13	32.5	100	16089	487.6	1.0	2.00
Pui O Wan	2891	2018/03/13	2018/04/17	34.85	97.3	3645	98.5	2.0	31.87
Total				99.01		30894	312.0		
Impact Phase									
Site	**Unit ID**	**Start**	**End**	**Days**	**DPD % Days**	**Total DPM**	**DPM /Day**	**% False Positive DPM**	**Time Lost %**
Shek Kwu Chau	IWMF_BU_20190305_01	2019/03/05	2019/04/11	37.91	100	4740	124.8	0.0	0
Tai A Chau	IWMF_20190411_02	2019/04/11	2019/05/23	41.94	100	7725	179.7	0.0	0
Pui O Wan	IWMF_20190411_01	2019/04/11	2019/05/23	42.02	100	23986	557.8	0.0	0
Total				121.9		36451	299.1		

6.3.2.4 Theodolite surveys were completed in May 2019. In total, 34 days of theodolite tracking were completed between February - May 2019, comprising 167 hours and 49 minutes of observation. No Chinese white dolphin was observed and only one finless was recorded. The finless porpoise encounter rate was calculated as 0.006 finless porpoise per hour, in all weather conditions.

6.3.2.5 A total of 2620 vessels of ten different types were observed and tracked within or in the proximity of the IWMF construction site. These comprised fishing boats (236), speed boats (29), container boats (155), government boats (22), high speed ferries (53), others (13) and IWMF-Related construction platforms (974), tug boats(240), transportation boats (363), construction boats (531) and approximately 8 buoys were present marking the site boundary. The detailed Land-based Theodolite Tracking Report was presented in 5th Quarterly EM&A report and 17th Monthly EM&A report.

6.3.2.6 The baseline theodolite tracking was conducted immediately prior to and during the site preparation activities of the site. The baseline data records a decrease in porpoise sightings as site preparation activities commenced and notes that the decrease was most likely due to the onset of site preparation activities. The impact theodolite tracking conducted for this study records a marked increase in the number of Project related vessels and platforms and, in agreement with baseline conclusions, shows a concomitant decrease in finless porpoise sightings.

7. WHITE-BELLIED SEA EAGLE

7.1 WBSE Monitoring Parameters

7.1.1 The objective of the construction phase monitoring should be to verify the utilisation of the area by WBSE, their responses to construction disturbance, as well as the effectiveness of the proposed mitigation measures. Throughout the construction phase, field surveys should be conducted twice per month during their core breeding season (from December to May), and once per month outside their core breeding season (from June to November). The monitoring frequency should be increased to weekly during the incubation period of each year. In order to confirm their foraging ground near the construction site, it is necessary to conduct daily monitoring during the first week of nestling period in each year.

7.1.2 Since the location of the WBSE nest was located at the southwest of SKC within the hillside shrubland, it is impossible to observe the eggs during incubation period. Therefore, monitoring with increased frequency during incubation period could not be carried out. Daily monitoring will be carried out once any chick is recorded during the monitoring day.

7.2 Results and Observations

7.2.1 Three monitoring surveys for monthly construction phase were conducted during the reporting period, all three monitoring surveys were conducted outside their core breeding season (between June to November). Since there is no landing point along the western part of SKC, boat survey was used for the monitoring survey. In order to increase the chance of finding the WBSEs, monitoring survey was carried out either early in the morning or later in the afternoon. The weather conditions of monitoring survey were shown in **Table 7.1**.

Table 7.1 Weather Conditions during the WBSE Monitoring (Monthly)

Date	Condition	Temperature (℃)
27 October 2022	- Northeast force 4 to 5 - Sunny	30
24 November 2022	- East force 4 to 5 - Sunny	26
15 December 2022	- North wind force 5 - Sunny	21
29 December 2022	- Northeast wind force 5 to 6 - Sunny	19

7.2.2 Two adult WBSEs were recorded near Shek Kwu Chau area in the October, November and December 2022. No abnormal behaviors of the adults were recorded during the October, November and December 2022 construction phase monitoring. All marine works during the monitoring period did not show any impact to the WBSE.

7.2.3 Incubation activity was recorded during the monitoring on 29 December 2022.

7.2.4 The juvenile recorded in 2022 has not been observed since monitoring event in September 2022, it is suggested that the juvenile left the nest at SKC and nesting in other area outside our monitoring boundary.

7.2.5 No disturbances from anthropogenic activities on the island were recorded during the monitoring survey. No invasion of other fauna species was recorded as well.

Figure 7.1 Location of WBSE Nest on SKC

7.2.6 No invasion of other fauna species was recorded and no sign of using the construction site as a foraging ground was recorded as well.

7.2.7 During the reporting period, no abnormal behaviour of the recorded adults and juvenile was shown. All marine works during the forty-ninth to fifty-first months construction period did not show any influence on the WBSE.

7.2.8 Photo records of the WBSE taken during the reporting period are presented in **Appendix H**.

8. SUMMARY OF MONITORING EXCEEDANCE, COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTIONS

8.1 No exceedance of the Action and Limit Levels of the regular construction noise, coral and WBSE monitoring was recorded during the reporting period.

8.2 During the general water quality monitoring period for October to December 2022, forty (40) of the general water quality monitoring results of SS had exceeded Action Level during the reporting period, while fifty (50) exceedances of the Limit Level of SS were also recorded. Investigations were carried out immediately for each of the exceedance cases during the reporting period.

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

8.4 Statistics on complaints, notifications of summons and successful prosecutions are summarized in **Appendix I**.

9. EM&A SITE INSPECTION

9.1 Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. Site inspections were carried out at the Site Portions 1, 1A, 1B during the reporting period. Portions 1, 1A & 1B were the sites near SKC within the Site boundary.

9.2 Joint site inspection with IEC was carried out on a monthly basis.

9.3 Minor deficiencies were observed during weekly site inspection. Key observations during the site inspections are summarized below:

- Prevention actions for oil/chemical spillage were not carried out properly
- Chemical was not stored properly at designated storage place
- Chemical waste was not stored in chemical waste cabinet and the cabinet was not locked up
- Non-road Mobile Machinery (NRMM) label was not displayed properly and faded NRMM label should be replaced
- Stagnant water inside the drip tray of generator should be cleaned
- EP, updated CNP and discharge license was not presented at the entrance of the site
- Mitigation measure for preventing site runoff was not properly implemented
- Geotextile was not properly deployed along the seawall

9.4 The Contractor had rectified all of the observations identified during environmental site inspections in the reporting period.

9.5 According to the EIA Study Report, Environmental Permit, contract documents and Updated EM&A Manual, the mitigation measures detailed in the documents, except the silt curtain system, are implemented as much as practical during the reporting period. An updated Implementation Status of Environmental Mitigation Measures (EMIS) is provided in **Appendix B**.

10. CONCLUSION AND RECOMMENDATIONS

10.1 This 18th Quarterly Environmental Monitoring and Audit (EM&A) Report summarizes the EM&A works undertaken during the period from 1 October 2022 to 31 December 2022 in accordance with the Updated EM&A Manual and the requirement under EP-429/2012/A and FEP-01/429/2012/A.

10.2 Construction noise, water quality, construction waste, coral, marine mammal and White-Bellied Sea Eagle (WBSE) monitoring were carried out in the reporting period. No project-related exceedance of the Action and Limit Levels was recorded during the reporting period.

10.3 Weekly environmental site inspections were conducted during the reporting period. Environmental deficiencies were observed during site inspection and were rectified.

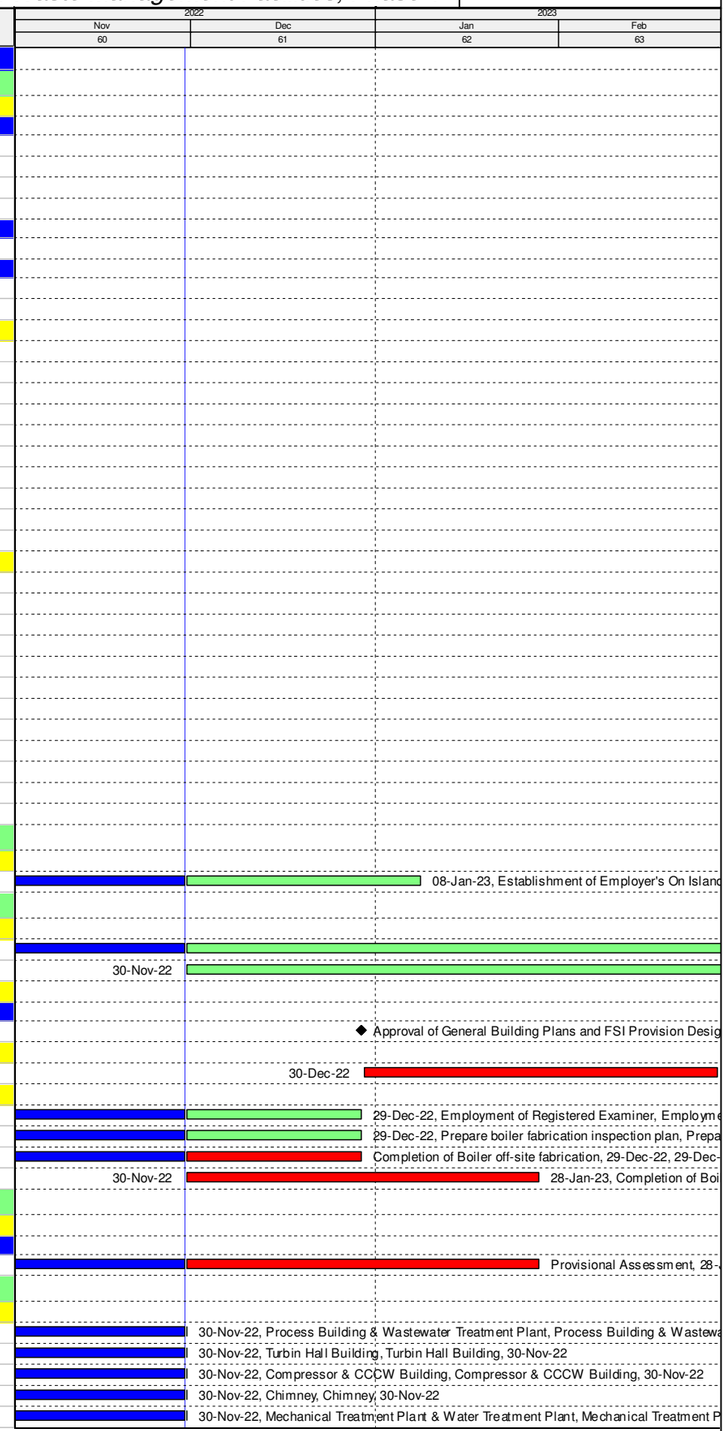
10.4 According to the environmental site inspections performed in the reporting period, the Contractor was reminded to pay attention on on-site housekeeping, the proper storage of the chemicals, chemical waste and construction waste, dust control measure for exposed earth surface and stockpile of dusty material and the proper NRMM labelling.

10.5 No notification of summons or prosecution was received since commencement of the Contract.

10.6 The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

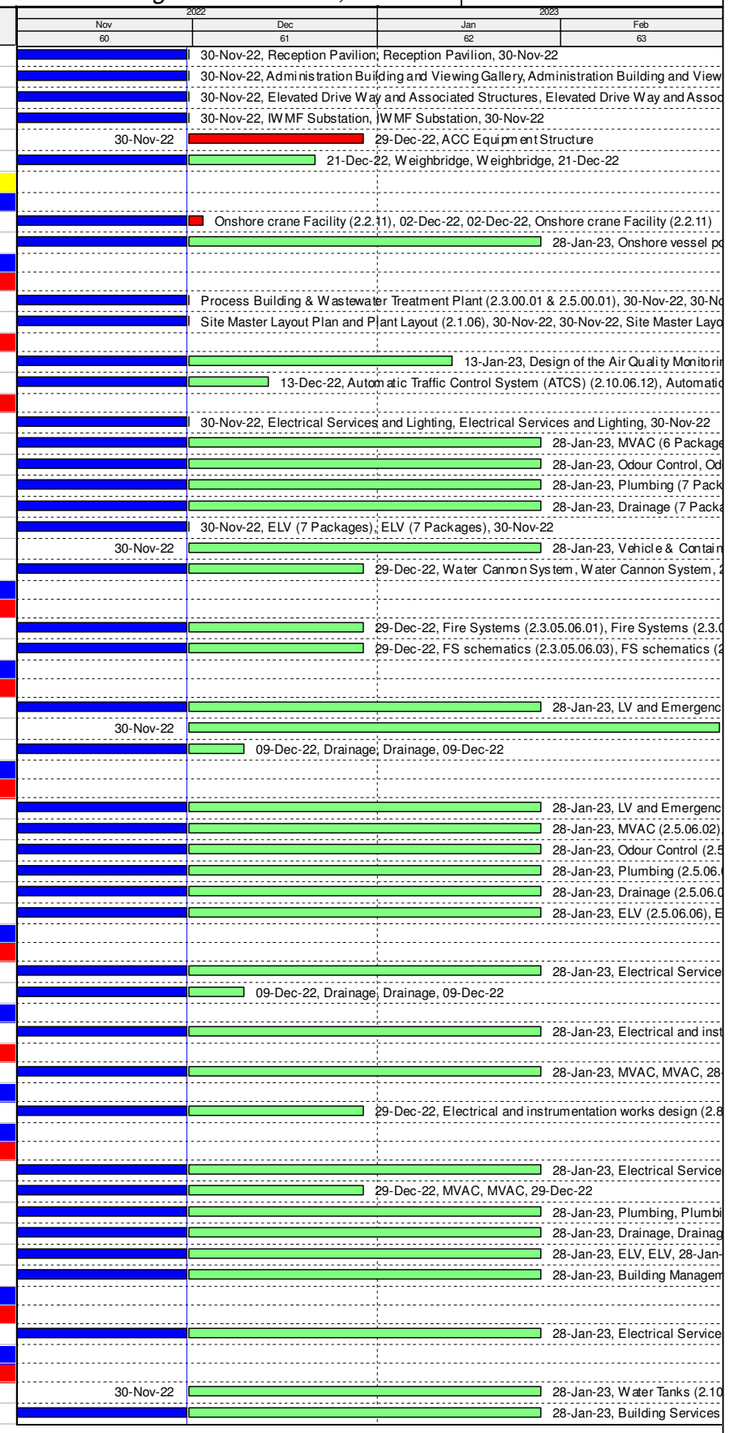
Appendix A Master Programme

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
Programme for Design and Construction Works WP6F-M60		3026	1192		22-Nov-17 A	05-Mar-26	02-Oct-22	05-Jan-26	-59	
Key Dates		3026	1003		22-Nov-17 A	05-Mar-26	11-Nov-22	05-Jan-26	-59	
Contractual Key Dates		2843	403		22-Nov-17 A	03-Sep-25	11-Nov-22	03-Sep-25	0	
Design and Construction Phase		2787	347		22-Nov-17 A	09-Jul-25	11-Nov-22	09-Jul-25	0	
01-1000	Contract Award/Date of Acceptance of Tender	0	0	100%	22-Nov-17 A		11-Nov-22			
01-1010	Date of Commencement of the Design and the Works	0	0	100%	15-Dec-17 A		11-Nov-22			
01-1015(3)(M12)	Original Substantial Completion of the Works	0	0	0%		27-Jul-24*		27-Jul-24	0	
01-1020	Extended Substantial Completion of The Works	0	0	0%		09-Jul-25*		09-Jul-25	0	
Extension of Time Granted		347	347		27-Jul-24	09-Jul-25	27-Jul-24	09-Jul-25	0	
01-1015-1(3)(M12)	Extension of time granted (Claim No.1 to No.72) *Claim No.9 excluded	347	347	0%	27-Jul-24	09-Jul-25	27-Jul-24	09-Jul-25	0	
Operation Phase		56	56		10-Jul-25	03-Sep-25	10-Jul-25	03-Sep-25	0	
01-1030	Commencement of Operation	0	0	0%	10-Jul-25		10-Jul-25		0	
01-1230	Issue Certificate of Completion of the Works (56 days after Substantial Completion)	0	0	0%		03-Sep-25*		03-Sep-25	0	
Planned Completion Dates		887	887		30-Sep-23	05-Mar-26	30-Sep-23	05-Jan-26	-59	
01-1030(5a)	Grid Connection Agreement (GCA)	0	0	0%		31-Oct-23*		30-Oct-23	0	
01-1040	Incoming Power Energization to IWMF Substation	0	0	0%		23-Jan-25		09-Jul-25	168	
01-1050	Export Power to Grid	0	0	0%		31-Oct-24*		31-Oct-24	0	
01-1060	Issuance of FS Certificate	0	0	0%		05-Jan-25		08-Jan-25	3	
01-1070	Completion of Civil Provision for Transmission	0	0	0%		30-Sep-23*		30-Sep-23	0	
01-1080	Commencement of C1.3.4.11 System Commissioning Test	0	0	0%	06-Mar-25		09-Jan-25		-56	
01-1090	Completion of C1.3.4.11 System Commission Test	0	0	0%		31-Mar-25		31-Jan-25	-59	
01-1100	Physical Completion of 90 Days Plant Commissioning Test Works	0	0	0%		16-Aug-25		18-Jun-25	-59	
01-1110(3)(M15)	Planned Substantial Completion of the Works	0	0	0%		06-Sep-25		09-Jul-25	-59	
01-1110-1(5a)	Completion of 180 Days for Installation, T&C of CCTV System and Onshore Power System at Portion 2	0	0	0%		05-Mar-26*		05-Jan-26	-59	
Dates of Site Pocessions		2764	764		15-Dec-17 A	10-Jul-25	11-Nov-22	10-Jul-25	0	
01-1120	Possession of Portion 1	0	0	100%		15-Dec-17 A		11-Nov-22		
01-1130	Possession of Portion 1A	0	0	100%		15-Dec-17 A		11-Nov-22		
01-1140	Possession of Portion 1B	0	0	100%		15-Dec-17 A		11-Nov-22		
01-1150	Possession of Portion 2	0	0	0%	10-Jul-25		10-Jul-25		0	
01-1160	Possession of Portion 3	0	0	0%		06-Jun-23*		06-Jun-23	0	
01-1170	Possession of Portion 4	0	0	0%		06-Jun-23*		06-Jun-23	0	
01-1180	Possession of Portion 5	0	0	0%		06-Jun-23*		06-Jun-23	0	
01-1190	Possession of Portion 6	0	0	0%	20-Oct-24*		09-Jan-25		81	
01-1200	Possession of Portion 7	0	0	100%		05-Jan-18 A		09-Jul-25		
01-1210	Possession of Portion 7A	0	0	100%		07-Dec-18 A		09-Jul-25		
01-1210(5a)	Possession of Portion 8	0	0	100%	29-Apr-20 A		10-Jul-25			
01-1210-1(M55)	Possession of Portion 9	0	0	100%	10-Jun-22 A		10-Jul-25			
Contract Preliminaries		56	40		14-Jun-22 A	08-Jan-23	02-Dec-24	10-Jan-25	733	
Employer's Accommodations		56	40		14-Jun-22 A	08-Jan-23	02-Dec-24	10-Jan-25	733	
02-1020	Establishment of Employer's On Island Temporary Accommodation	56	40	28.57%	14-Jun-22 A	08-Jan-23	02-Dec-24	10-Jan-25	733	
Licence/Permit Applications		2120	916		07-Mar-19 A	02-Jun-25	25-Oct-22	09-Jul-25	37	
License/Permit for Construction		2120	916		07-Mar-19 A	02-Jun-25	23-Dec-22	09-Jul-25	37	
03-1360(2)	CNP for 24Hrs	2120	916	56.79%	07-Mar-19 A	02-Jun-25	06-Jan-23	09-Jul-25	37	
03-1370_1(M34)	Landscape and Visual Plan	180	180	0%	30-Nov-22	28-May-23	23-Dec-22	20-Jun-23	23	
Fire Services Installations (FSI) Certificatie		0	0		29-Dec-22	29-Dec-22	29-Dec-22	29-Dec-22	0	
Fire Services Installations Certificate Inspection		0	0		29-Dec-22	29-Dec-22	29-Dec-22	29-Dec-22	0	
03-1555-1(5a)	Approval of General Building Plans and FSI Provision Design Submission	0	0	0%		29-Dec-22		29-Dec-22	0	
Air Pollution Control (Specified Processes) License		60	60		30-Dec-22	27-Feb-23	30-Dec-22	27-Feb-23	0	
03-1740(3)	Document preparation for SP License Application (upon consent of relevent DDA designs)	60	60	0%	30-Dec-22	27-Feb-23	30-Dec-22	27-Feb-23	0	
Boilers and Pressure Vessels License		302	60		29-Mar-22 A	28-Jan-23	25-Oct-22	20-Jul-23	173	
03-1860(3)	Employment of Registered Examiner	90	30	66.67%	31-May-22	29-Dec-22	21-Jun-23	20-Jul-23	203	
03-1870(3)	Prepare boiler fabrication inspection plan	60	30	50%	31-May-22	29-Dec-22	21-Jun-23	20-Jul-23	203	
03-1890(3)	Completion of Boiler off-site fabrication	180	30	83.33%	29-Mar-22 A	29-Dec-22	25-Oct-22	23-Nov-22	-36	
03-1900(3)	Completion of Boiler off-site inspection before delivery	60	60	0%	30-Nov-22	28-Jan-23	25-Oct-22	23-Dec-22	-36	
General Submissions		1108	60		31-May-22	28-Jan-23	01-Nov-22	30-Dec-22	-29	
Contractor's Plans Submission and Approval		1108	60		31-May-22	28-Jan-23	01-Nov-22	30-Dec-22	-29	
BEAM Plus Assessment		1108	60		31-May-22	28-Jan-23	01-Nov-22	30-Dec-22	-29	
04-1500-1(1)	Provisional Assessment	1108	60	94.58%	31-May-22	28-Jan-23*	01-Nov-22	30-Dec-22	-29	
Design Submissions		1660	227		05-Sep-18 A	14-Jul-23	03-Nov-22	26-Dec-24	531	
General Building Plan		517	30		03-Mar-21 A	29-Dec-22	30-Nov-22	26-Jun-23	179	
04-1600(M42)	Process Building & Wastewater Treatment Plant	135	0	100%	03-Jun-21 A	30-Nov-22	29-Dec-22	29-Dec-22	30	
04-1610(M42)	Turbin Hall Building	135	0	100%	03-Mar-21 A	30-Nov-22	29-Dec-22	29-Dec-22	30	
04-1620(M42)	Compressor & CCCW Building	135	0	100%	03-Mar-21 A	30-Nov-22	29-Dec-22	29-Dec-22	30	
04-1630(M42)	Chimney	135	0	100%	03-Mar-21 A	30-Nov-22	29-Dec-22	29-Dec-22	30	
04-1640(M42)	Mechanical Treatment Plant & Water Treatment Plant	135	0	100%	03-Jun-21 A	30-Nov-22	29-Dec-22	29-Dec-22	30	



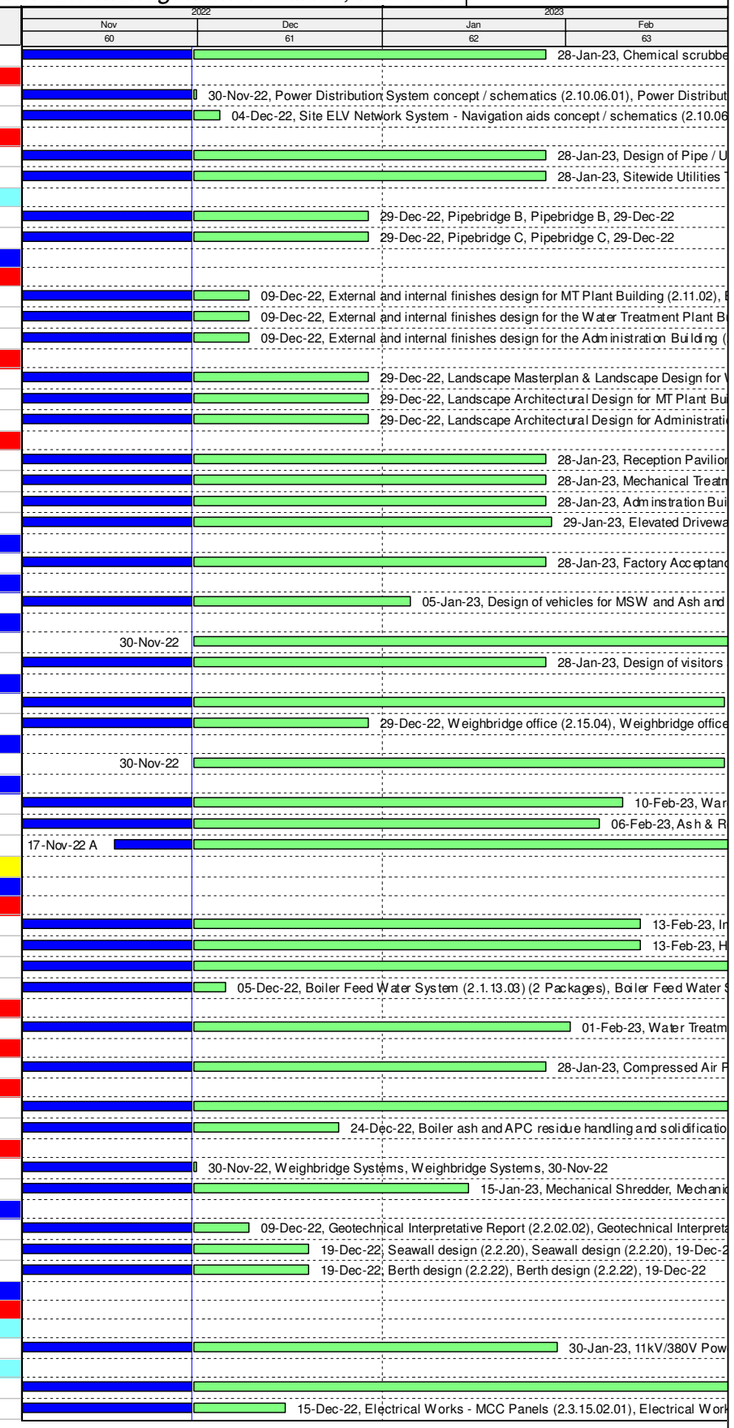
Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
04-1650(M42)	Reception Pavilion	135	0	100%	03-Jun-21 A	30-Nov-22	29-Dec-22	29-Dec-22	30	
04-1660(M42)	Administration Building and Viewing Gallery	135	0	100%	03-Jun-21 A	30-Nov-22	29-Dec-22	29-Dec-22	30	
04-1670(M42)	Elevated Drive Way and Associated Structures	135	0	100%	03-Mar-21 A	30-Nov-22	29-Dec-22	29-Dec-22	30	
04-1680(M42)	IWMF Substation	135	0	100%	03-Mar-21 A	30-Nov-22	29-Dec-22	29-Dec-22	30	
04-1690(M46)	ACC Equipment Structure	30	30	0%	30-Nov-22	29-Dec-22	30-Nov-22	29-Dec-22	0	
04-1730	Weighbridge	135	22	5%	22-Apr-22 A	21-Dec-22	05-Jun-23	26-Jun-23	187	
AIP Design Package Submissions		1562	171		04-Dec-18 A	19-May-23	03-Nov-22	20-Aug-24	459	
AIP Ground Treatment, Reclamation, Seawall, Breakwater, Berth (2.2)		424	60		31-May-21	28-Jan-23	03-Nov-22	18-Oct-23	263	
05-2970	Onshore crane Facility (2.2.11)	90	3	5%	11-Apr-22 A	02-Dec-22	03-Nov-22	05-Nov-22	-27	
05-2980	Onshore vessel power supply system (2.2.12)	135	60	80%	31-May-21	28-Jan-23	20-Aug-23	18-Oct-23	263	
AIP Incineration Plant Buildings (2.3)		1517	60		04-Dec-18 A	28-Jan-23	29-Nov-22	20-Aug-24	570	
General Layout Drawings and Fire Saftey Strategy (2.3.00)		136	0		31-Jul-21 A	30-Nov-22	29-Nov-22	29-Nov-22	0	
05-1210	Process Building & Wastewater Treatment Plant (2.3.00.01 & 2.5.00.01)	105	0	65%	31-Aug-21 A	30-Nov-22	29-Nov-22	29-Nov-22	0	
05-3020	Site Master Layout Plan and Plant Layout (2.1.06)	105	0	65%	31-Jul-21 A	30-Nov-22	29-Nov-22	29-Nov-22	0	
Operation Management System (2.3.03.04)		121	45		14-Feb-22 A	13-Jan-23	22-Feb-23	15-Feb-24	398	
05-2250	Design of the Air Quality Monitoring Stations (2.9.01)	60	45	5%	01-Jun-22 A	13-Jan-23	22-Feb-23	07-Apr-23	84	
05-3840-1(M22)	Automatic Traffic Control System (ATCS) (2.10.06.12)	90	14	5%	14-Feb-22 A	13-Dec-22	02-Feb-24	15-Feb-24	429	
Building services design (excluding fire services installation design) (2.3.06)		1517	60		04-Dec-18 A	28-Jan-23	29-Dec-22	20-Aug-24	570	
05-1550	Electrical Services and Lighting	150	0	25%	02-Jan-19 A	30-Nov-22	29-Dec-22	29-Dec-22	30	
05-1560	MVAC (6 Packages)	105	60	25%	02-Jan-19 A	28-Jan-23	30-May-23	28-Jul-23	181	
05-1570	Odour Control	135	60	25%	04-Dec-18 A	28-Jan-23	30-May-23	28-Jul-23	181	
05-1580	Plumbing (7 Packages)	210	60	25%	31-Jan-19 A	28-Jan-23	12-Jan-24	11-Mar-24	408	
05-1590	Drainage (7 Packages)	135	60	25%	31-Jan-19 A	28-Jan-23	12-Jan-24	11-Mar-24	408	
05-1600	ELV (7 Packages)	135	0	25%	28-Feb-19 A	30-Nov-22	29-Dec-22	29-Dec-22	30	
05-1770	Vehicle & Container Wash System	60	60	0%	30-Nov-22	28-Jan-23	23-Feb-23	23-Apr-23	85	
05-1770-1(M20)	Water Cannon System	135	30	45%	31-Aug-19 A	29-Dec-22	22-Jul-24	20-Aug-24	600	
AIP Fire services installation design (2.3.05)		270	30		31-Oct-19 A	29-Dec-22	10-Apr-23	09-May-23	131	
Reception Pavilion (2.3.05.06)		270	30		31-Oct-19 A	29-Dec-22	10-Apr-23	09-May-23	131	
05-5460(M22)	Fire Systems (2.3.05.06.01)	270	30	80%	31-Oct-19 A	29-Dec-22	10-Apr-23	09-May-23	131	
05-5470-1(M22)	FS schematics (2.3.05.06.03)	135	30	80%	31-Oct-19 A	29-Dec-22	10-Apr-23	09-May-23	131	
AIP Mechanical Treatment Plant Building (2.4)		181	90		10-Jan-21 A	27-Feb-23	21-Feb-23	11-Mar-24	378	
Building services design (excluding fire services installation design) (2.4.06)		181	90		10-Jan-21 A	27-Feb-23	21-Feb-23	11-Mar-24	378	
05-1700	LV and Emergency Power Distribution Design	135	60	5%	18-Jan-22 A	28-Jan-23	12-Jan-24	11-Mar-24	408	
05-1720	Odour Control	90	90	0%	30-Nov-22	27-Feb-23	21-Feb-23	21-May-23	83	
05-1740	Drainage	90	10	70%	10-Jan-21 A	09-Dec-22	31-Mar-23	09-Apr-23	121	
AIP Wastewater Treatment Plant (2.5)		1170	60		31-Jan-19 A	28-Jan-23	02-Apr-23	16-Jan-24	353	
Building services design (excluding fire services installation design) (2.5.06)		1170	60		31-Jan-19 A	28-Jan-23	02-Apr-23	16-Jan-24	353	
05-1830	LV and Emergency Power Distribution Design (2.5.06.01)	135	60	25%	31-Jan-19 A	28-Jan-23	18-Nov-23	16-Jan-24	353	
05-1840	MVAC (2.5.06.02)	135	60	25%	31-Jan-19 A	28-Jan-23	17-Apr-23	15-Jun-23	138	
05-1850	Odour Control (2.5.06.03)	105	60	5%	31-Dec-21 A	28-Jan-23	23-Apr-23	21-Jun-23	144	
05-1860	Plumbing (2.5.06.04)	135	60	25%	31-Jan-19 A	28-Jan-23	17-Apr-23	15-Jun-23	138	
05-1870	Drainage (2.5.06.05)	135	60	25%	31-Jan-19 A	28-Jan-23	02-Apr-23	31-May-23	123	
05-1880	ELV (2.5.06.06)	135	60	25%	01-Feb-19 A	28-Jan-23	22-May-23	20-Jul-23	173	
AIP Water Treatment Plant Building (2.6)		135	60		30-Apr-19 A	28-Jan-23	18-Mar-23	16-May-23	108	
Building services design (excluding fire services installation design) (2.6.06)		135	60		30-Apr-19 A	28-Jan-23	18-Mar-23	16-May-23	108	
05-1960	Electrical Services and Lighting (2.6.06.01)	135	60	25%	30-Apr-19 A	28-Jan-23	18-Mar-23	16-May-23	108	
05-2000	Drainage	135	10	70%	20-Mar-22 A	09-Dec-22	31-Mar-23	09-Apr-23	121	
AIP Administration Building (2.7)		1033	60		31-Oct-19 A	28-Jan-23	15-Jan-23	15-Jul-23	168	
05-2050	Electrical and instrumentation works design (2.7.03)	90	60	33.33%	31-May-22	28-Jan-23	17-May-23	15-Jul-23	168	
Building services design (excluding fire services installation design) (2.7.05)		135	60		31-Oct-19 A	28-Jan-23	15-Jan-23	15-Mar-23	46	
05-2080	MVAC	135	60	65%	31-Oct-19 A	28-Jan-23	15-Jan-23	15-Mar-23	46	
AIP IWMF Substation (2.8)		180	30		31-Oct-19 A	29-Dec-22	08-Jan-23	06-Feb-23	39	
05-2170	Electrical and instrumentation works design (2.8.03) (14 Packages)	180	30	45%	31-Oct-19 A	29-Dec-22	08-Jan-23	06-Feb-23	39	
AIP Chimney		151	60		20-Sep-21 A	28-Jan-23	16-Feb-23	31-Jan-24	368	
Building services design (excluding fire services installation design)		151	60		20-Sep-21 A	28-Jan-23	16-Feb-23	31-Jan-24	368	
05-5430(5a)	Electrical Services and Lighting	90	60	5%	20-Sep-21 A	28-Jan-23	03-Dec-23	31-Jan-24	368	
05-5440(5a)	MVAC	90	30	5%	20-Sep-21 A	29-Dec-22	16-Feb-23	17-Mar-23	78	
05-5450(5a)	Plumbing	90	60	5%	20-Sep-21 A	28-Jan-23	26-Nov-23	24-Jan-24	361	
05-5460-1(5a)	Drainage	90	60	5%	20-Sep-21 A	28-Jan-23	26-Nov-23	24-Jan-24	361	
05-5470(5a)	ELV	90	60	5%	20-Sep-21 A	28-Jan-23	03-Dec-23	31-Jan-24	368	
05-5490(5a)	Building Management System (BMS)	90	60	5%	27-Oct-21 A	28-Jan-23	16-Jul-23	13-Sep-23	228	
AIP Elevated Drive Way and Associated Structures Foundation		105	60		31-Dec-21 A	28-Jan-23	17-Jan-23	17-Mar-23	48	
Building services design (excluding fire services installation design)		105	60		31-Dec-21 A	28-Jan-23	17-Jan-23	17-Mar-23	48	
05-7090	Electrical Services and Lighting	105	60	5%	31-Dec-21 A	28-Jan-23	17-Jan-23	17-Mar-23	48	
AIP Roads and Utilities (2.10)		820	60		31-Oct-20 A	28-Jan-23	04-Dec-22	02-Nov-23	278	
Water supply system design on the Artificial Island (2.10.04)		820	60		31-Oct-20 A	28-Jan-23	09-Dec-22	21-Jul-23	174	
05-2360	Water Tanks (2.10.04.05)	60	60	0%	30-Nov-22	28-Jan-23	09-Dec-22	06-Feb-23	9	
05-2370-2(M24)	Building Services system for seawater intake (2.10.04.09)	105	60	5%	31-Oct-20 A	28-Jan-23	23-May-23	21-Jul-23	174	



Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

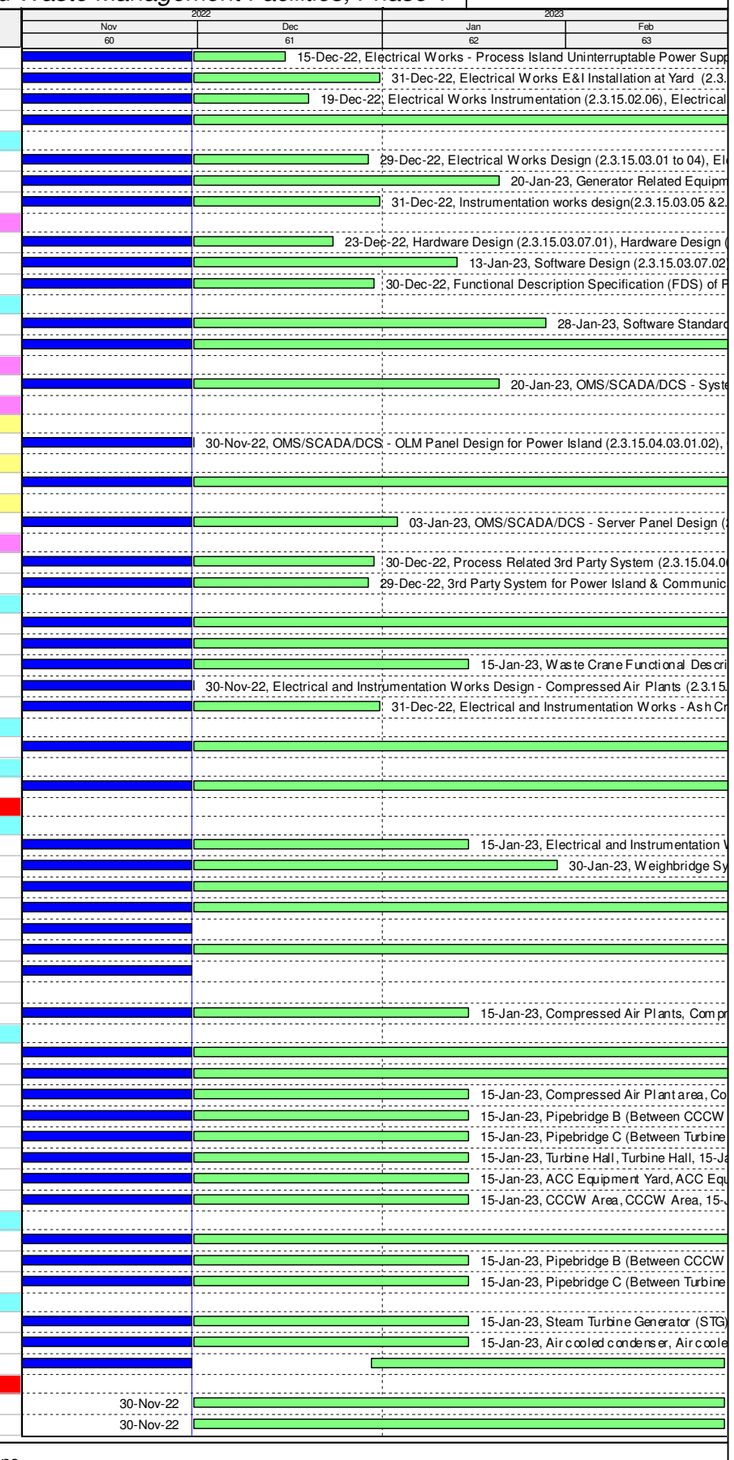
Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
05-2370-3(5a)	Chemical scrubber system for odour control (2.10.04.10)	105	60	5%	31-Oct-21 A	28-Jan-23	23-May-23	21-Jul-23	174	
Design of telecommunication and other utilities (2.10.06)		590	5		31-Jan-21 A	04-Dec-22	04-Dec-22	02-Nov-23	333	
05-2380	Power Distribution System concept / schematics (2.10.06.01)	135	1	5%	31-Jan-21 A	30-Nov-22	02-Nov-23	02-Nov-23	337	
05-2430	Site ELV Network System - Navigation aids concept / schematics (2.10.06.06)	105	5	80%	31-May-22	04-Dec-22	04-Dec-22	08-Dec-22	4	
Utility ducts/Pipebridges design (2.10.25)		455	60		01-May-21	28-Jan-23	23-Jan-23	19-Sep-23	234	
05-2460	Design of Pipe / Utilities Trenches concept (2.10.06.09.01)	105	60	5%	01-May-21	28-Jan-23	22-Jul-23	19-Sep-23	234	
05-2470	Sitewide Utilities Trenches Design (2.10.06.09.02)	105	60	5%	01-May-21	28-Jan-23	23-Jan-23	23-Mar-23	54	
Layout Plan for Pipe Bridge Network		60	30		31-May-22	29-Dec-22	04-Jul-23	20-Aug-23	234	
05-6010	Pipebridge B	60	30	50%	31-May-22	29-Dec-22	22-Jul-23	20-Aug-23	234	
05-6020	Pipebridge C	60	30	50%	31-May-22	29-Dec-22	04-Jul-23	02-Aug-23	216	
AIP Architectural, Finishes and Landscaping Works (2.11)		699	61		08-May-20	29-Jan-23	06-Feb-23	15-Feb-24	382	
External and internal finishes design		439	10		31-Oct-20 A	09-Dec-22	20-Apr-23	20-Jul-23	223	
05-2570	External and internal finishes design for MT Plant Building (2.11.02)	105	10	45%	31-Oct-20 A	09-Dec-22	11-Jul-23	20-Jul-23	223	
05-2590	External and internal finishes design for the Water Treatment Plant Building (2.11.04)	105	10	25%	30-Sep-21 A	09-Dec-22	11-Jul-23	20-Jul-23	223	
05-2600	External and internal finishes design for the Administration Building (2.11.05)	105	10	45%	31-Oct-20 A	09-Dec-22	20-Apr-23	29-Apr-23	141	
Landscaping Works (2.11.07)		180	30		08-May-20	29-Dec-22	06-Feb-23	07-Mar-23	68	
05-2620	Landscape Masterplan & Landscape Design for Water Feature (2.11.07.01)	105	30	45%	19-Jun-20 A	29-Dec-22	06-Feb-23	07-Mar-23	68	
05-2920_3(M34)	Landscape Architectural Design for MT Plant Building and Water Treatment Plant Building (2.11.07.07)	105	30	5%	16-Jun-22 A	29-Dec-22	06-Feb-23	07-Mar-23	68	
05-2920_4(M34)	Landscape Architectural Design for Administration Building (2.11.07.08)	105	30	5%	08-May-20	29-Dec-22	06-Feb-23	07-Mar-23	68	
Facade Structural Design		242	61		26-Aug-21 A	29-Jan-23	17-Nov-23	15-Feb-24	382	
05-8040-1(6D)	Reception Pavilion (2.3.14.07.01)	90	60	5%	05-Oct-21 A	28-Jan-23	18-Dec-23	15-Feb-24	383	
05-8050-1(6D)	Mechanical Treatment Plant & Desalination Plant Building (2.4.14.01)	90	60	5%	08-Mar-22 A	28-Jan-23	18-Nov-23	16-Jan-24	353	
05-8060-1(6D)	Adminstration Building and Viewing Gallery (2.7.12.01)	90	60	5%	07-Dec-21 A	28-Jan-23	18-Nov-23	16-Jan-24	353	
05-8080-1(6D)	Elevated Driveway and Associated Structures	91	61	5%	26-Aug-21 A	29-Jan-23	17-Nov-23	16-Jan-24	352	
AIP Testing and Commissioning (2.12)		105	60		23-Apr-19 A	28-Jan-23	25-Jul-23	22-Sep-23	237	
05-2650-1(5)	Factory Acceptance Testing plan (2.12.01.02-07) (8 Packages)	105	60	5%	23-Apr-19 A	28-Jan-23	25-Jul-23	22-Sep-23	237	
AIP Transportation Facilities for the Operation (2.13)		105	37		30-Sep-20 A	05-Jan-23	02-Jan-23	07-Feb-23	33	
05-2690	Design of vehicles for MSW and Ash and Residues delivery (2.13.01)	105	37	65%	30-Sep-20 A	05-Jan-23	02-Jan-23	07-Feb-23	33	
AIP Miscellaneous Works (2.14)		865	105		31-Oct-20 A	14-Mar-23	09-Dec-22	07-May-23	54	
05-2710	Design of process related CCTV and existing onshore crane replacement works at Portion 2 (2.14.01)	105	105	0%	30-Nov-22	14-Mar-23	09-Dec-22	23-Mar-23	9	
05-2720	Design of visitors and environmental education facilities (2.14.02)	105	60	5%	31-Oct-20 A	28-Jan-23	09-Mar-23	07-May-23	99	
AIP Miscellaneous Detailing (2.15)		90	90		25-May-22	27-Feb-23	28-May-23	26-Aug-23	180	
05-2740	Gatehouses (2.15.03)	90	90	5%	25-May-22	27-Feb-23	29-May-23	26-Aug-23	180	
05-2750	Weighbridge office (2.15.04)	90	30	5%	25-May-22	29-Dec-22	28-May-23	26-Jun-23	179	
AIP Auxiliary Plant Systems (2.16)		90	90		30-Nov-22	27-Feb-23	24-Jan-23	23-Apr-23	55	
05-2770	Vehicle Fuel Filling Station (2.16.02)	90	90	0%	30-Nov-22	27-Feb-23	24-Jan-23	23-Apr-23	55	
AIP O&M Packages		258	171		06-Jun-22 A	19-May-23	21-Sep-23	08-Jul-24	416	
05-8010(6E)	Warehouse (O&M Scope)	185	73	5%	04-Jul-22 A	10-Feb-23	21-Sep-23	02-Dec-23	295	
05-8030(6E)	Ash & Residues Container (O&M Scope)	160	69	5%	06-Jun-22 A	06-Feb-23	22-Feb-24	30-Apr-24	449	
05-8040(6E)	Bicar Debagging Station (O&M Scope)	105	171	5%	17-Nov-22 A	19-May-23	20-Jan-24	08-Jul-24	416	
DDA Design Package Submissions		1660	227		05-Sep-18 A	14-Jul-23	30-Nov-22	26-Dec-24	531	
DDA Process and Layout Design (2.1)		621	122		22-Apr-20 A	31-Mar-23	11-Jan-23	18-Oct-24	567	
MSW treatment process design for incineration (2.1.13)		348	122		22-Apr-20 A	31-Mar-23	12-Apr-23	18-Oct-24	567	
05-5090	Incineration System (2.1.13.01) (2 Packages)	105	76	5%	22-Apr-20 A	13-Feb-23	12-Apr-23	26-Jun-23	133	
05-5100	Heat Recovery Boiler (2.1.13.02) (2 Packages)	105	76	5%	23-Apr-20 A	13-Feb-23	12-Apr-23	26-Jun-23	133	
05-5140	Overall Plan Water Scheme (2.1.13.07)	105	122	5%	29-Jan-21 A	31-Mar-23	19-Jun-24	18-Oct-24	567	
05-5150	Boiler Feed Water System (2.1.13.03) (2 Packages)	105	6	45%	23-Apr-20 A	05-Dec-22	04-Aug-23	09-Aug-23	247	
MSW treatment process design for mechanical treatment (2.1.14)		105	64		02-Oct-20 A	01-Feb-23	31-Mar-23	02-Jun-23	121	
05-3510	Water Treatment Plant and Boiler Water Treatment (Demin Unit) Plant	105	64	5%	02-Oct-20 A	01-Feb-23	31-Mar-23	02-Jun-23	121	
Waste heat recovery and Power generation system (2.1.15)		105	60		30-Sep-21 A	28-Jan-23	26-Oct-23	24-Dec-23	330	
05-5240	Compressed Air Plants	105	60	25%	30-Sep-21 A	28-Jan-23	26-Oct-23	24-Dec-23	330	
Flue gas treatment process design for incineration (2.1.16)		105	121		23-Apr-20 A	30-Mar-23	11-Jan-23	11-May-23	42	
05-4660	Flue Gas Treatment System (2 Packages)	105	121	80%	23-Apr-20 A	30-Mar-23	11-Jan-23	11-May-23	42	
05-4980	Boiler ash and APC residue handling and solidification (2 Packages)	105	25	80%	30-Sep-20 A	24-Dec-22	17-Apr-23	11-May-23	138	
Logistic arrangement design for MSW and Ash and Residues (2.1.17)		105	47		25-Aug-21 A	15-Jan-23	10-Apr-23	25-Sep-23	253	
05-4390	Weighbridge Systems	105	1	5%	25-Aug-21 A	30-Nov-22	25-Sep-23	25-Sep-23	299	
05-4410	Mechanical Shredder	105	47	5%	25-Sep-21 A	15-Jan-23	10-Apr-23	26-May-23	131	
DDA Ground Treatment, Reclamation, Seawall, Breakwater, Berth (2.2)		816	20		20-Jan-19 A	19-Dec-22	27-Dec-22	02-Mar-24	439	
05-3430-2(M37)	Geotechnical Interpretative Report (2.2.02.02)	105	10	65%	31-Dec-20 A	09-Dec-22	27-Dec-22	05-Jan-23	27	
05-3450	Seawall design (2.2.20)	60	20	65%	20-Jan-19 A	19-Dec-22	12-Feb-24	02-Mar-24	439	
05-3470	Berth design (2.2.22)	60	20	65%	30-Jan-19 A	19-Dec-22	06-Apr-23	25-Apr-23	127	
DDA Incineration Plant Buildings (2.3)		1554	227		05-Sep-18 A	14-Jul-23	30-Nov-22	29-Apr-24	290	
Electrical and instrumentation works design (2.3.15)		1478	121		05-Sep-18 A	30-Mar-23	02-Dec-22	29-Apr-24	396	
2.3.15.01		105	62		05-Nov-21 A	30-Jan-23	21-Jan-23	23-Mar-23	52	
05-3360	11kV/380V Power Transformers Design (2.3.15.01)	105	62	80%	05-Nov-21 A	30-Jan-23	21-Jan-23	23-Mar-23	52	
E&IC Package 1 (Process Island) (2.3.15.02)		378	108		22-Sep-20 A	17-Mar-23	08-Dec-22	19-Sep-23	186	
05-3370	Electric Heat Tracing (Process Island) (2.3.15.02.10)	120	105	5%	17-Feb-22 A	14-Mar-23	22-Feb-23	06-Jun-23	84	
05-3390-10(M55)	Electrical Works - MCC Panels (2.3.15.02.01)	105	16	80%	22-Sep-20 A	15-Dec-22	04-Aug-23	19-Aug-23	247	



3-Month Rolling Programme (November 2022)

Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

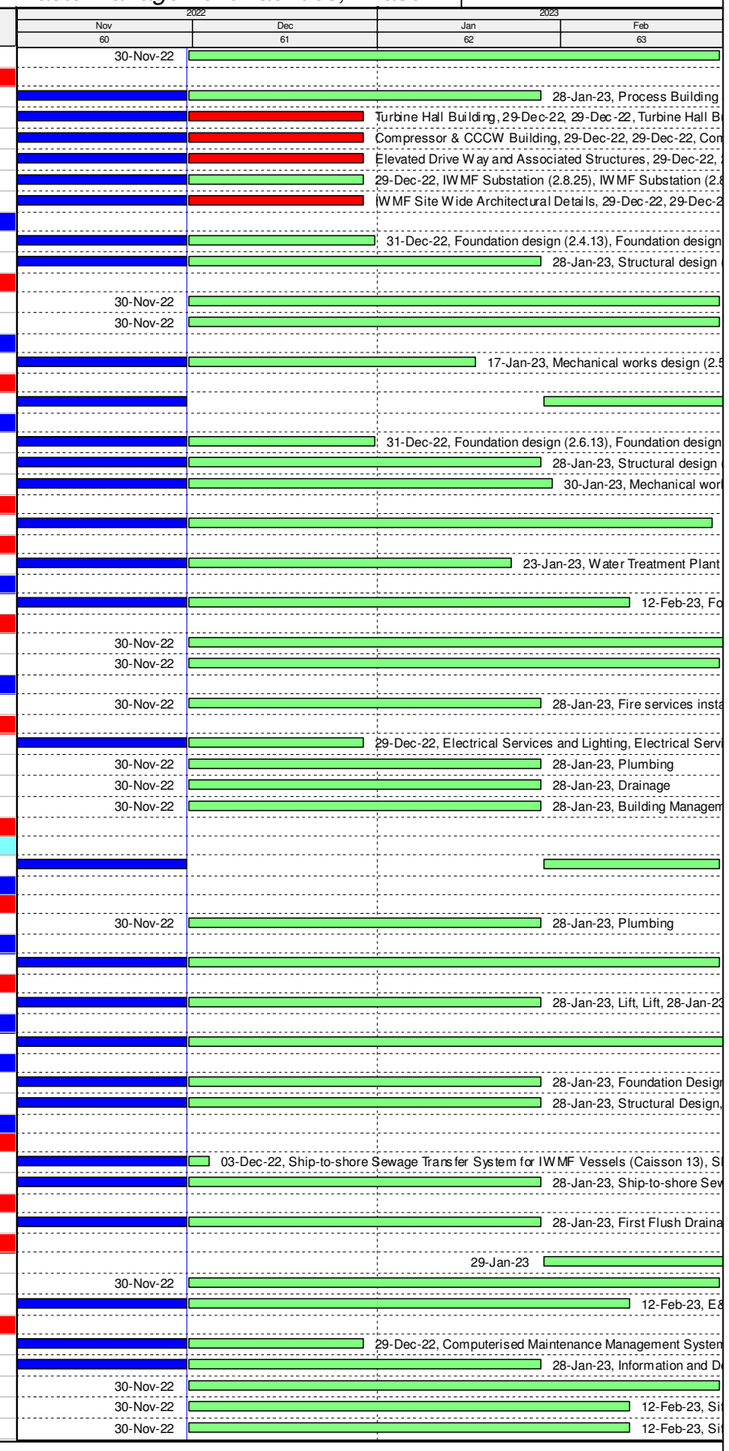
Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
05-3390-11(M55)	Electrical Works - Process Island Uninterruptable Power Supply (UPS) (2.3.15.02.03)	105	16	80%	27-Nov-20 A	15-Dec-22	04-Sep-23	19-Sep-23	278	
05-3390-13(M55)	Electrical Works E&I Installation at Yard (2.3.15.02.08)	105	32	25%	07-May-22	31-Dec-22	08-Dec-22	08-Jan-23	8	
05-3390-6(M55)	Electrical Works Instrumentation (2.3.15.02.06)	105	20	80%	15-Oct-21 A	19-Dec-22	26-Jan-23	14-Feb-23	57	
05-7400-1(M55)	Electrical works CEMS and Process Analysers (2.3.15.02.07)	105	108	5%	12-Jul-21 A	17-Mar-23	11-Feb-23	29-May-23	73	
E&IC Package 2 (Power Island) (2.3.15.03)		773	52		16-Sep-19 A	20-Jan-23	02-Dec-22	29-Apr-24	465	
05-3390-13(M55)10	Electrical Works Design (2.3.15.03.01 to 04)	105	30	80%	23-Dec-20 A	29-Dec-22	02-Dec-22	31-Dec-22	2	
05-3390-4(M46)	Generator Related Equipment (2.3.15.03.08)	105	52	80%	29-Jun-21 A	20-Jan-23	30-Jul-23	19-Sep-23	242	
05-3390-7(M55)	Instrumentation works design(2.3.15.03.05 &2.3.15.03.06)	105	32	80%	10-Feb-21 A	31-Dec-22	21-May-23	21-Jun-23	172	
Control Works Design SCADA & PLC Control System (2.3.15.03.07)		592	45		16-Sep-19 A	13-Jan-23	13-Feb-23	29-Apr-24	472	
05-3390-1(M46)	Hardware Design (2.3.15.03.07.01)	105	24	65%	16-Sep-19 A	23-Dec-22	06-Apr-24	29-Apr-24	493	
05-3390-2(M46)	Software Design (2.3.15.03.07.02)	105	45	45%	30-Oct-21 A	13-Jan-23	13-Feb-23	29-Mar-23	75	
05-3390-3(6D)	Functional Description Specification (FDS) of Power Island (2.3.15.03.07.03)	105	31	65%	31-Dec-21 A	30-Dec-22	27-Feb-23	29-Mar-23	89	
Operation Management System (2.3.15.04)		1478	121		05-Sep-18 A	30-Mar-23	22-Dec-22	29-Apr-24	396	
05-3390-7(M46)	Software Standard Component	105	60	5%	09-Dec-20 A	28-Jan-23	01-Mar-24	29-Apr-24	457	
05-7400(6E)	Automatic License Plate and Container Recoginition System (ALPCRS)	105	121	45%	05-Sep-18 A	30-Mar-23	22-Dec-22	21-Apr-23	22	
2.3.15.04.02		105	52		30-Oct-21 A	20-Jan-23	24-May-23	14-Jul-23	175	
05-3390-6(M46)	OMS/SCADA/DCS - System Networks Details (2.3.15.04.02)	105	52	65%	30-Oct-21 A	20-Jan-23	24-May-23	14-Jul-23	175	
2.3.15.04.03		410	105		15-Dec-21 A	14-Mar-23	14-Jul-23	29-Apr-24	412	
2.3.15.04.03.01		105	0		15-Dec-21 A	30-Nov-22	14-Jul-23	14-Jul-23	227	
05-3390-8(M46)	OMS/SCADA/DCS - OLM Panel Design for Power Island (2.3.15.04.03.01.02)	105	0	80%	15-Dec-21 A	30-Nov-22	14-Jul-23	14-Jul-23	227	
2.3.15.04.03.02		105	105		02-Aug-22 A	14-Mar-23	16-Jan-24	29-Apr-24	412	
05-3390-13(M58)	OMS/SCADA/DCS - Panel Design for Power Island and Plant Commom (2.3.15.04.03.02)	105	105	80%	02-Aug-22 A	14-Mar-23	16-Jan-24	29-Apr-24	412	
2.3.15.04.03.03		105	35		19-Apr-22 A	03-Jan-23	26-Mar-24	29-Apr-24	482	
05-3390-14(M55)	OMS/SCADA/DCS - Server Panel Design (2.3.15.04.03.03)	105	35	80%	19-Apr-22 A	03-Jan-23	26-Mar-24	29-Apr-24	482	
2.3.15.04.06		105	31		06-Oct-21 A	30-Dec-22	15-Jul-23	14-Aug-23	227	
05-3390-9(6D)	Process Related 3rd Party System (2.3.15.04.06.01.01)	105	31	80%	09-Dec-21 A	30-Dec-22	15-Jul-23	14-Aug-23	227	
05-3420(M58)	3rd Party System for Power Island & Communication Data Tables for Process Vol 1 and Power Island & Plant C. Vol 1 & 2	105	30	80%	06-Oct-21 A	29-Dec-22	15-Jul-23	13-Aug-23	227	
2.3.15.05		105	121		15-Jul-21 A	30-Mar-23	26-Feb-23	17-Sep-23	171	
05-3390-15(M55)	Balance of Plant LV Switchgear Design (2.3.15.05.01)	105	119	80%	07-May-22	28-Mar-23	28-Feb-23	26-Jun-23	90	
05-3390-16(M55)	Package 3 (Balance of Plant) - Weighbridge Electrical & Instrumentation Package & ALPCRS (2.3.15.05.07)	105	121	45%	04-Jan-22 A	30-Mar-23	26-Feb-23	26-Jun-23	88	
05-3390-17(M55)	Waste Crane Functional Description (2.3.15.05.08)	105	47	80%	15-Jul-21 A	15-Jan-23	02-Aug-23	17-Sep-23	245	
05-3390-3(M55)	Electrical and Instrumentation Works Design - Compressed Air Plants (2.3.15.05.03)	105	0	80%	29-Nov-21 A	30-Nov-22	07-Jul-23	07-Jul-23	220	
05-3390-5(M55)	Electrical and Instrumentation Works - Ash Crane (2.3.15.05.05)	105	32	80%	30-Aug-21 A	31-Dec-22	16-Aug-23	16-Sep-23	259	
2.3.15.07		105	105		27-Sep-21 A	14-Mar-23	16-Jan-24	29-Apr-24	412	
05-3390-20(M55)	SCADA & PLC Control System - Software Design (2.3.15.07.02)	105	105	5%	27-Sep-21 A	14-Mar-23	16-Jan-24	29-Apr-24	412	
2.3.15.08		105	105		23-May-22	14-Mar-23	16-Jan-24	29-Apr-24	412	
05-3390-21(M55)	Operation Management System (2.3.15.08)	105	105	80%	23-May-22	14-Mar-23	16-Jan-24	29-Apr-24	412	
Mechanical works design (2.3.16)		1323	227		28-Feb-19 A	14-Jul-23	09-Dec-22	23-Jan-24	193	
Plant and Equipment		1323	227		28-Feb-19 A	14-Jul-23	05-Feb-23	25-Sep-23	73	
05-3390-4(M55)	Electrical and Instrumentation Works - Waste Crane and Grapple System (2.3.16.01.02)	105	47	70%	07-Jan-20 A	15-Jan-23	02-Aug-23	17-Sep-23	245	
05-3580	Weighbridge Systems	105	62	5%	30-Mar-22 A	30-Jan-23	26-Jul-23	25-Sep-23	238	
05-3610	Incineration System (9 Packages)	105	148	5%	28-Feb-19 A	26-Apr-23	15-Mar-23	09-Aug-23	105	
05-3620	Heat Recovery Boiler (8 Packages)	105	227	5%	31-Jul-19 A	14-Jul-23	05-Feb-23	19-Sep-23	67	
05-3630	Boiler Feed Water Systems (4 Packages)	105	10	45%	30-Sep-19 A	26-Apr-23	31-Jul-23	09-Aug-23	105	
05-3790	Flue Gas Treatment System (12 Packages)	105	227	25%	31-Oct-19 A	14-Jul-23	10-Feb-23	24-Sep-23	72	
05-3800	Boiler ash and APC residue handling and solidification	105	0	70%	09-Jun-20 A	29-Jun-23	09-Aug-23	09-Aug-23	42	
05-3820	Air cooled condenser	105	0	5%	30-Jul-20 A	30-Jun-22 A	14-Feb-23	14-Feb-23		
05-3830	Compressed Air Plants	105	47	5%	31-Oct-20 A	15-Jan-23	22-Apr-23	07-Jun-23	143	
Process Pipeworks (Incl. Ductworks) and Valves		562	227		29-Feb-20 A	14-Jul-23	09-Dec-22	13-Oct-23	91	
05-3840	Process island (furnace-boiler-FGC)	105	227	5%	29-Feb-20 A	14-Jul-23	04-Feb-23	18-Sep-23	66	
05-4350	Pipe Rack C1, C2, C3, D1 & D2 (Prefab.3)	105	147	5%	28-Feb-21 A	25-Apr-23	20-May-23	13-Oct-23	171	
05-4360	Compressed Air Plant area	105	47	45%	31-May-21	15-Jan-23	22-Apr-23	07-Jun-23	143	
05-4370	Pipebridge B (Between CCCW Area & Turbine Hall)	105	47	5%	28-Feb-21 A	15-Jan-23	13-Apr-23	29-May-23	134	
05-4380	Pipebridge C (Between Turbine Hall & ACC Equipment Yard)	105	47	5%	28-Feb-21 A	15-Jan-23	13-Apr-23	29-May-23	134	
05-4950	Turbine Hall	105	47	80%	31-May-21	15-Jan-23	06-May-23	21-Jun-23	157	
05-4960	ACC Equipment Yard	105	47	65%	31-May-21	15-Jan-23	09-Dec-22	24-Jan-23	9	
05-4970	CCCW Area	105	47	65%	31-May-21	15-Jan-23	13-Apr-23	29-May-23	134	
Process steel structure support (For eqipment, piping & duct, cable tray etc)		105	166		29-May-21	14-May-23	16-Mar-23	01-Sep-23	110	
05-3540	Pipe Rack C1, C2, C3, D1 & D2 (Prefab.3)	105	166	80%	29-May-21	14-May-23	16-Mar-23	28-Aug-23	106	
05-3560	Pipebridge B (Between CCCW Area & Turbine Hall)	105	47	5%	29-May-21	15-Jan-23	26-Mar-23	11-May-23	116	
05-3570	Pipebridge C (Between Turbine Hall & ACC Equipment Yard)	105	47	5%	10-Jun-21 A	15-Jan-23	17-Jul-23	01-Sep-23	229	
Equipment and piping insulation		135	90		31-Dec-21 A	27-Feb-23	26-Jul-23	23-Jan-24	330	
05-4550	Steam Turbine Generator (STG) and Pressure Reducing and Desuperheating Station (PRDS)	105	47	5%	30-Jan-22 A	15-Jan-23	14-Nov-23	30-Dec-23	349	
05-4560	Air cooled condenser	105	47	5%	31-Dec-21 A	15-Jan-23	26-Jul-23	10-Sep-23	238	
05-4570	Closed Circuit Cooling Water System	105	60	5%	31-Dec-21 A	27-Feb-23	25-Nov-23	23-Jan-24	330	
Building services design (excluding fire services installation design) (2.3.18)		90	90		30-Nov-22	27-Feb-23	30-Dec-22	06-Apr-23	38	
05-3690	Electrical Services and Lighting (7 Packages)	90	90	0%	30-Nov-22	27-Feb-23	30-Dec-22	29-Mar-23	30	
05-3740	ELV (7 Packages)	90	90	0%	30-Nov-22	27-Feb-23	30-Dec-22	29-Mar-23	30	



3-Month Rolling Programme (November 2022)

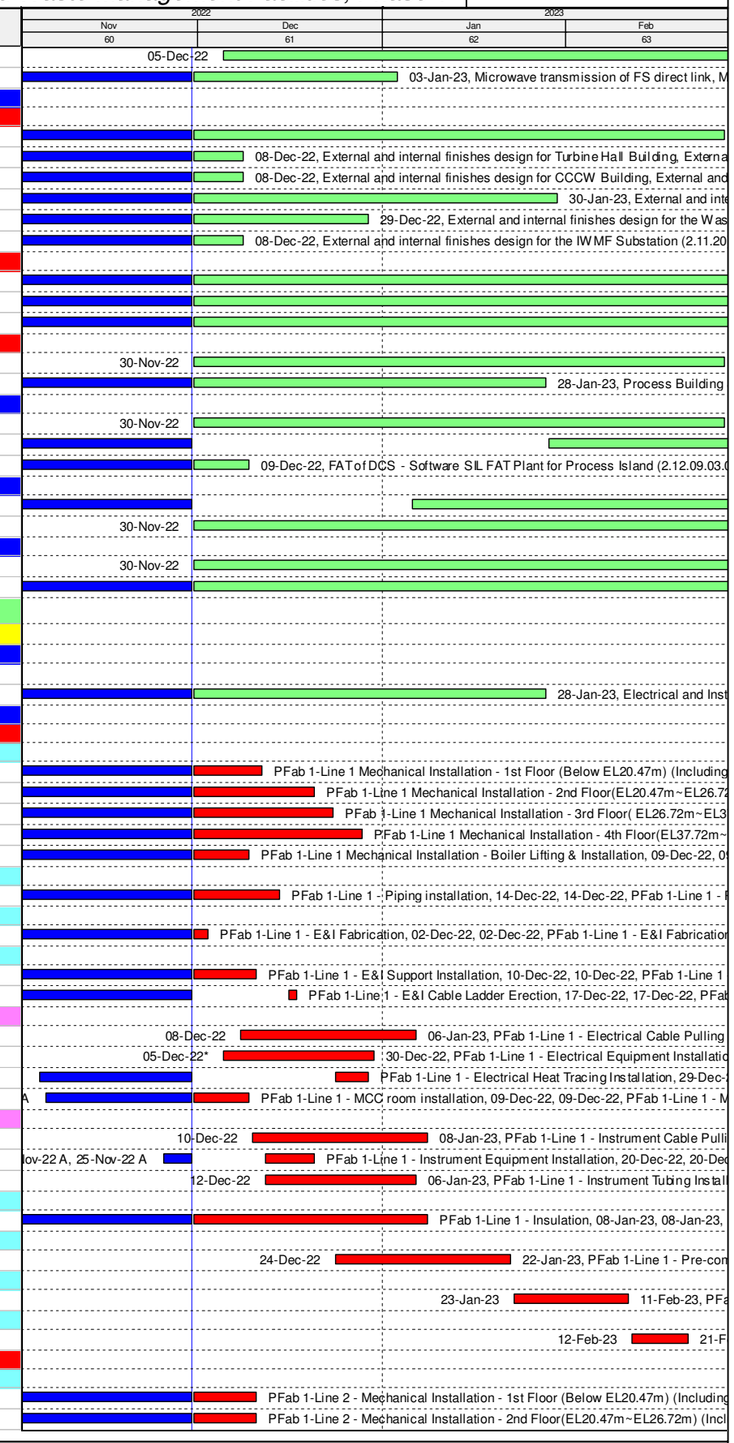
Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
05-3750	Lifts and Escalators	90	90	0%	30-Nov-22	27-Feb-23	07-Jan-23	06-Apr-23	38	
General Layout Drawings and Fire Saftey Strategy (2.3.25)		377	60		31-Jul-21 A	28-Jan-23	30-Nov-22	08-Jun-23	131	
05-3290	Process Building & Wastewater Treatment Plant	60	60	0%	13-Jun-22 A	28-Jan-23	10-Apr-23	08-Jun-23	131	
05-3310	Turbine Hall Building	105	30	25%	29-Dec-21 A	29-Dec-22	30-Nov-22	29-Dec-22	0	
05-3320	Compressor & CCCW Building	105	30	25%	29-Dec-21 A	29-Dec-22	30-Nov-22	29-Dec-22	0	
05-3340	Elevated Drive Way and Associated Structures	105	30	25%	31-Jul-21 A	29-Dec-22	30-Nov-22	29-Dec-22	0	
05-4290	IWMF Substation (2.8.25)	105	30	5%	31-Jul-21 A	29-Dec-22	10-Feb-23	11-Mar-23	72	
05-4800	IWMF Site Wide Architectural Details	105	30	5%	20-Nov-21 A	29-Dec-22	30-Nov-22	29-Dec-22	0	
DDA Mechanical Treatment Plant Building (2.4)		151	90		28-Sep-22 A	27-Feb-23	07-Jan-23	02-Jun-23	95	
05-5170	Foundation design (2.4.13)	60	32	70%	28-Sep-22 A	31-Dec-22	03-Mar-23	03-Apr-23	93	
05-5180	Structural design (2.4.14)	60	60	0%	29-Sep-22 A	28-Jan-23	04-Apr-23	02-Jun-23	125	
Building services design (excluding fire services installation design) (2.4.18)		90	90		30-Nov-22	27-Feb-23	07-Jan-23	16-May-23	78	
05-3860	MVAC	90	90	0%	30-Nov-22	27-Feb-23	16-Feb-23	16-May-23	78	
05-3910	Lifts and Escalators	90	90	0%	30-Nov-22	27-Feb-23	07-Jan-23	06-Apr-23	38	
DDA Wastewater Treatment Plant (2.5)		232	144		31-May-22	22-Apr-23	21-Jun-23	13-Sep-23	144	
05-3960	Mechanical works design (2.5.16) (5 Packages)	232	49	5%	31-May-22	17-Jan-23	21-Jun-23	08-Aug-23	203	
Building services design (excluding fire services installation design) (2.5.18)		90	84		24-Jun-22 A	22-Apr-23	22-Jun-23	13-Sep-23	144	
05-4000	Odour Control	90	84	0%	24-Jun-22 A	22-Apr-23	22-Jun-23	13-Sep-23	144	
DDA Water Treatment Plant Building (2.6)		267	89		11-Apr-22 A	26-Feb-23	17-Feb-23	08-Apr-24	407	
05-4060	Foundation design (2.6.13)	60	32	70%	28-Sep-22 A	31-Dec-22	03-Mar-23	03-Apr-23	93	
05-4070	Structural design (2.6.14)	60	60	0%	29-Sep-22 A	28-Jan-23	04-Apr-23	02-Jun-23	125	
05-4090	Mechanical works design (2.6.16)	90	62	5%	02-May-22	30-Jan-23	07-Feb-24	08-Apr-24	434	
Building services design (excluding fire services installation design) (2.6.18)		90	89		29-Jun-22 A	26-Feb-23	17-Feb-23	16-May-23	79	
05-4120	MVAC	90	89	0%	29-Jun-22 A	26-Feb-23	17-Feb-23	16-May-23	79	
Electrical and instrumentation works design (2.6.15)		238	55		11-Apr-22 A	23-Jan-23	30-Mar-23	23-May-23	120	
05-4080	Water Treatment Plant (WTP) - Variable Speed Drive (2.6.15.01)	238	55	5%	11-Apr-22 A	23-Jan-23	30-Mar-23	23-May-23	120	
DDA Administration Building (2.7)		288	105		28-Apr-22 A	14-Mar-23	07-Jan-23	03-Jul-23	111	
05-4180	Foundation design (2.7.11)	105	75	45%	28-Apr-22 A	12-Feb-23	20-Apr-23	03-Jul-23	141	
Building services design (excluding fire services installation design) (2.7.15)		105	105		30-Nov-22	14-Mar-23	07-Jan-23	16-May-23	63	
05-4220	Electrical Services and Lighting	105	105	0%	30-Nov-22	14-Mar-23	01-Feb-23	16-May-23	63	
05-4280	Lifts and Escalators	90	90	0%	30-Nov-22	27-Feb-23	07-Jan-23	06-Apr-23	38	
DDA IWMF Substation (2.8)		213	90		15-Mar-22 A	27-Feb-23	09-Dec-22	28-May-23	90	
05-4340	Fire services installation design (2.8.17)	60	60	0%	30-Nov-22	28-Jan-23	09-Dec-22	06-Feb-23	9	
Building services design (excluding fire services installation design) (2.8.18)		90	60		01-May-22	28-Jan-23	09-Dec-22	28-May-23	120	
05-4990	Electrical Services and Lighting	90	30	5%	01-May-22	29-Dec-22	29-Apr-23	28-May-23	150	
05-5010	Plumbing	60	60	0%	30-Nov-22	28-Jan-23	09-Dec-22	06-Feb-23	9	
05-5020	Drainage	60	60	0%	30-Nov-22	28-Jan-23	09-Dec-22	06-Feb-23	9	
05-5030-1	Building Management System (BMS)	60	60	0%	30-Nov-22	28-Jan-23	09-Dec-22	06-Feb-23	9	
Electrical and instrumentation works design (2.8.15)		90	30		15-Mar-22 A	27-Feb-23	09-Mar-23	07-Apr-23	39	
2.8.15.06		90	30		15-Mar-22 A	27-Feb-23	09-Mar-23	07-Apr-23	39	
05-4320	Electrical and instrumentation works design (2.8.15.06.01 to 40)	90	30	0%	15-Mar-22 A	27-Feb-23	09-Mar-23	07-Apr-23	39	
DDA Air Cool Condensers Equipment (2.3.06)		60	60		30-Nov-22	28-Jan-23	11-Dec-22	08-Feb-23	11	
Building services design (excluding fire services installation design) (2.3.06)		60	60		30-Nov-22	28-Jan-23	11-Dec-22	08-Feb-23	11	
05-5520	Plumbing	60	60	0%	30-Nov-22	28-Jan-23	11-Dec-22	08-Feb-23	11	
DDA Chimney		91	90		14-Mar-22 A	27-Feb-23	06-Feb-23	23-Jul-23	146	
05-5370	Structural Design	90	90	5%	14-Mar-22 A	27-Feb-23	25-Apr-23	23-Jul-23	146	
Building services design (excluding fire services installation design)		90	60		29-Jun-22 A	28-Jan-23	06-Feb-23	06-Apr-23	68	
05-6050-1(5a)	Lift	90	60	0%	29-Jun-22 A	28-Jan-23	06-Feb-23	06-Apr-23	68	
DDA Elevated Drive Way and Associated Structures Foundation		189	189		29-Dec-21 A	06-Jun-23	14-Mar-23	18-Sep-23	104	
05-5380	Structural Design	189	189	5%	29-Dec-21 A	06-Jun-23	14-Mar-23	18-Sep-23	104	
DDA Reception Pavilion		120	60		08-May-20	28-Jan-23	30-Apr-23	03-Nov-23	279	
05-3280	Foundation Design	90	60	5%	09-Apr-21 A	28-Jan-23	05-Sep-23	03-Nov-23	279	
05-5390	Structural Design	105	60	5%	08-May-20	28-Jan-23	30-Apr-23	28-Jun-23	151	
DDA Roads and Utilities (2.10)		484	150		13-Jan-21 A	28-Apr-23	02-Dec-22	26-Dec-24	608	
Sewerage design on the Artificial Island (2.10.14)		122	60		13-Jan-21 A	28-Jan-23	10-Apr-23	26-Dec-24	698	
05-4440-1(M55)	Ship-to-shore Sewage Transfer System for IWMF Vessels (Caisson 13)	90	4	45%	13-Jan-22 A	03-Dec-22	23-Dec-24	26-Dec-24	754	
05-4440-2(M55)	Ship-to-shore Sewage Transfer System for Passenger Ferry	90	60	45%	13-Jan-21 A	28-Jan-23	10-Apr-23	08-Jun-23	131	
Drainage system design on the Artificial Island (2.10.15)		105	60		31-Dec-21 A	28-Jan-23	04-Aug-23	02-Oct-23	247	
05-5320	First Flush Drainage System concept	105	60	45%	31-Dec-21 A	28-Jan-23	04-Aug-23	02-Oct-23	247	
Water supply system design on the Artificial Island (2.10.16)		241	150		04-Apr-22 A	28-Apr-23	09-Dec-22	03-Nov-23	189	
05-5290	Water Tanks	90	90	0%	29-Jan-23	28-Apr-23	07-Feb-23	07-May-23	9	
05-5300	External FS Systems	90	90	0%	30-Nov-22	27-Feb-23	09-Dec-22	08-Mar-23	9	
05-5300-1(M24)	E&M system for seawater intake (2.10.16.07)	105	75	5%	04-Apr-22 A	12-Feb-23	21-Aug-23	03-Nov-23	264	
Design of telecommunication and other utilities (2.10.18)		217	95		10-May-22	04-Mar-23	02-Dec-22	12-Sep-23	192	
05-3400 (M21)	Computerised Maintenance Management System (CMMS) (2.10.18.10)	105	30	80%	24-May-22	29-Dec-22	02-Dec-22	31-Dec-22	2	
05-3410 (M21)	Information and Document Management System (IDMS) (2.10.18.11)	105	60	45%	10-May-22	28-Jan-23	15-Jul-23	12-Sep-23	227	
05-4590	Site Lighting Concept / Schematics	90	90	0%	30-Nov-22	27-Feb-23	07-Feb-23	07-May-23	69	
05-4610	Site ELV Network System - Communications System concept / schematics	75	75	0%	30-Nov-22	12-Feb-23	24-Dec-22	08-Mar-23	24	
05-4620	Site ELV Network System - Security Systems concept / schematics	75	75	0%	30-Nov-22	12-Feb-23	24-Dec-22	08-Mar-23	24	



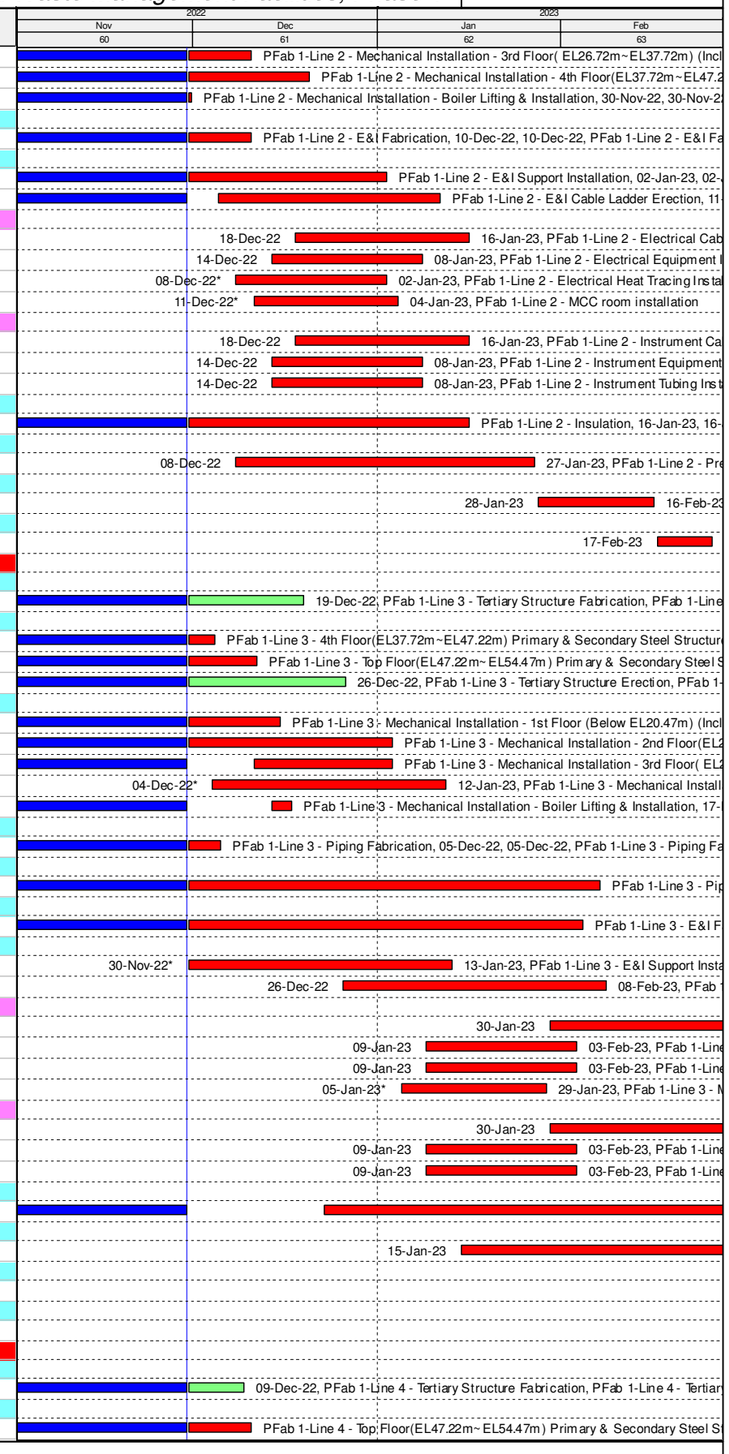
Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
05-4630	Site ELV Network System - Navigation aids concept / schematics	90	90	0%	05-Dec-22	04-Mar-23	09-Dec-22	08-Mar-23	4	
05-4640	Microwave transmission of FS direct link	105	35	5%	22-Aug-22 A	03-Jan-23	29-Dec-22	01-Feb-23	29	
DDA Architectural, Finishes and Landscaping Works (2.11)		333	105		07-Apr-22 A	14-Mar-23	01-Dec-22	17-Dec-23	278	
External and internal finishes design		120	90		10-Aug-22 A	27-Feb-23	01-Dec-22	18-Oct-23	233	
05-4670	External and internal finishes design for Incineration Plant Building (2.11.15)	90	90	5%	19-Sep-22 A	27-Feb-23	21-Jul-23	18-Oct-23	233	
05-4690	External and internal finishes design for Turbine Hall Building	90	9	5%	10-Aug-22 A	08-Dec-22	28-Feb-23	08-Mar-23	90	
05-4700	External and internal finishes design for CCCW Building	90	9	5%	10-Aug-22 A	08-Dec-22	10-Oct-23	18-Oct-23	314	
05-4710	External and internal finishes design for Chimney	90	62	5%	02-Sep-22 A	30-Jan-23	27-Jul-23	26-Sep-23	239	
05-4740	External and internal finishes design for the Wastewater Treatment Plant (2.11.17)	90	30	5%	19-Sep-22 A	29-Dec-22	19-Sep-23	18-Oct-23	293	
05-4770	External and internal finishes design for the IWMF Substation (2.11.20)	90	9	5%	10-Aug-22 A	08-Dec-22	01-Dec-22	09-Dec-22	1	
Landscaping Works (2.11.21)		105	105		29-Jun-22 A	14-Mar-23	08-Mar-23	20-Jun-23	98	
05-4780-1(6C)	Landscape Architectural Design for Turbine Hall Building (2.11.19.04)	105	105	5%	29-Jun-22 A	14-Mar-23	08-Mar-23	20-Jun-23	98	
05-4780-5(6C)	Landscape Architectural Design for IWMF Substation (2.11.07.10)	105	105	5%	11-Jul-22 A	14-Mar-23	08-Mar-23	20-Jun-23	98	
05-4780-6(6C)	Landscape Architectural Design for Process Building (2.11.07.11)	105	105	5%	10-Aug-22 A	14-Mar-23	08-Mar-23	20-Jun-23	98	
Facade Structural Design		244	90		07-Apr-22 A	27-Feb-23	15-Dec-22	17-Dec-23	293	
05-8010(M45)	IWMF Sub-station	90	90	0%	30-Nov-22	27-Feb-23	15-Dec-22	14-Mar-23	15	
05-8020(6D)	Process Building & Wastewater Treatment Plant (2.6.14.01)	90	60	80%	07-Apr-22 A	28-Jan-23	19-Oct-23	17-Dec-23	323	
DDA Testing and Commissioning (2.12)		260	182		19-May-22	30-May-23	10-Dec-22	22-Jan-24	237	
05-4810	Factory Acceptance Testing plan (2.12.09.01)	90	90	0%	30-Nov-22	27-Feb-23	10-Dec-22	09-Mar-23	10	
05-4810-1(5a)	Factory Acceptance Testing plan (2.12.09.02-07) (8 Packages)	90	122	5%	13-Jun-22 A	30-May-23	23-Sep-23	22-Jan-24	237	
05-4810-2(M55)	FAT of DCS - Software SIL FAT Plant for Process Island (2.12.09.03.01)	105	10	80%	19-May-22	09-Dec-22	09-Nov-23	18-Nov-23	344	
DDA Transportation Facilities for the Operation (2.13)		341	183		25-Jun-22 A	31-May-23	02-Jan-23	03-Jul-23	33	
05-4850	Design of vehicles for MSW and Ash and Residues delivery (2.13.05)	341	146	0%	25-Jun-22 A	31-May-23	08-Feb-23	03-Jul-23	33	
05-4860	Design of marine vessels for the use of the Employer and visitors (2.13.06)	183	183	0%	30-Nov-22	31-May-23	02-Jan-23	03-Jul-23	33	
DDA Auxiliary Plant Systems (2.16)		289	196		26-Apr-22 A	13-Jun-23	02-Dec-22	21-Jul-23	38	
05-4940-2(5a)	Hoisting systems (2.16.10)	196	196	0%	30-Nov-22	13-Jun-23	02-Dec-22	15-Jun-23	2	
05-4940-3(6E)	EOTC System (2.16.11)	90	106	5%	26-Apr-22 A	15-Mar-23	06-Apr-23	21-Jul-23	128	
Procurement of Major Equipment		1000	360		29-Mar-20 A	24-Nov-23	02-Oct-22	05-Apr-24	133	
Off-site Fabrication of Incineration Modules		825	185		26-Nov-20 A	02-Jun-23	02-Oct-22	10-Jun-23	8	
Material Procurement		606	60		28-Feb-21 A	28-Jan-23	22-Feb-23	22-Apr-23	84	
06-1000-1(1)	Mechanical Equipment Material Submission and Approval	180	0	58%	30-Apr-22 A	29-May-22 A	22-Feb-23	22-Feb-23		
06-1000-3(1)	Electrical and Instrumentation Material Submission and Approval	180	60	58%	28-Feb-21 A	28-Jan-23	22-Feb-23	22-Apr-23	84	
Fabrication of Module (TPU)		703	185		26-Nov-20 A	02-Jun-23	02-Oct-22	21-Apr-23	-42	
PFab 1- Line 1		367	84		04-Feb-22 A	21-Feb-23	02-Oct-22	24-Dec-22	-59	
Mechanical Erection		251	29		04-Feb-22 A	28-Dec-22	02-Oct-22	10-Nov-22	-48	
06-TPU-1-1100	PFab 1-Line 1 Mechanical Installation - 1st Floor (Below EL20.47m) (Including Combustion Grate)	80	12	85%	04-Feb-22 A	11-Dec-22	30-Oct-22	10-Nov-22	-31	
06-TPU-1-1110	PFab 1-Line 1 Mechanical Installation - 2nd Floor(EL20.47m~EL26.72m) (Including Deaerator)	80	21	73.75%	22-Feb-22 A	20-Dec-22	21-Oct-22	10-Nov-22	-40	
06-TPU-1-1120	PFab 1-Line 1 Mechanical Installation - 3rd Floor(EL26.72m~EL37.72m) (Including Boiler Ash Transport)	80	24	70%	06-May-22	23-Dec-22	18-Oct-22	10-Nov-22	-43	
06-TPU-1-1130	PFab 1-Line 1 Mechanical Installation - 4th Floor(EL37.72m~EL47.22m) (Including Air Ducts)	80	29	63.75%	18-Jun-22 A	28-Dec-22	13-Oct-22	10-Nov-22	-48	
06-TPU-1-1250	PFab 1-Line 1 Mechanical Installation - Boiler Lifting & Installation	80	10	87.5%	24-Jun-22 A	09-Dec-22	02-Oct-22	11-Oct-22	-59	
Piping Installation		150	15		05-Jul-22 A	14-Dec-22	02-Oct-22	16-Oct-22	-59	
06-TPU-1-1000	PFab 1-Line 1 - Piping installation	150	15	90%	05-Jul-22 A	14-Dec-22	02-Oct-22	16-Oct-22	-59	
E&I Fabrication		180	3		14-Apr-22 A	02-Dec-22	02-Oct-22	04-Oct-22	-59	
06-TPU-1-1230	PFab 1-Line 1 - E&I Fabrication	180	3	98.33%	14-Apr-22 A	02-Dec-22	02-Oct-22	04-Oct-22	-59	
E&I Installation		101	40		09-Sep-22 A	08-Jan-23	02-Oct-22	10-Nov-22	-59	
06-TPU-1-1260	PFab 1-Line 1 - E&I Support Installation	45	11	75.56%	09-Sep-22 A	10-Dec-22	02-Oct-22	12-Oct-22	-59	
06-TPU-1-1270	PFab 1-Line 1 - E&I Cable Ladder Erection	30	2	93.33%	17-Oct-22 A	17-Dec-22	18-Oct-22	19-Oct-22	-59	
Electrical		64	38		04-Nov-22 A	06-Jan-23	02-Oct-22	08-Nov-22	-59	
06-TPU-1-1280	PFab 1-Line 1 - Electrical Cable Pulling and Termination	30	30	0%	08-Dec-22	06-Jan-23	10-Oct-22	08-Nov-22	-59	
06-TPU-1-1290	PFab 1-Line 1 - Electrical Equipment Installation	26	26	0%	05-Dec-22*	30-Dec-22	07-Oct-22	01-Nov-22	-59	
06-TPU-1-1300	PFab 1-Line 1 - Electrical Heat Tracing Installation	26	6	76.92%	04-Nov-22 A	29-Dec-22	26-Oct-22	31-Oct-22	-59	
06-TPU-1-1340	PFab 1-Line 1 - MCC room installation	25	10	60%	05-Nov-22 A	09-Dec-22	02-Oct-22	11-Oct-22	-59	
Instrument		45	30		25-Nov-22 A	08-Jan-23	12-Oct-22	10-Nov-22	-59	
06-TPU-1-1310	PFab 1-Line 1 - Instrument Cable Pulling and Termination	30	30	0%	10-Dec-22	08-Jan-23	12-Oct-22	10-Nov-22	-59	
06-TPU-1-1320	PFab 1-Line 1 - Instrument Equipment Installation	26	9	65.38%	25-Nov-22 A	20-Dec-22	14-Oct-22	22-Oct-22	-59	
06-TPU-1-1330	PFab 1-Line 1 - Instrument Tubing Installation	26	26	0%	12-Dec-22	06-Jan-23	14-Oct-22	08-Nov-22	-59	
Insulation		150	40		23-May-22	08-Jan-23	02-Oct-22	10-Nov-22	-59	
06-TPU-1-1020	PFab 1-Line 1 - Insulation	150	40	73.33%	23-May-22	08-Jan-23	02-Oct-22	10-Nov-22	-59	
Precommissioning		30	30		24-Dec-22	22-Jan-23	26-Oct-22	24-Nov-22	-59	
06-TPU-1-1030	PFab 1-Line 1 - Pre-commissioning	30	30	0%	24-Dec-22	22-Jan-23	26-Oct-22	24-Nov-22	-59	
Load out & Shipping		20	20		23-Jan-23	11-Feb-23	25-Nov-22	14-Dec-22	-59	
06-TPU-1-1040	PFab 1-Line 1 - Load out & ready to ship	20	20	0%	23-Jan-23	11-Feb-23	25-Nov-22	14-Dec-22	-59	
Delivery		10	10		12-Feb-23	21-Feb-23	15-Dec-22	24-Dec-22	-59	
06-TPU-1-1350	PFab 1-Line 1 - Delivery	10	10	0%	12-Feb-23	21-Feb-23	15-Dec-22	24-Dec-22	-59	
PFab 1- Line 2		371	89		04-Feb-22 A	26-Feb-23	03-Oct-22	30-Dec-22	-58	
Mechanical Erection		242	21		04-Feb-22 A	20-Dec-22	03-Oct-22	02-Nov-22	-48	
06-TPU-2-1120	PFab 1-Line 2 - Mechanical Installation - 1st Floor (Below EL20.47m) (Including Combustion Grate)	80	11	86.25%	04-Feb-22 A	10-Dec-22	23-Oct-22	02-Nov-22	-38	
06-TPU-2-1130	PFab 1-Line 2 - Mechanical Installation - 2nd Floor(EL20.47m~EL26.72m) (Including Deaerator)	80	11	86.25%	25-Feb-22 A	10-Dec-22	23-Oct-22	02-Nov-22	-38	



Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
06-TPU-2-1140	PFab 1-Line 2 - Mechanical Installation - 3rd Floor(EL26.72m~EL37.72m) (Including Boiler Ash Transport)	80	11	86.25%	06-May-22	10-Dec-22	23-Oct-22	02-Nov-22	-38	
06-TPU-2-1150	PFab 1-Line 2 - Mechanical Installation - 4th Floor(EL37.72m~EL47.22m) (Including Air Ducts)	80	21	73.75%	19-Jun-22 A	20-Dec-22	13-Oct-22	02-Nov-22	-48	
06-TPU-2-1240	PFab 1-Line 2 - Mechanical Installation - Boiler Lifting & Installation	80	1	98.75%	23-May-22	30-Nov-22	03-Oct-22	03-Oct-22	-58	
E&I Fabrication		180	11		14-Apr-22 A	10-Dec-22	03-Oct-22	13-Oct-22	-58	
06-TPU-2-1230	PFab 1-Line 2 - E&I Fabrication	180	11	93.89%	14-Apr-22 A	10-Dec-22	03-Oct-22	13-Oct-22	-58	
E&I Installation		109	48		09-Sep-22 A	16-Jan-23	03-Oct-22	19-Nov-22	-58	
06-TPU-2-1250	PFab 1-Line 2 - E&I Support Installation	45	34	24.44%	09-Sep-22 A	02-Jan-23	03-Oct-22	05-Nov-22	-58	
06-TPU-2-1260	PFab 1-Line 2 - E&I Cable Ladder Erection	45	38	15.56%	24-Oct-22 A	11-Jan-23	08-Oct-22	14-Nov-22	-58	
Electrical		40	40		08-Dec-22	16-Jan-23	11-Oct-22	19-Nov-22	-58	
06-TPU-2-1270	PFab 1-Line 2 - Electrical Cable Pulling and Termination	30	30	0%	18-Dec-22	16-Jan-23	21-Oct-22	19-Nov-22	-58	
06-TPU-2-1280	PFab 1-Line 2 - Electrical Equipment Installation	26	26	0%	14-Dec-22	08-Jan-23	17-Oct-22	11-Nov-22	-58	
06-TPU-2-1290	PFab 1-Line 2 - Electrical Heat Tracing Installation	26	26	0%	08-Dec-22*	02-Jan-23	11-Oct-22	05-Nov-22	-58	
06-TPU-2-1330	PFab 1-Line 2 - MCC room installation	25	25	0%	11-Dec-22*	04-Jan-23	14-Oct-22	07-Nov-22	-58	
Instrument		34	34		14-Dec-22	16-Jan-23	17-Oct-22	19-Nov-22	-58	
06-TPU-2-1300	PFab 1-Line 2 - Instrument Cable Pulling and Termination	30	30	0%	18-Dec-22	16-Jan-23	21-Oct-22	19-Nov-22	-58	
06-TPU-2-1310	PFab 1-Line 2 - Instrument Equipment Installation	26	26	0%	14-Dec-22	08-Jan-23	17-Oct-22	11-Nov-22	-58	
06-TPU-2-1320	PFab 1-Line 2 - Instrument Tubing Installation	26	26	0%	14-Dec-22	08-Jan-23	17-Oct-22	11-Nov-22	-58	
Insulation		150	48		22-May-22	16-Jan-23	03-Oct-22	19-Nov-22	-58	
06-TPU-2-1010	PFab 1-Line 2 - Insulation	150	48	68%	22-May-22	16-Jan-23	03-Oct-22	19-Nov-22	-58	
Precommissioning		51	51		08-Dec-22	27-Jan-23	11-Oct-22	30-Nov-22	-58	
06-TPU-2-1020	PFab 1-Line 2 - Pre-commissioning	51	51	0%	08-Dec-22	27-Jan-23	11-Oct-22	30-Nov-22	-58	
Load out & Shipping		20	20		28-Jan-23	16-Feb-23	01-Dec-22	20-Dec-22	-58	
06-TPU-2-1030	PFab 1-Line 2 - Load out & ready to ship	20	20	0%	28-Jan-23	16-Feb-23	01-Dec-22	20-Dec-22	-58	
Delivery		10	10		17-Feb-23	26-Feb-23	21-Dec-22	30-Dec-22	-58	
06-TPU-2-1340	PFab 1-Line 2 - Delivery	10	10	0%	17-Feb-23	26-Feb-23	21-Dec-22	30-Dec-22	-58	
PFab 1- Line 3		634	136		26-Nov-20 A	14-Apr-23	16-Oct-22	28-Feb-23	-45	
Structure Fabrication		200	20		26-Nov-20 A	19-Dec-22	10-Jan-23	29-Jan-23	41	
06-TPU-3-1110	PFab 1-Line 3 - Tertiary Structure Fabrication	200	20	90%	26-Nov-20 A	19-Dec-22	10-Jan-23	29-Jan-23	41	
Structure Erection		135	27		14-Jan-22 A	26-Dec-22	16-Oct-22	29-Jan-23	34	
06-TPU-3-1080	PFab 1-Line 3 - 4th Floor(EL37.72m~EL47.22m) Primary & Secondary Steel Structure Erection	12	5	58.33%	11-Jul-22 A	04-Dec-22	16-Oct-22	20-Oct-22	-45	
06-TPU-3-1090	PFab 1-Line 3 - Top Floor(EL47.22m~EL54.47m) Primary & Secondary Steel Structure Erection	39	12	69.23%	03-Aug-22 A	11-Dec-22	22-Oct-22	02-Nov-22	-39	
06-TPU-3-1100	PFab 1-Line 3 - Tertiary Structure Erection	90	27	70%	14-Jan-22 A	26-Dec-22	03-Jan-23	29-Jan-23	34	
Mechanical Erection		319	44		03-Mar-22 A	12-Jan-23	30-Oct-22	12-Dec-22	-31	
06-TPU-3-1120	PFab 1-Line 3 - Mechanical Installation - 1st Floor (Below EL20.47m) (Including Combustion Grate)	80	16	80%	03-Mar-22 A	15-Dec-22	27-Nov-22	12-Dec-22	-3	
06-TPU-3-1130	PFab 1-Line 3 - Mechanical Installation - 2nd Floor(EL20.47m~EL26.72m) (Including Deaerator)	80	35	56.25%	13-May-22	03-Jan-23	08-Nov-22	12-Dec-22	-22	
06-TPU-3-1140	PFab 1-Line 3 - Mechanical Installation - 3rd Floor(EL26.72m~EL37.72m) (Including Boiler Ash Transport)	80	24	70%	17-Jun-22 A	03-Jan-23	19-Nov-22	12-Dec-22	-22	
06-TPU-3-1150	PFab 1-Line 3 - Mechanical Installation - 4th Floor(EL37.72m~EL47.22m) (Including Air Ducts)	40	40	0%	04-Dec-22*	12-Jan-23	03-Nov-22	12-Dec-22	-31	
06-TPU-3-1240	PFab 1-Line 3 - Mechanical Installation - Boiler Lifting & Installation	80	4	95%	11-Aug-22 A	17-Dec-22	30-Oct-22	02-Nov-22	-45	
Piping Fabrication		180	6		09-Mar-21 A	05-Dec-22	16-Oct-22	21-Oct-22	-45	
06-TPU-3-1220	PFab 1-Line 3 - Piping Fabrication	180	6	96.67%	09-Mar-21 A	05-Dec-22	16-Oct-22	21-Oct-22	-45	
Piping Installation		119	70		05-Oct-22 A	07-Feb-23	16-Oct-22	24-Dec-22	-45	
06-TPU-3-1000	PFab 1-Line 3 - Piping Installation	119	70	41.18%	05-Oct-22 A	07-Feb-23	16-Oct-22	24-Dec-22	-45	
E&I Fabrication		180	67		14-Apr-22 A	04-Feb-23	04-Nov-22	09-Jan-23	-26	
06-TPU-3-1230	PFab 1-Line 3 - E&I Fabrication	180	67	62.78%	14-Apr-22 A	04-Feb-23	04-Nov-22	09-Jan-23	-26	
E&I Installation		91	91		30-Nov-22	28-Feb-23	04-Nov-22	14-Jan-23	-45	
06-TPU-3-1250	PFab 1-Line 3 - E&I Support Installation	45	45	0%	30-Nov-22*	13-Jan-23	04-Nov-22	18-Dec-22	-26	
06-TPU-3-1260	PFab 1-Line 3 - E&I Cable Ladder Erection	45	45	0%	26-Dec-22	08-Feb-23	11-Nov-22	25-Dec-22	-45	
Electrical		55	55		05-Jan-23	28-Feb-23	21-Nov-22	14-Jan-23	-45	
06-TPU-3-1270	PFab 1-Line 3 - Electrical Cable Pulling and Termination	30	30	0%	30-Jan-23	28-Feb-23	16-Dec-22	14-Jan-23	-45	
06-TPU-3-1280	PFab 1-Line 3 - Electrical Equipment Installation	26	26	0%	09-Jan-23	03-Feb-23	25-Nov-22	20-Dec-22	-45	
06-TPU-3-1290	PFab 1-Line 3 - Electrical Heat Tracing Installation	26	26	0%	09-Jan-23	03-Feb-23	25-Nov-22	20-Dec-22	-45	
06-TPU-3-1330	PFab 1-Line 3 - MCC room installation	25	25	0%	05-Jan-23*	29-Jan-23	21-Nov-22	15-Dec-22	-45	
Instrument		51	51		09-Jan-23	28-Feb-23	25-Nov-22	14-Jan-23	-45	
06-TPU-3-1300	PFab 1-Line 3 - Instrument Cable Pulling and Termination	30	30	0%	30-Jan-23	28-Feb-23	16-Dec-22	14-Jan-23	-45	
06-TPU-3-1310	PFab 1-Line 3 - Instrument Equipment Installation	26	26	0%	09-Jan-23	03-Feb-23	25-Nov-22	20-Dec-22	-45	
06-TPU-3-1320	PFab 1-Line 3 - Instrument Tubing Installation	26	26	0%	09-Jan-23	03-Feb-23	25-Nov-22	20-Dec-22	-45	
Insulation		150	68		23-May-22	28-Feb-23	08-Nov-22	14-Jan-23	-45	
06-TPU-3-1010	PFab 1-Line 3 - Insulation	150	68	54.67%	23-May-22	28-Feb-23	08-Nov-22	14-Jan-23	-45	
Precommissioning		60	60		15-Jan-23	15-Mar-23	01-Dec-22	29-Jan-23	-45	
06-TPU-3-1020	PFab 1-Line 3 - Pre-commissioning	60	60	0%	15-Jan-23	15-Mar-23	01-Dec-22	29-Jan-23	-45	
Load out & Shipping		20	20		16-Mar-23	04-Apr-23	30-Jan-23	18-Feb-23	-45	
06-TPU-3-1030	PFab 1-Line 3 - Load out & ready to ship	20	20	0%	16-Mar-23	04-Apr-23	30-Jan-23	18-Feb-23	-45	
Delivery		10	10		05-Apr-23	14-Apr-23	19-Feb-23	28-Feb-23	-45	
06-TPU-3-1340	PFab 1-Line 3 - Delivery	10	10	0%	05-Apr-23	14-Apr-23	19-Feb-23	28-Feb-23	-45	
PFab 1- Line 4		650	132		10-Dec-20 A	10-Apr-23	27-Oct-22	07-Mar-23	-34	
Structure Fabrication		200	10		10-Dec-20 A	09-Dec-22	27-Jan-23	05-Feb-23	58	
06-TPU-4-1160	PFab 1-Line 4 - Tertiary Structure Fabrication	200	10	95%	10-Dec-20 A	09-Dec-22	27-Jan-23	05-Feb-23	58	
Structure Erection		113	32		01-Apr-22 A	31-Dec-22	31-Oct-22	05-Feb-23	36	
06-TPU-4-1140	PFab 1-Line 4 - Top Floor(EL47.22m~EL54.47m) Primary & Secondary Steel Structure Erection	32	11	65.63%	01-Sep-22 A	10-Dec-22	31-Oct-22	10-Nov-22	-30	



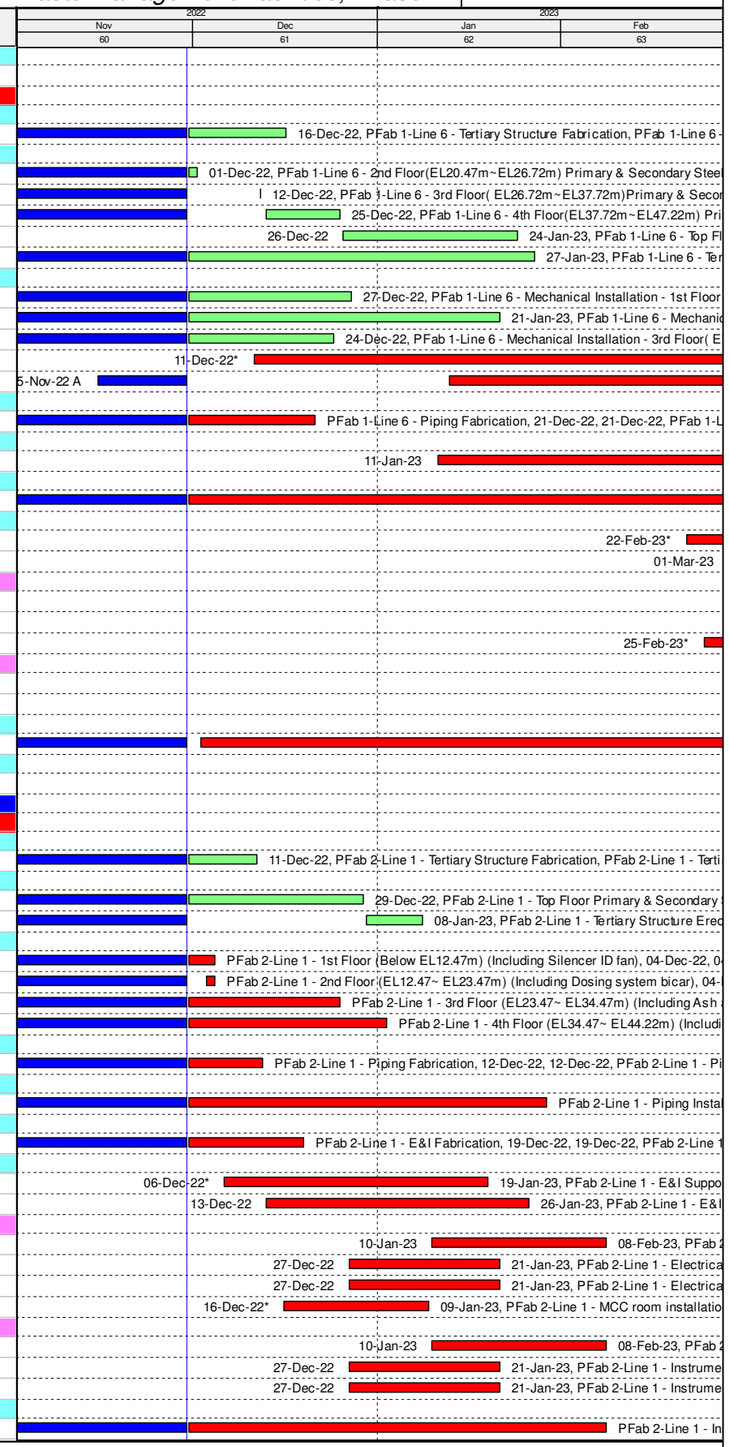
3-Month Rolling Programme (November 2022)

Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
06-TPU-4-1150	PFab 1-Line 4 - Tertiary Structure Erection	90	32	64.44%	01-Apr-22 A	31-Dec-22	05-Jan-23	05-Feb-23	36	
Mechanical Erection		331	50		09-Jan-22 A	18-Jan-23	27-Oct-22	15-Dec-22	-34	
06-TPU-4-1040	PFab 1-Line 4 - Mechanical Installation - 1st Floor (Below EL20.47m) (Including Combustion Grate)	80	16	80%	09-Jan-22 A	15-Dec-22	30-Nov-22	15-Dec-22	0	
06-TPU-4-1050	PFab 1-Line 4 - Mechanical Installation - 2nd Floor(EL20.47m~EL26.72m) (Including Deaerator)	80	40	50%	21-Feb-22 A	08-Jan-23	06-Nov-22	15-Dec-22	-24	
06-TPU-4-1060	PFab 1-Line 4 - Mechanical Installation - 3rd Floor(EL26.72m~EL37.72m) (Including Boiler Ash Transport)	80	32	60%	06-May-22	08-Jan-23	14-Nov-22	15-Dec-22	-24	
06-TPU-4-1070	PFab 1-Line 4 - Mechanical Installation - 4th Floor(EL37.72m~EL47.22m) (Including Air Ducts)	50	50	0%	30-Nov-22	18-Jan-23	27-Oct-22	15-Dec-22	-34	
06-TPU-4-1240	PFab 1-Line 4 - Mechanical Installation - Boiler Lifting & Installation	108	24	77.78%	05-Jul-22 A	04-Jan-23	07-Nov-22	30-Nov-22	-34	
Piping Fabrication		180	25		09-Mar-21 A	24-Dec-22	27-Oct-22	20-Nov-22	-34	
06-TPU-4-1220	PFab 1-Line 4 - Piping Fabrication	180	25	86.11%	09-Mar-21 A	24-Dec-22	27-Oct-22	20-Nov-22	-34	
Piping Installation		62	62		15-Dec-22	14-Feb-23	11-Nov-22	11-Jan-23	-34	
06-TPU-4-1000	PFab 1-Line 4 - Piping Installation	62	62	0%	15-Dec-22*	14-Feb-23	11-Nov-22	11-Jan-23	-34	
E&I Fabrication		180	38		14-Apr-22 A	06-Jan-23	18-Nov-22	25-Dec-22	-12	
06-TPU-4-1230	PFab 1-Line 4 - E&I Fabrication	180	38	78.89%	14-Apr-22 A	06-Jan-23	18-Nov-22	25-Dec-22	-12	
E&I Installation		65	65		22-Dec-22	24-Feb-23	18-Nov-22	21-Jan-23	-34	
06-TPU-4-1250	PFab 1-Line 4 - E&I Support Installation	45	45	0%	22-Dec-22*	04-Feb-23	18-Nov-22	01-Jan-23	-34	
06-TPU-4-1260	PFab 1-Line 4 - E&I Cable Ladder Erection	45	45	0%	29-Dec-22	11-Feb-23	25-Nov-22	08-Jan-23	-34	
Electrical		57	57		30-Dec-22	24-Feb-23	26-Nov-22	21-Jan-23	-34	
06-TPU-4-1270	PFab 1-Line 4 - Electrical Cable Pulling and Termination	30	30	0%	26-Jan-23	24-Feb-23	23-Dec-22	21-Jan-23	-34	
06-TPU-4-1280	PFab 1-Line 4 - Electrical Equipment Installation	26	26	0%	12-Jan-23	06-Feb-23	09-Dec-22	03-Jan-23	-34	
06-TPU-4-1290	PFab 1-Line 4 - Electrical Heat Tracing Installation	26	26	0%	12-Jan-23	06-Feb-23	09-Dec-22	03-Jan-23	-34	
06-TPU-4-1330	PFab 1-Line 4 - MCC room installation	25	25	0%	30-Dec-22*	23-Jan-23	26-Nov-22	20-Dec-22	-34	
Instrument		44	44		12-Jan-23	24-Feb-23	09-Dec-22	21-Jan-23	-34	
06-TPU-4-1300	PFab 1-Line 4 - Instrument Cable Pulling and Termination	30	30	0%	26-Jan-23	24-Feb-23	23-Dec-22	21-Jan-23	-34	
06-TPU-4-1310	PFab 1-Line 4 - Instrument Equipment Installation	26	26	0%	12-Jan-23	06-Feb-23	09-Dec-22	03-Jan-23	-34	
06-TPU-4-1320	PFab 1-Line 4 - Instrument Tubing Installation	26	26	0%	12-Jan-23	06-Feb-23	09-Dec-22	03-Jan-23	-34	
Insulation		150	87		25-May-22	24-Feb-23	27-Oct-22	21-Jan-23	-34	
06-TPU-4-1010	PFab 1-Line 4 - Insulation	150	87	42%	25-May-22	24-Feb-23	27-Oct-22	21-Jan-23	-34	
Precommissioning		60	60		11-Jan-23	11-Mar-23	08-Dec-22	05-Feb-23	-34	
06-TPU-4-1020	PFab 1-Line 4 - Pre-commissioning	60	60	0%	11-Jan-23	11-Mar-23	08-Dec-22	05-Feb-23	-34	
Load out & Shipping		20	20		12-Mar-23	31-Mar-23	06-Feb-23	25-Feb-23	-34	
06-TPU-4-1030	PFab 1-Line 4 - Load Out & ready to ship	20	20	0%	12-Mar-23	31-Mar-23	06-Feb-23	25-Feb-23	-34	
Delivery		10	10		01-Apr-23	10-Apr-23	26-Feb-23	07-Mar-23	-34	
06-TPU-4-1340	PFab 1-Line 4 - Delivery	10	10	0%	01-Apr-23	10-Apr-23	26-Feb-23	07-Mar-23	-34	
PFab 1- Line 5		683	185		11-Jan-21 A	02-Jun-23	04-Oct-22	06-Apr-23	-57	
Structure Fabrication		200	60		11-Jan-21 A	28-Jan-23	06-Feb-23	06-Apr-23	68	
06-TPU-5-1160	PFab 1-Line 5 - Tertiary Structure Fabrication	200	60	70%	11-Jan-21 A	28-Jan-23	06-Feb-23	06-Apr-23	68	
Structure Erection		402	136		14-Jan-22 A	14-Apr-23	24-Oct-22	06-Apr-23	-8	
06-TPU-5-1110	PFab 1-Line 5 - 2nd Floor(EL20.47m~EL26.72m) Primary & Secondary Steel Structure Erection	60	11	81.67%	12-Mar-22 A	10-Dec-22	24-Oct-22	03-Nov-22	-37	
06-TPU-5-1120	PFab 1-Line 5 - 3rd Floor(EL26.72m~EL37.72m)Primary & Secondary Steel Structure Erection	60	60	0%	13-Dec-22*	10-Feb-23	24-Oct-22	22-Dec-22	-50	
06-TPU-5-1130	PFab 1-Line 5 - 4th Floor(EL37.72m~EL47.22m) Primary & Secondary Steel Structure Erection	60	60	0%	15-Jan-23	15-Mar-23	26-Nov-22	24-Jan-23	-50	
06-TPU-5-1140	PFab 1-Line 5 - Top Floor(EL47.22m~EL54.47m) Primary & Secondary Steel Structure Erection	30	30	0%	16-Mar-23	14-Apr-23	25-Jan-23	23-Feb-23	-50	
06-TPU-5-1150	PFab 1-Line 5 - Tertiary Structure Erection	90	69	23.33%	14-Jan-22 A	24-Mar-23	28-Jan-23	06-Apr-23	13	
Mechanical Erection		416	141		02-Mar-22 A	19-Apr-23	19-Nov-22	28-Feb-23	-50	
06-TPU-5-1040	PFab 1-Line 5 - Mechanical Installation - 1st Floor (Below EL20.47m) (Including Combustion Grate)	80	51	36.25%	02-Mar-22 A	19-Jan-23	09-Jan-23	28-Feb-23	40	
06-TPU-5-1050	PFab 1-Line 5 - Mechanical Installation - 2nd Floor(EL20.47m~EL26.72m) (Including Deaerator)	80	80	0%	19-Dec-22*	08-Mar-23	11-Dec-22	28-Feb-23	-8	
06-TPU-5-1060	PFab 1-Line 5 - Mechanical Installation - 3rd Floor(EL26.72m~EL37.72m) (Including Boiler Ash Transport)	80	80	0%	12-Jan-23	01-Apr-23	11-Dec-22	28-Feb-23	-32	
06-TPU-5-1070	PFab 1-Line 5 - Mechanical Installation - 4th Floor(EL37.72m~EL47.22m) (Including Air Ducts)	80	80	0%	30-Jan-23	19-Apr-23	11-Dec-22	28-Feb-23	-50	
06-TPU-5-1240	PFab 1-Line 5 - Mechanical Installation - Boiler Lifting & Installation	80	80	0%	15-Jan-23*	04-Apr-23	19-Nov-22	06-Feb-23	-57	
Piping Fabrication		180	22		23-Mar-21 A	21-Dec-22	04-Oct-22	25-Oct-22	-57	
06-TPU-5-1220	PFab 1-Line 5 - Piping Fabrication	180	22	87.78%	23-Mar-21 A	21-Dec-22	04-Oct-22	25-Oct-22	-57	
Piping Installation		121	121		02-Jan-23	02-May-23	06-Nov-22	06-Mar-23	-57	
06-TPU-5-1000	PFab 1-Line 5 - Piping Installation	121	121	0%	02-Jan-23	02-May-23	06-Nov-22	06-Mar-23	-57	
E&I Fabrication		180	91		14-Apr-22 A	28-Feb-23	27-Dec-22	27-Mar-23	27	
06-TPU-5-1230	PFab 1-Line 5 - E&I Fabrication	180	91	49.44%	14-Apr-22 A	28-Feb-23	27-Dec-22	27-Mar-23	27	
E&I Installation		86	86		22-Feb-23	18-May-23	27-Dec-22	22-Mar-23	-57	
06-TPU-5-1250	PFab 1-Line 5 - E&I Support Installation	45	45	0%	22-Feb-23*	07-Apr-23	27-Dec-22	09-Feb-23	-57	
06-TPU-5-1260	PFab 1-Line 5 - E&I Cable Ladder Erection	45	45	0%	01-Mar-23	14-Apr-23	03-Jan-23	16-Feb-23	-57	
Electrical		58	58		22-Mar-23	18-May-23	24-Jan-23	22-Mar-23	-57	
06-TPU-5-1270	PFab 1-Line 5 - Electrical Cable Pulling and Termination	30	30	0%	19-Apr-23	18-May-23	21-Feb-23	22-Mar-23	-57	
06-TPU-5-1280	PFab 1-Line 5 - Electrical Equipment Installation	26	26	0%	31-Mar-23	25-Apr-23	02-Feb-23	27-Feb-23	-57	
06-TPU-5-1290	PFab 1-Line 5 - Electrical Heat Tracing Installation	26	26	0%	05-Apr-23	30-Apr-23	07-Feb-23	04-Mar-23	-57	
06-TPU-5-1330	PFab 1-Line 5 - MCC room installation	25	25	0%	22-Mar-23*	15-Apr-23	24-Jan-23	17-Feb-23	-57	
Instrument		44	44		05-Apr-23	18-May-23	07-Feb-23	22-Mar-23	-57	
06-TPU-5-1300	PFab 1-Line 5 - Instrument Cable Pulling and Termination	30	30	0%	19-Apr-23	18-May-23	21-Feb-23	22-Mar-23	-57	
06-TPU-5-1310	PFab 1-Line 5 - Instrument Equipment Installation	26	26	0%	05-Apr-23	30-Apr-23	07-Feb-23	04-Mar-23	-57	
06-TPU-5-1320	PFab 1-Line 5 - Instrument Tubing Installation	26	26	0%	05-Apr-23	30-Apr-23	07-Feb-23	04-Mar-23	-57	
Insulation		150	143		04-Jun-22 A	18-May-23	31-Oct-22	22-Mar-23	-57	
06-TPU-5-1010	PFab 1-Line 5 - Insulation	150	143	4.67%	04-Jun-22 A	18-May-23	31-Oct-22	22-Mar-23	-57	

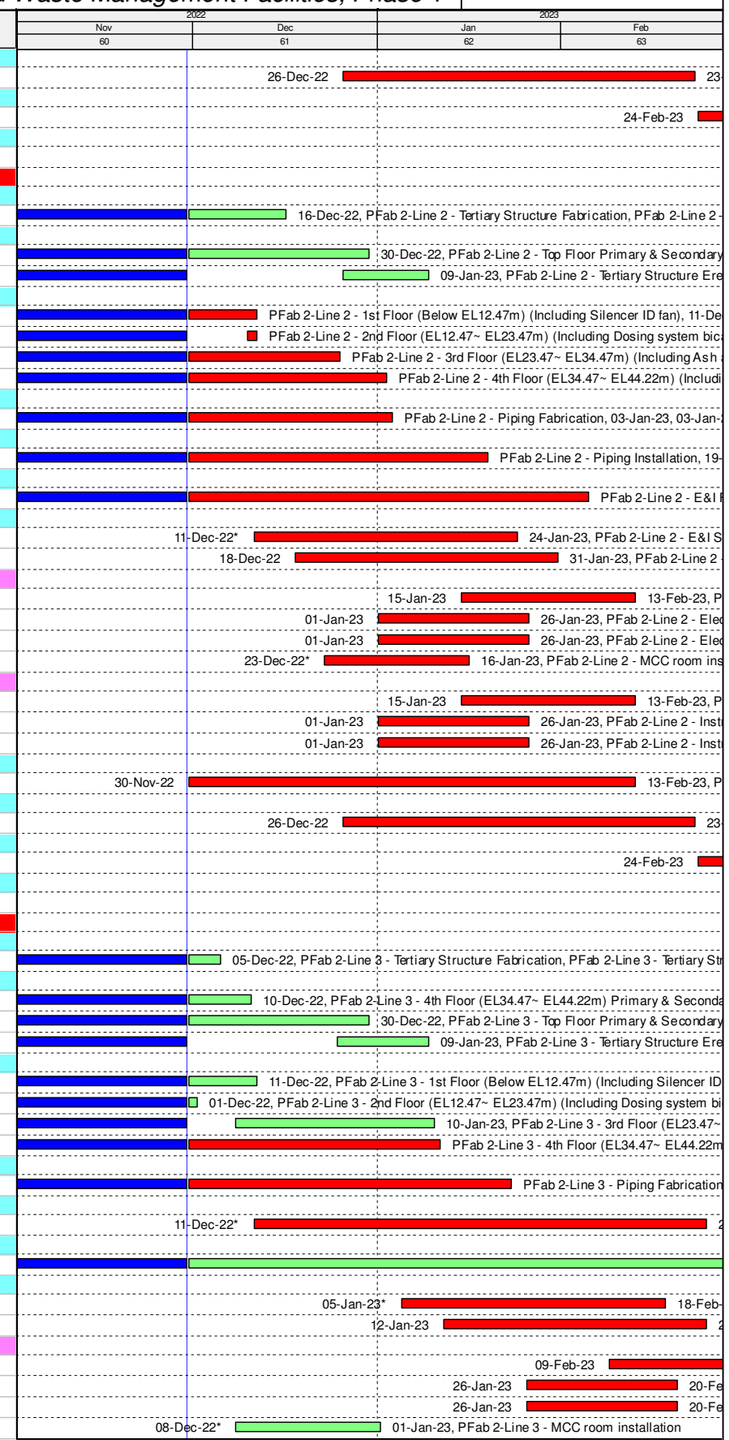
Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
Precommissioning		60	60		04-Apr-23	02-Jun-23	06-Feb-23	06-Apr-23	-57	
06-TPU-5-1020	PFab 1-Line 5 - Pre-commissioning	60	60	0%	04-Apr-23	02-Jun-23	06-Feb-23	06-Apr-23	-57	
PFab 1- Line 6		662	164		23-Mar-21 A	12-May-23	01-Nov-22	21-Apr-23	-21	
Structure Fabrication		169	17		24-Dec-21 A	16-Dec-22	05-Apr-23	21-Apr-23	126	
06-TPU-6-1060	PFab 1-Line 6 - Tertiary Structure Fabrication	169	17	89.94%	24-Dec-21 A	16-Dec-22	05-Apr-23	21-Apr-23	126	
Structure Erection		302	59		08-Apr-22 A	27-Jan-23	02-Dec-22	13-Apr-23	76	
06-TPU-6-1110	PFab 1-Line 6 - 2nd Floor(EL20.47m~EL26.72m) Primary & Secondary Steel Structure Erection	60	2	96.67%	08-Apr-22 A	01-Dec-22	02-Dec-22	03-Dec-22	2	
06-TPU-6-1120	PFab 1-Line 6 - 3rd Floor(EL26.72m~EL37.72m)Primary & Secondary Steel Structure Erection	45	0	100%	24-Jun-22 A	12-Dec-22	13-Dec-22	13-Dec-22	2	
06-TPU-6-1130	PFab 1-Line 6 - 4th Floor(EL37.72m~EL47.22m) Primary & Secondary Steel Structure Erection	30	13	56.67%	02-Sep-22 A	25-Dec-22	15-Dec-22	27-Dec-22	2	
06-TPU-6-1140	PFab 1-Line 6 - Top Floor(EL47.22m~EL54.47m) Primary & Secondary Steel Structure Erection	30	30	0%	26-Dec-22	24-Jan-23	28-Dec-22	26-Jan-23	2	
06-TPU-6-1150	PFab 1-Line 6 - Tertiary Structure Erection	144	59	59.03%	15-Apr-22 A	27-Jan-23	14-Feb-23	13-Apr-23	76	
Mechanical Erection		366	98		03-Mar-22 A	07-Mar-23	12-Nov-22	11-Feb-23	-24	
06-TPU-6-1160	PFab 1-Line 6 - Mechanical Installation - 1st Floor (Below EL20.47m) (Including Combustion Grate)	80	28	65%	03-Mar-22 A	27-Dec-22	21-Dec-22	17-Jan-23	21	
06-TPU-6-1170	PFab 1-Line 6 - Mechanical Installation - 2nd Floor(EL20.47m~EL26.72m) (Including Deaerator)	80	53	33.75%	20-May-22	21-Jan-23	21-Dec-22	11-Feb-23	21	
06-TPU-6-1180	PFab 1-Line 6 - Mechanical Installation - 3rd Floor(EL26.72m~EL37.72m) (Including Boiler Ash Transport)	80	25	68.75%	19-Aug-22 A	24-Dec-22	21-Dec-22	14-Jan-23	21	
06-TPU-6-1190	PFab 1-Line 6 - Mechanical Installation - 4th Floor(EL37.72m~EL47.22m) (Including Air Ducts)	80	80	0%	11-Dec-22*	28-Feb-23	12-Nov-22	30-Jan-23	-29	
06-TPU-6-1240	PFab 1-Line 6 - Mechanical Installation - Boiler Lifting & Installation	80	54	32.5%	15-Nov-22 A	07-Mar-23	15-Dec-22	06-Feb-23	-29	
Piping Fabrication		180	22		23-Mar-21 A	21-Dec-22	01-Nov-22	22-Nov-22	-29	
06-TPU-6-1220	PFab 1-Line 6 - Piping Fabrication	180	22	87.78%	23-Mar-21 A	21-Dec-22	01-Nov-22	22-Nov-22	-29	
Piping Installation		90	90		11-Jan-23	10-Apr-23	13-Dec-22	12-Mar-23	-29	
06-TPU-6-1000	PFab 1-Line 6 - Piping Installation	90	90	0%	11-Jan-23	10-Apr-23	13-Dec-22	12-Mar-23	-29	
E&I Fabrication		180	124		14-Apr-22 A	02-Apr-23	06-Nov-22	09-Mar-23	-24	
06-TPU-6-1230	PFab 1-Line 6 - E&I Fabrication	180	124	31.11%	14-Apr-22 A	02-Apr-23	06-Nov-22	09-Mar-23	-24	
E&I Installation		52	52		22-Feb-23	14-Apr-23	24-Jan-23	16-Mar-23	-29	
06-TPU-6-1250	PFab 1-Line 6 - E&I Support Installation	45	45	0%	22-Feb-23*	07-Apr-23	24-Jan-23	09-Mar-23	-29	
06-TPU-6-1260	PFab 1-Line 6 - E&I Cable Ladder Erection	45	45	0%	01-Mar-23	14-Apr-23	31-Jan-23	16-Mar-23	-29	
Electrical		44	44		25-Feb-23	09-Apr-23	27-Jan-23	11-Mar-23	-29	
06-TPU-6-1280	PFab 1-Line 6 - Electrical Equipment Installation	26	26	0%	15-Mar-23	09-Apr-23	14-Feb-23	11-Mar-23	-29	
06-TPU-6-1290	PFab 1-Line 6 - Electrical Heat Tracing Installation	26	26	0%	15-Mar-23	09-Apr-23	14-Feb-23	11-Mar-23	-29	
06-TPU-6-1330	PFab 1-Line 6 - MCC room installation	25	25	0%	25-Feb-23*	21-Mar-23	27-Jan-23	20-Feb-23	-29	
Instrument		26	26		15-Mar-23	09-Apr-23	14-Feb-23	11-Mar-23	-29	
06-TPU-6-1310	PFab 1-Line 6 - Instrument Equipment Installation	26	26	0%	15-Mar-23	09-Apr-23	14-Feb-23	11-Mar-23	-29	
06-TPU-6-1320	PFab 1-Line 6 - Instrument Tubing Installation	26	26	0%	15-Mar-23	09-Apr-23	14-Feb-23	11-Mar-23	-29	
Insulation		150	147		08-Jul-22 A	27-Apr-23	03-Nov-22	29-Mar-23	-29	
06-TPU-6-1010	PFab 1-Line 6 - Insulation	150	147	2%	08-Jul-22 A	27-Apr-23	03-Nov-22	29-Mar-23	-29	
Precommissioning		60	60		14-Mar-23	12-May-23	13-Feb-23	13-Apr-23	-29	
06-TPU-6-1020	PFab 1-Line 6 - Pre-commissioning	60	60	0%	14-Mar-23	12-May-23	13-Feb-23	13-Apr-23	-29	
Fabrication of Module (FGC)		668	150		11-Dec-20 A	28-Apr-23	14-Oct-22	10-Jun-23	43	
PFab 2 - Line 1		614	116		29-May-21	25-Mar-23	14-Oct-22	06-Feb-23	-47	
Structure Fabrication		188	12		31-Mar-22 A	11-Dec-22	16-Jan-23	27-Jan-23	47	
06-FGC-1-1110	PFab 2-Line 1 - Tertiary Structure Fabrication	188	12	93.62%	31-Mar-22 A	11-Dec-22	16-Jan-23	27-Jan-23	47	
Structure Erection		104	40		01-Sep-22 A	08-Jan-23	29-Dec-22	06-Feb-23	29	
06-FGC-1-1050	PFab 2-Line 1 - Top Floor Primary & Secondary Steel Structure Erection	60	30	50%	13-Sep-22 A	29-Dec-22	29-Dec-22	27-Jan-23	29	
06-FGC-1-1060	PFab 2-Line 1 - Tertiary Structure Erection	80	10	87.5%	01-Sep-22 A	08-Jan-23	28-Jan-23	06-Feb-23	29	
Mechanical Erection		256	34		07-Jan-22 A	02-Jan-23	14-Oct-22	16-Nov-22	-47	
06-FGC-1-1070	PFab 2-Line 1 - 1st Floor (Below EL12.47m) (Including Silencer ID fan)	60	5	91.67%	07-Jan-22 A	04-Dec-22	12-Nov-22	16-Nov-22	-18	
06-FGC-1-1080	PFab 2-Line 1 - 2nd Floor (EL12.47~ EL23.47m) (Including Dosing system bicar)	60	2	96.67%	04-Mar-22 A	04-Dec-22	15-Nov-22	16-Nov-22	-18	
06-FGC-1-1090	PFab 2-Line 1 - 3rd Floor (EL23.47~ EL34.47m) (Including Ash and residue to solidification)	60	26	56.67%	06-May-22	25-Dec-22	22-Oct-22	16-Nov-22	-39	
06-FGC-1-1100	PFab 2-Line 1 - 4th Floor (EL34.47~ EL44.22m) (Including Urea to ammonia convertor)	50	34	32%	03-Jun-22 A	02-Jan-23	14-Oct-22	16-Nov-22	-47	
Piping Fabrication		180	13		29-May-21	12-Dec-22	14-Oct-22	26-Oct-22	-47	
06-FGC-1-1210	PFab 2-Line 1 - Piping Fabrication	180	13	92.78%	29-May-21	12-Dec-22	14-Oct-22	26-Oct-22	-47	
Piping Installation		150	61		05-Aug-22 A	29-Jan-23	14-Oct-22	13-Dec-22	-47	
06-FGC-1-1120	PFab 2-Line 1 - Piping Installation	150	61	59.33%	05-Aug-22 A	29-Jan-23	14-Oct-22	13-Dec-22	-47	
E&I Fabrication		180	20		14-Apr-22 A	19-Dec-22	27-Oct-22	15-Nov-22	-34	
06-FGC-1-1220	PFab 2-Line 1 - E&I Fabrication	180	20	88.89%	14-Apr-22 A	19-Dec-22	27-Oct-22	15-Nov-22	-34	
E&I Installation		65	65		06-Dec-22	08-Feb-23	20-Oct-22	23-Dec-22	-47	
06-FGC-1-1230	PFab 2-Line 1 - E&I Support Installation	45	45	0%	06-Dec-22*	19-Jan-23	20-Oct-22	03-Dec-22	-47	
06-FGC-1-1240	PFab 2-Line 1 - E&I Cable Ladder Erection	45	45	0%	13-Dec-22	26-Jan-23	27-Oct-22	10-Dec-22	-47	
Electrical		55	55		16-Dec-22	08-Feb-23	30-Oct-22	23-Dec-22	-47	
06-FGC-1-1250	PFab 2-Line 1 - Electrical Cable Pulling and Termination	30	30	0%	10-Jan-23	08-Feb-23	24-Nov-22	23-Dec-22	-47	
06-FGC-1-1260	PFab 2-Line 1 - Electrical Equipment Installation	26	26	0%	27-Dec-22	21-Jan-23	10-Nov-22	05-Dec-22	-47	
06-FGC-1-1270	PFab 2-Line 1 - Electrical Heat Tracing Installation	26	26	0%	27-Dec-22	21-Jan-23	10-Nov-22	05-Dec-22	-47	
06-FGC-1-1310	PFab 2-Line 1 - MCC room installation	25	25	0%	16-Dec-22*	09-Jan-23	30-Oct-22	23-Nov-22	-47	
Instrument		44	44		27-Dec-22	08-Feb-23	10-Nov-22	23-Dec-22	-47	
06-FGC-1-1280	PFab 2-Line 1 - Instrument Cable Pulling and Termination	30	30	0%	10-Jan-23	08-Feb-23	24-Nov-22	23-Dec-22	-47	
06-FGC-1-1290	PFab 2-Line 1 - Instrument Equipment Installation	26	26	0%	27-Dec-22	21-Jan-23	10-Nov-22	05-Dec-22	-47	
06-FGC-1-1300	PFab 2-Line 1 - Instrument Tubing Installation	26	26	0%	27-Dec-22	21-Jan-23	10-Nov-22	05-Dec-22	-47	
Insulation		150	71		25-May-22	08-Feb-23	14-Oct-22	23-Dec-22	-47	
06-FGC-1-1130	PFab 2-Line 1 - Insulation	150	71	52.6%	25-May-22	08-Feb-23	14-Oct-22	23-Dec-22	-47	



3-Month Rolling Programme (November 2022)

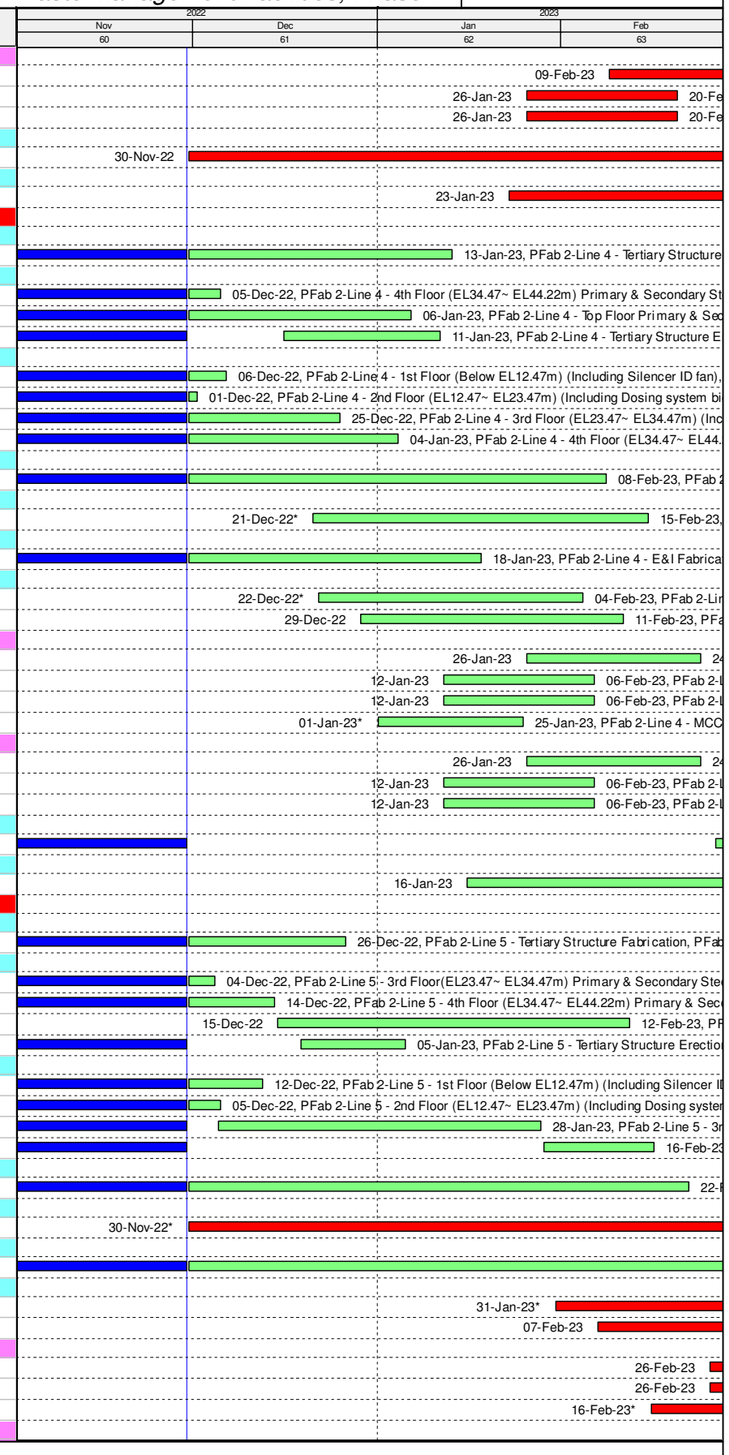
Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
Precommissioning		60	60		26-Dec-22	23-Feb-23	09-Nov-22	07-Jan-23	-47	
06-FGC-1-1190	PFab 2-Line 1 - Pre-commissioning	60	60	0%	26-Dec-22	23-Feb-23	09-Nov-22	07-Jan-23	-47	
Load out & Shipping		20	20		24-Feb-23	15-Mar-23	08-Jan-23	27-Jan-23	-47	
06-FGC-1-1200	PFab 2-Line 1 - Load Out & ready to ship	20	20	0%	24-Feb-23	15-Mar-23	08-Jan-23	27-Jan-23	-47	
Delivery		10	10		16-Mar-23	25-Mar-23	28-Jan-23	06-Feb-23	-47	
06-FGC-1-1320	PFab 2-Line 1 - Delivery	10	10	0%	16-Mar-23	25-Mar-23	28-Jan-23	06-Feb-23	-47	
PFab 2 - Line 2		634	116		03-Jun-21 A	25-Mar-23	21-Oct-22	13-Feb-23	-40	
Structure Fabrication		180	17		22-Oct-21 A	16-Dec-22	29-Dec-22	15-Jan-23	29	
06-FGC-2-1040	PFab 2-Line 2 - Tertiary Structure Fabrication	180	17	90.56%	22-Oct-21 A	16-Dec-22	29-Dec-22	15-Jan-23	29	
Structure Erection		90	41		01-Sep-22 A	09-Jan-23	15-Dec-22	25-Jan-23	15	
06-FGC-2-1100	PFab 2-Line 2 - Top Floor Primary & Secondary Steel Structure Erection	60	31	48.33%	01-Sep-22 A	30-Dec-22	15-Dec-22	15-Jan-23	15	
06-FGC-2-1110	PFab 2-Line 2 - Tertiary Structure Erection	90	15	83.33%	01-Sep-22 A	09-Jan-23	10-Jan-23	25-Jan-23	15	
Mechanical Erection		272	34		02-Jan-22 A	02-Jan-23	23-Oct-22	26-Nov-22	-38	
06-FGC-2-1120	PFab 2-Line 2 - 1st Floor (Below EL12.47m) (Including Silencer ID fan)	60	12	80%	02-Jan-22 A	11-Dec-22	14-Nov-22	26-Nov-22	-16	
06-FGC-2-1130	PFab 2-Line 2 - 2nd Floor (EL12.47~ EL23.47m) (Including Dosing system bicar)	60	2	96.67%	25-Feb-22 A	11-Dec-22	24-Nov-22	26-Nov-22	-16	
06-FGC-2-1140	PFab 2-Line 2 - 3rd Floor (EL23.47~ EL34.47m) (Including Ash and residue to solidification)	60	26	56.67%	06-May-22	25-Dec-22	31-Oct-22	26-Nov-22	-30	
06-FGC-2-1150	PFab 2-Line 2 - 4th Floor (EL34.47~ EL44.22m) (Including Urea to ammonia convertor)	50	34	32%	03-Jun-22 A	02-Jan-23	23-Oct-22	26-Nov-22	-38	
Piping Fabrication		180	35		03-Jun-21 A	03-Jan-23	21-Oct-22	25-Nov-22	-40	
06-FGC-2-1210	PFab 2-Line 2 - Piping Fabrication	180	35	80.56%	03-Jun-21 A	03-Jan-23	21-Oct-22	25-Nov-22	-40	
Piping Installation		150	51		12-Aug-22 A	19-Jan-23	21-Oct-22	11-Dec-22	-40	
06-FGC-2-1000	PFab 2-Line 2 - Piping Installation	150	51	65.98%	12-Aug-22 A	19-Jan-23	21-Oct-22	11-Dec-22	-40	
E&I Fabrication		180	68		14-Apr-22 A	05-Feb-23	01-Nov-22	08-Jan-23	-29	
06-FGC-2-1220	PFab 2-Line 2 - E&I Fabrication	180	68	62.22%	14-Apr-22 A	05-Feb-23	01-Nov-22	08-Jan-23	-29	
E&I Installation		65	65		11-Dec-22	13-Feb-23	01-Nov-22	05-Jan-23	-40	
06-FGC-2-1230	PFab 2-Line 2 - E&I Support Installation	45	45	0%	11-Dec-22*	24-Jan-23	01-Nov-22	16-Dec-22	-40	
06-FGC-2-1240	PFab 2-Line 2 - E&I Cable Ladder Erection	45	45	0%	18-Dec-22	31-Jan-23	08-Nov-22	23-Dec-22	-40	
Electrical		53	53		23-Dec-22	13-Feb-23	13-Nov-22	05-Jan-23	-40	
06-FGC-2-1250	PFab 2-Line 2 - Electrical Cable Pulling and Termination	30	30	0%	15-Jan-23	13-Feb-23	06-Dec-22	05-Jan-23	-40	
06-FGC-2-1260	PFab 2-Line 2 - Electrical Equipment Installation	26	26	0%	01-Jan-23	26-Jan-23	22-Nov-22	18-Dec-22	-40	
06-FGC-2-1270	PFab 2-Line 2 - Electrical Heat Tracing Installation	26	26	0%	01-Jan-23	26-Jan-23	22-Nov-22	18-Dec-22	-40	
06-FGC-2-1310	PFab 2-Line 2 - MCC room installation	25	25	0%	23-Dec-22*	16-Jan-23	13-Nov-22	08-Dec-22	-40	
Instrument		44	44		01-Jan-23	13-Feb-23	22-Nov-22	05-Jan-23	-40	
06-FGC-2-1280	PFab 2-Line 2 - Instrument Cable Pulling and Termination	30	30	0%	15-Jan-23	13-Feb-23	06-Dec-22	05-Jan-23	-40	
06-FGC-2-1290	PFab 2-Line 2 - Instrument Equipment Installation	26	26	0%	01-Jan-23	26-Jan-23	22-Nov-22	18-Dec-22	-40	
06-FGC-2-1300	PFab 2-Line 2 - Instrument Tubing Installation	26	26	0%	01-Jan-23	26-Jan-23	22-Nov-22	18-Dec-22	-40	
Insulation		76	76		30-Nov-22	13-Feb-23	21-Oct-22	05-Jan-23	-40	
06-FGC-2-1010	PFab 2-Line 2 - Insulation	76	76	0%	30-Nov-22	13-Feb-23	21-Oct-22	05-Jan-23	-40	
Precommissioning		60	60		26-Dec-22	23-Feb-23	16-Nov-22	15-Jan-23	-40	
06-FGC-2-1020	PFab 2-Line 2 - Pre-commissioning	60	60	0%	26-Dec-22	23-Feb-23	16-Nov-22	15-Jan-23	-40	
Load out & Shipping		20	20		24-Feb-23	15-Mar-23	15-Jan-23	04-Feb-23	-40	
06-FGC-2-1030	PFab 2-Line 2 - Load Out & ready to ship	20	20	0%	24-Feb-23	15-Mar-23	15-Jan-23	04-Feb-23	-40	
Delivery		10	10		16-Mar-23	25-Mar-23	04-Feb-23	13-Feb-23	-40	
06-FGC-2-1320	PFab 2-Line 2 - Delivery	10	10	0%	16-Mar-23	25-Mar-23	04-Feb-23	13-Feb-23	-40	
PFab 2 - Line 3		612	114		11-Dec-20 A	23-Mar-23	22-Nov-22	30-Mar-23	7	
Structure Fabrication		180	6		11-Dec-20 A	05-Dec-22	17-Mar-23	22-Mar-23	107	
06-FGC-3-1110	PFab 2-Line 3 - Tertiary Structure Fabrication	180	6	96.67%	11-Dec-20 A	05-Dec-22	17-Mar-23	22-Mar-23	107	
Structure Erection		122	41		25-Apr-22 A	09-Jan-23	15-Dec-22	15-Mar-23	65	
06-FGC-3-1080	PFab 2-Line 3 - 4th Floor (EL34.47~ EL44.22m) Primary & Secondary Steel Structure Erection	29	11	62.07%	25-Apr-22 A	10-Dec-22	15-Dec-22	25-Dec-22	15	
06-FGC-3-1090	PFab 2-Line 3 - Top Floor Primary & Secondary Steel Structure Erection	60	31	48.33%	01-Sep-22 A	30-Dec-22	03-Feb-23	05-Mar-23	65	
06-FGC-3-1100	PFab 2-Line 3 - Tertiary Structure Erection	59	16	72.88%	01-Sep-22 A	09-Jan-23	28-Feb-23	15-Mar-23	65	
Mechanical Erection		303	43		02-Jan-22 A	11-Jan-23	28-Nov-22	29-Jan-23	18	
06-FGC-3-1000	PFab 2-Line 3 - 1st Floor (Below EL12.47m) (Including Silencer ID fan)	60	12	80%	02-Jan-22 A	11-Dec-22	18-Jan-23	29-Jan-23	49	
06-FGC-3-1010	PFab 2-Line 3 - 2nd Floor (EL12.47~ EL23.47m) (Including Dosing system bicar)	60	2	96.67%	10-Mar-22 A	01-Dec-22	09-Dec-22	10-Dec-22	9	
06-FGC-3-1020	PFab 2-Line 3 - 3rd Floor (EL23.47~ EL34.47m) (Including Ash and residue to solidification)	60	34	43.33%	01-Sep-22 A	10-Jan-23	17-Dec-22	19-Jan-23	9	
06-FGC-3-1030	PFab 2-Line 3 - 4th Floor (EL34.47~ EL44.22m) (Including Urea to ammonia convertor)	50	43	14%	10-Sep-22 A	11-Jan-23	28-Nov-22	09-Jan-23	-2	
Piping Fabrication		180	55		03-Jun-21 A	23-Jan-23	23-Nov-22	16-Jan-23	-7	
06-FGC-3-1210	PFab 2-Line 3 - Piping Fabrication	180	55	69.44%	03-Jun-21 A	23-Jan-23	23-Nov-22	16-Jan-23	-7	
Piping Installation		77	77		11-Dec-22	25-Feb-23	04-Dec-22	18-Feb-23	-7	
06-FGC-3-1150	PFab 2-Line 3 - Piping Installation	77	77	0%	11-Dec-22*	25-Feb-23	04-Dec-22	18-Feb-23	-7	
E&I Fabrication		180	93		14-Apr-22 A	02-Mar-23	28-Dec-22	30-Mar-23	28	
06-FGC-3-1220	PFab 2-Line 3 - E&I Fabrication	180	93	48.33%	14-Apr-22 A	02-Mar-23	28-Dec-22	30-Mar-23	28	
E&I Installation		93	93		08-Dec-22	10-Mar-23	28-Dec-22	02-Mar-23	-8	
06-FGC-3-1230	PFab 2-Line 3 - E&I Support Installation	45	45	0%	05-Jan-23*	18-Feb-23	28-Dec-22	10-Feb-23	-8	
06-FGC-3-1240	PFab 2-Line 3 - E&I Cable Ladder Erection	45	45	0%	12-Jan-23	25-Feb-23	04-Jan-23	17-Feb-23	-8	
Electrical		93	93		08-Dec-22	10-Mar-23	08-Jan-23	02-Mar-23	-8	
06-FGC-3-1250	PFab 2-Line 3 - Electrical Cable Pulling and Termination	30	30	0%	09-Feb-23	10-Mar-23	01-Feb-23	02-Mar-23	-8	
06-FGC-3-1260	PFab 2-Line 3 - Electrical Equipment Installation	26	26	0%	26-Jan-23	20-Feb-23	18-Jan-23	12-Feb-23	-8	
06-FGC-3-1270	PFab 2-Line 3 - Electrical Heat Tracing Installation	26	26	0%	26-Jan-23	20-Feb-23	18-Jan-23	12-Feb-23	-8	
06-FGC-3-1310	PFab 2-Line 3 - MCC room installation	25	25	0%	08-Dec-22*	01-Jan-23	08-Jan-23	01-Feb-23	31	



3-Month Rolling Programme (November 2022)

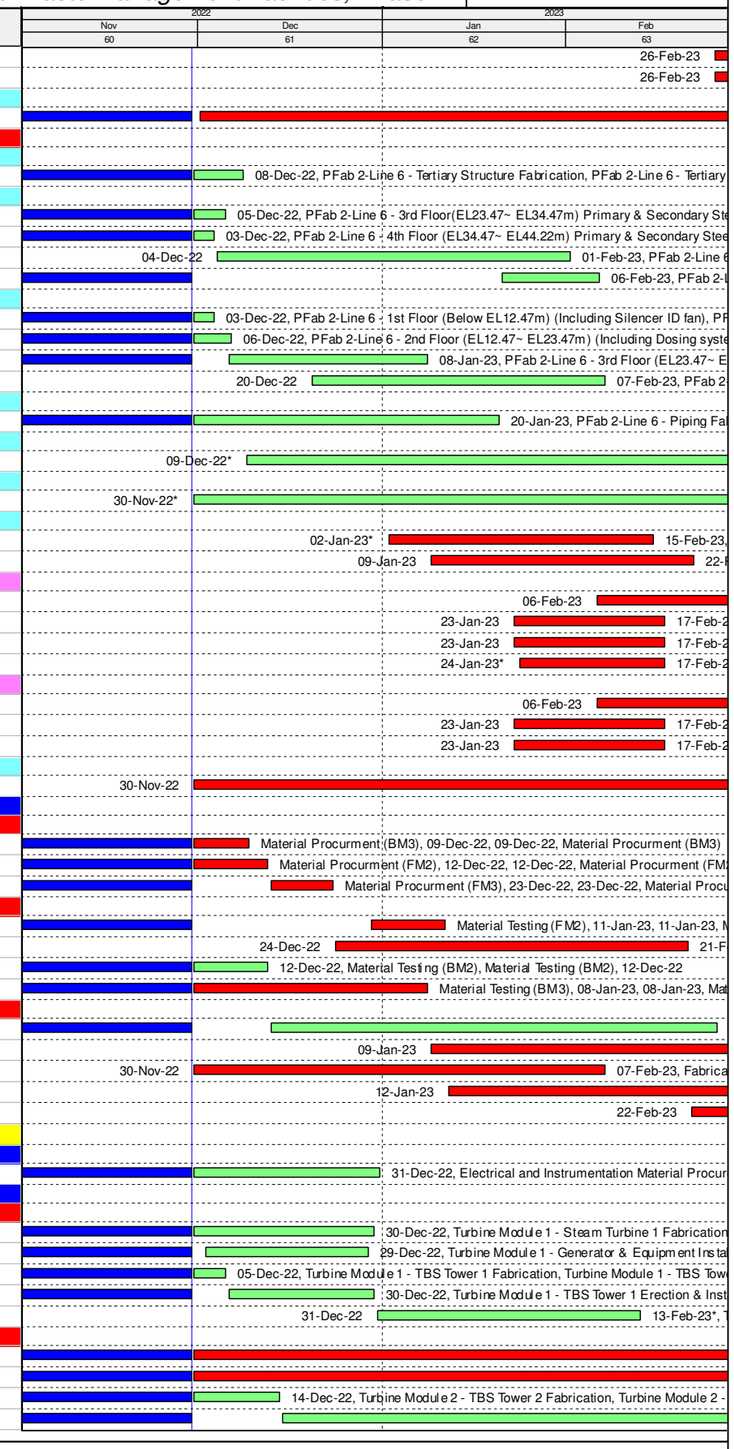
Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
Instrument		44	44		26-Jan-23	10-Mar-23	18-Jan-23	02-Mar-23	-8	
06-FGC-3-1280	PFab 2-Line 3 - Instrument Cable Pulling and Termination	30	30	0%	09-Feb-23	10-Mar-23	01-Feb-23	02-Mar-23	-8	
06-FGC-3-1290	PFab 2-Line 3 - Instrument Equipment Installation	26	26	0%	26-Jan-23	20-Feb-23	18-Jan-23	12-Feb-23	-8	
06-FGC-3-1300	PFab 2-Line 3 - Instrument Tubing Installation	26	26	0%	26-Jan-23	20-Feb-23	18-Jan-23	12-Feb-23	-8	
Insulation		102	102		30-Nov-22	11-Mar-23	22-Nov-22	03-Mar-23	-8	
06-FGC-3-1170	PFab 2-Line 3 - Insulation	102	102	0%	30-Nov-22	11-Mar-23	22-Nov-22	03-Mar-23	-8	
Precommissioning		60	60		23-Jan-23	23-Mar-23	15-Jan-23	15-Mar-23	-8	
06-FGC-3-1180	PFab 2-Line 3 - Pre-commissioning	60	60	0%	23-Jan-23	23-Mar-23	15-Jan-23	15-Mar-23	-8	
PFab 2 - Line 4		625	107		09-Jun-21 A	16-Mar-23	06-Dec-22	09-Apr-23	24	
Structure Fabrication		180	45		25-Oct-21 A	13-Jan-23	24-Feb-23	09-Apr-23	86	
06-FGC-4-1150	PFab 2-Line 4 - Tertiary Structure Fabrication	180	45	75%	25-Oct-21 A	13-Jan-23	24-Feb-23	09-Apr-23	86	
Structure Erection		250	43		12-Mar-22 A	11-Jan-23	26-Dec-22	22-Mar-23	70	
06-FGC-4-1120	PFab 2-Line 4 - 4th Floor (EL34.47~ EL44.22m) Primary & Secondary Steel Structure Erection	60	6	90%	12-Mar-22 A	05-Dec-22	26-Dec-22	31-Dec-22	26	
06-FGC-4-1130	PFab 2-Line 4 - Top Floor Primary & Secondary Steel Structure Erection	60	38	36.67%	08-Sep-22 A	06-Jan-23	08-Feb-23	17-Mar-23	70	
06-FGC-4-1140	PFab 2-Line 4 - Tertiary Structure Erection	90	27	70%	14-Sep-22 A	11-Jan-23	24-Feb-23	22-Mar-23	70	
Mechanical Erection		263	36		24-Dec-21 A	04-Jan-23	06-Dec-22	12-Jan-23	8	
06-FGC-4-1040	PFab 2-Line 4 - 1st Floor (Below EL12.47m) (Including Silencer ID fan)	60	7	88.33%	24-Dec-21 A	06-Dec-22	27-Dec-22	02-Jan-23	27	
06-FGC-4-1050	PFab 2-Line 4 - 2nd Floor (EL12.47~ EL23.47m) (Including Dosing system bicar)	60	2	96.67%	04-Feb-22 A	01-Dec-22	22-Dec-22	23-Dec-22	22	
06-FGC-4-1060	PFab 2-Line 4 - 3rd Floor (EL23.47~ EL34.47m) (Including Ash and residue to solidification)	60	26	56.67%	11-Feb-22 A	25-Dec-22	18-Dec-22	12-Jan-23	18	
06-FGC-4-1070	PFab 2-Line 4 - 4th Floor (EL34.47~ EL44.22m) (Including Urea to ammonia convertor)	60	36	40%	06-May-22	04-Jan-23	06-Dec-22	10-Jan-23	6	
Piping Fabrication		180	71		09-Jun-21 A	08-Feb-23	06-Dec-22	14-Feb-23	6	
06-FGC-4-1210	PFab 2-Line 4 - Piping Fabrication	180	71	60.56%	09-Jun-21 A	08-Feb-23	06-Dec-22	14-Feb-23	6	
Piping Installation		57	57		21-Dec-22	15-Feb-23	27-Dec-22	21-Feb-23	6	
06-FGC-4-1000	PFab 2-Line 4 - Piping Installation	57	57	0%	21-Dec-22*	15-Feb-23	27-Dec-22	21-Feb-23	6	
E&I Fabrication		180	50		14-Apr-22 A	18-Jan-23	28-Dec-22	15-Feb-23	28	
06-FGC-4-1220	PFab 2-Line 4 - E&I Fabrication	180	50	72.22%	14-Apr-22 A	18-Jan-23	28-Dec-22	15-Feb-23	28	
E&I Installation		65	65		22-Dec-22	24-Feb-23	28-Dec-22	02-Mar-23	6	
06-FGC-4-1230	PFab 2-Line 4 - E&I Support Installation	45	45	0%	22-Dec-22*	04-Feb-23	28-Dec-22	10-Feb-23	6	
06-FGC-4-1240	PFab 2-Line 4 - E&I Cable Ladder Erection	45	45	0%	29-Dec-22	11-Feb-23	04-Jan-23	17-Feb-23	6	
Electrical		55	55		01-Jan-23	24-Feb-23	07-Jan-23	02-Mar-23	6	
06-FGC-4-1250	PFab 2-Line 4 - Electrical Cable Pulling and Termination	30	30	0%	26-Jan-23	24-Feb-23	01-Feb-23	02-Mar-23	6	
06-FGC-4-1260	PFab 2-Line 4 - Electrical Equipment Installation	26	26	0%	12-Jan-23	06-Feb-23	18-Jan-23	12-Feb-23	6	
06-FGC-4-1270	PFab 2-Line 4 - Electrical Heat Tracing Installation	26	26	0%	12-Jan-23	06-Feb-23	18-Jan-23	12-Feb-23	6	
06-FGC-4-1310	PFab 2-Line 4 - MCC room installation	25	25	0%	01-Jan-23*	25-Jan-23	07-Jan-23	31-Jan-23	6	
Instrument		44	44		12-Jan-23	24-Feb-23	18-Jan-23	02-Mar-23	6	
06-FGC-4-1280	PFab 2-Line 4 - Instrument Cable Pulling and Termination	30	30	0%	26-Jan-23	24-Feb-23	01-Feb-23	02-Mar-23	6	
06-FGC-4-1290	PFab 2-Line 4 - Instrument Equipment Installation	26	26	0%	12-Jan-23	06-Feb-23	18-Jan-23	12-Feb-23	6	
06-FGC-4-1300	PFab 2-Line 4 - Instrument Tubing Installation	26	26	0%	12-Jan-23	06-Feb-23	18-Jan-23	12-Feb-23	6	
Insulation		150	3		25-May-22	01-Mar-23	05-Mar-23	07-Mar-23	6	
06-FGC-4-1010	PFab 2-Line 4 - Insulation	150	3	98%	25-May-22	01-Mar-23	05-Mar-23	07-Mar-23	6	
Precommissioning		60	60		16-Jan-23	16-Mar-23	22-Jan-23	22-Mar-23	6	
06-FGC-4-1020	PFab 2-Line 4 - Pre-commissioning	60	60	0%	16-Jan-23	16-Mar-23	22-Jan-23	22-Mar-23	6	
PFab 2 - Line 5		641	136		18-Jun-21 A	14-Apr-23	27-Nov-22	10-Jun-23	57	
Structure Fabrication		167	27		31-Mar-22 A	26-Dec-22	15-Apr-23	11-May-23	136	
06-FGC-5-1110	PFab 2-Line 5 - Tertiary Structure Fabrication	167	27	83.83%	31-Mar-22 A	26-Dec-22	15-Apr-23	11-May-23	136	
Structure Erection		245	75		20-Apr-22 A	12-Feb-23	13-Dec-22	21-May-23	98	
06-FGC-5-1070	PFab 2-Line 5 - 3rd Floor(EL23.47~ EL34.47m) Primary & Secondary Steel Structure Erection	60	5	91.67%	20-Apr-22 A	04-Dec-22	13-Dec-22	17-Dec-22	13	
06-FGC-5-1080	PFab 2-Line 5 - 4th Floor (EL34.47~ EL44.22m) Primary & Secondary Steel Structure Erection	60	15	75%	20-May-22	14-Dec-22	17-Dec-22	31-Dec-22	17	
06-FGC-5-1090	PFab 2-Line 5 - Top Floor Primary & Secondary Steel Structure Erection	60	60	0%	15-Dec-22	12-Feb-23	01-Jan-23	01-Mar-23	17	
06-FGC-5-1100	PFab 2-Line 5 - Tertiary Structure Erection	90	18	80%	12-Sep-22 A	05-Jan-23	04-May-23	21-May-23	136	
Mechanical Erection		353	79		21-Jan-22 A	16-Feb-23	06-Dec-22	01-Mar-23	13	
06-FGC-5-1000	PFab 2-Line 5 - 1st Floor (Below EL12.47m) (Including Silencer ID fan)	60	13	78.33%	21-Jan-22 A	12-Dec-22	06-Dec-22	18-Dec-22	6	
06-FGC-5-1010	PFab 2-Line 5 - 2nd Floor (EL12.47~ EL23.47m) (Including Dosing system bicar)	60	6	90%	24-Jun-22 A	05-Dec-22	06-Dec-22	11-Dec-22	6	
06-FGC-5-1020	PFab 2-Line 5 - 3rd Floor (EL23.47~ EL34.47m) (Including Ash and residue to solidification)	60	55	8.33%	19-Sep-22 A	28-Jan-23	18-Dec-22	10-Feb-23	13	
06-FGC-5-1030	PFab 2-Line 5 - 4th Floor (EL34.47~ EL44.22m) (Including Urea to ammonia convertor)	50	19	62%	07-Oct-22 A	16-Feb-23	11-Feb-23	01-Mar-23	13	
Piping Fabrication		180	85		18-Jun-21 A	22-Feb-23	02-Dec-22	24-Feb-23	2	
06-FGC-5-1170	PFab 2-Line 5 - Piping Fabrication	180	85	52.78%	18-Jun-21 A	22-Feb-23	02-Dec-22	24-Feb-23	2	
Piping Installation		105	105		30-Nov-22	14-Mar-23	27-Nov-22	11-Mar-23	-3	
06-FGC-5-1190	PFab 2-Line 5 - Piping Installation	105	105	0%	30-Nov-22*	14-Mar-23	27-Nov-22	11-Mar-23	-3	
E&I Fabrication		180	134		14-Apr-22 A	12-Apr-23	28-Jan-23	10-Jun-23	59	
06-FGC-5-1180	PFab 2-Line 5 - E&I Fabrication	180	134	25.56%	14-Apr-22 A	12-Apr-23	28-Jan-23	10-Jun-23	59	
E&I Installation		52	52		31-Jan-23	23-Mar-23	28-Jan-23	20-Mar-23	-3	
06-FGC-5-1230	PFab 2-Line 5 - E&I Support Installation	45	45	0%	31-Jan-23*	16-Mar-23	28-Jan-23	13-Mar-23	-3	
06-FGC-5-1240	PFab 2-Line 5 - E&I Cable Ladder Erection	45	45	0%	07-Feb-23	23-Mar-23	04-Feb-23	20-Mar-23	-3	
Electrical		36	36		16-Feb-23	23-Mar-23	14-Feb-23	20-Mar-23	-3	
06-FGC-5-1260	PFab 2-Line 5 - Electrical Equipment Installation	26	26	0%	26-Feb-23	23-Mar-23	23-Feb-23	20-Mar-23	-3	
06-FGC-5-1270	PFab 2-Line 5 - Electrical Heat Tracing Installation	26	26	0%	26-Feb-23	23-Mar-23	23-Feb-23	20-Mar-23	-3	
06-FGC-5-1310	PFab 2-Line 5 - MCC room installation	25	25	0%	16-Feb-23*	12-Mar-23	14-Feb-23	10-Mar-23	-2	
Instrument		26	26		26-Feb-23	23-Mar-23	23-Feb-23	20-Mar-23	-3	



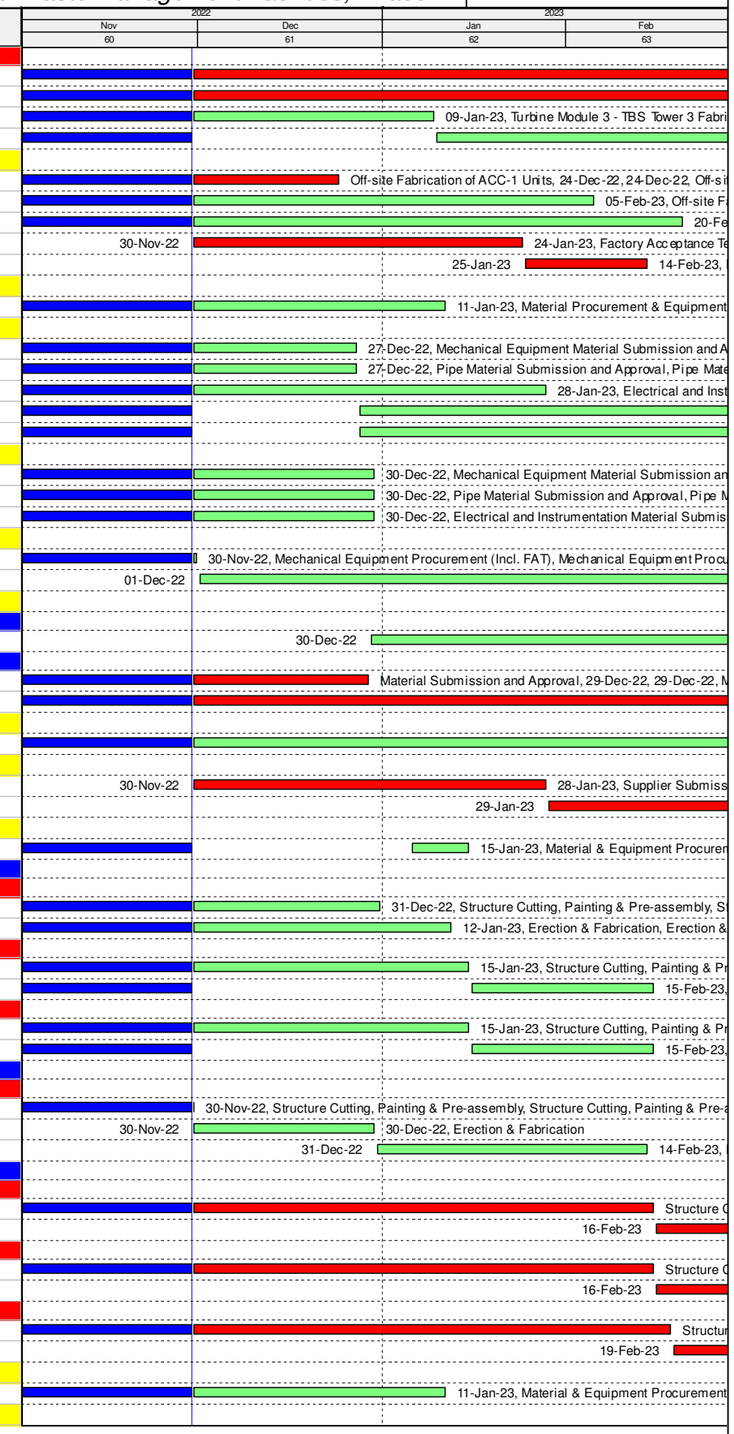
Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
06-FGC-5-1290	PFab 2-Line 5 - Instrument Equipment Installation	26	26	0%	26-Feb-23	23-Mar-23	23-Feb-23	20-Mar-23	-3	
06-FGC-5-1300	PFab 2-Line 5 - Instrument Tubing Installation	26	26	0%	26-Feb-23	23-Mar-23	23-Feb-23	20-Mar-23	-3	
Insulation		150	135		30-Jun-22 A	14-Apr-23	28-Nov-22	11-Apr-23	-3	
06-FGC-5-1200	PFab 2-Line 5 - Insulation	150	135	10%	30-Jun-22 A	14-Apr-23	28-Nov-22	11-Apr-23	-3	
PFab 2 - Line 6		545	150		30-Sep-21 A	28-Apr-23	27-Nov-22	20-May-23	22	
Structure Fabrication		180	9		31-Mar-22 A	08-Dec-22	12-May-23	20-May-23	163	
06-FGC-6-1080	PFab 2-Line 6 - Tertiary Structure Fabrication	180	9	95%	31-Mar-22 A	08-Dec-22	12-May-23	20-May-23	163	
Structure Erection		252	69		20-Apr-22 A	06-Feb-23	08-Dec-22	08-Apr-23	61	
06-FGC-6-1130	PFab 2-Line 6 - 3rd Floor(EL23.47~ EL34.47m) Primary & Secondary Steel Structure Erection	60	6	90%	20-Apr-22 A	05-Dec-22	08-Dec-22	13-Dec-22	8	
06-FGC-6-1140	PFab 2-Line 6 - 4th Floor (EL34.47~ EL44.22m) Primary & Secondary Steel Structure Erection	60	4	93.33%	20-May-22	03-Dec-22	05-Jan-23	08-Jan-23	36	
06-FGC-6-1150	PFab 2-Line 6 - Top Floor Primary & Secondary Steel Structure Erection	60	60	0%	04-Dec-22	01-Feb-23	03-Feb-23	03-Apr-23	61	
06-FGC-6-1160	PFab 2-Line 6 - Tertiary Structure Erection	59	17	71.19%	15-Sep-22 A	06-Feb-23	23-Mar-23	08-Apr-23	61	
Mechanical Erection		336	70		21-Jan-22 A	07-Feb-23	26-Dec-22	27-Feb-23	20	
06-FGC-6-1170	PFab 2-Line 6 - 1st Floor (Below EL12.47m) (Including Silencer ID fan)	60	4	93.33%	21-Jan-22 A	03-Dec-22	26-Jan-23	29-Jan-23	57	
06-FGC-6-1180	PFab 2-Line 6 - 2nd Floor (EL12.47~ EL23.47m) (Including Dosing system bicar)	60	7	88.33%	24-Jun-22 A	06-Dec-22	09-Jan-23	15-Jan-23	40	
06-FGC-6-1190	PFab 2-Line 6 - 3rd Floor (EL23.47~ EL34.47m) (Including Ash and residue to solidification)	60	34	43.33%	08-Sep-22 A	08-Jan-23	26-Dec-22	28-Jan-23	20	
06-FGC-6-1200	PFab 2-Line 6 - 4th Floor (EL34.47~ EL44.22m) (Including Urea to ammonia convertor)	50	50	0%	20-Dec-22	07-Feb-23	09-Jan-23	27-Feb-23	20	
Piping Fabrication		180	52		30-Sep-21 A	20-Jan-23	16-Dec-22	05-Feb-23	16	
06-FGC-6-1220	PFab 2-Line 6 - Piping Fabrication	180	52	71.11%	30-Sep-21 A	20-Jan-23	16-Dec-22	05-Feb-23	16	
Piping Installation		104	104		09-Dec-22	22-Mar-23	26-Dec-22	08-Apr-23	17	
06-FGC-6-1000	PFab 2-Line 6 - Piping Installation	104	104	0%	09-Dec-22*	22-Mar-23	26-Dec-22	08-Apr-23	17	
E&I Fabrication		150	150		30-Nov-22	28-Apr-23	16-Dec-22	14-May-23	16	
06-FGC-6-1230	PFab 2-Line 6 - E&I Fabrication	150	150	0%	30-Nov-22*	28-Apr-23	16-Dec-22	14-May-23	16	
E&I Installation		65	65		02-Jan-23	07-Mar-23	30-Dec-22	04-Mar-23	-3	
06-FGC-6-1240	PFab 2-Line 6 - E&I Support Installation	45	45	0%	02-Jan-23*	15-Feb-23	30-Dec-22	12-Feb-23	-3	
06-FGC-6-1250	PFab 2-Line 6 - E&I Cable Ladder Erection	45	45	0%	09-Jan-23	22-Feb-23	06-Jan-23	19-Feb-23	-3	
Electrical		44	44		23-Jan-23	07-Mar-23	20-Jan-23	04-Mar-23	-3	
06-FGC-6-1260	PFab 2-Line 6 - Electrical Cable Pulling and Termination	30	30	0%	06-Feb-23	07-Mar-23	03-Feb-23	04-Mar-23	-3	
06-FGC-6-1270	PFab 2-Line 6 - Electrical Equipment Installation	26	26	0%	23-Jan-23	17-Feb-23	20-Jan-23	14-Feb-23	-3	
06-FGC-6-1280	PFab 2-Line 6 - Electrical Heat Tracing Installation	26	26	0%	23-Jan-23	17-Feb-23	20-Jan-23	14-Feb-23	-3	
06-FGC-6-1320	PFab 2-Line 6 - MCC room installation	25	25	0%	24-Jan-23*	17-Feb-23	21-Jan-23	14-Feb-23	-3	
Instrument		44	44		23-Jan-23	07-Mar-23	20-Jan-23	04-Mar-23	-3	
06-FGC-6-1290	PFab 2-Line 6 - Instrument Cable Pulling and Termination	30	30	0%	06-Feb-23	07-Mar-23	03-Feb-23	04-Mar-23	-3	
06-FGC-6-1300	PFab 2-Line 6 - Instrument Equipment Installation	26	26	0%	23-Jan-23	17-Feb-23	20-Jan-23	14-Feb-23	-3	
06-FGC-6-1310	PFab 2-Line 6 - Instrument Tubing Installation	26	26	0%	23-Jan-23	17-Feb-23	20-Jan-23	14-Feb-23	-3	
Insulation		143	143		30-Nov-22	21-Apr-23	27-Nov-22	18-Apr-23	-3	
06-FGC-6-1020	PFab 2-Line 6 - Insulation	143	143	0%	30-Nov-22	21-Apr-23	27-Nov-22	18-Apr-23	-3	
Fabrication of Mega Steel Structure		327	174		30-May-22	22-May-23	14-Nov-22	06-May-23	-16	
Material Procurement		173	24		30-May-22	23-Dec-22	14-Nov-22	07-Dec-22	-16	
16-8500-2 (6E)	Material Procurment (BM3)	60	10	83.33%	30-May-22	09-Dec-22	18-Nov-22	27-Nov-22	-12	
16-8500-4 (6E)	Material Procurment (FM2)	60	13	78.33%	30-May-22	12-Dec-22	14-Nov-22	26-Nov-22	-16	
16-8500-5 (6E)	Material Procurment (FM3)	45	11	75.56%	21-Aug-22 A	23-Dec-22	27-Nov-22	07-Dec-22	-16	
Material Testing		237	84		25-Jun-22 A	21-Feb-23	18-Nov-22	05-Feb-23	-16	
16-8500-10 (6E)	Material Testing (FM2)	60	13	78.33%	25-Jun-22 A	11-Jan-23	18-Dec-22	30-Dec-22	-12	
16-8500-11 (6E)	Material Testing (FM3)	60	60	0%	24-Dec-22	21-Feb-23	08-Dec-22	05-Feb-23	-16	
16-8500-7 (6E)	Material Testing (BM2)	60	13	78.33%	25-Jun-22 A	12-Dec-22	06-Dec-22	18-Dec-22	6	
16-8500-8 (6E)	Material Testing (BM3)	60	40	33.33%	05-Oct-22 A	08-Jan-23	18-Nov-22	27-Dec-22	-12	
Fabrication of Steel Structure		191	174		02-Oct-22 A	22-May-23	14-Nov-22	06-May-23	-16	
16-8520 (6E)	Fabrication of Steel Structure (BM2) & Delivery	80	76	5%	02-Oct-22 A	26-Feb-23	19-Dec-22	04-Mar-23	6	
16-8530 (6E)	Fabrication of Steel Structure (BM3) & Delivery	80	80	0%	09-Jan-23	29-Mar-23	28-Dec-22	17-Mar-23	-12	
16-8540 (6E)	Fabrication of Steel Structure (FM1) & Delivery	70	70	0%	30-Nov-22	07-Feb-23	14-Nov-22	22-Jan-23	-16	
16-8550 (6E)	Fabrication of Steel Structure (FM2) & Delivery	60	60	0%	12-Jan-23	12-Mar-23	31-Dec-22	28-Feb-23	-12	
16-8560 (6E)	Fabrication of Steel Structure (FM3) & Delivery	90	90	0%	22-Feb-23	22-May-23	06-Feb-23	06-May-23	-16	
Off-site Fabrication of Turbine Modules		814	120		29-Mar-20 A	29-Mar-23	30-Nov-22	29-Mar-23	0	
Material Procurement		365	32		29-Mar-20 A	31-Dec-22	14-Jan-23	14-Feb-23	45	
06-1060-3(1)	Electrical and Instrumentation Material Procurement (Incl. FAT)	365	32	91.23%	29-Mar-20 A	31-Dec-22	14-Jan-23	14-Feb-23	45	
Fabrication of Module (Power Island)		570	120		26-Jul-21 A	29-Mar-23	30-Nov-22	29-Mar-23	0	
Turbine Module 1		518	76		26-Jul-21 A	13-Feb-23	01-Dec-22	14-Feb-23	1	
06-4010(6)	Turbine Module 1 - Steam Turbine 1 Fabrication	450	31	93.11%	26-Jul-21 A	30-Dec-22	01-Dec-22	31-Dec-22	1	
06-4020(6)	Turbine Module 1 - Generator & Equipment Installation	450	28	93.78%	31-Aug-21 A	29-Dec-22	04-Dec-22	31-Dec-22	2	
06-4040(6)	Turbine Module 1 - TBS Tower 1 Fabrication	60	6	90%	27-Aug-21 A	05-Dec-22	01-Dec-22	06-Dec-22	1	
06-4040-1(M55)	Turbine Module 1 - TBS Tower 1 Erection & Installation	31	25	19.35%	27-Aug-21 A	30-Dec-22	07-Dec-22	31-Dec-22	1	
06-4080(6)	Turbine Module 1 - Delivery	45	45	0%	31-Dec-22	13-Feb-23*	01-Jan-23	14-Feb-23	1	
Turbine Module 2		450	105		26-Jul-21 A	14-Mar-23	30-Nov-22	14-Mar-23	0	
06-4210(6)	Turbine Module 2 - Steam Turbine 2 Fabrication	450	105	76.67%	26-Jul-21 A	14-Mar-23	30-Nov-22	14-Mar-23	0	
06-4220(6)	Turbine Module 2 - Generator & Equipment Installation	450	105	76.67%	07-Sep-21 A	14-Mar-23	30-Nov-22	14-Mar-23	0	
06-4240(6)	Turbine Module 2 - TBS Tower 2 Fabrication	46	15	67.39%	06-Sep-21 A	14-Dec-22	02-Dec-22	16-Dec-22	2	
06-4240-1(M55)	Turbine Module 2 - TBS Tower 2 Erection & Installation	88	88	0%	06-Sep-22 A	12-Mar-23	17-Dec-22	14-Mar-23	2	



Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

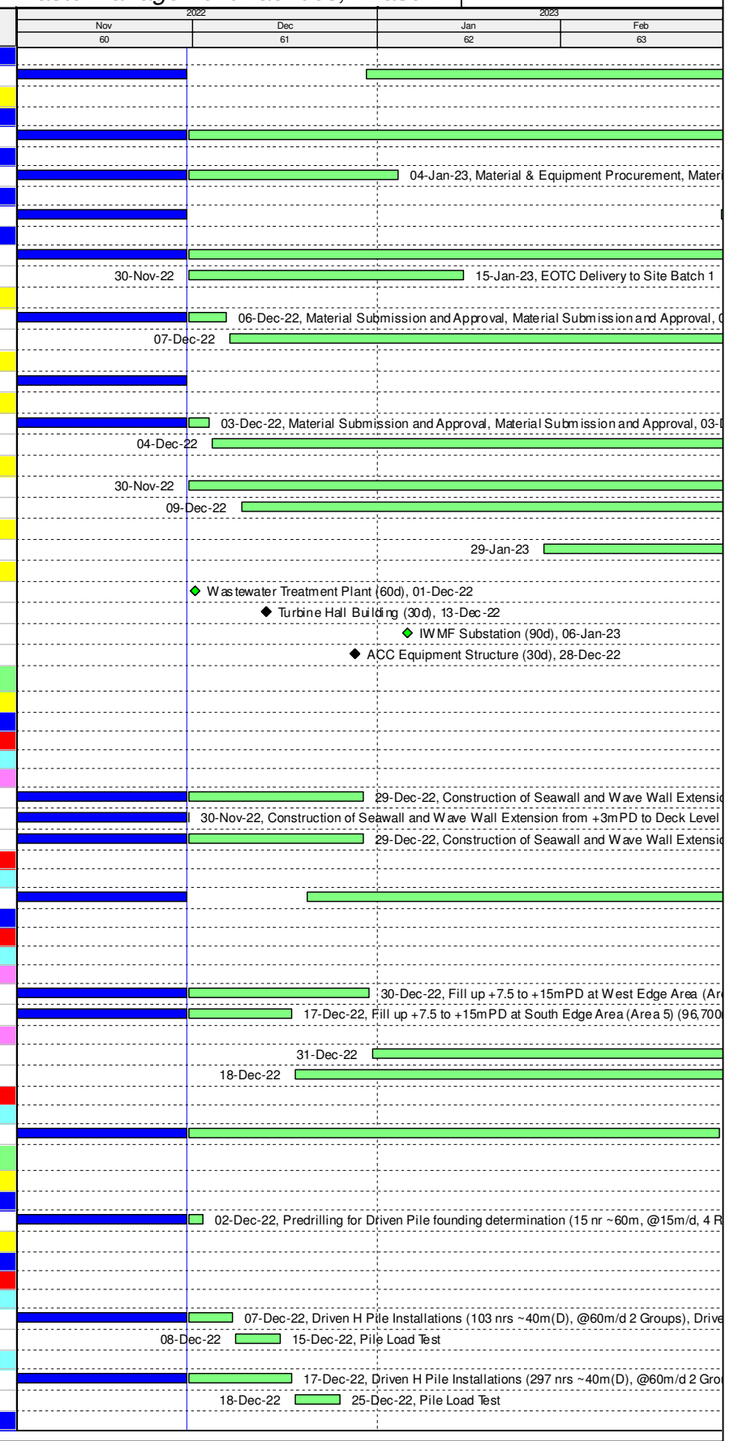
Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
Turbine Module 3		450	120		26-Jul-21 A	29-Mar-23	30-Nov-22	29-Mar-23	0	
06-4410(6)	Turbine Module 3 - Steam Turbine 3 Fabrication	450	120	73.33%	26-Jul-21 A	29-Mar-23	30-Nov-22	29-Mar-23	0	
06-4420(6)	Turbine Module 3 - Generator & Equipment Installation	450	120	73.33%	07-Sep-21 A	29-Mar-23	30-Nov-22	29-Mar-23	0	
06-4440(6)	Turbine Module 3 - TBS Tower 3 Fabrication	61	41	32.79%	06-Sep-21 A	09-Jan-23	02-Dec-22	11-Jan-23	2	
06-4440-1(M55)	Turbine Module 3 - TBS Tower 3 Erection & Installation	88	77	12.5%	06-Sep-22 A	27-Mar-23	12-Jan-23	29-Mar-23	2	
Procurement for Air Cool Condensers		480	83		23-Oct-21 A	20-Feb-23	30-Nov-22	23-Aug-23	184	
06-1120	Off-site Fabrication of ACC-1 Units	178	25	85.96%	23-Oct-21 A	24-Dec-22	30-Nov-22	24-Dec-22	0	
06-1120-1	Off-site Fabrication of ACC-2 Units	178	68	61.8%	28-Feb-22 A	05-Feb-23	09-Apr-23	15-Jun-23	130	
06-1120-2	Off-site Fabrication of ACC-3 Units	178	83	53.37%	28-Feb-22 A	20-Feb-23	02-Jun-23	23-Aug-23	184	
06-1130	Factory Acceptance Test (FAT) for ACC-1	56	56	0%	30-Nov-22	24-Jan-23	30-Nov-22	24-Jan-23	0	
06-1160	Delivery to Site ACC-1	21	21	0%	25-Jan-23	14-Feb-23	25-Jan-23	14-Feb-23	0	
Procurement for CCCW Building Equipment		300	43		01-Mar-22 A	11-Jan-23	14-Jun-23	26-Jul-23	196	
06-1410(1)	Material Procurement & Equipment Manufacture	300	43	85.67%	01-Mar-22 A	11-Jan-23	14-Jun-23	26-Jul-23	196	
Procurement for Mechanical Treatment Plant Building Plant Equipment		398	245		30-Jun-21 A	01-Aug-23	05-Aug-23	05-Apr-24	248	
06-1150-1(1)	Mechanical Equipment Material Submission and Approval	180	28	84.44%	30-Jun-21 A	27-Dec-22	05-Aug-23	01-Sep-23	248	
06-1150-2(1)	Pipe Material Submission and Approval	180	28	84.44%	30-Jun-21 A	27-Dec-22	19-Sep-23	16-Oct-23	293	
06-1150-3(1)	Electrical and Instrumentation Material Submission and Approval	180	60	66.67%	30-Jun-21 A	28-Jan-23	10-Aug-23	08-Oct-23	253	
06-1160-1(1)	Mechanical Equipment Procurement (Incl. FAT)	217	217	0%	30-Jun-21 A	01-Aug-23	02-Sep-23	05-Apr-24	248	
06-1160-2(1)	Pipe Material Procurement (Incl. FAT)	180	172	4.44%	30-Jun-21 A	17-Jun-23	17-Oct-23	05-Apr-24	293	
Procurement for Wastewater Treatment Plant Equipment		105	31		23-Jun-22 A	30-Dec-22	20-Feb-23	22-Mar-23	82	
06-1190-1(1)	Mechanical Equipment Material Submission and Approval	90	31	65.56%	23-Jun-22 A	30-Dec-22	20-Feb-23	22-Mar-23	82	
06-1190-2(1)	Pipe Material Submission and Approval	90	31	65.56%	23-Jun-22 A	30-Dec-22	20-Feb-23	22-Mar-23	82	
06-1190-3(1)	Electrical and Instrumentation Material Submission and Approval	90	31	65.56%	29-Jul-22 A	30-Dec-22	20-Feb-23	22-Mar-23	82	
Procurement for Desal & Demin Plant Equipment		120	121		01-Jun-22 A	30-Mar-23	23-Jan-23	23-May-23	54	
06-1240-1(1)	Mechanical Equipment Procurement (Incl. FAT)	60	1	98.33%	01-Jun-22 A	30-Nov-22	23-Jan-23	23-Jan-23	54	
06-1260-1(M55)	WTP chemical storage tank Material Submission and Approval	120	120	0%	01-Dec-22	30-Mar-23	24-Jan-23	23-May-23	54	
Procurement for HV Transformers and Associated Equipment		333	180		31-May-22	28-May-23	30-Nov-22	28-May-23	0	
Procurement of Transformers & EDG		120	120		30-Dec-22	28-Apr-23	09-Jan-23	08-May-23	10	
06-1290(1)	Factory Acceptance Test (FAT)	120	120	0%	30-Dec-22	28-Apr-23	09-Jan-23	08-May-23	10	
Procurement of Switchboard/Pannels and Cables		240	180		31-May-22	28-May-23	30-Nov-22	28-May-23	0	
06-2090(1)	Material Submission and Approval	60	30	50%	31-May-22	29-Dec-22	30-Nov-22	29-Dec-22	0	
06-2100(1)	Material & Equipment Procurement	240	180	25%	31-May-22	28-May-23	30-Nov-22	28-May-23	0	
Procruement for Control SCADA Systems		140	105		23-May-22	14-Mar-23	02-Dec-22	16-Mar-23	2	
06-1310	Scada System Procurement, Panel Assembly & Wiring	140	105	25%	23-May-22	14-Mar-23	02-Dec-22	16-Mar-23	2	
Procurement for Onshore Crane at Berth		360	360		30-Nov-22	24-Nov-23	03-Nov-22	28-Oct-23	-27	
06-1350	Supplier Submission and Approval	60	60	0%	30-Nov-22	28-Jan-23	03-Nov-22	01-Jan-23	-27	
06-1360	Material & Equipment Procurement	300	300	0%	29-Jan-23	24-Nov-23	02-Jan-23	28-Oct-23	-27	
Procruement and Off-site Fabrication of Pipe Bridges (Incl. Pipings)		325	142		30-May-21	20-Apr-23	23-Nov-22	29-May-23	39	
06-1400	Material & Equipment Procurement	150	10	93.33%	31-May-22	15-Jan-23	20-May-23	29-May-23	134	
Fabrication of Pipe Rack (Prefab.3)		150	78		30-May-21	15-Feb-23	26-Feb-23	14-May-23	88	
Pipe Rack 1		110	44		28-Oct-21 A	12-Jan-23	01-Mar-23	13-Apr-23	91	
06-5000(6)	Structure Cutting, Painting & Pre-assembly	110	32	70.91%	28-Oct-21 A	31-Dec-22	01-Mar-23	01-Apr-23	91	
06-5010(6)	Erection & Fabrication	60	44	26.67%	07-Mar-22 A	12-Jan-23	01-Mar-23	13-Apr-23	91	
Pipe Rack 2		110	78		11-Nov-21 A	15-Feb-23	26-Feb-23	14-May-23	88	
06-5070(6)	Structure Cutting, Painting & Pre-assembly	110	47	57.27%	11-Nov-21 A	15-Jan-23	26-Feb-23	13-Apr-23	88	
06-5080(6)	Erection & Fabrication	60	31	48.33%	14-Mar-22 A	15-Feb-23	14-Apr-23	14-May-23	88	
Pipe Rack 3		132	78		30-May-21	15-Feb-23	26-Feb-23	14-May-23	88	
06-5140(6)	Structure Cutting, Painting & Pre-assembly	110	47	57.27%	30-May-21	15-Jan-23	26-Feb-23	13-Apr-23	88	
06-5150(6)	Erection & Fabrication	60	31	48.33%	07-Mar-22 A	15-Feb-23	14-Apr-23	14-May-23	88	
Fabrication of Pipe Bridge B		180	77		15-Oct-22 A	14-Feb-23	23-Dec-22	10-Mar-23	24	
Pipe Bridge B Between CCCW and Turbine Hall		180	77		15-Oct-22 A	14-Feb-23	23-Dec-22	10-Mar-23	24	
06-5300(6)	Structure Cutting, Painting & Pre-assembly	180	0	100%	15-Oct-22 A	30-Nov-22	23-Dec-22	23-Dec-22	24	
06-5310(6)	Erection & Fabrication	31	31	0%	30-Nov-22	30-Dec-22	24-Dec-22	23-Jan-23	24	
06-5320(6)	Piping installation	46	46	0%	31-Dec-22	14-Feb-23	24-Jan-23	10-Mar-23	24	
Fabrication of Pipe Bridge C		203	142		18-Oct-22 A	20-Apr-23	23-Nov-22	13-Apr-23	-7	
Pipe Bridge C between Turbine Hall & ACC -1		200	139		18-Oct-22 A	17-Apr-23	23-Nov-22	10-Apr-23	-7	
06-5400(6)	Structure Cutting, Painting & Pre-assembly	14	78	0%	18-Oct-22 A	15-Feb-23	23-Nov-22	08-Feb-23	-7	
06-5410(6)	Erection & Fabrication	61	61	0%	16-Feb-23	17-Apr-23	09-Feb-23	10-Apr-23	-7	
Pipe Bridge C between Turbine Hall & ACC -2		200	139		18-Oct-22 A	17-Apr-23	23-Nov-22	10-Apr-23	-7	
06-5440(6)	Structure Cutting, Painting & Pre-assembly	14	78	0%	18-Oct-22 A	15-Feb-23	23-Nov-22	08-Feb-23	-7	
06-5450(6)	Erection & Fabrication	61	61	0%	16-Feb-23	17-Apr-23	09-Feb-23	10-Apr-23	-7	
Pipe Bridge C between Turbine Hall & ACC -3		203	142		18-Oct-22 A	20-Apr-23	23-Nov-22	13-Apr-23	-7	
06-5480(6)	Structure Cutting, Painting & Pre-assembly	14	81	0%	18-Oct-22 A	18-Feb-23	23-Nov-22	11-Feb-23	-7	
06-5490(6)	Erection & Fabrication	61	61	0%	19-Feb-23	20-Apr-23	12-Feb-23	13-Apr-23	-7	
Procurement for LV Electrical System for On-site Installation		180	43		01-Mar-22 A	11-Jan-23	22-Sep-23	03-Nov-23	296	
06-1440	Material & Equipment Procurement	180	43	76.11%	01-Mar-22 A	11-Jan-23	22-Sep-23	03-Nov-23	296	
Procurement for Fire Services System		250	90		31-May-22	29-Mar-23	12-Mar-23	09-Jun-23	72	



3-Month Rolling Programme (November 2022)

Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

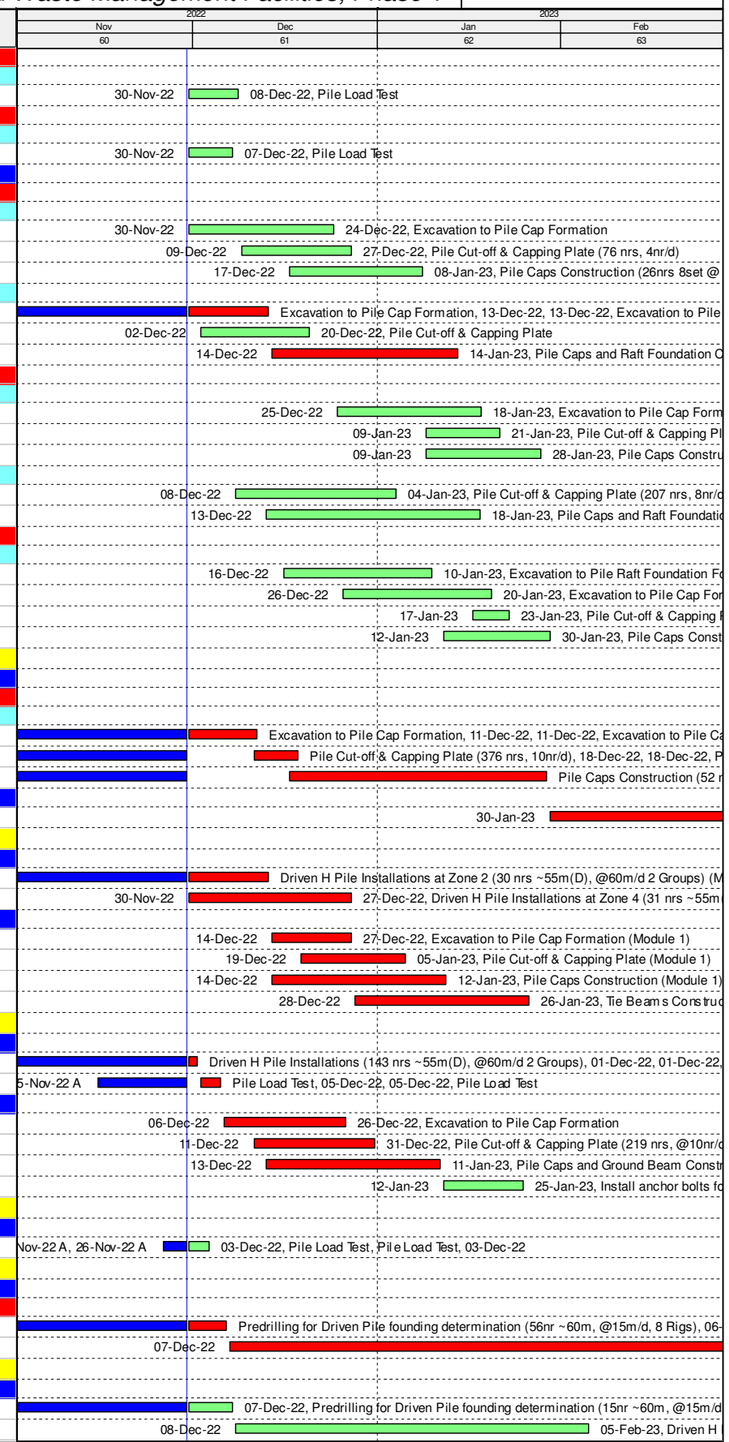
Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
IWMF Substation		250	90		31-May-22	29-Mar-23	12-Mar-23	09-Jun-23	72	
06-1810(6)	Material Submission & Equipment Procurement (For IWMF Substation)	250	90	64%	31-May-22	29-Mar-23	12-Mar-23	09-Jun-23	72	
Procurement for Cranage Equipment		395	152		02-Aug-21 A	30-Apr-23	28-Dec-22	19-Aug-23	111	
Waste Crane		180	152		02-Aug-21 A	30-Apr-23	20-Mar-23	18-Aug-23	110	
06-1720	Material & Equipment Procurement	180	152	15.56%	02-Aug-21 A	30-Apr-23	20-Mar-23	18-Aug-23	110	
Ash Crane		180	36		11-Aug-21 A	04-Jan-23	13-Jul-23	17-Aug-23	225	
06-1830	Material & Equipment Procurement	180	36	80%	11-Aug-21 A	04-Jan-23	13-Jul-23	17-Aug-23	225	
Shredder		85	42		27-May-22	10-Apr-23	09-Jul-23	19-Aug-23	131	
06-1870	Material & Equipment Procurement	85	42	50.59%	27-May-22	10-Apr-23	09-Jul-23	19-Aug-23	131	
EOTC		150	100		11-Oct-22 A	09-Mar-23	28-Dec-22	06-Apr-23	28	
06-1920	Factory Acceptance Test (FAT)	150	100	33.33%	11-Oct-22 A	09-Mar-23	28-Dec-22	06-Apr-23	28	
06-1940(M54)	EOTC Delivery to Site Batch 1	47	47	0%	30-Nov-22	15-Jan-23	28-Dec-22	12-Feb-23	28	
Procurement for Air Quality Monitoring Station Equipment		218	157		01-Aug-22 A	05-May-23	02-Dec-22	07-May-23	2	
06-2150(1)	Material Submission and Approval	60	7	88.33%	01-Aug-22 A	06-Dec-22	02-Dec-22	08-Dec-22	2	
06-2160(1)	Material Procurement	150	150	0%	07-Dec-22	05-May-23	09-Dec-22	07-May-23	2	
Procurement for Air Compressor Equipment		16	0		09-Aug-22 A	17-Mar-23	06-Aug-23	06-Aug-23	143	
06-1890(1)	Factory Acceptance Test (FAT)	16	0	100%	09-Aug-22 A	17-Mar-23	06-Aug-23	06-Aug-23	143	
Procurement for Pipes and Insulation for on site installations		307	124		31-May-22	02-Apr-23	19-Jan-23	22-May-23	50	
06-2250(1)	Material Submission and Approval	60	4	93.33%	31-May-22	03-Dec-22	19-Jan-23	22-Jan-23	50	
06-2260(1)	Material & Equipment Procurement	120	120	0%	04-Dec-22	02-Apr-23	23-Jan-23	22-May-23	50	
Procurement for Building Finishes Materials (Doors, windows and louvers ie...)		300	300		30-Nov-22	25-Sep-23	10-Dec-22	05-Dec-23	71	
06-8010(6)	ACC Equipment Yard - Material Submission, Procurement, FAT and Delivery	300	300	0%	30-Nov-22	25-Sep-23	09-Feb-23	05-Dec-23	71	
06-8030(6)70	IWMF Substation - Material Submission, Procurement, FAT and Delivery	200	200	0%	09-Dec-22	26-Jun-23	10-Dec-22	27-Jun-23	1	
Procurement for IWMF Equipments for BS Works		60	60		29-Jan-23	29-Mar-23	07-Feb-23	07-Apr-23	9	
06-8300(6E)	Material Submission and Approval	60	60	0%	29-Jan-23	29-Mar-23	07-Feb-23	07-Apr-23	9	
Delivery of Cast-in pipes, Fittings and Anchor Bolts for Structures (if applicable)		36	36		01-Dec-22	06-Jan-23	27-Nov-22	17-Jan-23	11	
04-1805(6F)	Wastewater Treatment Plant (60d)	0	0	0%	01-Dec-22		15-Dec-22		14	
04-1815(6F)	Turbine Hall Building (30d)	0	0	0%	13-Dec-22		27-Nov-22		-16	
04-1880(6F)	IWMF Substation (90d)	0	0	0%	06-Jan-23		17-Jan-23		11	
04-1890(6F)	ACC Equipment Structure (30d)	0	0	0%	28-Dec-22		09-Dec-22		-19	
Maritime Works		381	198		31-May-22	15-Jun-23	16-Dec-22	03-Nov-23	141	
Marine Construction		381	198		31-May-22	15-Jun-23	16-Dec-22	03-Nov-23	141	
Phase I - Construction of Perimeter Seawalls		263	180		31-May-22	28-May-23	16-Dec-22	02-Oct-23	127	
Seawall and Berth at DCM Area		60	30		31-May-22	29-Dec-22	16-Dec-22	02-Oct-23	277	
Seawall Structural Works		60	30		31-May-22	29-Dec-22	16-Dec-22	02-Oct-23	277	
Remain Works		60	30		31-May-22	29-Dec-22	16-Dec-22	02-Oct-23	277	
08-1120-2(M55)	Construction of Seawall and Wave Wall Extension from +3mPD to Deck Level for Seawall B No. C1 & C2 (Caisson A2 & A	60	30	50%	31-May-22	29-Dec-22	03-Sep-23	02-Oct-23	277	
08-1120-3(M55)	Construction of Seawall and Wave Wall Extension from +3mPD to Deck Level for Seawall B No. C8 & C9	60	0	100%	31-May-22	30-Nov-22	16-Dec-22	16-Dec-22	17	
08-1120-4(M55)	Construction of Seawall and Wave Wall Extension from +3mPD to Deck Level for Seawall B No. C73 & C73C1	60	30	50%	31-May-22	29-Dec-22	03-Sep-23	02-Oct-23	277	
Seawall at Dredging Area		160	160		11-Jul-22 A	28-May-23	26-Apr-23	02-Oct-23	127	
Remain Works		160	160		11-Jul-22 A	28-May-23	26-Apr-23	02-Oct-23	127	
08-1170	Construction of Seawall and Wave Wall Extension from +3mPD to Deck Level (Bay 1 to Bay 8)	160	160	0%	11-Jul-22 A	28-May-23	26-Apr-23	02-Oct-23	127	
Phase II - Reclamation, Breakwater and Berth Construction		381	198		31-May-22	15-Jun-23	28-Dec-22	03-Nov-23	141	
Reclamation		289	198		04-Jun-22 A	15-Jun-23	28-Dec-22	13-Jul-23	28	
Reclamation Works		289	198		04-Jun-22 A	15-Jun-23	28-Dec-22	13-Jul-23	28	
Surcharge Filling		57	31		04-Jun-22 A	30-Dec-22	28-Dec-22	16-Feb-23	48	
08-3060-1(M57)	Fill up +7.5 to +15mPD at West Edge Area (Area 7B1) (30,500m3 @ 2500m3/d)	13	31	0%	31-Jul-22 A	30-Dec-22	17-Jan-23	16-Feb-23	48	
08-3080(6)	Fill up +7.5 to +15mPD at South Edge Area (Area 5) (96,700m3 @ 2500m3/d)	39	18	53.85%	04-Jun-22 A	17-Dec-22	28-Dec-22	14-Jan-23	28	
Surcharge Period		180	180		18-Dec-22	15-Jun-23	15-Jan-23	13-Jul-23	28	
08-3120-2(M57)	Loading @ +12mPD at West Edge Area (Area 7B1)	60	60	0%	31-Dec-22	28-Feb-23	17-Feb-23	17-Apr-23	48	
08-3130(6)	Loading @ +11&+13mPD at South Edge Area (Area 5)	180	180	0%	18-Dec-22	15-Jun-23	15-Jan-23	13-Jul-23	28	
Breakwater		120	90		31-May-22	27-Feb-23	06-Aug-23	03-Nov-23	249	
Remain Works		120	90		31-May-22	27-Feb-23	06-Aug-23	03-Nov-23	249	
08-1300	Construction of Caissons Extension from +3mPD to Deck Level	120	90	25%	31-May-22	27-Feb-23	06-Aug-23	03-Nov-23	249	
Foundation Works		264	116		31-May-22	25-Mar-23	11-Nov-22	03-Jul-23	100	
Administration & Viewing Gallery Bld Foundation		15	3		04-Oct-22 A	02-Dec-22	01-Jul-23	03-Jul-23	213	
Administration Piling Works (Driven H-pile)		15	3		04-Oct-22 A	02-Dec-22	01-Jul-23	03-Jul-23	213	
09-1055(6)	Predrilling for Driven Pile founding determination (15 nr ~60m, @15m/d, 4 Rigs)	15	3	80%	04-Oct-22 A	02-Dec-22	01-Jul-23	03-Jul-23	213	
Process Building - Waste Bunker & Tipping Hall Bld Foundation		148	61		07-Jul-22 A	30-Jan-23	30-Nov-22	11-Mar-23	41	
Process Building Piling Works (Driven H-pile)		113	26		07-Jul-22 A	25-Dec-22	13-Dec-22	08-Jan-23	14	
Piling Stage 3 (Module 3)		113	26		07-Jul-22 A	25-Dec-22	13-Dec-22	08-Jan-23	14	
Process Building (Module 3) WWTP (Subzone 23&24)		45	16		07-Sep-22 A	15-Dec-22	16-Dec-22	01-Jan-23	17	
09-1160	Driven H Pile Installations (103 nrs ~40m(D), @60m/d 2 Groups)	35	8	77.14%	07-Sep-22 A	07-Dec-22	16-Dec-22	24-Dec-22	17	
09-1170	Pile Load Test	8	8	0%	08-Dec-22	15-Dec-22	24-Dec-22	01-Jan-23	17	
Process Building (Module 3) Bunker (Subzone 25, 26&27)		113	26		07-Jul-22 A	25-Dec-22	13-Dec-22	08-Jan-23	14	
09-2210	Driven H Pile Installations (297 nrs ~40m(D), @60m/d 2 Groups)	99	18	81.82%	07-Jul-22 A	17-Dec-22	13-Dec-22	31-Dec-22	14	
09-2220	Pile Load Test	8	8	0%	18-Dec-22	25-Dec-22	31-Dec-22	08-Jan-23	14	
Piling Works (Socket H-pile)		9	9		30-Nov-22	08-Dec-22	28-Dec-22	29-Jan-23	52	



3-Month Rolling Programme (November 2022)

Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

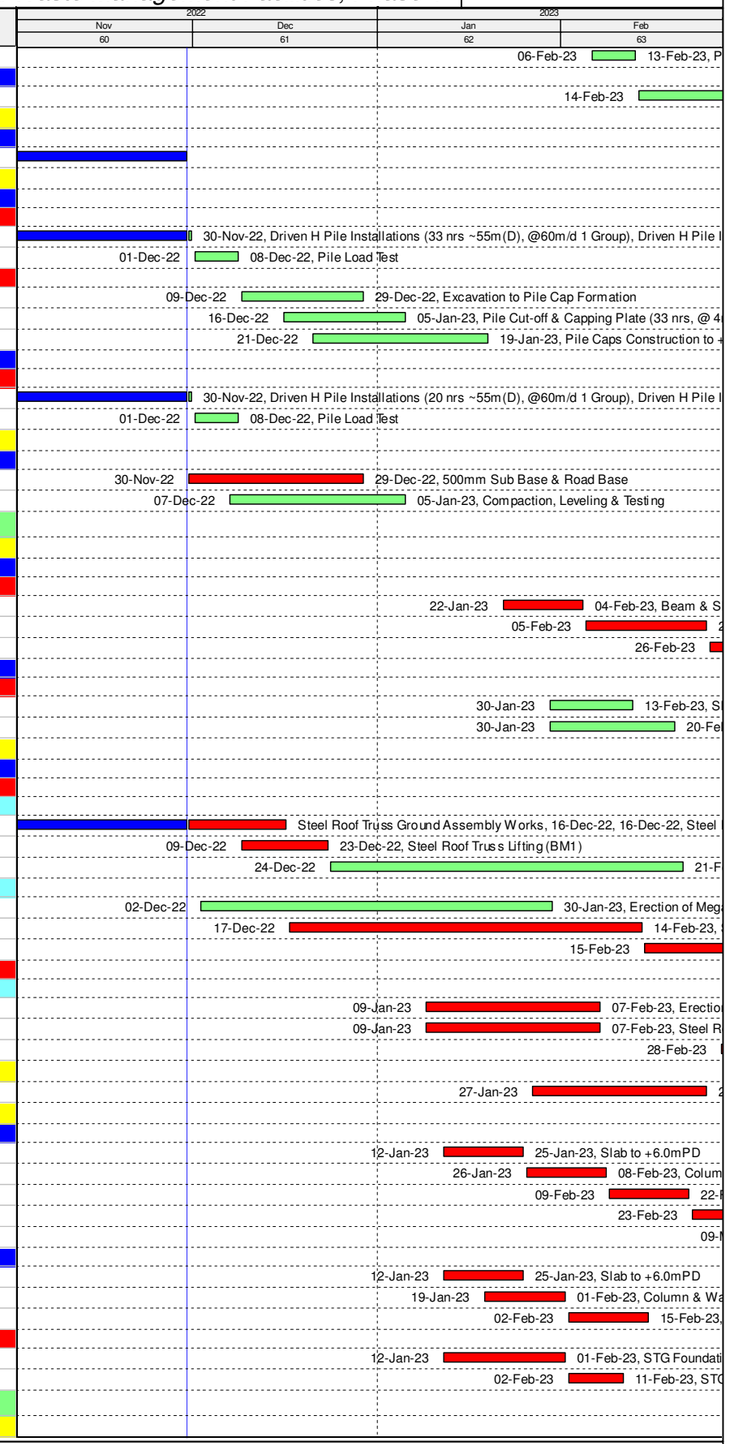
Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
Piling Stage 1 (Module 1)		9	9		30-Nov-22	08-Dec-22	28-Dec-22	05-Jan-23	28	
Process Building (Module 1) Tipping Hall (Subzone 1&2)		9	9		30-Nov-22	08-Dec-22	28-Dec-22	05-Jan-23	28	
09-2200	Pile Load Test	9	9	0%	30-Nov-22	08-Dec-22	28-Dec-22	05-Jan-23	28	
Piling Stage 2 (Module 2)		8	8		30-Nov-22	07-Dec-22	21-Jan-23	29-Jan-23	53	
Process Building (Module 2) Tipping Hall (Subzone 13)		8	8		30-Nov-22	07-Dec-22	21-Jan-23	29-Jan-23	53	
09-2250	Pile Load Test	8	8	0%	30-Nov-22	07-Dec-22	21-Jan-23	29-Jan-23	53	
Process Building Pile Cap Construction		122	61		19-Sep-22 A	30-Jan-23	30-Nov-22	11-Mar-23	41	
Pile Cap Stage 1 (Module 1)		107	46		19-Sep-22 A	14-Jan-23	30-Nov-22	20-Jan-23	6	
Process Building (Module 1) Tipping Hall		40	40		30-Nov-22	08-Jan-23	12-Dec-22	20-Jan-23	12	
09-1180	Excavation to Pile Cap Formation	25	25	0%	30-Nov-22	24-Dec-22	12-Dec-22	05-Jan-23	12	
09-1190	Pile Cut-off & Capping Plate (76 nrs, 4nr/d)	19	19	0%	09-Dec-22	27-Dec-22	21-Dec-22	08-Jan-23	12	
09-1200	Pile Caps Construction (26nrs 8set @ 1/7d)	23	23	0%	17-Dec-22	08-Jan-23	29-Dec-22	20-Jan-23	12	
Process Building (Module 1) Bunker		107	46		19-Sep-22 A	14-Jan-23	30-Nov-22	14-Jan-23	0	
09-1200-1	Excavation to Pile Cap Formation	25	14	44%	19-Sep-22 A	13-Dec-22	30-Nov-22	13-Dec-22	0	
09-2400	Pile Cut-off & Capping Plate	19	19	0%	02-Dec-22	20-Dec-22	20-Dec-22	07-Jan-23	18	
09-2410	Pile Caps and Raft Foundation Construction (50m x 36m 4set @100m2/7d)	32	32	0%	14-Dec-22	14-Jan-23	14-Dec-22	14-Jan-23	0	
Pile Cap Stage 2 (Module 2)		52	52		08-Dec-22	28-Jan-23	29-Jan-23	11-Mar-23	42	
Process Building (Module 2) Tipping Hall		35	35		25-Dec-22	28-Jan-23	05-Feb-23	11-Mar-23	42	
09-1210	Excavation to Pile Cap Formation	25	25	0%	25-Dec-22	18-Jan-23	05-Feb-23	01-Mar-23	42	
09-1220	Pile Cut-off & Capping Plate (51 nrs, 4nr/d)	13	13	0%	09-Jan-23	21-Jan-23	20-Feb-23	04-Mar-23	42	
09-1230	Pile Caps Construction (22nrs 8set @ 1/7d)	20	20	0%	09-Jan-23	28-Jan-23	20-Feb-23	11-Mar-23	42	
Process Building (Module 2) Bunker		41	41		08-Dec-22	18-Jan-23	29-Jan-23	11-Mar-23	53	
09-2380	Pile Cut-off & Capping Plate (207 nrs, 8nr/d)	27	27	0%	08-Dec-22	04-Jan-23	29-Jan-23	25-Feb-23	53	
09-2390	Pile Caps and Raft Foundation Construction (50m x 36m 4set @100m2/7d)	36	36	0%	13-Dec-22	18-Jan-23	03-Feb-23	11-Mar-23	53	
Pile Cap Stage 3 (Module 3)		45	45		16-Dec-22	30-Jan-23	01-Jan-23	12-Feb-23	14	
Process Building (Module 3) WWTP		45	45		16-Dec-22	30-Jan-23	01-Jan-23	12-Feb-23	14	
09-1240	Excavation to Pile Raft Foundation Formation	25	25	0%	16-Dec-22	10-Jan-23	01-Jan-23	26-Jan-23	17	
09-2550	Excavation to Pile Cap Formation	25	25	0%	26-Dec-22	20-Jan-23	08-Jan-23	02-Feb-23	14	
09-2560	Pile Cut-off & Capping Plate (22 nrs, 4nr/d)	6	6	0%	17-Jan-23	23-Jan-23	30-Jan-23	05-Feb-23	14	
09-2570	Pile Caps Construction (5nrs 2set @ 1/7d)	18	18	0%	12-Jan-23	30-Jan-23	25-Jan-23	12-Feb-23	14	
Process Building - Boiler & Flue Gas Treatment Bld Foundation		141	111		21-Sep-22 A	20-Mar-23	24-Nov-22	14-Mar-23	-6	
Process Building Boiler Building & Flue Gas Foundation		87	61		21-Sep-22 A	29-Jan-23	24-Nov-22	23-Jan-23	-6	
Process Building Pile Caps Construction		87	61		21-Sep-22 A	29-Jan-23	24-Nov-22	23-Jan-23	-6	
Process Building (Module 3) Pile Cap Stage 3		87	61		21-Sep-22 A	29-Jan-23	24-Nov-22	23-Jan-23	-6	
09-1460	Excavation to Pile Cap Formation	45	12	73.33%	21-Sep-22 A	11-Dec-22	24-Nov-22	05-Dec-22	-6	
09-1470	Pile Cut-off & Capping Plate (376 nrs, 10nr/d)	38	8	78.95%	19-Oct-22 A	18-Dec-22	05-Dec-22	12-Dec-22	-6	
09-1480	Pile Caps Construction (52 nrs, 4set @1/7d)	87	44	49.43%	29-Oct-22 A	29-Jan-23	11-Dec-22	23-Jan-23	-6	
RC Base Slab		50	50		30-Jan-23	20-Mar-23	24-Jan-23	14-Mar-23	-6	
10-1600	Base Slab Stage 3 (Module 3)	50	50	0%	30-Jan-23	20-Mar-23	24-Jan-23	14-Mar-23	-6	
ACC Equipment Foundation		88	58		24-Oct-22 A	26-Jan-23	11-Nov-22	07-Jan-23	-19	
ACC Piling Works (Driven H-pile)		58	28		24-Oct-22 A	27-Dec-22	11-Nov-22	08-Dec-22	-19	
09-1670-11	Driven H Pile Installations at Zone 2 (30 nrs ~55m(D), @60m/d 2 Groups) (Module 1)	28	14	50%	24-Oct-22 A	13-Dec-22	11-Nov-22	24-Nov-22	-19	
09-1670-12(6F)	Driven H Pile Installations at Zone 4 (31 nrs ~55m(D), @60m/d 2 Groups) (Module 1)	28	28	0%	30-Nov-22	27-Dec-22	11-Nov-22	08-Dec-22	-19	
ACC Pile Cap Construction		44	44		14-Dec-22	26-Jan-23	25-Nov-22	07-Jan-23	-19	
09-1690	Excavation to Pile Cap Formation (Module 1)	14	14	0%	14-Dec-22	27-Dec-22	25-Nov-22	08-Dec-22	-19	
09-1700	Pile Cut-off & Capping Plate (Module 1)	18	18	0%	19-Dec-22	05-Jan-23	30-Nov-22	17-Dec-22	-19	
09-1710	Pile Caps Construction (Module 1)	30	30	0%	14-Dec-22	12-Jan-23	25-Nov-22	24-Dec-22	-19	
09-1710-1(6)	Tie Beams Construction (Module 1 @+6.5mPD)	30	30	0%	28-Dec-22	26-Jan-23	09-Dec-22	07-Jan-23	-19	
Turbine Hall Bld Foundation		210	57		31-May-22	25-Jan-23	11-Nov-22	10-Feb-23	16	
Turbine Hall Piling Works (Driven H-pile)		163	6		31-May-22	05-Dec-22	11-Nov-22	16-Nov-22	-19	
09-1730-1(M55)	Driven H Pile Installations (143 nrs ~55m(D), @60m/d 2 Groups)	68	2	97.06%	31-May-22	01-Dec-22	11-Nov-22	12-Nov-22	-19	
09-1740	Pile Load Test	8	4	50%	15-Nov-22 A	05-Dec-22	13-Nov-22	16-Nov-22	-19	
Turbine Hall Pile Caps Construction		51	51		06-Dec-22	25-Jan-23	17-Nov-22	10-Feb-23	16	
09-1750	Excavation to Pile Cap Formation	21	21	0%	06-Dec-22	26-Dec-22	17-Nov-22	07-Dec-22	-19	
09-1760	Pile Cut-off & Capping Plate (219 nrs, @10nr/d)	21	21	0%	11-Dec-22	31-Dec-22	26-Nov-22	16-Dec-22	-15	
09-1770	Pile Caps and Ground Beam Construction for TBS1 & Electrical Bld to +6.3mPD	30	30	0%	13-Dec-22	11-Jan-23	24-Nov-22	23-Dec-22	-19	
09-1770-1(M58)	Install anchor bolts for TBS1 @+6.3mPD (Post-drilling)	14	14	0%	12-Jan-23	25-Jan-23	28-Jan-23	10-Feb-23	16	
Compressor & CCCW Bld Foundation		8	4		26-Nov-22 A	03-Dec-22	11-Mar-23	14-Mar-23	101	
CCCW Piling Works (Driven H-pile)		8	4		26-Nov-22 A	03-Dec-22	11-Mar-23	14-Mar-23	101	
09-2330	Pile Load Test	8	4	50%	26-Nov-22 A	03-Dec-22	11-Mar-23	14-Mar-23	101	
MT Plant & WT Bld Foundation		127	97		27-Oct-22 A	06-Mar-23	16-Nov-22	20-Feb-23	-14	
MT Plant & WT Bld Piling Works		127	97		27-Oct-22 A	06-Mar-23	16-Nov-22	20-Feb-23	-14	
MT & WT Plant (Driven H-pile)		127	97		27-Oct-22 A	06-Mar-23	16-Nov-22	20-Feb-23	-14	
09-1860(6)	Predrilling for Driven Pile founding determination (56nr ~60m, @15m/d, 8 Rigs)	28	7	75%	27-Oct-22 A	06-Dec-22	16-Nov-22	22-Nov-22	-14	
09-1870-1(M54)	Driven H Pile Installations (120 nrs ~45m(D), @60m/d 1 Group)	90	90	0%	07-Dec-22	06-Mar-23	23-Nov-22	20-Feb-23	-14	
IWMF Substation Building Foundation		136	106		17-Oct-22 A	15-Mar-23	11-Dec-22	26-Mar-23	11	
IWMF Substation Piling Works (Driven H-pile)		106	76		17-Oct-22 A	13-Feb-23	11-Dec-22	24-Feb-23	11	
09-1970(6)	Predrilling for Driven Pile founding determination (15nr ~60m, @15m/d, 4 Rigs)	15	8	46.67%	17-Oct-22 A	07-Dec-22	11-Dec-22	18-Dec-22	11	
09-1980	Driven H Pile Installations (120 nrs ~60m(D), @60m/d 2 Groups)	60	60	0%	08-Dec-22	05-Feb-23	19-Dec-22	16-Feb-23	11	



3-Month Rolling Programme (November 2022)

Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

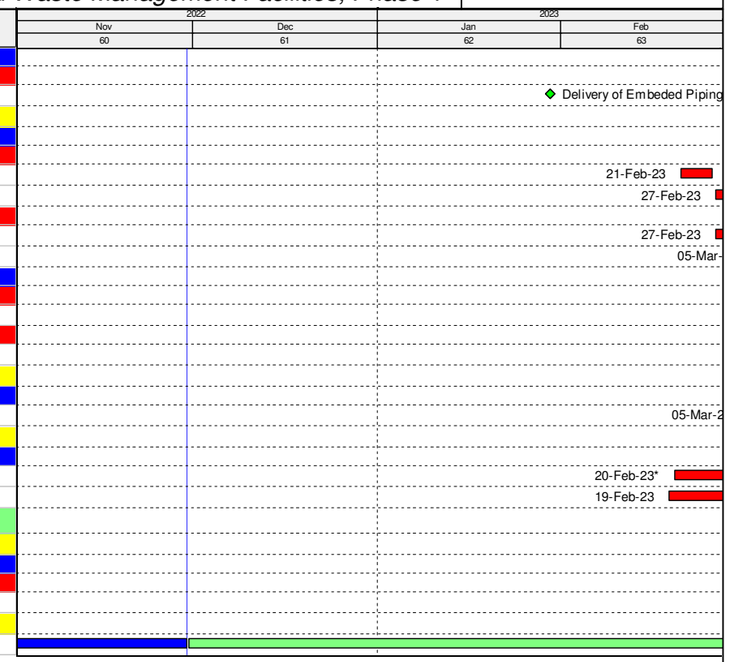
Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
09-1990	Pile Load Test	8	8	0%	06-Feb-23	13-Feb-23	17-Feb-23	24-Feb-23	11	
IWMF Substation Pile Cap Construction		30	30		14-Feb-23	15-Mar-23	25-Feb-23	26-Mar-23	11	
09-2000	Excavation to Pile Cap Formation	30	30	0%	14-Feb-23	15-Mar-23	25-Feb-23	26-Mar-23	11	
Elevated Drive Way and Associated Structures Foundation		23	17		03-Oct-22 A	25-Mar-23	26-Apr-23	12-May-23	48	
Elevated Drive Way Piling Works (Driven H-pile)		23	17		03-Oct-22 A	25-Mar-23	26-Apr-23	12-May-23	48	
09-2020(M57)	Predrilling for Driven Pile founding determination (30nr ~60m, @15m/d, 4 Rigs)	23	17	26.09%	03-Oct-22 A	25-Mar-23	26-Apr-23	12-May-23	48	
Pipe Bridge Foundation		105	51		15-Sep-22 A	19-Jan-23	15-Dec-22	12-Mar-23	52	
Pipe Bridge B		105	51		15-Sep-22 A	19-Jan-23	21-Jan-23	12-Mar-23	52	
Pipe Bridge B Piling Works Piling Works (Driven H-pile)		63	9		15-Sep-22 A	08-Dec-22	21-Jan-23	29-Jan-23	52	
09-2450	Driven H Pile Installations (33 nrs ~55m(D), @60m/d 1 Group)	31	1	96.77%	15-Sep-22 A	30-Nov-22	21-Jan-23	21-Jan-23	52	
09-2460	Pile Load Test	8	8	0%	01-Dec-22	08-Dec-22	22-Jan-23	29-Jan-23	52	
Pipe Bridge B Pile Caps Construction		42	42		09-Dec-22	19-Jan-23	30-Jan-23	12-Mar-23	52	
09-2470	Excavation to Pile Cap Formation	21	21	0%	09-Dec-22	29-Dec-22	30-Jan-23	19-Feb-23	52	
09-2480	Pile Cut-off & Capping Plate (33 nrs, @ 4nr/d)	21	21	0%	16-Dec-22	05-Jan-23	06-Feb-23	26-Feb-23	52	
09-2490	Pile Caps Construction to +5.0mPD (33nr, 4set @ 1nr/7d)	30	30	0%	21-Dec-22	19-Jan-23	11-Feb-23	12-Mar-23	52	
Pipe Bridge C		63	9		28-Sep-22 A	08-Dec-22	15-Dec-22	23-Dec-22	15	
Pipe Bridge C Piling Works Piling Works (Driven H-pile)		63	9		28-Sep-22 A	08-Dec-22	15-Dec-22	23-Dec-22	15	
09-2500	Driven H Pile Installations (20 nrs ~55m(D), @60m/d 1 Group)	19	1	94.74%	28-Sep-22 A	30-Nov-22	15-Dec-22	15-Dec-22	15	
09-2510	Pile Load Test	8	8	0%	01-Dec-22	08-Dec-22	16-Dec-22	23-Dec-22	15	
Heavy Load Access		37	37		30-Nov-22	05-Jan-23	24-Nov-22	12-Jan-23	7	
Construction		37	37		30-Nov-22	05-Jan-23	24-Nov-22	12-Jan-23	7	
09-3000(6D)	500mm Sub Base & Road Base	30	30	0%	30-Nov-22	29-Dec-22	24-Nov-22	23-Dec-22	-6	
09-3010(6D)	Compaction, Leveling & Testing	30	30	0%	07-Dec-22	05-Jan-23	14-Dec-22	12-Jan-23	7	
Superstructural Works		162	113		26-Sep-22 A	22-Mar-23	24-Nov-22	25-Apr-23	34	
Process Buildings - Waste Bunker & Tipping Hall Bld Structure		56	56		22-Jan-23	18-Mar-23	22-Jan-23	18-Mar-23	0	
Waste & Ash Bunker Bld Structure		56	56		22-Jan-23	18-Mar-23	22-Jan-23	18-Mar-23	0	
Process Building (Module 1) Waste & Ash Bunker Bld Structure		56	56		22-Jan-23	18-Mar-23	22-Jan-23	18-Mar-23	0	
10-1090	Beam & Slab to +2.5mPD	14	14	0%	22-Jan-23	04-Feb-23	22-Jan-23	04-Feb-23	0	
10-1100	Column & Wall to +6.0mPD	21	21	0%	05-Feb-23	25-Feb-23	05-Feb-23	25-Feb-23	0	
10-1110	Beam & Slab to +6.0mPD	21	21	0%	26-Feb-23	18-Mar-23	26-Feb-23	18-Mar-23	0	
Tipping Hall Bld Structure		21	21		30-Jan-23	20-Feb-23	13-Feb-23	05-Mar-23	14	
Process Building (Module 3) WWTP Structure		21	21		30-Jan-23	20-Feb-23	13-Feb-23	05-Mar-23	14	
10-3000(6F)	Slab to +2.0mPD	14	14	0%	30-Jan-23	13-Feb-23	13-Feb-23	26-Feb-23	14	
10-3010(6F)	Slab to +3.5mPD	21	21	0%	30-Jan-23	20-Feb-23	13-Feb-23	05-Mar-23	14	
Process Buildings - Boiler & Flue Gas Treatment Bld Structure		153	104		26-Sep-22 A	13-Mar-23	24-Nov-22	25-Apr-23	43	
Steel Structure		153	104		26-Sep-22 A	13-Mar-23	24-Nov-22	25-Apr-23	43	
Boiler Building Steel Structure		140	91		26-Sep-22 A	28-Feb-23	24-Nov-22	25-Apr-23	56	
Process Building (Module 1) Steel Structure Erection		133	84		26-Sep-22 A	21-Feb-23	24-Nov-22	25-Apr-23	63	
10-1620	Steel Roof Truss Ground Assembly Works	60	17	71.67%	26-Sep-22 A	16-Dec-22	24-Nov-22	10-Dec-22	-6	
10-1630	Steel Roof Truss Lifting (BM1)	15	15	0%	09-Dec-22	23-Dec-22	04-Dec-22	18-Dec-22	-5	
10-1640	Roof Cladding Installation	60	60	0%	24-Dec-22	21-Feb-23	25-Feb-23	25-Apr-23	63	
Process Building (Module 2) Steel Structure Erection		89	89		02-Dec-22	28-Feb-23	11-Dec-22	22-Feb-23	-6	
10-1650	Erection of Mega Columns (2nos @30d /column /gang x 2)	60	60	0%	02-Dec-22	30-Jan-23	11-Dec-22	08-Feb-23	9	
10-1660	Steel Roof Truss Ground Assembly Works	60	60	0%	17-Dec-22	14-Feb-23	11-Dec-22	08-Feb-23	-6	
10-1670	Steel Roof Truss Lifting (BM2)	14	14	0%	15-Feb-23	28-Feb-23	09-Feb-23	22-Feb-23	-6	
Flue Gas Treatment Bld Steel Structure		64	64		09-Jan-23	13-Mar-23	24-Dec-22	05-Feb-23	-36	
Process Building (Module 1) Steel Structure Erection		64	64		09-Jan-23	13-Mar-23	24-Dec-22	05-Feb-23	-36	
10-1730	Erection of Mega Columns (2nos @30d /column /gang x 2)	30	30	0%	09-Jan-23	07-Feb-23	24-Dec-22	22-Jan-23	-16	
10-1740	Steel Roof Truss Ground Assembly Works	30	30	0%	09-Jan-23	07-Feb-23	24-Dec-22	22-Jan-23	-16	
10-1750	Steel Roof Truss Lifting (FM1)	14	14	0%	28-Feb-23	13-Mar-23	23-Jan-23	05-Feb-23	-36	
ACC Equipment Structure		30	30		27-Jan-23	25-Feb-23	08-Jan-23	06-Feb-23	-19	
09-1720	Base Slab Construction (Module 1 @+6.5mPD)	30	30	0%	27-Jan-23	25-Feb-23	08-Jan-23	06-Feb-23	-19	
Turbine Hall Bld Structure		70	70		12-Jan-23	22-Mar-23	27-Dec-22	06-Mar-23	-16	
Turbine Hall Electrical Bld		70	70		12-Jan-23	22-Mar-23	27-Dec-22	06-Mar-23	-16	
10-1910	Slab to +6.0mPD	14	14	0%	12-Jan-23	25-Jan-23	27-Dec-22	09-Jan-23	-16	
10-1920	Column & Wall to +15.0mPD	14	14	0%	26-Jan-23	08-Feb-23	10-Jan-23	23-Jan-23	-16	
10-1930	Beam & Slab to +15.0mPD	14	14	0%	09-Feb-23	22-Feb-23	24-Jan-23	06-Feb-23	-16	
10-1940	Column & Wall to +19.5mPD	14	14	0%	23-Feb-23	08-Mar-23	07-Feb-23	20-Feb-23	-16	
10-1950	Beam & Slab to +19.5mPD	14	14	0%	09-Mar-23	22-Mar-23	21-Feb-23	06-Mar-23	-16	
Turbine Hall TBS1		35	35		12-Jan-23	15-Feb-23	06-Jan-23	09-Feb-23	-6	
10-2300	Slab to +6.0mPD	14	14	0%	12-Jan-23	25-Jan-23	06-Jan-23	19-Jan-23	-6	
10-2310	Column & Wall to +15.0mPD & +23.5mPD	14	14	0%	19-Jan-23	01-Feb-23	13-Jan-23	26-Jan-23	-6	
10-2320	Beam & Slab to +28.0mPD	14	14	0%	02-Feb-23	15-Feb-23	27-Jan-23	09-Feb-23	-6	
STG Foundation (PC1)		31	31		12-Jan-23	11-Feb-23	07-Jan-23	06-Feb-23	-5	
10-1990-1(M58)	STG Foundation construction and install anchor bolts @ +9.5	21	21	0%	12-Jan-23	01-Feb-23	07-Jan-23	27-Jan-23	-5	
10-1990-2(M58)	STG Foundation construction and install anchor bolts @ +10.77	10	10	0%	02-Feb-23	11-Feb-23	28-Jan-23	06-Feb-23	-5	
Process Equipment Installation		154	154		30-Jan-23	02-Jul-23	24-Dec-22	21-Jun-23	-11	
Process Buildings - Waste Bunker & Tipping Hall Bld Process Equipment Installation		0	0		30-Jan-23	30-Jan-23	12-Feb-23	12-Feb-23	14	



3-Month Rolling Programme (November 2022)

Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M60 Remarks
Piping and Instrument Installation and Connection Works		0	0		30-Jan-23	30-Jan-23	12-Feb-23	12-Feb-23	14	
Process Building (WWTP)		0	0		30-Jan-23	30-Jan-23	12-Feb-23	12-Feb-23	14	
12-3120(6F)	Delivery of Embeded Piping above +2 to +10mPd	0	0	0%		30-Jan-23		12-Feb-23	14	
Process Buildings - Boiler House & Flue Gas Treatment Bld Process Equipment Installation		132	132		21-Feb-23	02-Jul-23	24-Dec-22	21-Jun-23	-11	
Process Building (Installation TPU Module)		132	132		21-Feb-23	02-Jul-23	24-Dec-22	21-Jun-23	-11	
TPU Train 1		126	126		21-Feb-23	26-Jun-23	24-Dec-22	21-Jun-23	-5	
13-1030	Delivery, inspection and Transport Boiler Train to Position by SPMT (TPU Train 1)	6	6	0%	21-Feb-23	26-Feb-23	24-Dec-22	29-Dec-22	-59	
13-1050	Remaining Equipment Installation at GL	120	120	0%	27-Feb-23	26-Jun-23	22-Feb-23	21-Jun-23	-5	
TPU Train 2		126	126		27-Feb-23	02-Jul-23	30-Dec-22	21-Jun-23	-11	
13-1120	Delivery, inspection and Transport Boiler Train to Position by SPMT (TPU Train 2)	6	6	0%	27-Feb-23	04-Mar-23	30-Dec-22	04-Jan-23	-59	
13-1140	Remaining Equipment Installation at GL	120	120	0%	05-Mar-23	02-Jul-23	22-Feb-23	21-Jun-23	-11	
Process Building (Installation of Flue Gas Module)		13	13		06-Apr-23	18-Apr-23	06-Feb-23	18-Feb-23	-59	
FGC Train 1		6	6		06-Apr-23	11-Apr-23	06-Feb-23	11-Feb-23	-59	
13-1570	Delivery, inspection and Transport Flue Gas Train to Position by SPMT (FGC Train 1)	6	6	0%	06-Apr-23	11-Apr-23	06-Feb-23	11-Feb-23	-59	
FGC Train 2		6	6		13-Apr-23	18-Apr-23	13-Feb-23	18-Feb-23	-59	
13-1640	Delivery, inspection and Transport Flue Gas Train to Position by SPMT (FGC Train 2)	6	6	0%	13-Apr-23	18-Apr-23	13-Feb-23	18-Feb-23	-59	
ACC Equipment Installation		114	114		05-Mar-23	26-Jun-23	14-Feb-23	07-Jun-23	-19	
ACC Unit 1 Installation		114	114		05-Mar-23	26-Jun-23	14-Feb-23	07-Jun-23	-19	
13-2000	Site preparation & Installation of ACC Equipment (unit 1)	114	114	0%	05-Mar-23*	26-Jun-23	14-Feb-23	07-Jun-23	-19	
Turbine Hall Bld Equipment Installation		61	61		19-Feb-23	20-Apr-23	13-Feb-23	14-Apr-23	-6	
Turbine Hall Module 1 Installation		61	61		19-Feb-23	20-Apr-23	13-Feb-23	14-Apr-23	-6	
13-2120	STG and TBS Module 1 Installation	60	60	0%	20-Feb-23*	20-Apr-23	14-Feb-23	14-Apr-23	-6	
13-2160(6)	Install Maintenance Girder & Crane at Module 1 @+22.247mPd	30	30	0%	19-Feb-23	20-Mar-23	13-Feb-23	14-Mar-23	-6	
Landscape, External Road and Drains Works		285	163		28-Apr-22 A	11-May-23	27-Feb-23	28-Sep-23	140	
Drainage Works		60	60		13-Mar-23	11-May-23	27-Feb-23	27-Apr-23	-14	
Box Culvert		60	60		13-Mar-23	11-May-23	27-Feb-23	27-Apr-23	-14	
East Culvert (3.5m x 2.5m x 118m)		60	60		13-Mar-23	11-May-23	27-Feb-23	27-Apr-23	-14	
14-2000	Excavation to Formation	60	60	0%	13-Mar-23	11-May-23	27-Feb-23	27-Apr-23	-14	
Earthing System		180	140		28-Apr-22 A	18-Apr-23	12-May-23	28-Sep-23	163	
16-1900-2(6)	Installation of Ground Earthing Mesh	180	140	22.22%	28-Apr-22 A	18-Apr-23	12-May-23	28-Sep-23	163	



Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Appendix B Summary of Implementation Status of Environmental Mitigation

Appendix B

Table B.1 Implementation Schedule for Air Quality Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S3b.8.1	Air Pollution Control (Construction Dust) Regulation & Good Site Practices • Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. • Use of frequent watering for particularly dusty construction areas and areas close to ASRs. • Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines. • Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs. • Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations. • Establishment and use of vehicle wheel and body washing facilities at the exit points of the site. • Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading	Work site / During the construction period	Contractor		✓			Air Pollution Control (Construction Dust) Regulation	Deficiency of Mitigation Measures but rectified by the Contractor. N/A for dust control measures for transportation outside site boundary.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	points, and use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods. • Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit. • Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs • Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.								
S3b.6.3	<u>Odour Removal by Deodorizers</u> • Deodorizers with 95% odour removal efficiency would be installed for the air ventilated from the mechanical treatment plant before discharge to the atmosphere	Waste reception halls, the waste storage area, the mechanical treatment plant / During design & operation phase	IWMF Operator	✓		✓		EIAO-TM	N/A
S3b.8.2	<u>Air Pollution Control and Stack Monitoring</u>	IWMF stack emissions / During	IWMF Operator	✓		✓		EIAO-TM, Supporting Document for	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Air pollution control and stack monitoring system will be installed for the IWMF to ensure that the emissions from the IWMF stack will meet the proposed target emission limits. • Voluntary Enhancement Measures in Flue Gas Cleaning and Emission Monitoring: 1. Two-stage bag filter system with reagent recirculation; 2. In addition to SCR, provide SNCR for removal of NO_x; tighten emission limit for half-hourly and daily NO_x to 160 mg/m^3 and 80 mg/m_3 respectively; 3. Well-mixed feed waste: to minimize the fluctuation of pollutant loading on the flue gas treatment system; 4. Two more AQMSs would be set up at South Lantau and Shek Kwu Chau respectively; 5. Limit levels will be set under the IWMF DBO contract to require that waste feed shall cease if any of the air pollutant has exceeded 95% of the emission concentration limit as stipulated in the Special Process license; and	design & operation phase						Application for Variation of Environmental Permit (EP-429/2012)	

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	6. Each incineration chamber shall be fitted with auxiliary burners to ensure complete burn out of the combustion gases.								
-	<u>Treated Fly Ash and Air Pollution Control Residues:</u> • During testing and commissioning, the Contractor shall sample and test every container of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2 of the Environmental Permit. If a test result confirms that any one of the samples does not conform to the limits and the criteria, the Contractor shall be required to sample and test every container of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria for the next six months. • During the first six months of operation, if the requirements in (a) could be fully conformed with, the Contractor shall sample and test every shipload of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2	IWMF stack emissions / During design & operation phase	IWMF Operator	✓		✓		Supporting Document for Application for Variation of Environmental Permit (EP-429/2012)	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	of the Environmental Permit. The Contractor shall take two samples from each shipload for testing and the Contractor shall not dispose of any of that shipload of treated fly ash and air pollution control residues until the test results confirm that the two samples conform to the limits and the criteria. If a test result confirms that any one of the two samples does not conform to the limits and the criteria, the Contractor shall be required to sample and test every shipload of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria for the next six months. The Contractor shall make due allowance in the Design and the Operation for the time to sample and test treated fly ash and air pollution control residues before disposal. • Provided that there is no non-conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2 of the Environmental Permit throughout a continuous sixmonth period in the Operation Period, the testing frequency shall be reduced to monthly interval.Two samples from one shipload of treated fly ash and air								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	pollution control residues shall be collected and tested for conformance to the Incineration Residue Pollution Control Limits and leachability criteria. The Contractor shall not dispose of any of the treated fly ash and air pollution control residues in the shipload which the samples are taken until the test results confirm that the samples conform to the limits and the criteria. If the test result confirm that any one of the samples does not conform to the limits and the criteria, the Contractor shall be required to sample and test every shipload of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2 of the Environmental Permit for the next six months.								
-	<u>Bottom Ash:</u> • During testing and commissioning, the Contractor shall sample and test every container of bottom ash for conformance to the leachability criteria shown in Table 2 of the Environmental Permit. If a test result confirms that any one of the samples does not conform to the criteria, the Contractor shall be required to sample and test every	IWMF stack emissions / During design & operation phase	IWMF Operator	✓		✓		Supporting Document for Application for Variation of Environmental Permit (EP-429/2012)	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	container of bottom ash for conformance to the leachability criteria for the next six months. • During the first six months of operation, if the requirements in (d) could be fully conformed with, the Contractor shall sample and test one shipload of bottom ash each month for conformance to the leachability criteria shown in Table 2 of the Environmental Permit. The Contractor shall take two samples from the shipload for testing and the Contractor shall not dispose of any of that shipload of bottom ash until the test results confirm that the two samples conform to the criteria. If a test result confirms that any one of the two samples does not conform to the criteria, the Contractor shall be required to sample and test each shipload of bottom ash for conformance to the leachability criteria for the next six months. The Contractor shall make due allowance in the Design and the Operation for the time to sample and test bottom ash before disposal. • Provided that there is no non-conformance to the leachability criteria shown in Table 2 of the Environmental Permit throughout a continuous six month period in the								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	Operation Period, the Contractor shall be allowed to take two samples from any one shipload of bottom ash once every six months for conformance to the leachability criteria. The Contractor shall not dispose of any of the bottom ash in the shipload which the samples are taken until the test results confirm that the samples conform to the criteria. If the test result confirm that any one of the samples does not conform to the criteria, the Contractor shall be required to sample and test one shipload of bottom ash each month for conformance to the leachability criteria shown in Table 2 of the Environmental Permit for the next six months as stipulated above.								

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table B.2 Implementation Schedule for Noise Impact Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S4b.8	Good site practices to limit noise emissions at source and use of quiet plant and working methods, whenever practicable.	Work Sites / Construction Period	EPD and its contractors		✓			EIAO-TM	Implemented
S4b.6 & S4b.8	All the ventilation fans installed in the below will be provided with silencers or acoustics treatment. (i) Stack of the incinerator (ii) Ventilation systems within the IWMF Enclosure and discharge silencer or other acoustic treatment equipment should be installed in the air-cooled chillers Other than provision of silencer or other acoustic treatment equipment for the stack of the incinerator and ventilation system, the detailed design should incorporate the following good practice in order to minimize the nuisance on the neighboring NSRs. (i) The exhaust of the ventilation system and any opening of the building should be located facing away from any NSRs; and (ii) Louver or other acoustic treatment equipment could also be applied to the exhaust of the ventilation system.	Within IWMF area / Construction Period	EPD and its contractors	✓		✓		EIAO-TM	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
-	<u>Voluntary Enhancement Measure</u> • Provision of air-conditioner and double glazed windows to nearby NSR at Shek Kwu Chau (i.e. SARDA) as precautionary measures.	IWMF site	Design team, contractor, IWMF operator	✓	✓			Supporting Document for Application for Variation of Environmental Permit (EP-429/2012)	Implemented

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table B.3 Implementation Schedule for Water Quality Measures for the Artificial Island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S5b.8.1.1	<u>Drainage and Construction Site Runoff</u> The site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. These practices include the following items: • At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction. • Boundaries of earthworks should be surrounded by dykes or embankments for flood protection, as necessary. • Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM-DSS. The	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO	Deficiency of Mitigation Measures but rectified by the Contractor

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. The detailed design of the sand/silt traps shall be undertaken by the contractor prior to the commencement of construction. • Water pumped out from foundation piles must be discharged into silt removal facilities. • Measures should be taken to minimize the ingress of site runoff and drainage into excavations. Drainage water pumped out from excavations should be discharged into storm drains via silt removal facilities. • During rainstorms, exposed slope/soil surfaces should be covered by a tarpaulin or other means, as far as practicable. Other measures that need to be implemented before, during and after rainstorms are summarized in ProPECC PN 1/94. • Exposed soil areas should be minimized to reduce potential for increased siltation and contamination of runoff.								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Earthwork final surfaces should be well compacted and subsequent permanent work or surface protection should be immediately performed. • Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms.								
S5b.8.1.2	<u>General Construction Activities</u> Construction solid waste should be collected, handled and disposed of properly to avoid entering to the nearby watercourses and public drainage system. Rubbish and litter from construction sites should also be collected to prevent spreading of rubbish and litter from the site area. It is recommended to clean the construction sites on a regular basis.	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S5b.8.1.3	There is a need to apply to EPD for a discharge license for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge license. All the run-off and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. The beneficial uses of the treated effluent for other on-site activities such as dust suppression and general cleaning etc., can minimize water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO license which is under the ambit of regional office of EPD.	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO	Discharge License was issued on 15/02/2022
S5b.8.1.4	Accidental Spillage Contractor must register as a chemical waste producer if chemical wastes would be produced from construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Deficiency of Mitigation Measures but rectified by the Contractor
S5b.8.1.5	Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas which	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	appropriately equipped to control these discharges.								
S5b.8.1.6	Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas should be sited on sealed areas in order to prevent spillage of fuels and solvents to the nearby watercourses. All waste oils and fuels should be collected in designated tanks prior to disposal.	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Deficiency of Mitigation Measures but rectified by the Contractor
S5b.8.1.7	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: • Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. • Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. • Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Deficiency of Mitigation Measures but rectified by the Contractor

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S5b.8.1.8	Sewage Effluent Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor would be responsible. For appropriate disposal and maintenance of these facilities.	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO	Implemented
S5b.8.1.9	Reclamation and Construction of Breakwaters • The proposed dredging and reclamation should be commenced in phases. The breakwaters and seawalls should be constructed and the reclamation should be started within the enclosed breakwaters after the completion of the breakwater. Silt curtain should be applied around caissons / blockwork during the filling of the cell to prevent the loss of fine in the filling material. • The maximum production rate for dredging for the anti-scouring protection layer shall not exceed the permitted maximum daily dredging rate and carried out within its respective distance from the nearest non-translocatable coral community by the dredging contractor as specified in S.2.18 of the Further Environmental Permit (no.:FEP-01/429/2012/A). It is recommended to employ closed grab with small capacity of 2 m^3 to control the dredging rate. • Any gap that may need to be provided for marine access will be located at the middle	Work site / During the marine construction period	Contractor		✓			EIAO-TM; WPCO, Supporting Document for Application for Variation of Environmental Permit (EP-429/2012) Further Environmental Permit No. FEP-01/429/2012/A	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	of the North Western seawall, away from the identified coral communities and will be shielded by silt curtains systems to control sediment plume dispersion. • The silt curtain system at marine access opening should be closed as soon as the barges passes through the marine access opening in order to minimize the period of curtain opening. Filling should only be carried out behind the silt curtain when the silt curtain is completely closed. • To enhance the effectiveness of the silt curtain at the marine access, the northern breakwater would be built before the commencement of the reclamation to reduce the current velocity towards the marine access opening. • The silt curtain system at marine access opening should be regularly checked and maintained to ensure proper functioning. • Where public fill is proposed for filling below +2.5mPD, the fine content in the public fill will be controlled to 25% which is in line with the CEDD's General Specification; • The filling for reclamation should be carried out behind the seawall. The filling material should only consist of public fill, rock and sand. The filling composition and filling rates at each filling area should follow those delineated in Table 1 of the FEP-01/429/2012/. The filling above high watermark is not restricted;								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• No dredging should be carried out within 16m to the nearest non-translocatable coral community; • Daily site audit including full-time on-site monitoring by the ET is recommended during the dredging for anti-scouring protection layer for checking the compliance with the permitted no. of grab; • Closed grab dredger should be used to minimize the loss of sediment during the raising of the loaded grabs through the water column; • Frame-type silt curtains should be deployed around the dredging operations; • Floating-type silt curtains should be used to surround the circular cell during the sheetpiling work; • The descent speed of grabs should be controlled to minimize the seabed impact speed; • Barges should be loaded carefully to avoid splashing of material; • All barges used for the transport of dredged materials should be fitted with tight bottom seals in order to prevent leakage of material during loading and transport; • All barges should be filled to a level which ensures that material does not spill over during loading and transport to the disposal site and that adequate freeboard is								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	maintained to ensure that the decks are not washed by wave action. • No DCM works should be carried out within 100m to the nearest non-translocatable coral colony / colonies. • Silt curtains should be employed to enclose DCM field trial and any full scale DCM work to minimize the potential impacts on water aspect. • A sand blanket is to be placed on top of the marine deposit using tremie pipes prior to the DCM ground treatment to avoid seabed sediment disturbance.								
S5b.8.2.3	Operational Phase Discharges A pipeline drainage system will serve the development area collecting surface runoff from paved areas, roof, etc. Sustainable drainage principle would be adopted in the drainage system design to minimize peak surface runoff, maximize permeable surface and maximize beneficial use of rainwater.	Within IWMF site / During the operational phase	IWMF Operator	✓		✓		WPCO	N/A
S5b.8.2.4	Oil interceptors should be provided in the drainage system of any potentially contaminated areas (such as truck parking area and maintenance workshop) and regularly cleaned to prevent the release of oil products into the storm water drainage system in case of accidental spillages. Accidental spillage should be cleaned up as soon as practicable and all waste oils and fuels should be collected and handled in	Within IWMF site / During the operational phase	IWMF Operator	✓		✓		WPCO; WDO	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	compliance with the Waste Disposal Ordinance.								
S5b.8.2.5	Refuse Entrapment Collection and removal of floating refuse should be performed at regular intervals for keeping the water within the Project site boundary and the neighboring water free from rubbish.	Within the Project site / During the operational phase	IWMF Operator			✓		WPCO	N/A
S5b.8.2.6	Transportation of bottom ash, fly ash and APC residues to WENT Landfill for disposal Covered container should be used in the shipping of the incineration waste to limit the contact between the incineration waste and the marine water. A comprehensive emergency response plan for any accidental spillage should be submitted by the operation contractor to the EPD for agreement before the operation of the facilities. Salvage and cleanup action to recover the spilled incineration waste containers following the spillage should be carried out according to the emergency response plan to mitigate the environmental impact in case of spillage.	Transportation of Incineration Ash / During the operational phase	IWMF Operator			✓			N/A

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table B.4 Implementation Schedule for Waste Management Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
6b.5.1.2	<u>Good Site Practices</u> Adverse environmental impacts in relation to waste management are not expected, provided that good site practices are strictly followed. Recommendations for good site practices during the construction activities would include: • Obtain relevant waste disposal permits from appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354) and subsidiary Regulations and the Land (Miscellaneous Provisions) Ordinance (Cap. 28); • Provide staff training for proper waste management and chemical handling procedures; • Provide sufficient waste disposal points and regular waste collection; • Provide appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; and • Carry out regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; • Separate chemical wastes for special handling and disposed of to licensed facility for treatment; and • Employ licensed waste collector to collect waste.	Work Site/ During Construction Period	Contractor		✓			WDO; LDO; ETWB TCW No. 19/2005; EIAO-TM	Deficiency of Mitigation Measures but rectified by the Contractor

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
6b.5.1.3	<u>Waste Reduction Measures</u> Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include: • Design foundation works that could minimize the amount of excavated material to be generated. • Provide training to workers on the importance of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling; • Sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc.); • Segregate and store different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; • Encourage the collection of aluminum cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force; • Proper storage and site practices to minimize the potential for damage or contamination of construction materials; and	Work Site/ During Design & Construction Period	Contractor	✓	✓				Implemented. N/A for demolition items

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Plan and stock construction materials carefully to minimize amount of waste to be generated and to avoid unnecessary generation of waste.								
6b.5.1.7	<u>Dredged Sediment – Application of Dumping Permit</u> The project proponent should agree in advance with MFC of CEDD on the site allocation. The project proponent or contractor for the dredging works shall then apply for the site allocations of marine sediment disposal based on the prior agreement with MFC/CEDD. The project proponent or contractor should also be responsible for the application of all necessary permits from relevant authorities, including the dumping permit as required under DASO from EPD, for the disposal of dredged sediment prior to the commencement of the dredging works.	Seawall and Reclamation site / Construction Period	EPD and its contractor	✓	✓			DASO ETWB TCW 34/2002	Implemented
6b.5.1.8	<u>Dredged Sediment – Sediment Quality Report</u> The project proponent or contractor will need to satisfy the appropriate authorities that the quality of the marine sediment to be dredged has been identified according to the requirements of ETWB TCW 34/2002. This should be completed well before the dredging works and would include at least the submission of a formal Sediment Quality Report under Tier I of ETWB TCW No. 34/2002 to DEP for approval. Subject to advice from DEP, it is possible that further marine SI in	Seawall and Reclamation site / Construction Period	EPD and its contractor	✓				DASO ETWB TCW 34/2002	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	accordance with ETWB TCW 34/2002 might be necessary for the application of dumping permit under DASO. In such case, a sediment sampling and testing proposal shall be submitted to and approved by DEP before the additional marine SI works.								
6b.5.1.9	Dredged Sediment – Sediment Transportation The barge transporting the sediments to the designated disposal sites should be equipped with tight fitting seals to prevent leakage and should not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP.	Seawall and Reclamation site / Construction Period	EPD and its contractor		✓			DASO ETWB TCW 34/2002	Implemented
6b.5.1.10	Construction and Demolition Materials In order to minimize the impact resulting from collection and transportation of C&D materials for off-site disposal, the excavated material arising from site formation and foundation works should be reused on-site as backfilling material and for landscaping works as far as practicable. Other mitigation requirements are listed below: • A Waste Management Plan (WMP), which becomes part of the Environmental Management Plan	Work Site/ During Design & Construction Period	Contractor	✓	✓			ETWB TCW No. 19/2005	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	(EMP), should be prepared in accordance with ETWB TCW No.19/2005; • A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be adopted for easy tracking; and • In order to monitor the disposal of C&D materials at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be adopted (refer to *ETWB TCW No. 31/2004*).								
6b.5.1.11 – 6b.5.1.12	The Contactor should prepare and implement an EMP in accordance with ETWB TCW No.19/2005, which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from construction activities. Such a management plan should incorporate site specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP should be submitted to the Engineer for approval. The Contractor should implement waste management practices in the EMP throughout the construction stage of the Project. The EMP should be reviewed regularly and updated by the Contractor, preferably on a monthly basis.	Work Site/ During Design & Construction Period	Contractor	✓	✓			ETWB TCW No. 19/2005	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	All surplus C&D materials arising from or in connection with construction works should become the property of the Contractor when it is removed unless otherwise stated. The Contractor would be responsible for devising a system to work for on-site sorting of C&D materials and promptly removing all sorted and process materials arising from the construction activities to minimize temporary stockpiling on-site. The system should be included in the EMP identifying the source of generation, estimated quantity, arrangement for on-site sorting, collection, temporary storage areas and frequency of collection by recycling Contractors or frequency of removal off-site.								
6b.5.1.13	Chemical Wastes Should chemical wastes be produced at the construction site, the Contractor would be required to register with EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste (such as explosive, flammable, oxidizing, irritant, toxic, harmful, or corrosive). The Contractor should employ a	Work Site/ During Construction Period	Contractor		✓			Waste Disposal (Chemical Waste) (General) Regulation	Implemented.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	licensed collector to transport and dispose of the chemical wastes, to either the Chemical Waste Treatment Centre at Tsing Yi, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.								
6b.5.1.14	General Refuse General refuse should be stored in enclosed bins or compaction units separate from C&D materials. A licensed waste collector should be employed by the Contractor to remove general refuse from the site, separately from C&D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	Work Site/ During Construction Period	Contractor		✓			Public Health and Municipal Services Ordinance	Deficiency of Mitigation Measures but rectified by the Contractor
6b.5.1.16 – 6b.5.1.33	Biogas Generation The Contractor shall review the data and analysis results, and the data from further Site Investigation, if any. Subject to the review findings, the following gas protection measures may be considered if necessary: - gas monitoring after reclamation; - passive ventilation; - gas impermeable membrane; - ventilation with "at risk" rooms; - protection of utilities or below ground services;	Reclamation site (if dredging at the reclamation site is not required) / Design & Construction Period	Designer and/or contractor	✓	✓			EPD/TR8/97	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	- precautions during construction works; - precautions prior to entry of belowground services								
6b.5.2.1	<u>Good Site Practices</u> It is recommended that the following good operational practices should be adopted to minimise waste management impacts: • Obtain the necessary waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354) and Waste Disposal (Chemical Waste) (General) Regulation; • Nomination of an approved person to be responsible for good site practice, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site; • Use of a waste haulier licensed to collect specific category of waste; • A trip-ticket system should be included as one of the contractual requirements and implemented by the Environmental Team to monitor the disposal of solid wastes at landfills, and to control fly tipping. Reference should be made to ETWB TCW No. 31/2004.	IWMF Site/During Operation Period	IWMF Operator			✓		Waste Disposal Ordinance (Cap.354); Waste Disposal (Chemical Waste) (General) Regulation; ETWB TCW No. 1/2004	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Training of site personnel in proper waste management and chemical waste handling procedures; • Separation of chemical wastes for special handling and appropriate treatment at a licensed facility; • Routine cleaning and maintenance programme for drainage systems, sumps and oil interceptors; • Provision of sufficient waste disposal points and regular collection for disposal; • Adoption of appropriate measures to minimize windblown litter and dust during transportation of waste, such as covering trucks or transporting wastes in enclosed containers; and • Implementation of a recording system for the amount of wastes generated, and disposed of (including recycled the disposal sites).								
6b.5.2.2	<u>Waste Reduction Measures</u> Good management and control can prevent the generation of significant amounts of waste. It is recommended that the following good operational practices should be adopted to ensure waste reduction: • Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;	IWMF Site/ During Operation Period	IWMF Operator			✓			Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Encourage collection of aluminum cans, plastic bottles and packaging material (e.g. carton boxes) and office paper by individual collectors. Separate labelled bins should be provided to help segregate this waste from other general refuse generated by the work force; and • Any unused chemicals or those with remaining functional capacity should be reused as far as practicable.								
6b.5.2.3	Storage, Handling, Treatment, Collection and Disposal of Incineration By-Products The following measures are recommended for the storage, handling and collection of the incineration by-products: • Ash should be stored in storage silos; • Ash should be handled and conveyed in closed systems fully segregatedfrom the ambient environment; • Ash should be wetted with water to control fugitive dust, where necessary; • All fly ash and APC residues should be treated, e.g. by cement solidification or chemical stabilization, for compliance with the proposed Incineration Residue Pollution Control Limits and leachability criteria prior to disposal;	IWMF Site/ During Operation Period	IWMF Operator			✓		Incineration Residue Pollution Control Limits	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• The ash should be transported in covered trucks or containers to the designated landfill site. The Contractor should provide EPD with chemical analysis results of the bottom ash, and treated fly ash and APC residues to confirm that the ash/residue can comply with the proposed Incineration Residue Pollution Control Limits before disposal.								
6b.6.3.1	<u>Fuel Oil Tank Construction and Test</u> • The fuel tank to be installed should be of specified durability. • Double skin tanks are preferred. • Underground fuel storage tank should be placed within a concrete pit. • The concrete pit shall be accessible to allow regular tank integrity tests to be carried out at regular intervals. • Tank integrity tests should be conducted by an independent qualified surveyor or structural engineer. • Any potential problems identified in the test should be rectified as soon as possible.	Fuel Oil Storage Tank/ During Design, Construction and Operation Periods	IWMF Contractor	✓	✓	✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
6b.6.3.1	<u>Fuel Oil Pipeline Construction and Test</u> • Installation of aboveground fuel oil pipelines is preferable; if underground pipelines are unavoidable, concrete lined trenches should be constructed to contain the pipelines. • Double skin pipelines are preferred. • Distance between the fuel oil refuelling points and the fuel oil storage tank shall be minimized. • Integrity tests for the pipelines should be conducted by an independent qualified surveyor or structural engineer at regular intervals. • Any potential problems identified in the test should be rectified as soon as possible.	Fuel Oil Pipelines/ During Design, Construction and Operation Periods	IWMF Contractor	✓	✓	✓			N/A
6b.6.3.1	<u>Fuel Oil Leakage Detection</u> • Installation of leak detection device at storage tank and pipelines. • Installation and use of pressure gauges (e.g. at the two ends of a filling line) in fuel filling, which allows unexpected pressure drop or difference and sign of leakage to be detected.	Fuel Oil Storage Tank and Pipelines/ During Design, Construction and Operation Periods	IWMF Contractor	✓	✓	✓			N/A
6b.6.3.1	<u>Fuel Oil Storage Tank Refuelling</u>	Fuel Oil Refuelling Point/	IWMF Operator			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Storage tank refuelling (from road tanker) should only be conducted by authorized staff of the oil company using the company's standard procedures.	During Operation Period							
6b.6.3.1	<u>Fuel Oil Spillage Response</u> An Oil Spill Response Plan should be prepared by the operator to document the appropriate response procedures for oil spillage incidents in detail. General procedures to be taken in case of fuel oil spillage are presented below. • Training - Training on oil spill response actions should be given to relevant staff. The training shall cover the followings: ➢Tools & resources to combat oil spillage and fire, e.g. locations of oil spill handling equipment and fire fighting equipment; ➢General methods to deal with oil spillage and fire incidents; ➢Procedures for emergency drills in the event of oil spills and fire; and ➢Regular drills shall be carried out. • Communication -Establish communication channel with the Fire Services Department (FSD) and EPD to report any oil spillage incident	IWMF Site/ During Operation Period	IWMF Operator			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	so that necessary assistance from relevant department can be quickly sought. • Response Procedures -Any fuel oil spillage within the IWMF site should be immediately reported to the Plant Manager with necessary details including location, source, possible cause and extent of the spillage. -Plant Manager should immediately attend to the spillage and initiate any appropriate action to confine and clean up the spillage. The response procedures shall include the following: ➢Identify and isolate the source of spillage as soon as possible. ➢Contain the oil spillage and avoid infiltration into soil/ groundwater and discharge to storm water channels. ➢Remove the oil spillage. ➢Clean up the contaminated area. ➢If the oil spillage occurs during storage tank refuelling, the refueling operation should immediately be stopped. ➢Recovered contaminated fuel oil and the associated material to remove the spilled oil should be considered as chemical waste. The handling and disposal								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	procedures for chemical wastes are discussed in the following paragraphs.								
6b.6.3.2	<u>Chemicals and Chemical Wastes Handling & Storage</u> • Chemicals and chemical wastes should only be stored in suitable containers in purpose-built areas. • The storage of chemical wastes should comply with the requirements of the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. • The storage areas for chemicals and chemical wastes shall have an impermeable floor or surface. The impermeable floor/ surface shall possess the following properties: - Not liable to chemically react with the materials and their containers to be stored. - Able to withstand normal loading and physical damage caused by container handling - The integrity and condition of the impermeable floor or surface should be inspected at regular intervals to ensure that it is satisfactorily maintained ➢ For liquid chemicals and chemical wastes storage, the	Chemicals and Chemical Wastes Storage Area / During Operation Period	IWMF Operator			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	storage area should be bunded to contain at least 110% of the storage capacity of the largest containers or 20% of the total quantity of the chemicals/chemical wastes stored, whichever is the greater. ➢ Storage containers shall be checked at regular intervals for their structural integrity and to ensure that the caps or fill points are tightly closed. ➢ Chemical handling shall be conducted by trained workers under supervision.								
6b.6.3.2	<u>Chemicals and Chemical Wastes Spillage Response</u> A Chemicals and/ or Chemical Wastes Spillage Response Plan shall be prepared by the operator to document in detail the appropriate response procedures for chemicals or chemical wastes spillage incidents. General procedures to be undertaken in case of chemicals/ chemical waste spillages are presented below. • Training - Training on spill response actions should be given to relevant staff. The training shall cover the followings:	IWMF Site/ During Operation Period	IWMF Operator			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	➢ Tools & resources to handle spillage, e.g. locations of spill handling equipment; ➢ General methods to deal with spillage; and ➢ Procedures for emergency drills in the event of spills. • Communication - Establish communication channel with FSD and EPD to report the spillage incident so that necessary assistance from relevant department can be quickly sought. • Response Procedures - Any spillage within the IWMF site should be reported to the Plant Manager. - Plant Manager shall attend to the spillage and initiate any appropriate actions needed to confine and clean up the spillage. The response procedures shall include the followings: ➢ Identify and isolate the source of spillage as soon as possible; ➢ Contain the spillage and avoid infiltration into soil/								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	groundwater and discharge to storm water channels (in case the spillage occurs at locations out of the designated storage areas); ➢ Remove the spillage; the removal method/ procedures documented in the Material Safety Data Sheet (MSDS) of the chemicals spilled should be observed; ➢ Clean up the contaminated area (in case the spillage occurs at locationsout of the designated storage areas); and ➢ The waste arising from the cleanup operation should be considered as chemical wastes.								
6b.6.3.3	<u>Preventive Measures for Incineration By-products Handling</u> The recommended measures listed below can minimize the potential contamination to the surrounding environment due to the incineration by-products: • Ash should be stored in storage silos; • Ash should be handled and conveyed in closed systems fully segregated	Storage, Handling & Collection of Incineration Ash at IWMF/ During Operation Period	IWMF Operator			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	from the ambient environment; • Ash should be wetted with water to control fugitive dust, where necessary; • All fly ash and APC residues should be treated, e.g. by cement solidification or chemical stabilization, for compliance with the proposed Incineration Residue Pollution Control Limits and leachability criteria prior to disposal; • The ash should be transported in covered trucks or containers to the designated landfill site.								
6b.6.3.4 -6b.6.3.6	Incident Record After any spillage, an incident report should be prepared by the Plant Manager. The incident report should contain details of the incident including the cause of the incident, the material spilled and estimated spillage amount, and also the response actions undertaken. The incident record should be kept carefully and able to be retrieved when necessary. The incident report should provide sufficient details for the evaluation of any environmental impacts due to the spillage and assessment of the effectiveness of measures taken.	IWMF Site/ During Operation Period	IWMF Operator			✓		Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management and the Guidance Note for Contaminated Land and Remediation.	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	In case any spillage or accidents results in significant land contamination, EPD should be informed immediately and the IWMF operator should be responsible for the cleanup of the affected area. The responses procedures described in **Section 6b.6.3.1** and **Section 6b.6.3.2** of EIA report should be followed accordingly together with the land contamination assessment and remediation guidelines stipulated in the *Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management and the Guidance Note for Contaminated Land and Remediation.*								

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table B.5 Implementation Schedule for Ecological Quality Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
7b.8.2.1	<u>Measures to avoid direct loss of intertidal habitat</u> • The site boundary has been proposed to avoid direct contact with the intertidal natural rocky shore of Shek Kwu Chau. It avoids direct loss of intertidal communities and the existing natural rocky shore habitat, where Reef Egret and White-bellied Sea Eagle have been recorded within and in the vicinity of this habitat.	IWMF site	Design team	✓				EIAO-TM	N/A
7b.8.2.2	<u>Measures to minimise loss of coastal subtidal habitat</u> • Extensive coral colonies were recorded at the coastal hard bottom habitat at Shek Kwu Chau. To avoid and minimise the extensive direct impact on the coral colonies, the proposed reclamation area has been moved further offshore to minimise loss of subtial habitat near shore.	IWMF site	Design team	✓				EIAO-TM	N/A
7b.8.2.3	<u>Zero Discharge Scheme</u> • The design scheme of the Project has avoided discharge of wastewater into the marine environment. A zero discharge scheme would be adopted during the operation of the Project. An on-site wastewater treatment plant would be	IWMF site	Design team, IWMF operator	✓		✓		WPCO	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	provided to treat the wastewater generated from the IWMF (mainly human sewage). The treated effluent would be re-used in the incineration plant and mechanical treatment plant, or for onsite washdown and landscape.								
7b.8.2.4	<u>Measures to avoid loss of plant species of conservation importance</u> • Landing portal construction works would not cause direct lost to the recorded individual of protected plant species, • *Aquilaria sinensis*, at the coastal shrubland habitat at Cheung Sha. As a precautionary measure, the plant should be tagged with eye-catching tape and fenced off prior to works, in order to avoid any damage by workers.	Cheung Sha landing portal	Design team, Contractor	✓	✓		✓	EIAO-TM	N/A
7b.8.3.1 - 7b.8.3.15	<u>Measures to minimise water quality impact</u> • Measures for water quality as recommended in **Section 5b** of the EIA Report should be implemented.	Work site	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM; ProPECC PN 1/94; WPCO	Implemented
7b.8.3.16 - 7b.8.3.30	<u>Measures to minimise disturbance on Finless Porpoise</u> *Minimisation of Habitat Loss for Finless Porpoise*	IWMF site, work site, marine traffic route	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM, Supporting Document for Application for Variation of the Environmental	Implemented for avoidance of construction works that may produce underwater acoustic disturbance, Vessel Travel Route implementation, training of staff; N/A for others

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Substantial revision has been made on the layout plan and form of the breakwater, in order to minimise the potential loss of important habitat for Finless Porpoise. The revision has greatly reduced the size of the embayment area, as well as the Project footprint. As a result, the size of habitat loss for Finless Porpoise has reduced from the original ~50 ha, down to ~31 ha. *Avoidance of peak season for finless porpoise occurrence* • To minimise potential acoustic disturbance from construction activities on Finless Porpoise, construction works that may produce underwater acoustic disturbance should be scheduled outside the months with peak Finless Porpoise occurrence (December to May), including: - sheet piling works for construction of cofferdam surrounding the reclamation area (Phase 1); - sheet piling works for construction of the shorter section of breakwater (Phase 1);							Permit (EP-429/2012)	

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	- sheet piling works for construction of the remaining section of breakwater (Phase 3) and - bored piling works for berth area (Phase 3) Such works should be restricted within June to November. This approach would not only avoid the peak season for Finless Porpoise occurrence, the magnitude of impacts arise from acoustic disturbance would also be minimised. • Since the DCM ground treatment and the installation of precast seawalls and breakwaters should generate no underwater acoustic disturbance to Finless Porpoise, no specific mitigation measures are required. *Opt for quieter construction methods and plants* • Considering the sensitivity of marine mammals to underwater acoustic disturbance, instead of the previously proposed conventional breakwater and reclamation peripheral structure, which requires noisy piling works, the current circular cells structure for								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	breakwater and reclamation peripheral structure is proposed. A quieter sheet piling method using vibratory hammer or hydraulic impact hammer, should be adopted for the installation of circular cells for cellular cofferdam and northern breakwater during Phase 1, and southern breakwater Phase 3; • Non-percussive bore piling method would be adopted for the installation of tubular piles for the berth construction during Phase 3. *Monitored exclusion zones* • During the installation/re-installation/relocation process of floating type silt curtains, in order to avoid the accidental entrance and entrapment of marine mammals within the silt curtains, a monitored exclusion zone of 250 m radius from silt curtain should be implemented. The exclusion zone should be closely monitored by an experienced marine mammal observer at least 30 minutes before the start of installation/re-installation/relocation process. If a marine mammal is noted within the exclusion zone, all marine works should stop immediately and remain idle for 30 minutes, or until the								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	exclusion zone is free from marine mammals. • The experienced marine mammal observer should be well trained to detect marine mammals. Binoculars should be used to search the exclusion zone from an elevated platform with unobstructed visibility. The observer should also be independent from the project proponent and has the power to call-off construction activities. • In addition, as marine mammals cannot be effectively monitored within the proposed monitored exclusion zone at night, or during adverse weather conditions (i.e. Beaufort 5 or above, visibility of 300 meters or below), marine works should be avoided under weather conditions with low visibility. *Marine mammal watching plan* • Upon the completion of the installation/re-installation/relocation of floating type silt curtain, all marine works would be conducted within a fully enclosed environment within the silt curtain, hence exclusion zone monitoring would no longer								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	be required. Subsequently, a marine mammal watching plan should be implemented. The plan should include regular inspection of silt curtains, and visual inspection of the waters surrounded by the curtains. Special attention should be paid to Phase 2 (reclamation) where the floating type still curtain would be opened occasionally for vessel access, leaving a temporary 50 m opening. An action plan should be devised to cope with any unpredicted incidents such as the case when marine mammals are found within the waters surrounded by the silt curtains. *Small openings at silt curtains* • The openings for vessel access at the silt curtains should be as small as possible to minimise the risk of accidental entrance. *Adoption of regular travel route* • During construction and operation, captains of all vessels should adopt regular travel route, in order to minimize the chance of vessel collision with								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	marine mammals, which may otherwise result in damage to health or mortality. The regular travel route should avoid areas with high sighting density of Finless Porpoise as much as possible. *Vessel speed limit* • The frequent vessel traffic in the vicinity of works area may increase the chance of mammal mammals being killed or seriously injured by vessel collision. A speed limit of ten knots should be strictly enforced within areas with high density of Finless Porpoise. • Passive acoustic monitoring and land-based theodolite monitoring surveys should be adopted to verify the predicted impacts and effectiveness of the proposed mitigation measures. *Training of Staff* • Staff, including captains of vessels, should be aware of the guidelines for safe vessel operations in the presence of cetaceans during construction and operation phases. Adequate trainings should be provided								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
7b.8.3.31 - 7b.8.3.34	<u>Measures to minimise impact on corals</u> *Coral translocation* • Coral communities within and in proximity to the proposed dredging sites would be disturbed by the Project due to the dredging operations. In order to minimise direct loss of coral communities, translocation of corals that are attached to movable rocks with diameter less than 50 cm are recommended. In order to avoid disturbance to corals during the spawning period, the spawning season of corals (June to August) should be avoided; and that translocation should be carried out during the winter season (November- March). • The REA survey results suggest that the 198 directly affected coral colonies were attached to movable rocks (less than 50 cm in diameter). It is technically feasible to translocate them to avoid direct loss. • Prior to coral translocation, a more detailed baseline survey, including a coral mapping survey, is recommended to further confirm the	IWMF site	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM	Implemented, tagged coral found missing after hitting by typhoons Re-tagging of 10 coral colonies at indirect impact site and control site were conducted in November and December 2018 respectively.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	exact number and location of coral colonies within the potentially affected area. A more detailed coral translocation plan, including selection of suitable recipient site, plan for coral translocation, and event / action plan for coral monitoring should be submitted upon approval of this Project, prior to commencement of construction works. Advice from relevant governmental departments (i.e. AFCD) and professionals would be sought after, in order to identify a desirable location for the relocation of coral communities. Post-translocation monitoring on the translocated corals should also be considered. *Coral monitoring programme* • A coral monitoring programme is recommended to assess any adverse and unacceptable impacts to the coral communities at the coasts of Shek Kwu Chau during construction of the Project. *Phasing of Works* • To minimize environmental impacts, the proposed phasing of construction works has been carefully designed to								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	reduce the amount of concurrent works, hence minimize SS elevation and the associated impacts on corals.								
7b.8.3.35 - 7b.8.3.41	Specific measures to minimize disturbance on breeding White-bellied Sea Eagle *Avoidance of noisy works during the breeding season of White-bellied Sea Eagle* • To minimize potential noise disturbance from construction activities on WBSE, noisy construction works should be scheduled outside their breeding season (December to May) to minimise potential degradation in breeding ground quality and breeding activities, including: - sheet piling works for construction of cofferdam surrounding the reclamation area (Phase 1); - sheet piling works for construction of the shorter section of breakwater (Phase 1); - sheet piling works for construction of the remaining section of breakwater (Phase 3); and - bored piling works for berth area (Phase 3).	IWMF site, marine traffic route	Design Team, Contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	Opt for quieter construction methods and plants • To minimise potential construction noise disturbance on WBSE, quieter construction methods and plants should be adopted. The recommended noise mitigation measures in the **Noise** chapter (**Section 4b.8** of the EIA Report) should be implemented to minimise potential noise disturbance to acceptable levels. *Restriction on vessel access near the nest of White-bellied Sea Eagle* • During construction and operation, in order to minimize disturbance on the existing WBSE nest, a pre-defined practical route to restrict vessel access near the nest should be adopted to keep vessels and boats as far away from the nest as possible. *White-bellied Sea Eagle monitoring programme* • A WBSE monitoring programme is recommended to assess any adverse and unacceptable impacts to the breeding activities of WBSE during construction and operation of the								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	Project. Monitoring surveys for WBSE would include pre-construction phase (twice per month for duration of three months during their breeding season -between December and May, immediately before the commencement of works), construction phase, and operation phase (two years after the completion of construction works). • Surveys should be conducted twice per month during their breeding season (from December to May); and once per month outside breeding season (June to November). More details on monitoring for WBSE are presented in the EM&A Manual. *Education of staff* • Staff, including captains of all vessels during construction and operation phases, should be aware of the ecological importance of WBSE. Awareness should be raised among staff to minimise any intentional or unintentional disturbance to the nest. *Minimisation of Glare Disturbance*								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• To minimise glare disturbance on WBSE, which may cause disorientation of birds by interfering with their magnetic compass, and disruption in behavioural patterns such as reproduction, fat storage and foraging pattern, any un-necessary outdoor lighting should be avoided, and in-ward and down-ward pointing of lights should be adopted.								
-	Construction of Seawall/Breakwaters • To widen the open channel between the Artificial Island and Shek Kwu Chau. • To design the precast concrete seawall with environmental friendly features.	IWMF site	Design team, contractor, IWMF operator	✓	✓			Supporting Document for Application for Variation of Environmental Permit (EP-429/2012)	N/A
7b.8.3.42	Opt for Quieter Construction Methods and Plants • Quieter construction methods and plants should be used to minimise disturbance to the nearby terrestrial habitat and the associated wildlife.	Work site	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM	Implemented
7b.8.3.43	Measures to minimize impacts from artificial lighting • Unnecessary lighting should be avoided, and shielding of lights should be provided to minimize disturbance from light pollution on fauna groups.	IWMF site	Design team, contractor, IWMF operator	✓	✓	✓		EIAO-TM	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
7b.8.3.44 - 7b.8.3.45	<u>Measures to minimize accidental spillage</u> • Regular maintenance of vessels, vehicles and equipment that may cause leakage and spillage should only be undertaken within pre-designated areas, which are appropriately equipped to control the associated discharges. • Oils, fuels and chemicals should be contained in suitable containers, and only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas should be sited on sealed areas in order to prevent spillage of fuels and solvents to the nearby watercourses. All waste oils and fuels should be collected in designated tanks prior to disposal.	Work site	Contractor, IWMF operator		✓	✓	✓	EIAO-TM	Deficiency of Mitigation Measures but rectified by the Contractor.
7b.8.3.46	<u>Measures to minimise sewage effluent</u> • Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce.	Work site	Contractor		✓			EIAO-TM	N/A
7b.8.3.47	<u>Measures to minimise drainage and construction runoff</u>	Work site	Contractor		✓		✓	EIAO-TM	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Potential ecological impacts resulted from potential degradation of water quality due to unmitigated surface runoff could be minimised via the detailed mitigation measures in **Section 5b.8** of the EIA Report. The following presents some of the mitigation measures: - On-site drainage system with implemented sedimentation control facilities. - Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. - Provision of embankment at boundaries of earthworks for flood protection. - Water pumped out from foundation piles must be discharged into silt removal facilities. - During rainstorms, exposed slope/soil surfaces should be covered by tarpaulin or other means, as far as practicable. - Exposed soil surface should be minimized to reduce siltation and runoff. - Earthwork final surfaces should be well compacted. Subsequent permanent surface protection should be immediately performed.								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	- Open stockpiles of construction materials, and construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms.								
7b.8.3.48	Measures to minimise impacts from general construction activities • To avoid the entering of construction solid waste into the nearby habitats, construction solid waste should be collected, handled and disposed of properly to avoid entering to the nearby habitats. It is recommended to clean the construction sites on a regular basis.	Work site	Contractor		✓			EIAO-TM	Implemented
7b.8.3.49	Pest Control Good waste management practices should be adopted at the IWMF in order to minimise the risk of introduction of pest to the island: - Transportation of wastes in enclosed containers - Waste storage area should be well maintained and cleaned - Waste should only be disposed of at designated areas - Timely removal of the newly arrived waste - Removal of items that are capable of retaining water	IWMF site	IWMF operator			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	- Rapid clean up of any waste spillages - Maintenance of a tidy and clean site environment - Regular application of pest control - Education of staff the importance of site cleanliness								
7b.8.3.50	<u>Control of Marine Habitat Quality during Operation Phase</u> • Depending on the seabed condition of the approach channel for marine vessels during operation phase of the IWMF, maintenance dredging may be required to ensure safe access. In order to avoid degradation in water quality due to elevation in SS and dispersion of sediment plume due to dredging works, it is recommended that any future maintenance dredging works should not be carried out within 100 m from the shore, similar to that of the dredging for anti-scouring protection layer during construction phase. All maintenance dredging works should be carried out with the implementation of silt curtain to control the dispersion of SS. The production rate should comply with the permit dredging rate and number of grab per hour.	IWMF site	IWMF operator			✓		EIAO-TM; WPCO	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
7b.8.4.1 – 7b.8.4.8	<u>Compensation of loss of important habitat of Finless Porpoise</u> *Designation of Marine Park* • The Project Proponent has made a firm commitment to seek to designate a marine park of approximately 700 ha in the waters between Soko Islands and Shek Kwu Chau, in accordance with the statutory process stipulated in the Marine Parks Ordinance, as a compensation measure for the habitat loss arising from the construction of the IWMF at the artificial island near SKC. • The Project Proponent shall seek to complete the designation by 2018 to tie in with the operation of the IWMF at the artificial island near SKC. • A further study should be carried out to review relevant previous studies and collate available information on the ecological characters of the proposed area for marine park designation; and review available survey data for Finless Porpoise, water quality, fisheries, marine traffic and planned development projects in the vicinity. Based on the findings, ecological profiles of the proposed area for	Waters between Shek Kwu Chau and Soko Islands	Project Proponent	✓		✓		EIAO-TM	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	marine park designation should be established, and the extent and location of the proposed marine park be determined. The adequacy of enhancement measures should also be reviewed. • In addition, a management plan for the proposed marine park should be proposed, covering information on the responsible departments for operation and management (O&M) of the marine park, as well as the O&M duties of each of the departments involved. Consultation with relevant government departments and stakeholders should be conducted under the study. The study should be submitted to Director of Environmental Protection (DEP) for approval before the commencement of construction works. • The Project Proponent should provide assistance to AFCD during the process of the marine park designation. .								
7b.8.5.1 – 7b.8.5.4	<u>Additional Enhancement or Precautionary Measures</u> *Deployment of Artificial Reefs* • Deployment of artificial reefs (ARs) is an enhancement measure for the	Within the proposed marine park under this study	Project Proponent	✓		✓		EIAO-TM	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	marine habitats. ARs are proposed to be deployed within the proposed marine park under this Project. The exact location, dimension and type of ARs to be deployed are to be further investigated along with the further study of the proposed marine park under this Project. The proposed ARs would be deployed at the same time as the complete designation of marine park. *Release of Fish Fry at Artificial Reefs and Marine Park* • Release of fish fry at the proposed ARs, as well as the proposed marine park under this study, should enhance the fish resources in the nearby waters, and subsequently food sources for Finless Porpoise. The proposed ARs with various micro-habitats would have the potential to provide shelter and nursery ground for the released fish fry. The frequency and quantity of fry to be released should be agreed by AFCD.								

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table B.6 Implementation Schedule for Fisheries Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
8b.8.1.2	Measure to minimize loss of and disturbance on fisheries resources • Alteration to the phasing of works, construction method, and layout plan of the IWMF at the artificial island near SKC has been made. The total fishing ground to be permanently lost due to the project has been significantly reduced from ~50 ha to ~31 ha. By adopting the current circular cells instead of the conventional seawall construction method, SS elevation would be greatly reduced, minimizing adverse impact on the health of fisheries resources.	IWMF site	Design team, contractor	✓	✓		✓	EIAO-TM	N/A
8b.8.1.3	Measure to minimize impingement and entrainment • Provision of a screen at the water intake point for desalination plant would be essential to minimize the risk of impingement and entrainment of fisheries resources (including fish, larvae and egg) through the intake point.	IWMF site	Design team, contractor, IWMF operator	✓	✓	✓		EIAO-TM	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
8b.8.1.4-8b.8.1.6	<u>Measures to control water quality</u> • No wastewater effluent, anti-fouling agent, heavy metals and other contaminants would be released during operation phase of the Project. • Mitigation measures recommended in the water quality impact assessment during construction and operation would serve to protect fisheries resources from indirect impacts resulted from the Project	Work site, IWMF site	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM	Implemented
8b.8.1.7 – 8b.8.1.8	<u>Additional Enhancement / Precautionary Measures</u> • Artificial Reefs (ARs) are proposed to be deployed within the proposed marine park under this Project as an enhancement measure for the marine habitats. This enhancement feature would bring positive impacts to the previously identified important spawning and nursery ground for fisheries resources. *Release of Fish Fry at Artificial Reefs* • Release of fish fry has been proposed under this Project. The proposed deployment of ARs within the proposed marine park would provide shelter and nursery ground for the released fish fry. The frequency and quantity of fry to be released should be agreed by AFCD.	Within the proposed marine park in the waters between Soko Islands and Shek Kwu Chau	Project Proponent	✓		✓		EIAO-TM	N/A

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table B.7 Implementation Schedule for Landscape and Visual Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S10b.10 MLVC- 01	Grass-hydroseeded bare soil surface and stock pile area	Work site / During construction phase	Contractor		✓				N/A
S10b.10 MLVC-02	<u>Landscape Design</u> 1) Early planting using fast grow trees and tall shrubs at strategic locations within site as buffer to block view corridors to the site from the VSRs, and to locally screen haul roads, excavation works and site preparation works. 2) Use of tree species of dense tree crown to serve as visual barrier. 3) Hard and soft landscape treatment (e.g. trees and shrubs) of open areas within development to provide a background for the outdoor containers from open view, shade and shelter, and a green appearance from surrounding viewpoints. 4) Planting strip along the periphery of the project site. 5) Selected tree species suitable for the coastal condition.	Work site / During design & construction phases	Contractor	✓	✓				N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S10b.10 MLVC-03	<u>Adoption of Natural Features of the Existing Shoreline</u> 1) Use of boulders in different sizes and with the similar textures of the existing rocky shores for the construction of breakwater and artificial shoreline in order to blend into the existing natural shoreline. 2) Use of cellular cofferdam together with the natural boulders to form a curvature shoreline for the reclamation area to echo with the natural shoreline of SKC.	Work site / During construction phase	Contractor		✓				N/A
S10b.10 MLVC-04	<u>Greening Design (Rooftop & Vertical Greening)</u> 1) Implementation of rooftop and vertical greening (vertical building envelope) along the periphery of each building block to increase the amenity value of the work, moderate temperature extremes and enhance building energy performance. The greening appearance of the building shall enhance its visual harmony with the natural surroundings as well as reduce the apparent visual mass of the structure. 2) Sufficient space between concrete enclosure and stack to minimize heat transfer. 3) Introduction of landscape decks at the stack to further enhance the overall natural and green concept unique for this site.	Work site / During design & construction phases	Contractor	✓	✓				N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S10b.10 MVC-01	<u>Visual Mitigation and Aesthetic Design</u> 1) Use of natural materials with recessive color to minimize the bulkiness of the building. 2) Adoption of innovative aesthetic design to the chimney to minimize or visually mitigate the massing of the chimney so as to reduce its visual impact to the surroundings. 3) Color of the chimney in a gradual changing manner to match with the color of the sky. 4) Provision of observation deck for public enjoyment at the top of the chimney to diminish the feeling of chimney. 5) Provision of sky gardens between the two stacks to allow additional greening for enhancing the aesthetic quality. Maintenance access (elevator and staircase) from the ground floor to the sky gardens will be provided to allow maintenance of the sky gardens. 6) Integration of the visitor's walkway with different material façade design of incinerator plant to enhance the aesthetic quality.	Structures in IWMF / During design & constructio n phases	Contractor	✓	✓				N/A
S10b.10 MVC-02	Control of the security floodlight for construction areas at night to avoid excessive glare to the surrounding receiver.	Work site / During construction phase	Contractor		✓				Implemented

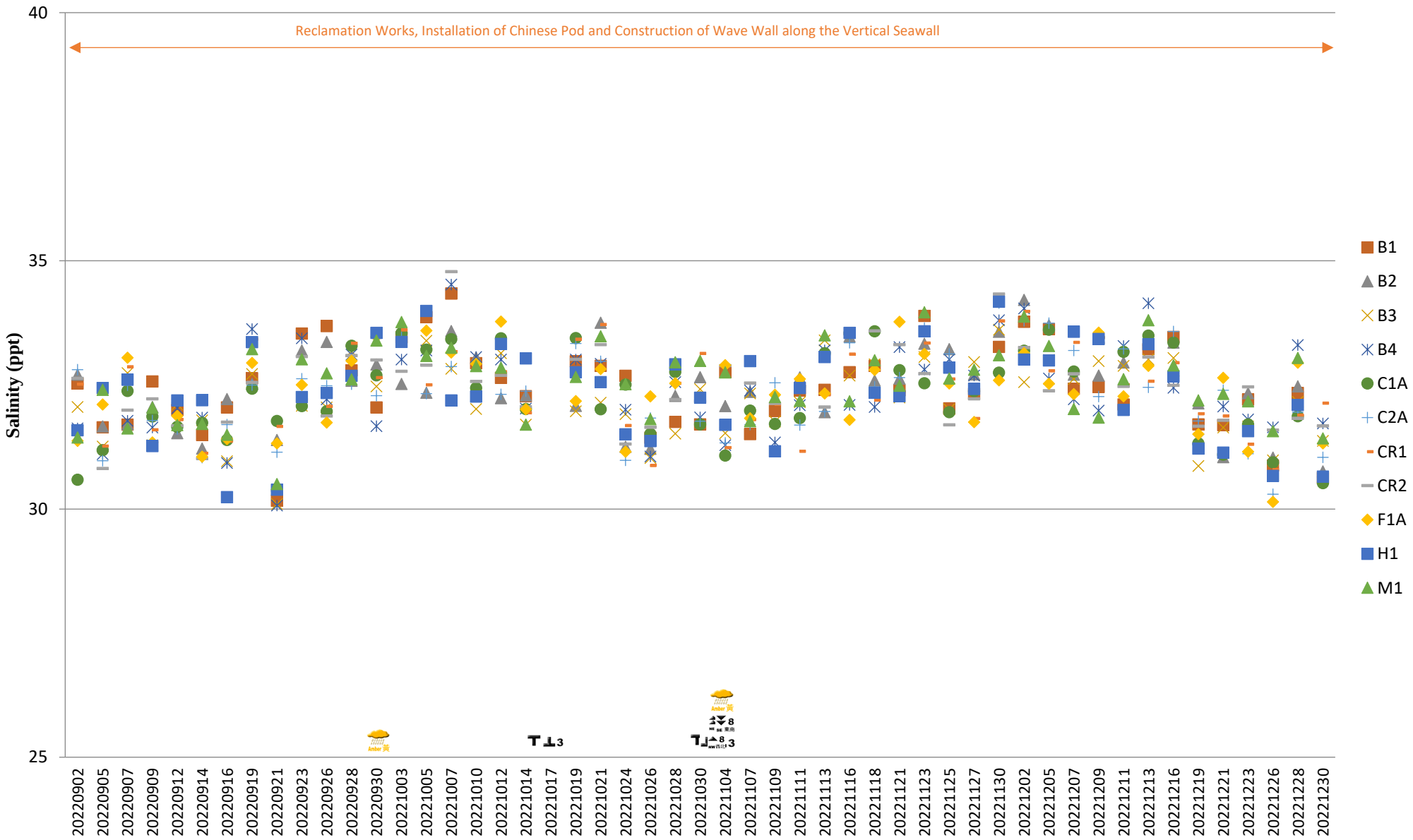
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S10b.10 MVC-03	Optimization of the construction sequence and construction programme to minimize the duration of impact.	Work site / During design & construction phases	Contractor	✓	✓				Implemented
S10b.10 MVC-04	Storage of the backfilling materials for site formation & construction materials / wastes on site at a maximum height of 2m, covered with an impermeable material of visually un-obtrusive material (in earth tone).	Work site / During construction phase	Contractor		✓				N/A
S10b.10 MVC-05	Reduction of the number of construction traffic at the site to practical minimum.	Work site / During construction phase	Contractor		✓				Implemented
S10b.10 MLVO-01	<u>Planting Maintenance</u> Provision of proper planting maintenance and replacement of defective plant species on the new planting areas to enhance aesthetic and landscape quality.	Project site / During Operation phase	Contractor			✓			N/A
S10b.10 MVO-01	<u>Environmental Education Centre</u> Development of an Environmental Education Center, in which regular exhibitions and lectures to promote environmental awareness and waste reduction concept would be provided, as a part of the IWMF for the general public to alleviate negative public perceptions of the development.	Project site / During Operation phase	Contractor			✓			N/A
S10b.10 MVO-02	<u>Control of Light</u> Control the numbers of lights and their intensity to a level that is good enough to meet the safety requirements at night but not excessive.	Project site / During Operation phase	Contractor			✓			N/A

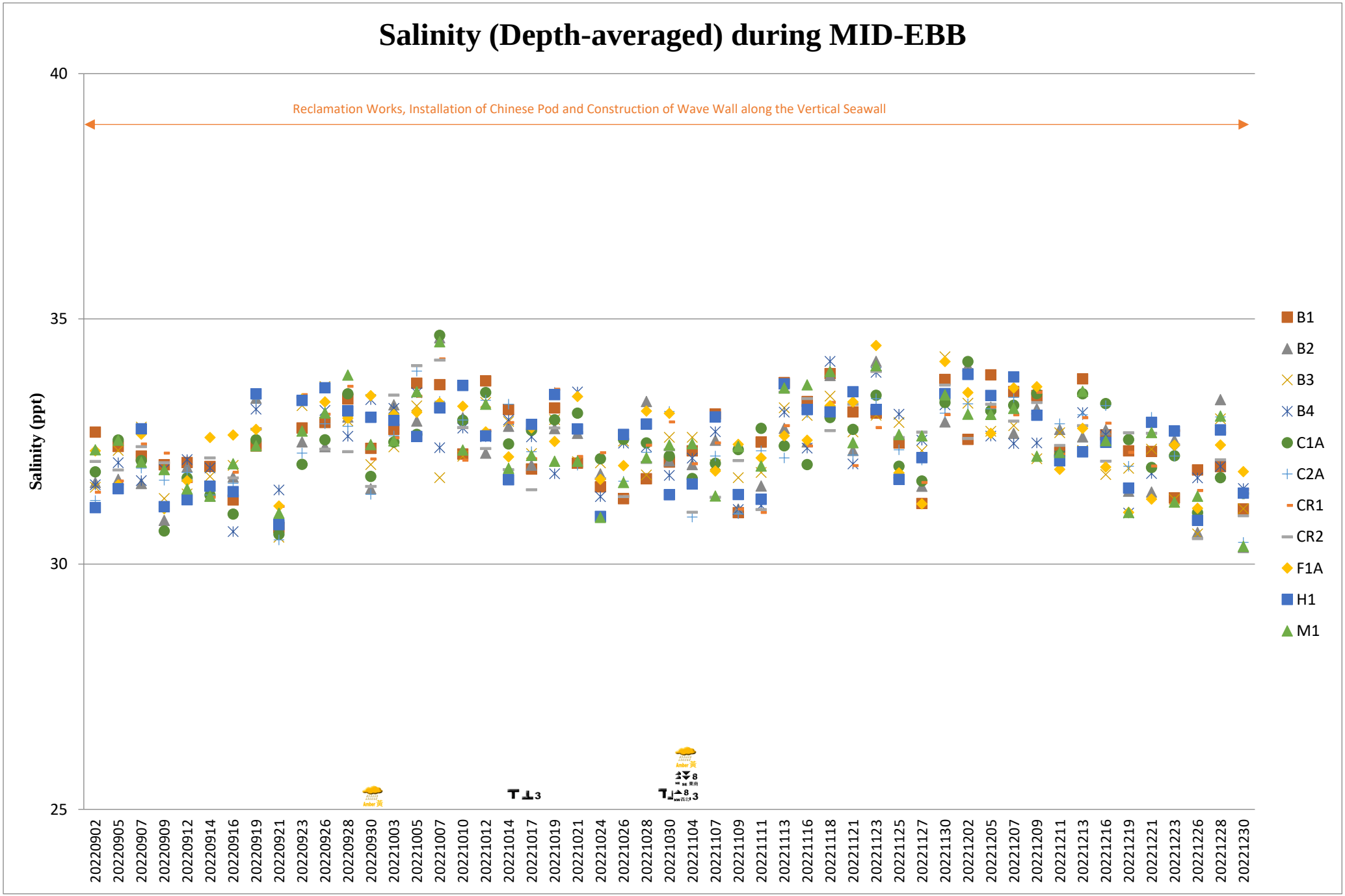
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S10b.10 MVO-03	<u>Control of Operation Time</u> Minimization of the frequency of waste transportation to practical minimum (e.g. limit the reception of MSW from 8 am to 8 pm)	Project site / During Operation phase	Contractor			✓			N/A

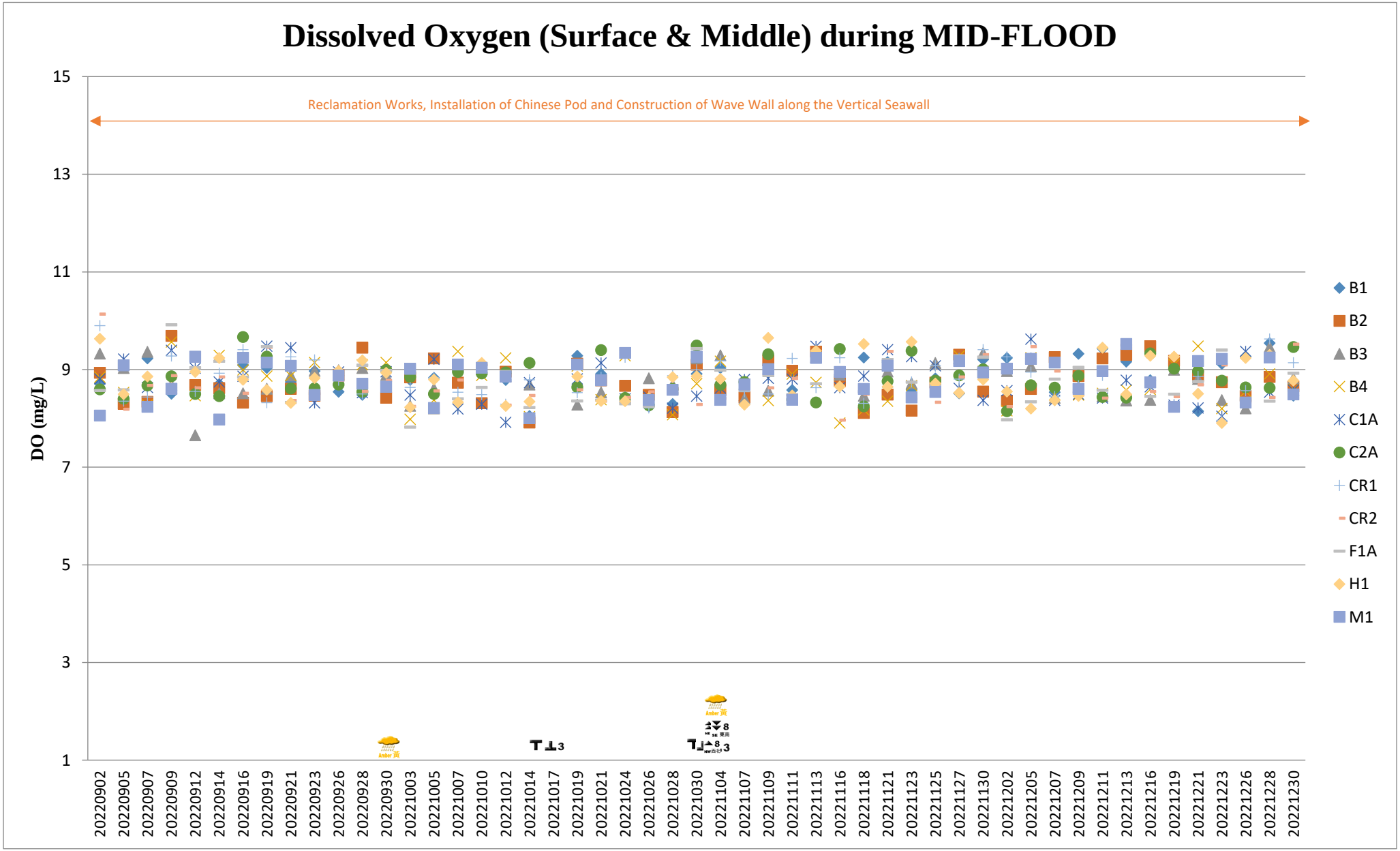
* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Appendix C Water Quality Monitoring Data Trending

Salinity (Depth-averaged) during MID-FLOOD

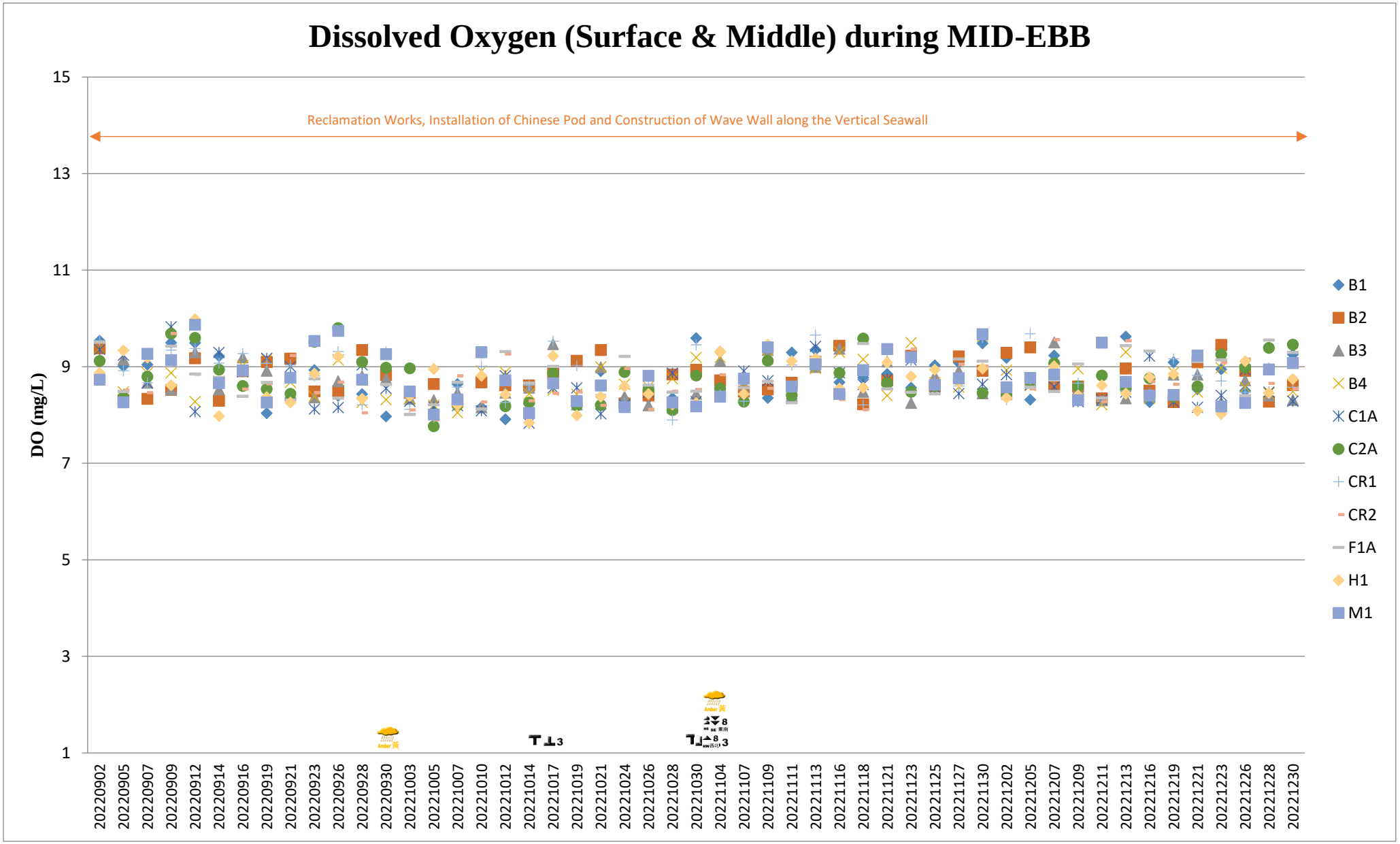



Salinity (Depth-averaged) during MID-EBB
Reclamation Works, Installation of Chinese Pod and Construction of Wave Wall along the Vertical Seawall
Salinity (ppt)
40
35
30
25
B1
B2
B3
B4
C1A
C2A
CR1
CR2
F1A
H1
M1
20220902
20220905
20220907
20220909
20220912
20220914
20220916
20220919
20220921
20220923
20220926
20220928
20220930
20221003
20221005
20221007
20221010
20221012
20221014
20221017
20221019
20221021
20221024
20221026
20221028
20221030
20221104
20221107
20221109
20221111
20221113
20221116
20221118
20221121
20221123
20221125
20221127
20221130
20221202
20221205
20221207
20221209
20221211
20221213
20221216
20221219
20221221
20221223
20221226
20221228
20221230



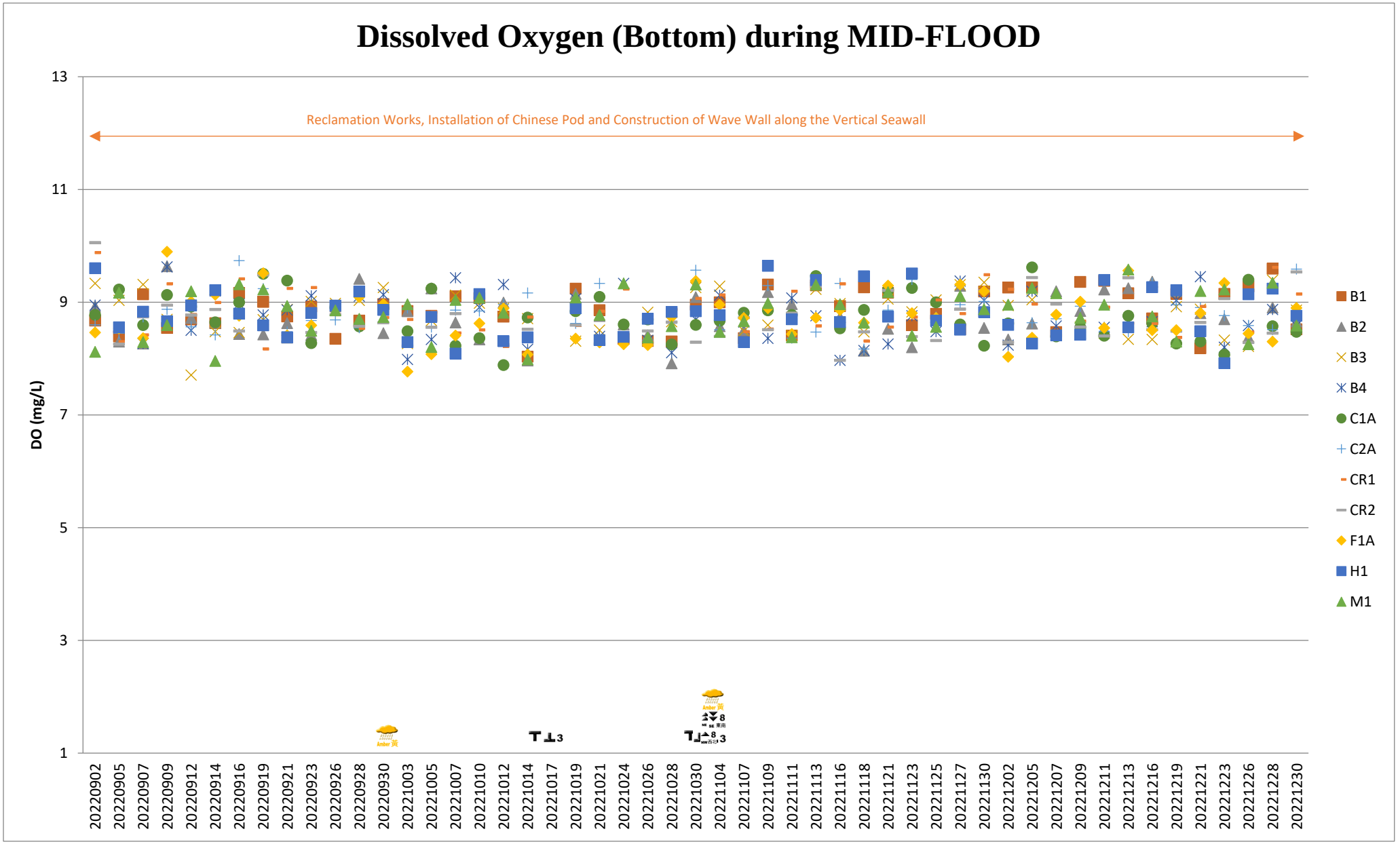
Note:

1. The Action and Limit Levels of dissolved oxygen can be referred to **Table 2.2** of the quarterly EM&A report.



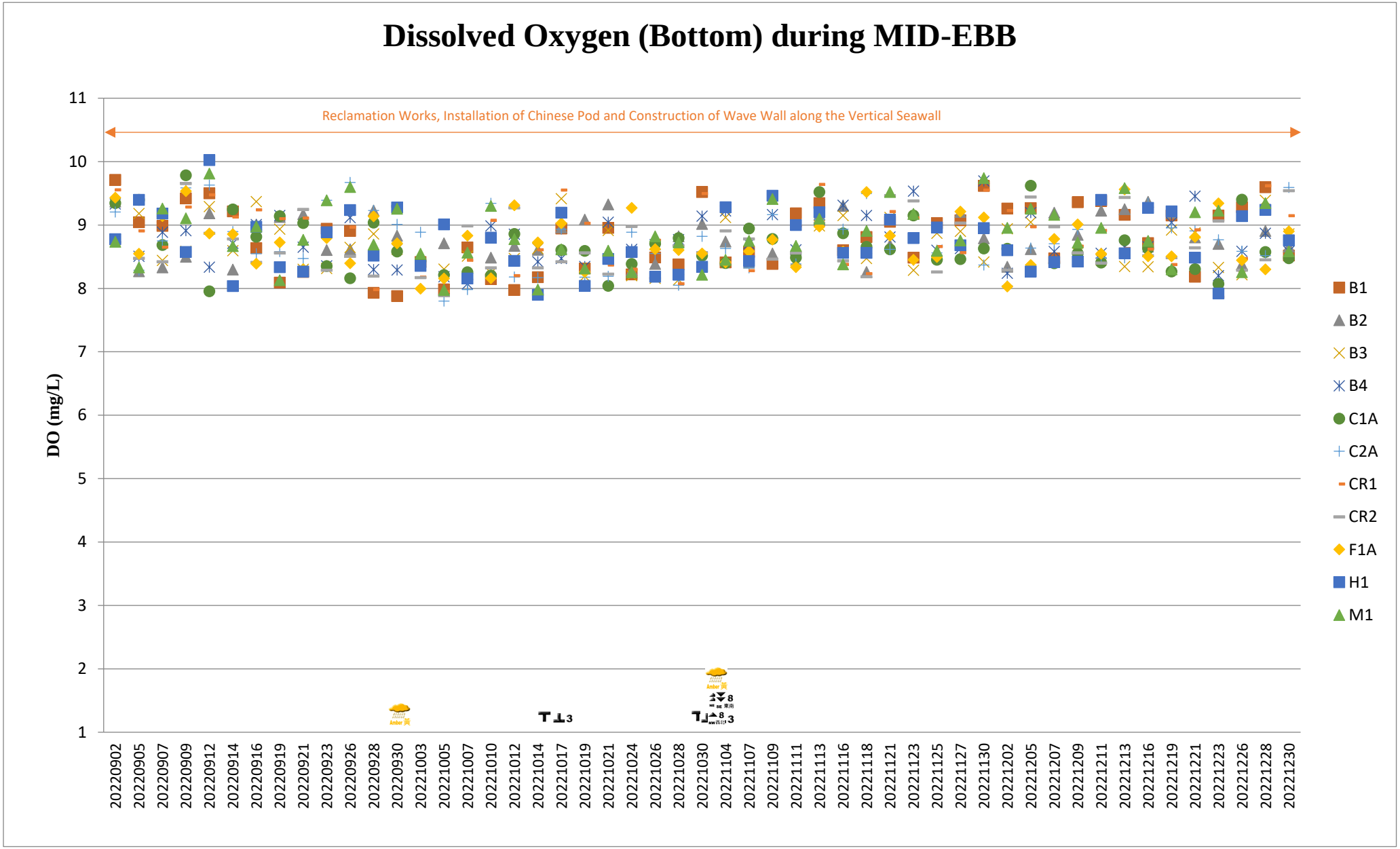
Note:

1. The Action and Limit Levels of dissolved oxygen can be referred to **Table 2.2** of the quarterly EM&A report.



Note:

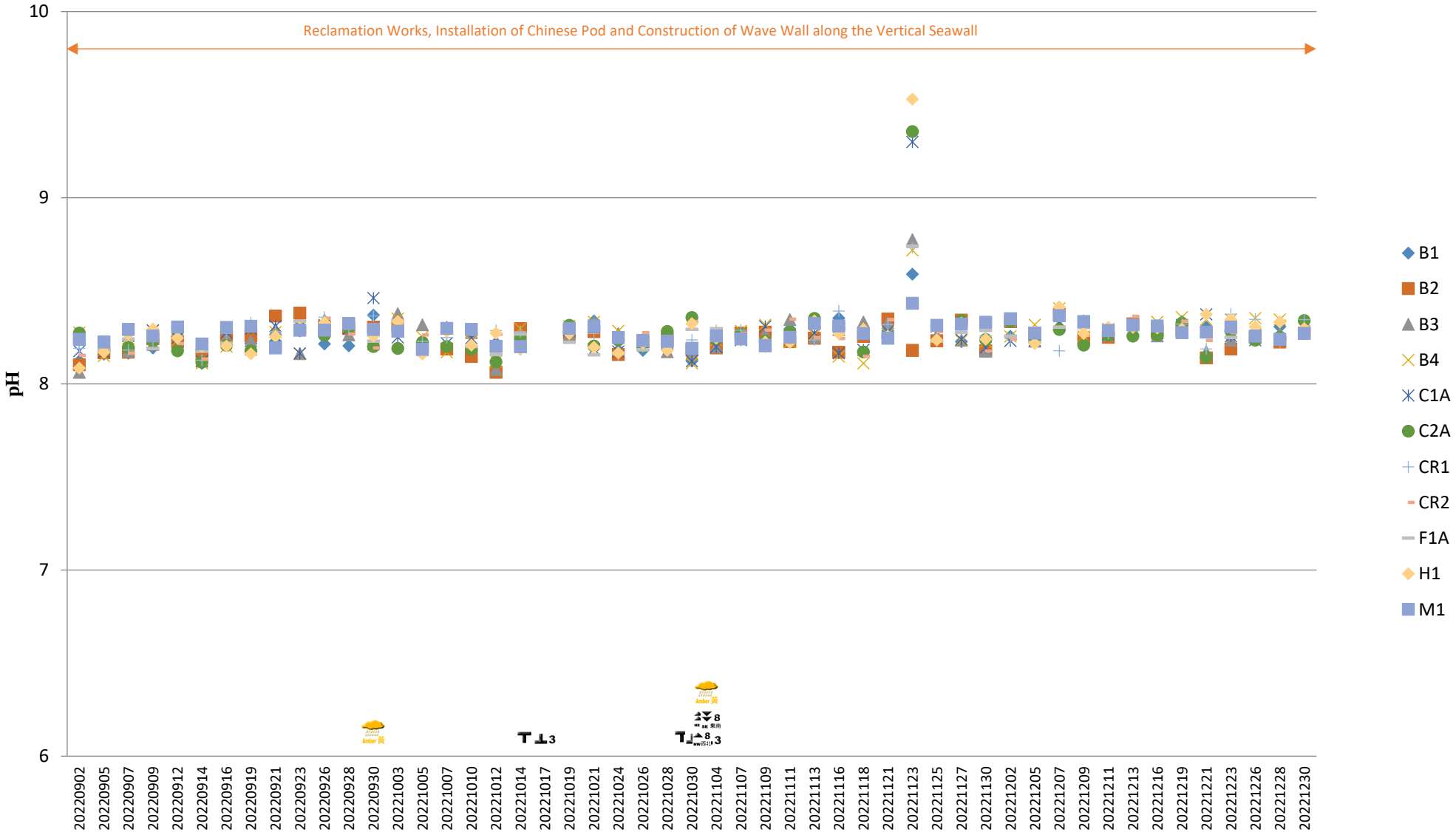
1. The Action and Limit Levels of dissolved oxygen can be referred to **Table 2.2** of the quarterly EM&A report.

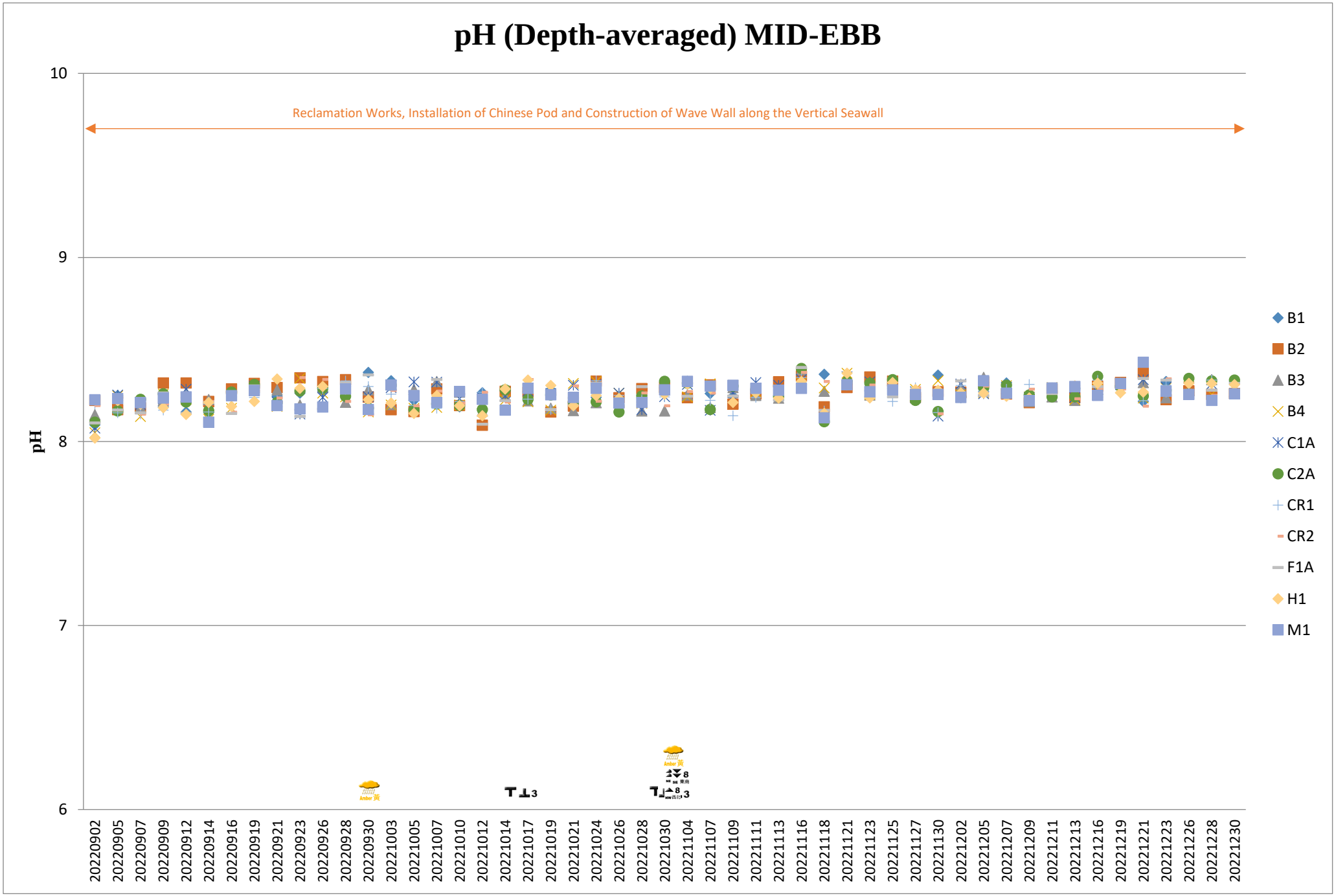


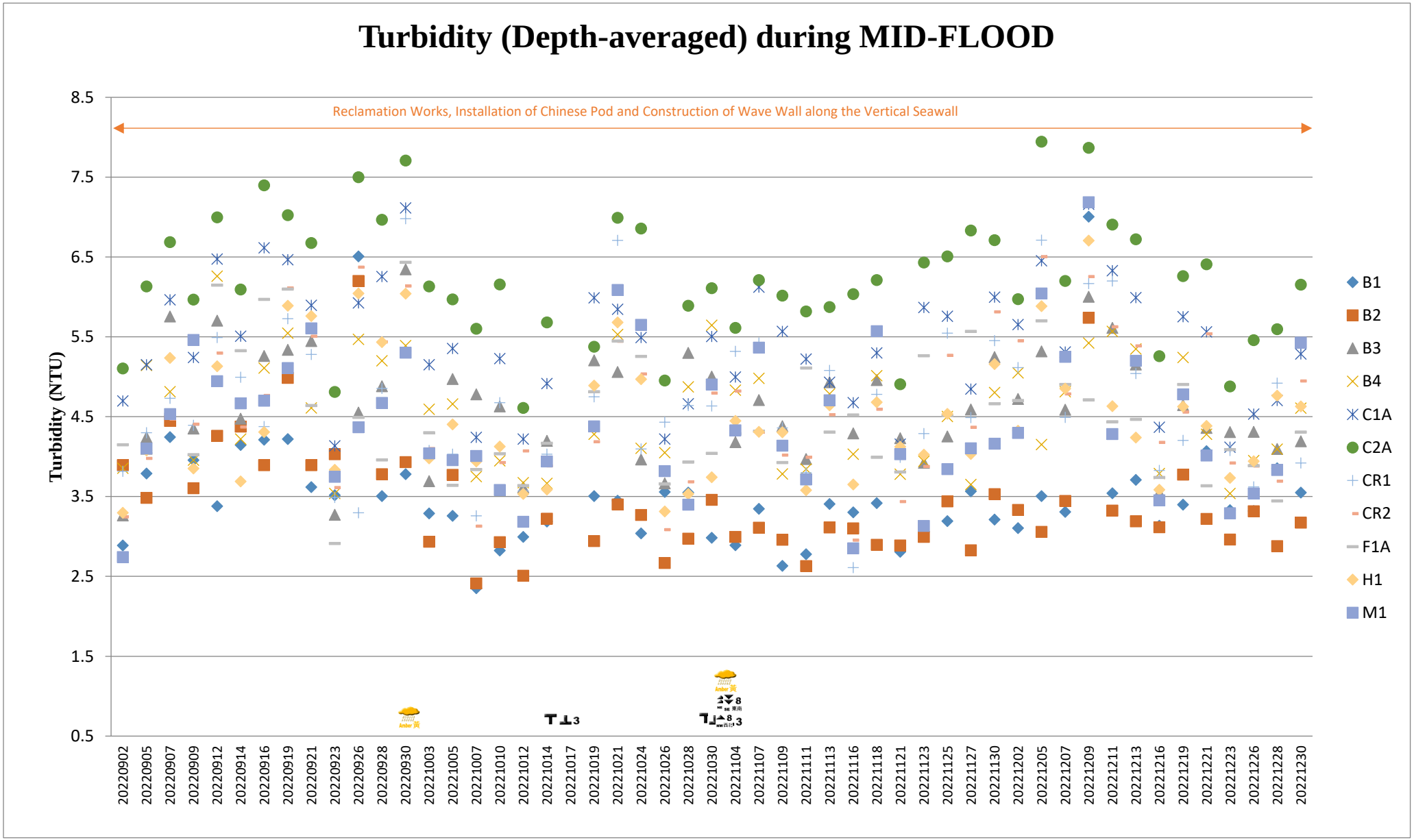
Note:

1. The Action and Limit Levels of dissolved oxygen can be referred to **Table 2.2** of the quarterly EM&A report.

pH (Depth-averaged) during MID-FLOOD

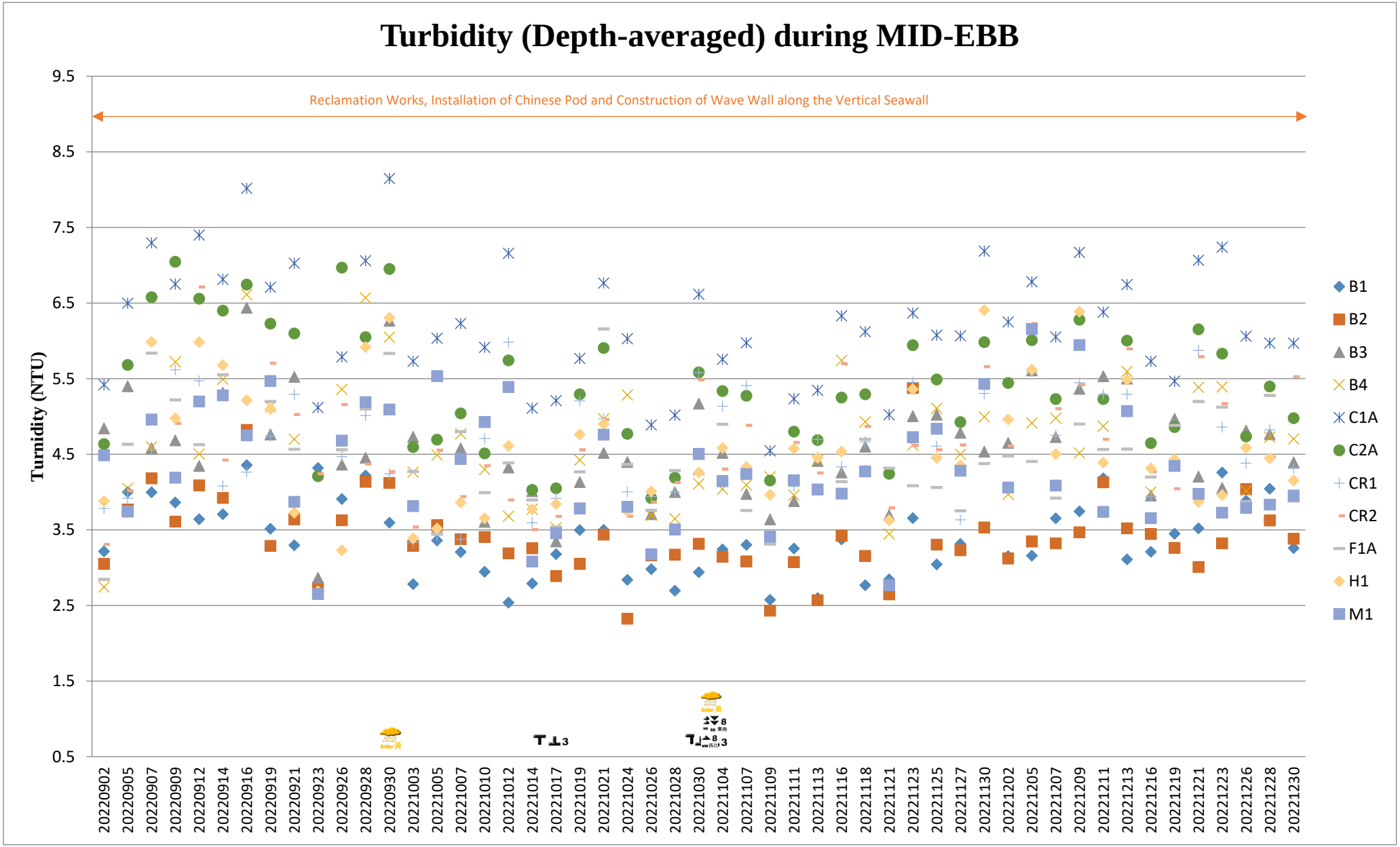



pH (Depth-averaged) MID-EBB
Reclamation Works, Installation of Chinese Pod and Construction of Wave Wall along the Vertical Seawall
pH
10
9
8
7
6
20220902
20220905
20220907
20220909
20220912
20220914
20220916
20220919
20220921
20220923
20220926
20220928
20220930
20221003
20221005
20221007
20221010
20221012
20221014
20221017
20221019
20221021
20221024
20221026
20221028
20221030
20221104
20221107
20221109
20221111
20221113
20221116
20221118
20221121
20221123
20221125
20221127
20221130
20221202
20221205
20221207
20221209
20221211
20221213
20221216
20221219
20221221
20221223
20221226
20221228
20221230
B1
B2
B3
B4
C1A
C2A
CR1
CR2
F1A
H1
M1



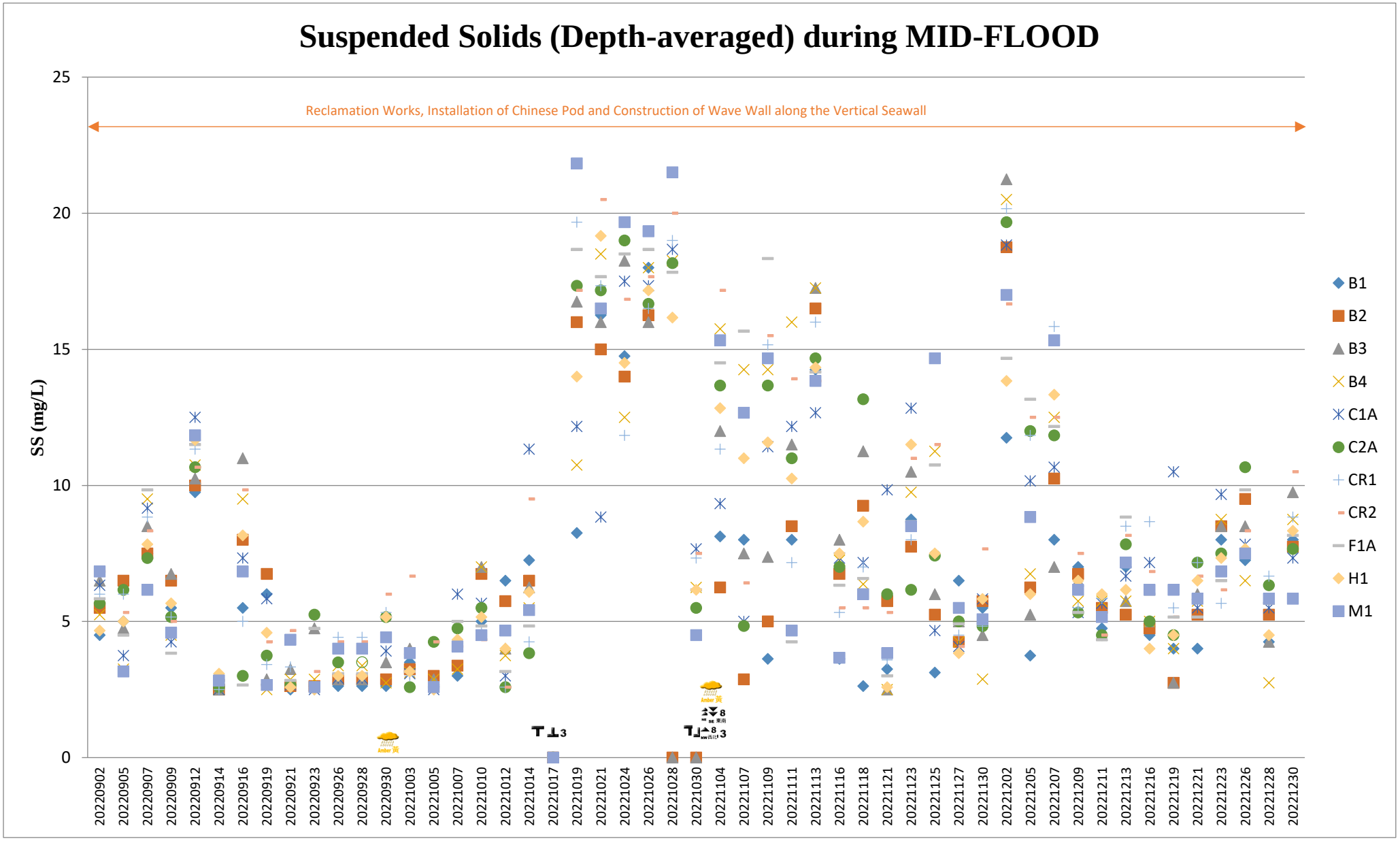
Note:

1. The Action and Limit Levels of dissolved oxygen can be referred to **Table 2.2** of the quarterly EM&A report.



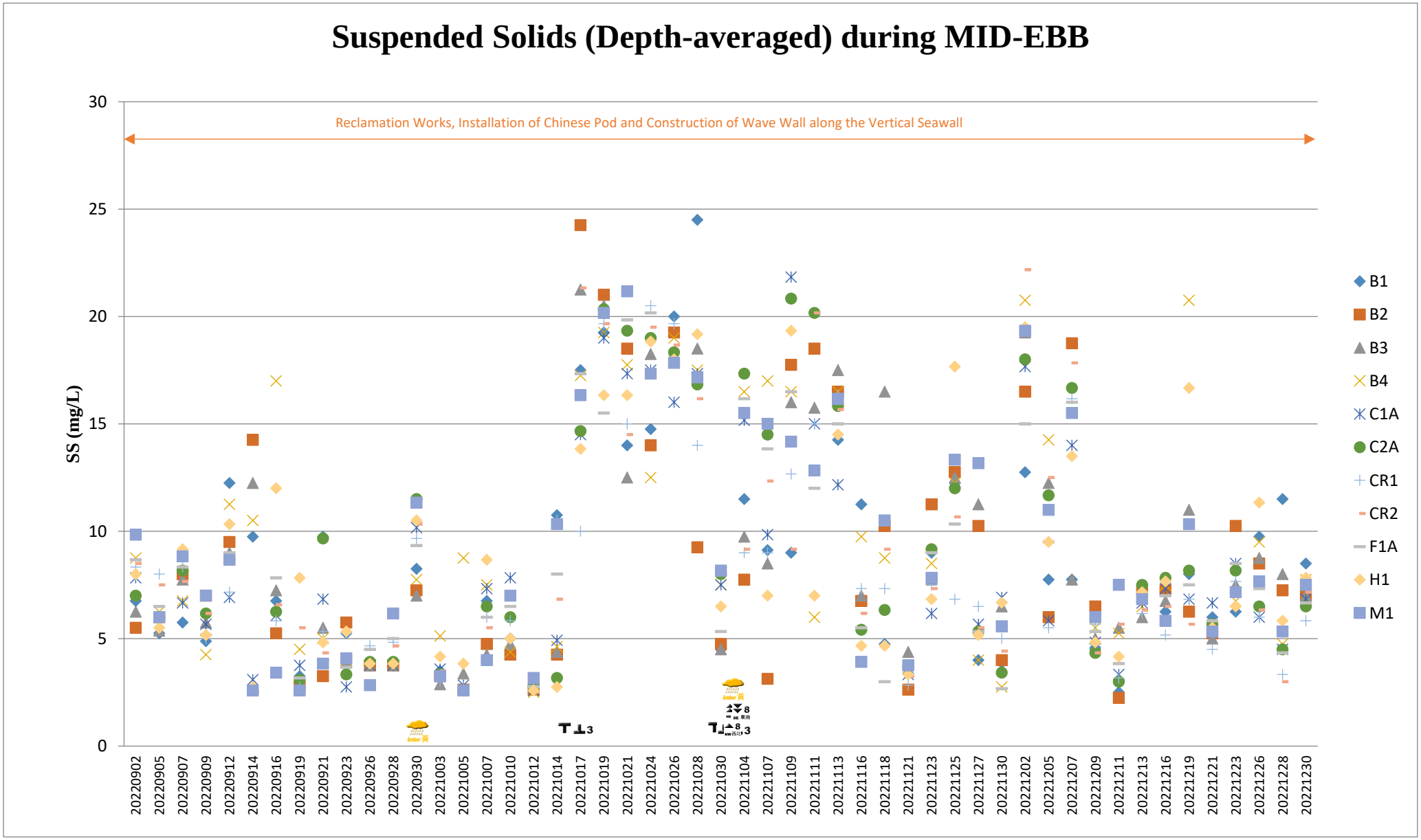
Note:

1. The Action and Limit Levels of dissolved oxygen can be referred to **Table 2.2** of the quarterly EM&A report.



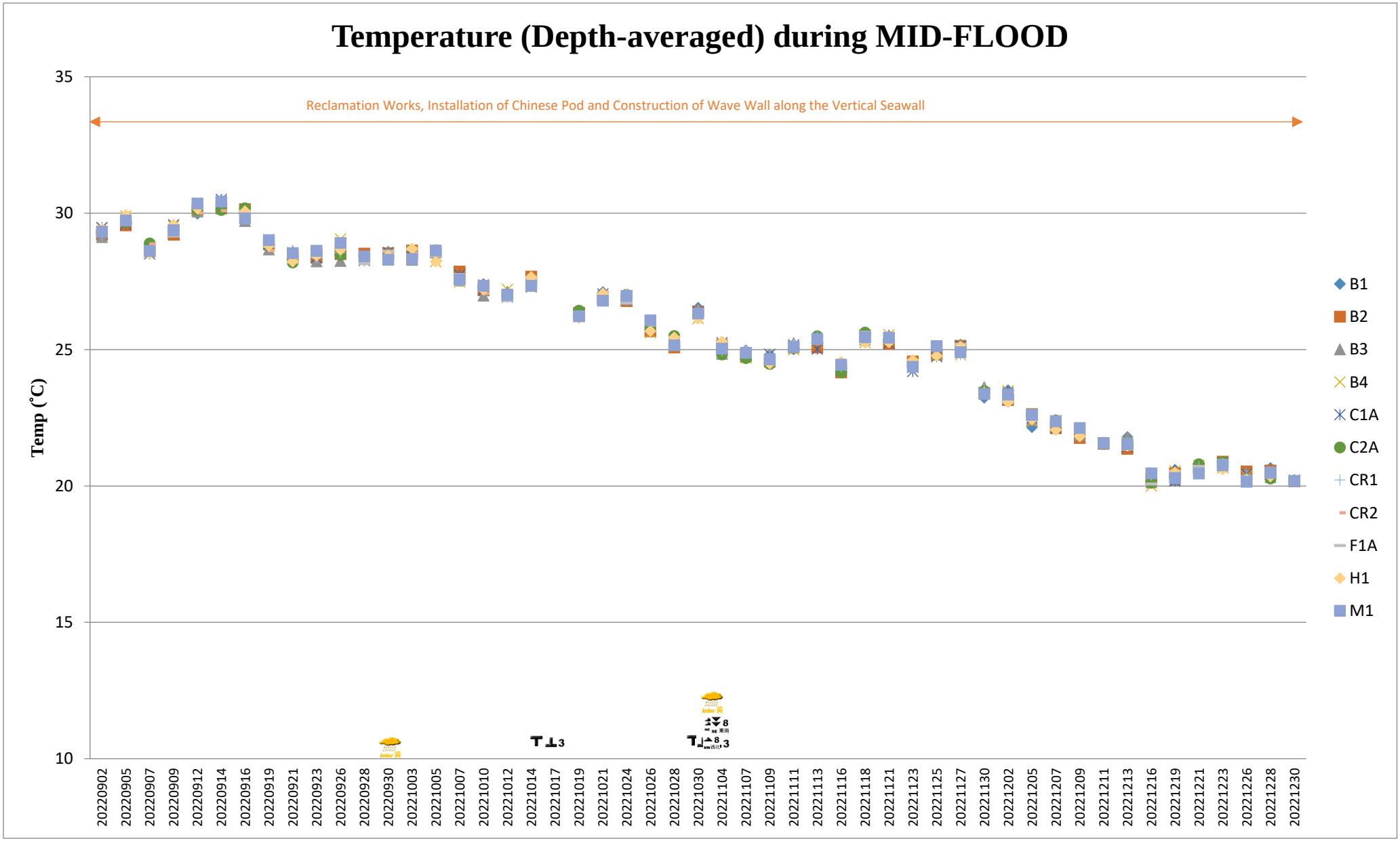
Note:

1. The Action and Limit Levels of dissolved oxygen can be referred to **Table 2.2** of the quarterly EM&A report.



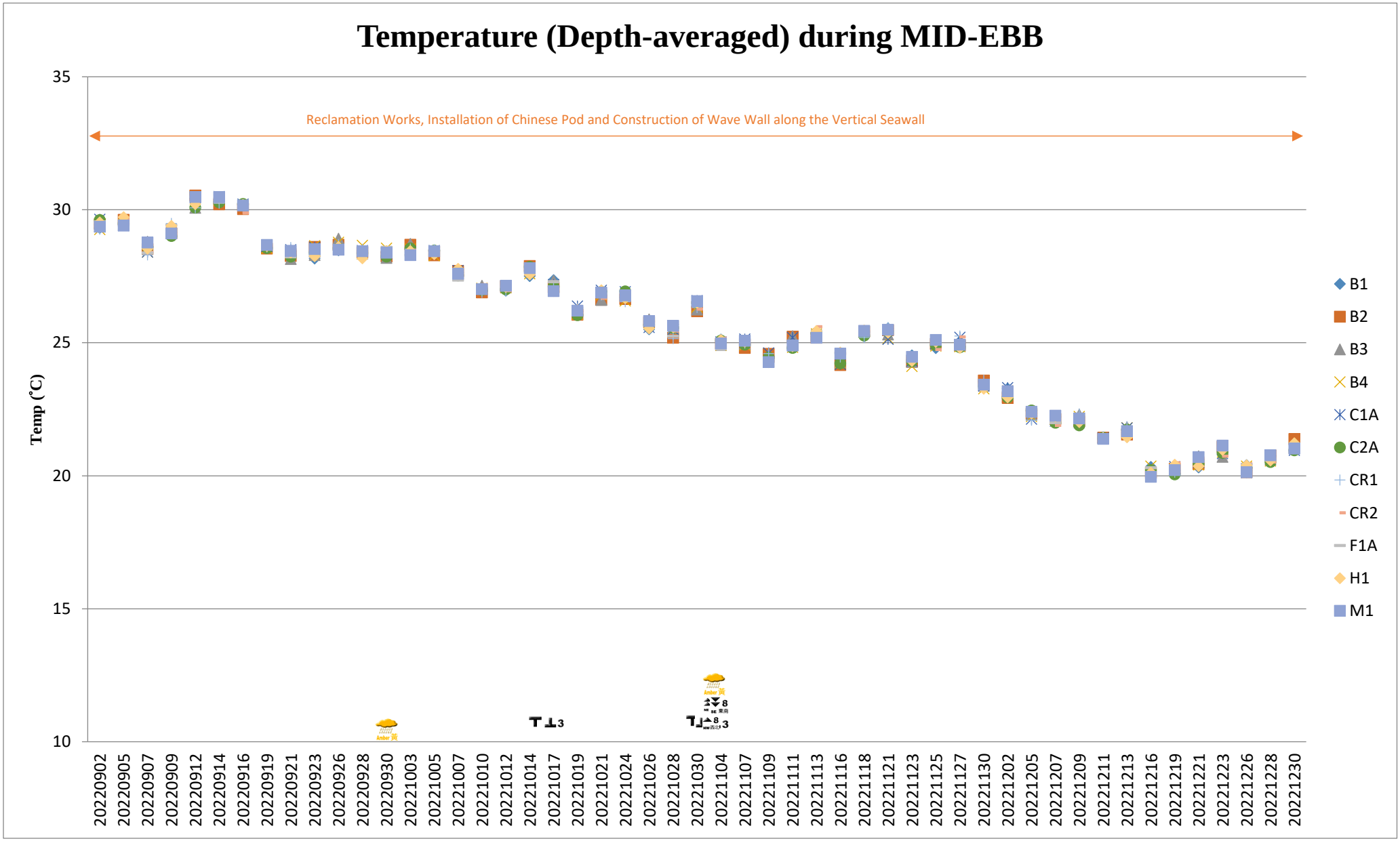
Note:

1. The Action and Limit Levels of dissolved oxygen can be referred to **Table 2.2** of the quarterly EM&A report.



Note:

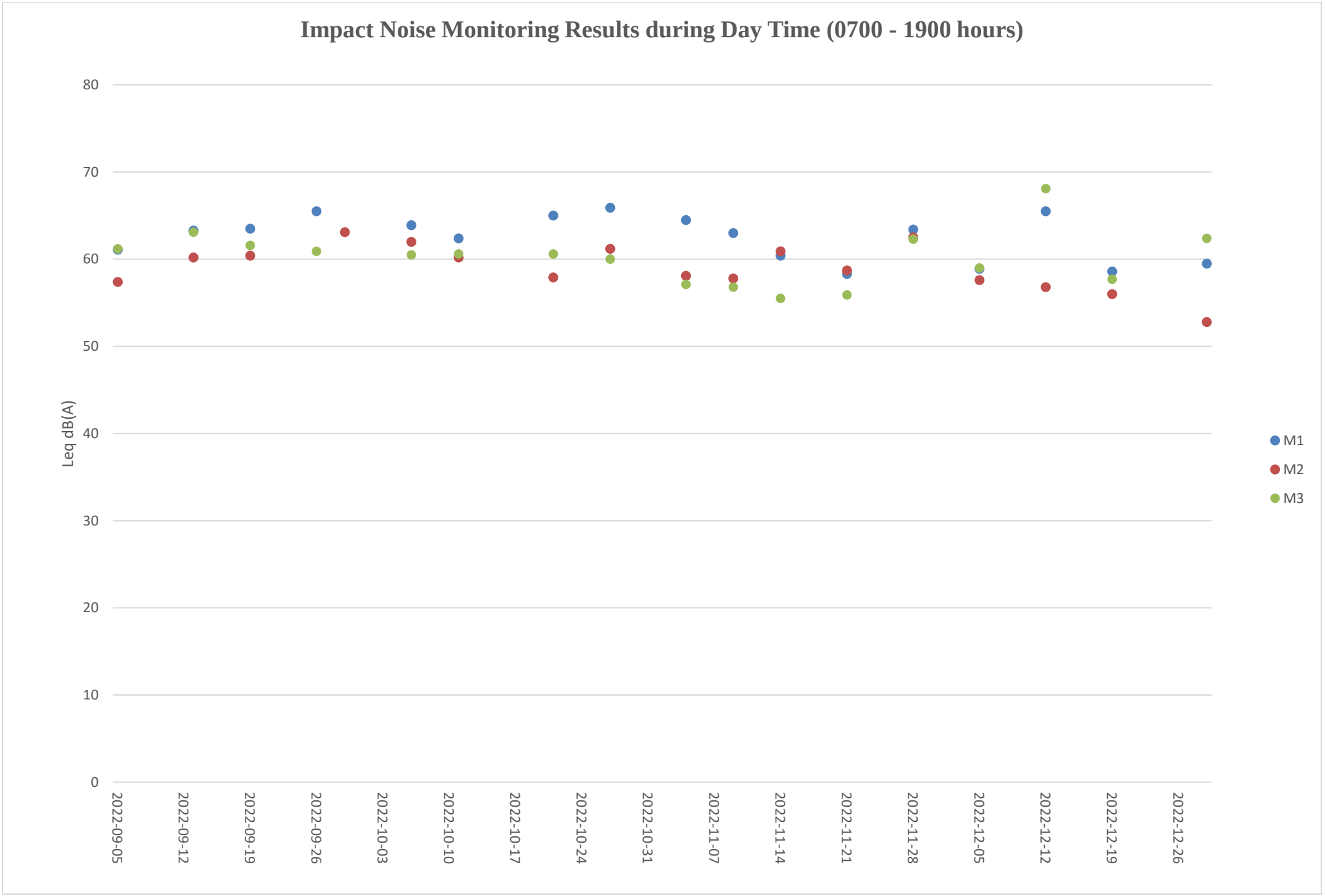
1. The Action and Limit Levels of dissolved oxygen can be referred to **Table 2.2** of the quarterly EM&A report.

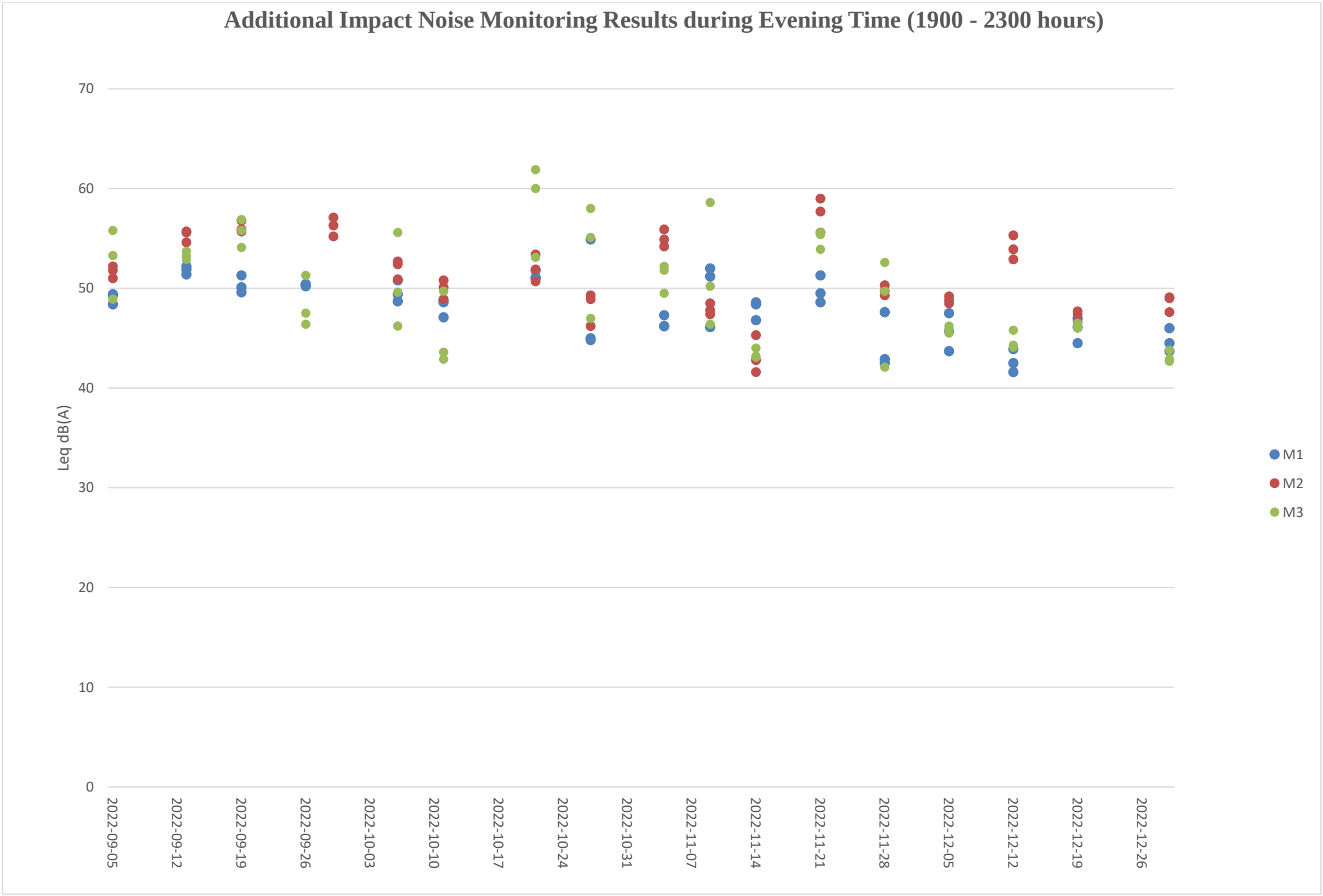


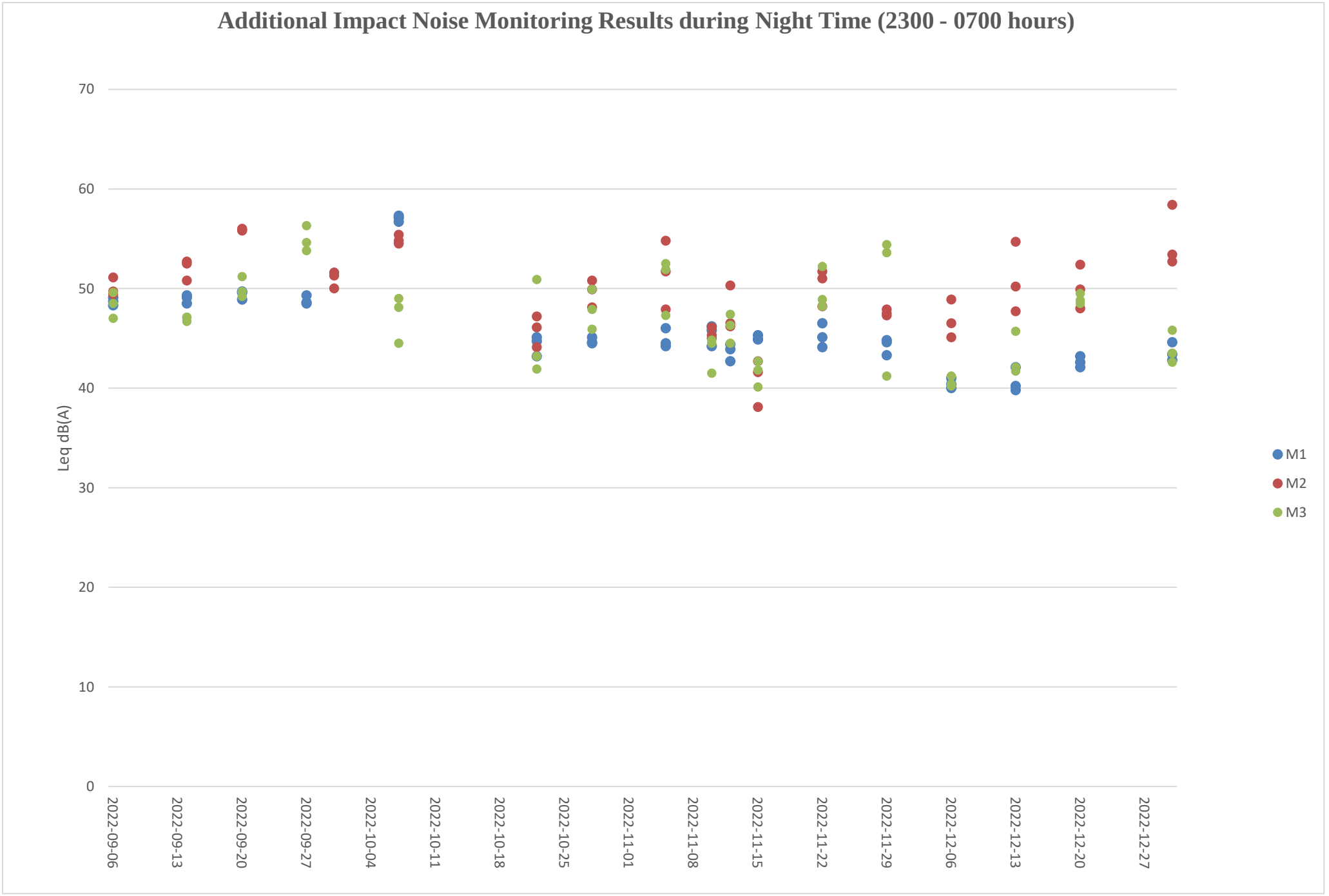
Note:

1. The Action and Limit Levels of dissolved oxygen can be referred to **Table 2.2** of the quarterly EM&A report.

Appendix D Noise Monitoring Data Trending


Impact Noise Monitoring Results during Day Time (0700 - 1900 hours)
Leq dB(A)
80
70
60
50
40
30
20
10
0
2022-09-05
2022-09-12
2022-09-19
2022-09-26
2022-10-03
2022-10-10
2022-10-17
2022-10-24
2022-10-31
2022-11-07
2022-11-14
2022-11-21
2022-11-28
2022-12-05
2022-12-12
2022-12-19
2022-12-26
M1
M2
M3


Additional Impact Noise Monitoring Results during Evening Time (1900 - 2300 hours)
Leq dB(A)
70
60
50
40
30
20
10
0
2022-09-05
2022-09-12
2022-09-19
2022-09-26
2022-10-03
2022-10-10
2022-10-17
2022-10-24
2022-10-31
2022-11-07
2022-11-14
2022-11-21
2022-11-28
2022-12-05
2022-12-12
2022-12-19
2022-12-26
M1
M2
M3


Additional Impact Noise Monitoring Results during Night Time (2300 - 0700 hours)
Leq dB(A)
70
60
50
40
30
20
10
0
2022-09-06
2022-09-13
2022-09-20
2022-09-27
2022-10-04
2022-10-11
2022-10-18
2022-10-25
2022-11-01
2022-11-08
2022-11-15
2022-11-22
2022-11-29
2022-12-06
2022-12-13
2022-12-20
2022-12-27
M1
M2
M3

Summary of the Construction Activities Undertaken during the Reporting Period

Location of works	Construction activities undertaken	Remarks on progress
Reclamation area	• Reclamation works	• On-going
	• Installation of Instrumentation	• On-going
	• Site Investigation works for foundation	• On-going
	• Foundation works (including Driven H Pile and Socketed H Pile)	• On-going
	• Pile cap construction	• On-going
	• Structural steel work	• On-going
Seawall portion	• Installation of Chinese Pod	• On-going
	• Caisson extension works, from +3mPD to +6mPD, at Seawall A and B	• On-going
	• Construction of wave wall along the vertical seawall	• On-going

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 1 (M1 / N_S1)

Monitoring date: 06, 11, 21, 27 October 2022 (Daytime)

06&07, 11&12, 21&22, 27&28 October 2022 (Evening & Night time)

Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Nil

Noise Monitoring Data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
06 Oct 2022	13:25	-	13:55	Sunny	63.9	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
06 Oct 2022	19:10	-	19:15	Fine	48.7	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	20:05	-	20:10		50.8		
	21:05	-	21:10		49.4		
07 Oct 2022	1:05	-	1:10	Fine	56.7	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	3:10	-	3:15		57.1		
	5:05	-	5:10		57.3		
11 Oct 2022	14:01	-	14:31	Sunny	62.4	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
11 Oct 2022	19:11	-	19:16	Fine	47.1	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:06	-	20:11		48.8		
	21:11	-	21:16		48.6		
12 Oct 2022	1:11	-	1:16	Fine	44.4	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:16	-	3:21		43.9		
	5:11	-	5:16		42.7		
21 Oct 2022	13:29	-	13:59	Sunny	65.0	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
21 Oct 2022	19:09	-	19:14	Fine	51.1	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:14	-	20:19		51.8		
	21:14	-	21:19		51.0		
22 Oct 2022	1:24	-	1:29	Fine	44.7	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:09	-	3:14		45.1		
	5:14	-	5:19		43.2		
27 Oct 2022	13:20	-	13:50	Sunny	65.9	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
27 Oct 2022	19:05	-	19:10	Fine	45.0	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	20:10	-	20:15		54.9		
	21:10	-	21:15		44.8		
28 Oct 2022	1:10	-	1:15	Fine	44.6	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	3:15	-	3:20		45.1		
	5:25	-	5:30		44.5		

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 1 (M1 / N_S1)

Monitoring date: 04, 09, 14, 21, 28 November 2022 (Daytime)

04&05, 09&10, 14&15, 21&22, 28&29 November 2022 (Evening & Night time)

Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Nil

Noise Monitoring Data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
04 Nov 2022	13:09	-	13:39	Sunny	64.5	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
04 Nov 2022	19:04	-	19:09	Fine	46.2	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:04	-	20:09		47.3		
	21:09	-	21:14		46.2		
05 Nov 2022	1:09	-	1:14	Fine	46.0	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:14	-	3:19		44.5		
	5:19	-	5:24		44.2		
09 Nov 2022	13:18	-	13:48	Fine	63.0	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
09 Nov 2022	19:03	-	19:08	Fine	46.1	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:04	-	20:09		52.0		
	21:03	-	21:08		51.2		
10 Nov 2022	1:13	-	1:18	Fine	46.2	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:03	-	3:08		45.8		
	5:18	-	5:23		44.2		
14 Nov 2022	13:21	-	13:51	Sunny	60.4	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
14 Nov 2022	19:16	-	19:21	Fine	48.6	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:01	-	20:06		48.4		
	21:26	-	21:31		46.8		
15 Nov 2022	1:11	-	1:16	Fine	44.9	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:16	-	3:21		45.3		
	5:16	-	5:21		44.9		
21 Nov 2022	12:56	-	13:26	Fine	58.3	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
21 Nov 2022	19:11	-	19:16	Fine	51.3	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:11	-	20:16		48.6		
	21:11	-	21:16		49.5		
22 Nov 2022	1:16	-	1:21	Fine	44.1	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:06	-	3:11		45.1		
	5:06	-	5:11		46.5		

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
28 Nov 2022	13:22	-	13:52	Sunny	63.4	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
28 Nov 2022	19:12	-	19:17	Fine	47.6	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:17	-	20:22		42.5		
	21:22	-	21:27		42.9		
29 Nov 2022	1:02	-	1:07	Fine	43.3	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:07	-	3:12		44.8		
	5:12	-	5:17		44.6		

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 1 (M1 / N_S1)

Monitoring date: 05, 12, 19, 29 December 2022 (Daytime)

05&06, 12&13, 19&20, 29&30 December 2022 (Evening & Night time)

Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Nil

Noise Monitoring Data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
05 Dec 2022	13:42	-	14:12	Sunny	58.9	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
05 Dec 2022	19:02	-	19:07	Fine	47.5	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:17	-	20:22		45.7		
	21:37	-	21:42		43.7		
06 Dec 2022	1:27	-	1:32	Fine	40.4	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:17	-	3:22		40.0		
	5:22	-	5:27		41.0		
12 Dec 2022	12:56	-	13:26	Fine	65.5	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
12 Dec 2022	19:16	-	19:21	Fine	43.9	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:21	-	20:26		41.6		
	21:21	-	21:26		42.5		
13 Dec 2022	1:06	-	1:11	Fine	40.2	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:11	-	3:16		39.8		
	5:11	-	5:16		42.1		
19 Dec 2022	13:01	-	13:31	Sunny	58.6	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
19 Dec 2022	19:21	-	19:26	Fine	47.0	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:16	-	20:21		44.5		
	21:16	-	21:21		46.1		
20 Dec 2022	1:02	-	1:07	Fine	43.2	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:21	-	3:26		42.1		
	5:21	-	5:26		42.6		
29 Dec 2022	13:20	-	13:50	Sunny	59.5	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724243)
29 Dec 2022	19:05	-	19:10	Fine	46.0	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724243)
	20:15	-	20:20		44.5		
	21:20	-	21:25		43.7		
30 Dec 2022	1:20	-	1:25	Fine	43.4	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724243)
	3:10	-	3:15		42.8		
	5:20	-	5:25		44.6		

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 2 (M2 / N_S2)

Monitoring date: 06, 11, 21, 27 October 2022 (Daytime)

06&07, 11&12, 21&22, 27&28 October 2022 (Evening & Night time)

Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Nil

Noise Monitoring Data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
06 Oct 2022	13:32	-	14:02	Sunny	62.0	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
06 Oct 2022	19:02	-	19:07	Fine	52.7	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:17	-	20:22		52.4		
	21:12	-	21:17		50.9		
07 Oct 2022	1:07	-	1:12	Fine	54.8	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:07	-	3:12		55.4		
	5:07	-	5:12		54.5		
11 Oct 2022	14:04	-	14:34	Sunny	60.2	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
11 Oct 2022	19:09	-	19:14	Fine	50.1	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	20:29	-	20:34		48.9		
	21:14	-	21:19		50.8		
12 Oct 2022	1:14	-	1:19	Fine	46.2	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	3:09	-	3:14		46.5		
	5:19	-	5:24		50.3		
21 Oct 2022	13:40	-	14:10	Sunny	57.9	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
21 Oct 2022	19:05	-	19:10	Fine	51.9	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	20:05	-	20:10		50.7		
	21:05	-	21:10		53.4		
22 Oct 2022	1:15	-	1:20	Fine	46.1	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	3:10	-	3:15		47.2		
	5:10	-	5:15		44.1		
27 Oct 2022	13:30	-	14:00	Sunny	61.2	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
27 Oct 2022	19:10	-	19:15	Fine	46.2	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:10	-	20:15		49.3		
	21:10	-	21:15		48.9		
28 Oct 2022	1:05	-	1:10	Fine	48.1	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:10	-	3:15		50.8		
	5:20	-	5:25		49.9		

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 2 (M2 / N_S2)

Monitoring date: 04, 09, 14, 21, 28 November 2022 (Daytime)

04&05, 09&10, 14&15, 21&22, 28&29 November 2022 (Evening & Night time)

Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Nil

Noise Monitoring Data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
04 Nov 2022	13:20	-	13:50	Sunny	58.1	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
04 Nov 2022	19:10	-	19:15	Fine	54.2	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	20:45	-	20:50		54.9		
	21:20	-	21:25		55.9		
05 Nov 2022	1:25	-	1:30	Fine	54.8	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	3:25	-	3:30		51.7		
	5:15	-	5:20		47.9		
09 Nov 2022	13:30	-	14:00	Fine	57.8	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
09 Nov 2022	19:05	-	19:10	Fine	48.5	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	20:05	-	20:10		47.4		
	21:05	-	21:10		47.8		
10 Nov 2022	1:10	-	1:15	Fine	45.3	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	3:10	-	3:15		45.0		
	5:15	-	5:20		46.1		
14 Nov 2022	13:37	-	14:07	Sunny	60.9	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
14 Nov 2022	19:17	-	19:22	Fine	45.3	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	20:07	-	20:12		42.8		
	21:27	-	21:32		41.6		
15 Nov 2022	1:12	-	1:17	Fine	42.7	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	3:07	-	3:12		41.6		
	5:22	-	5:27		38.1		
21 Nov 2022	13:03	-	13:33	Fine	58.7	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
21 Nov 2022	19:13	-	19:18	Fine	57.7	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	20:08	-	20:13		55.6		
	21:18	-	21:23		59.0		
22 Nov 2022	1:18	-	1:23	Fine	51.7	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	3:13	-	3:18		51.0		
	5:13	-	5:18		48.2		

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
28 Nov 2022	13:34	-	14:04	Sunny	62.5	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
28 Nov 2022	19:14	-	19:19	Fine	50.3	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	20:09	-	20:14		49.3		
	21:14	-	21:19		49.7		
29 Nov 2022	1:04	-	1:09	Fine	47.9	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	3:09	-	3:14		47.3		
	5:14	-	5:19		47.5		

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 2 (M2 / N_S2)

Monitoring date: 05, 12, 19, 29 December 2022 (Daytime)

05&06, 12&13, 19&20, 29&30 December 2022 (Evening & Night time)

Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Nil

Noise Monitoring Data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
05 Dec 2022	13:40	-	14:10	Sunny	57.6	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
05 Dec 2022	19:25	-	19:30	Fine	49.2	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	20:05	-	20:10		48.8		
	21:15	-	21:20		48.5		
06 Dec 2022	1:10	-	1:15	Fine	48.9	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	3:15	-	3:20		45.1		
	5:10	-	5:15		46.5		
12 Dec 2022	12:34	-	13:04	Fine	56.8	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
12 Dec 2022	19:09	-	19:14	Fine	52.9	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	20:14	-	20:19		55.3		
	21:19	-	21:24		53.9		
13 Dec 2022	1:14	-	1:19	Fine	50.2	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	3:04	-	3:09		47.7		
	5:24	-	5:29		54.7		
19 Dec 2022	13:10	-	13:40	Sunny	56.0	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
19 Dec 2022	19:20	-	19:25	Fine	47.4	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	20:15	-	20:20		46.6		
	21:15	-	21:20		47.7		
20 Dec 2022	1:05	-	1:10	Fine	52.4	SVAN 971 (Serial No. 103482)	Rion NC-75 (No.34724244)
	3:25	-	3:30		49.9		
	5:20	-	5:25		48.0		
29 Dec 2022	13:11	-	13:41	Sunny	52.8	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724243)
29 Dec 2022	19:16	-	19:21	Fine	47.6	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724243)
	20:16	-	20:21		49.0		
	21:16	-	21:21		49.1		
30 Dec 2022	1:06	-	1:11	Fine	58.4	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724243)
	3:06	-	3:11		53.4		
	5:11	-	5:16		52.7		

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 3 (M3 / N_S3)

Monitoring date: 06, 11, 21, 27 October 2022 (Daytime)

06&07, 11&12, 21&22, 27&28 October 2022 (Evening & Night time)

Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Air-conditioner

Noise Monitoring data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
06 Oct 2022	13:24	-	13:54	Sunny	60.5	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
06 Oct 2022	19:09	-	19:14	Fine	46.2	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:04	-	20:09		49.6		
	21:04	-	21:09		55.6		
07 Oct 2022	1:19	-	1:24	Fine	49.0	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:14	-	3:19		48.1		
	5:04	-	5:09		44.5		
11 Oct 2022	14:03	-	14:33	Sunny	60.6	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
11 Oct 2022	19:03	-	19:08	Fine	49.7	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:08	-	20:13		43.6		
	21:13	-	21:18		42.9		
12 Oct 2022	1:03	-	1:08	Fine	47.4	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:23	-	3:28		46.3		
	5:28	-	5:33		44.5		
21 Oct 2022	13:33	-	14:03	Sunny	60.6	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
21 Oct 2022	19:08	-	19:13	Fine	60.0	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:33	-	20:38		61.9		
	21:18	-	21:23		53.1		
22 Oct 2022	1:18	-	1:23	Fine	41.9	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:08	-	3:13		50.9		
	5:13	-	5:18		43.2		
27 Oct 2022	13:25	-	13:55	Sunny	60.0	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
27 Oct 2022	19:15	-	19:20	Fine	55.1	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:25	-	20:30		58.0		
	21:20	-	21:25		47.0		
28 Oct 2022	1:15	-	1:20	Fine	45.9	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:15	-	3:20		47.9		
	5:30	-	5:35		49.9		

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 3 (M3 / N_S3)

Monitoring date: 04, 09, 14, 21, 28 November 2022 (Daytime)

04&05, 09&10, 14&15, 21&22, 28&29 November 2022 (Evening & Night time)

Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Air-conditioner

Noise Monitoring data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
04 Nov 2022	13:07	-	13:37	Sunny	57.1	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
04 Nov 2022	19:07	-	19:37	Fine	49.5	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:22	-	20:52		52.2		
	21:02	-	21:32		51.8		
05 Nov 2022	1:12	-	1:42	Fine	51.9	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:07	-	3:37		52.5		
	5:12	-	5:42		47.3		
09 Nov 2022	13:16	-	13:46	Fine	56.8	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
09 Nov 2022	19:01	-	19:31	Fine	46.4	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:21	-	20:51		50.2		
	21:21	-	21:51		58.6		
10 Nov 2022	1:06	-	1:36	Fine	44.5	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:11	-	3:41		41.5		
	5:11	-	5:41		44.8		
14 Nov 2022	13:34	-	14:04	Sunny	55.5	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
14 Nov 2022	19:19	-	19:49	Fine	44.0	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:04	-	20:34		43.1		
	21:24	-	21:54		43.2		
15 Nov 2022	1:14	-	1:44	Fine	42.7	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:09	-	3:39		40.1		
	5:19	-	5:49		41.8		
21 Nov 2022	13:01	-	13:31	Fine	55.9	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
21 Nov 2022	19:11	-	19:41	Fine	55.6	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:11	-	20:41		53.9		
	21:11	-	21:41		55.4		
22 Nov 2022	1:16	-	1:46	Fine	48.9	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:16	-	3:46		48.2		
	5:16	-	5:46		52.2		
28 Nov 2022	13:17	-	13:47	Sunny	62.3	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
28 Nov 2022	19:17	-	19:47	Fine	42.1	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:12	-	20:42		49.7		
	21:17	-	21:47		52.6		
29 Nov 2022	1:12	-	1:42	Fine	53.6	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:12	-	3:42		54.4		
	5:17	-	5:47		41.2		

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 3 (M3 / N_S3)

Monitoring date: 05, 12, 19, 29 December 2022 (Daytime)

05&06, 12&13, 19&20, 29&30 December 2022 (Evening & Night time)

Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Air-conditioner

Noise Monitoring data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
05 Dec 2022	13:37	-	14:07	Sunny	59.0	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
05 Dec 2022	19:17	-	19:22	Fine	46.2	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:17	-	20:22		45.5		
	21:22	-	21:27		45.7		
06 Dec 2022	1:22	-	1:27	Fine	40.4	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:12	-	3:17		40.2		
	5:22	-	5:27		41.2		
12 Dec 2022	12:58	-	13:28	Fine	68.1	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
12 Dec 2022	19:18	-	19:23	Fine	44.3	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:18	-	20:23		44.1		
	21:13	-	21:18		45.8		
13 Dec 2022	1:13	-	1:18	Fine	41.7	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:18	-	3:23		42.1		
	5:18	-	5:23		45.7		
19 Dec 2022	12:58	-	13:58	Sunny	57.7	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
19 Dec 2022	19:18	-	19:23	Fine	46.5	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:18	-	20:18		46.0		
	21:13	-	21:28		46.2		
20 Dec 2022	1:13	-	1:18	Fine	48.5	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:18	-	3:33		48.8		
	5:18	-	5:23		49.5		
29 Dec 2022	13:21	-	13:51	Sunny	62.4	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724243)
29 Dec 2022	19:16	-	19:21	Fine	43.8	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724243)
	20:21	-	20:26		42.7		
	21:21	-	21:26		42.9		
30 Dec 2022	1:06	-	1:11	Fine	43.5	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724243)
	3:11	-	3:16		42.6		
	5:11	-	5:16		45.8		

Appendix E Waste Flow Table

吉寶西格斯 - 振華聯營公司

Keppel Seghers - Zhen Hua Joint Venture

Monthly Summary Waste Flow Table for 2018 (year)

Project : Integrated Waste Management Facilities, Phase 1 Contract No.: EP/SP/66/12

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 (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill (see Note 4)	Imported Fill Sand (see Note 4)	Imported Fill Public fill (see Note 4)	Imported Fill Rock (see Note 4)	Metals (see Note 5)	Paper/ cardboard packaging (see Note 5)	Plastics (see Note 2, 5)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3	(in ,000m^3)	(in ,000m^3)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m^3)
Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub-total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0065
Sep	0	0	0	0	0	2.9619	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0	3.0771	0	0	0	0	0	0	0	0.0130
Nov	0	0	0	0	0	6.7871	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	59.0709	0	0	0	0	0	0.2000	0.8700	0
Total	0	0	0	0	0	71.8970	0	0	0	0	0	0.2000	0.8700	0.0195

Notes:
(1) Broken concrete for recycling into aggregates.
(2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
(3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m^3 by volume.
(4) Use the conversion factor: sand density = 1.6T/m^3, public fill density = 1.8T/m^3 and rock density = 2T/m^3
(5) Materials recycled.

吉寶西格斯 - 振華聯營公司

Keppel Seghers - Zhen Hua Joint Venture

Monthly Summary Waste Flow Table for 2019 (year)

Project : Integrated Waste Management Facilities, Phase 1 Contract No.: EP/SP/66/12

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 (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill (see Note 4)	Imported Fill Sand (see Note 4)	Imported Fill Public fill (see Note 4)	Imported Fill Rock (see Note 4)	Metals (see Note 5)	Paper/ cardboard packaging (see Note 5)	Plastics (see Note 2, 5)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3	(in ,000m^3)	(in ,000m^3)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m^3)
Jan	0	0	0	0	0	82.6139	0	0	0	0	0	0	0	0.0065
Feb	0	0	0	0	0	46.7821	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	97.1000	0	0.7552	0	0.2560	0	0	0	0
Apr	0	0	0	0	0	58.0413	0	0	0	0	0	0	0	0
May	0	0	0	0	0	14.5625	0	1.4648	0	0	0	0	0	0.0065
Jun	0	0	0	0	0	0	0	6.8421	0	0	0	0	0	0
Sub-total	0	0	0	0	0	299.0998	0	9.0621	0	0.2560	0	0	0	0.0130
Jul	0	0	0	0	0	0	0	0.4289	0	0	0	0	8.4000	0.0130
Aug	0	0	0	0	0	2.5775	0	10.5600	0	0	0	0	0	0
Sep	0	0	0	0	0	6.1081	0	8.4704	0	0.3530	0	0	0	0.0065
Oct	0	0	0	0	0	9.8875	0	7.1900	0	0	0	0	0	0
Nov	0	0	0	0	0	38.3088	0	19.3105	0	0	0	0	0	0.0195
Dec	0	0	0	0	0	54.3469	0	26.9807	0	0	0	0	0	0.0910
Total	0	0	0	0	0	410.3286	0	82.0026	0	0.6090	0	0	8.4000	0.1430

Notes:
(1) Broken concrete for recycling into aggregates.
(2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
(3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m^3 by volume.
(4) Use the conversion factor: sand density = 1.6T/m^3, public fill density = 1.8T/m^3 and rock density = 2T/m^3
(5) Materials recycled.

吉寶西格斯 - 振華聯營公司

Keppel Seghers - Zhen Hua Joint Venture

Monthly Summary Waste Flow Table for 2020 (year)

Project : Integrated Waste Management Facilities, Phase 1 Contract No.: EP/SP/66/12

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 (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill (see Note 4)	Imported Fill Sand (see Note 4)	Imported Fill Public fill (see Note 4)	Imported Fill Rock (see Note 4)	Metals (see Note 5)	Paper/ cardboard packaging (see Note 5)	Plastics (see Note 2, 5)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3	(in ,000m^3)	(in ,000m^3)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m^3)
Jan	0	0	0	0	0	37.1550	0	25.0812	0	0	0	0	0	0.0065
Feb	0	0	0	0	0	27.7910	0	18.8300	0	0	0	0	0	0.0065
Mar	0	0	0	0	0	22.5669	0	26.1586	0	0	0	0	7.2000	0.0065
Apr	0	0	0	0	0	12.7800	0	10.1825	0	0	0	0	0	0.0195
May	0	0	0	0	0	16.1138	0	24.3740	0	0.4220	0	0	0	0.0195
Jun	0	0	0	0	0	31.5177	0	28.3030	0	0	0	0	0	0.0065
Sub-total	0	0	0	0	0	147.9244	0	132.9293	0	0.4220	0	0	7.2000	0.0650
Jul	0	0	0	0	0	34.7856	17.0606	35.1800	0	0	0	0	0	0.0195
Aug	0	0	0	0	0	27.1375	65.5667	27.9335	0	0	0	0	0	0
Sep	0	0	0	0	0	11.9813	110.1328	43.5435	0	0	0	0	0	0.0195
Oct	0	0	0	0	0	2.8213	131.6600	22.5415	0	0	0	0	0	0.0130
Nov	0	0	0	0	0	0	162.1811	44.6475	0	0.4090	0	0	0.4000	0.0130
Dec	0	0	0	0	0	0	174.9800	57.8380	0	0	0	0	0	0.0130
Total	0	0	0	0	0	224.6501	661.5812	364.6133	0	0.8310	0	0	7.6000	0.1430

Notes:
(1) Broken concrete for recycling into aggregates.
(2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
(3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m^3 by volume.
(4) Use the conversion factor: sand density = 1.6T/m^3, public fill density = 1.8T/m^3 and rock density = 2T/m^3
(5) Materials recycled.

吉寶西格斯 - 振華聯營公司
Keppel Seghers - Zhen Hua Joint Venture

Monthly Summary Waste Flow Table for 2021 (year)

Project : Integrated Waste Management Facilities, Phase 1 Contract No.: EP/SP/66/12

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 (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill (see Note 4)	Imported Fill Sand (see Note 4)	Imported Fill Public fill (see Note 4)	Imported Fill Rock (see Note 4)	Metals (see Note 5)	Paper/ cardboard packaging (see Note 5)	Plastics (see Note 2, 5)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3	(in ,000m^3)	(in ,000m^3)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m^3)
Jan	0	0	0	0	0	0	198.1311	36.4775	0	0	0	0	0	0.0065
Feb	0	0	0	0	0	0	143.9511	20.9960	0	0	0	0	0	0.6305
Mar	0	0	0	0	0	0	103.1833	23.4510	0	0	0	0	0	0.0130
Apr	0	0	0	0	0	0	161.2956	27.2810	0	0	0	0	0	0.0130
May	0	0	0	0	0	0	193.3300	20.5265	0	0	0	0	0	0.0715
Jun	0	0	0	0	0	0	141.5728	23.7825	0	0.2440	0	0	0	0.0455
Sub-total	0	0	0	0	0	0	941.4639	152.5145	0	0.2440	0	0	0	0.7800
Jul	0	0	0	0	0	0	105.1083	30.6065	0	0	0	0	0	0.0195
Aug	0	0	0	0	0	0	11.1822	7.5180	0	0	0	0	0	0.0130
Sep	0	0	0	0	0	0	0	5.7575	0	0	0	0	0.6000	0.0390
Oct	0	0	0	0	0	0	0	6.8885	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	6.2975	0	0.1610	0	0	0	0.0130
Dec	0	0	0	0	0	0	0	5.9235	0	0	0	0	0	0
Total	0	0	0	0	0	0	1057.7544	215.5060	0	0.4050	0	0	0.6000	0.8645

Notes:
(1) Broken concrete for recycling into aggregates.
(2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
(3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m^3 by volume.
(4) Use the conversion factor: sand density = 1.6T/m^3, public fill density = 1.8T/m^3 and rock density = 2T/m^3.
(5) Materials recycled.

吉寶西格斯 - 振華聯營公司

Keppel Seghers - Zhen Hua Joint Venture

Monthly Summary Waste Flow Table for 2022 (year)

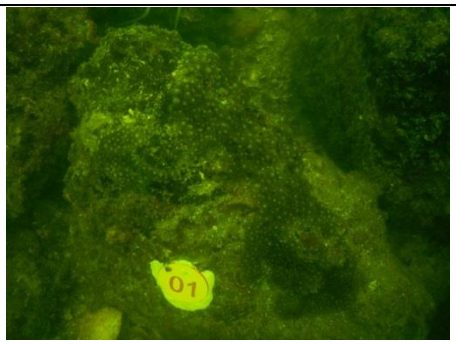
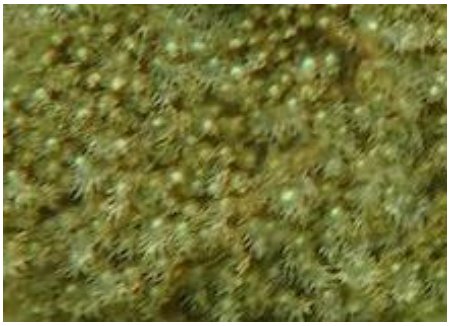
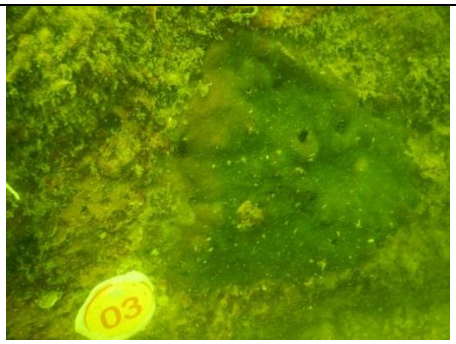
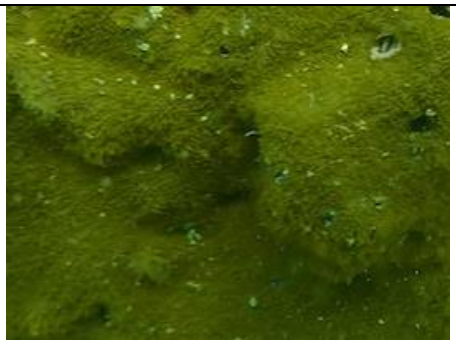
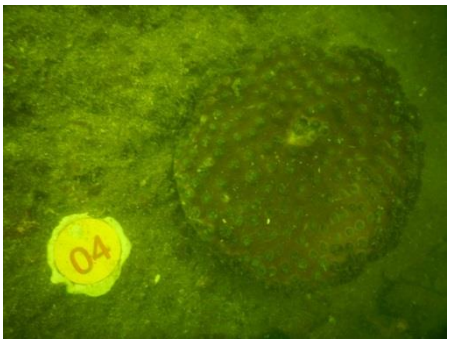
Project : Integrated Waste Management Facilities, Phase 1 Contract No.: EP/SP/66/12

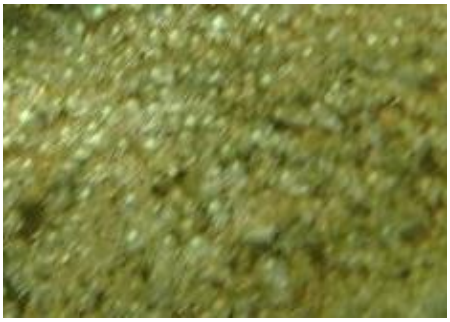
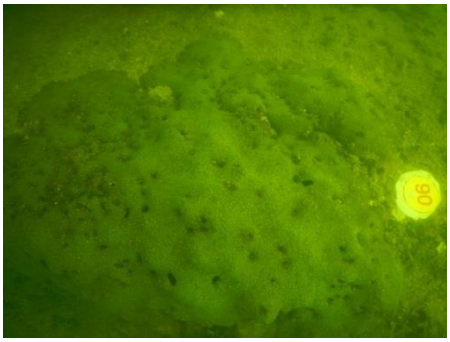
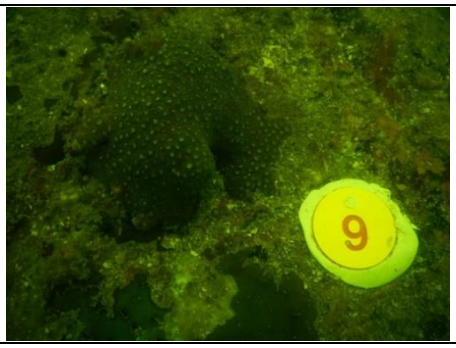
Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects (see Note 4)	Disposed as Public Fill (see Note 4)	Imported Fill Sand (see Note 4)	Imported Fill Public fill (see Note 4)	Imported Fill Rock (see Note 4)	Metals (see Note 5)	Paper/ cardboard packaging (see Note 5)	Plastics (see Note 2, 5)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3	(in ,000m^3)	(in ,000m^3)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m^3)
Jan	0	0	0	0	0	0	4.9389	2.7070	0	0.1550	0	0	0	0.0715
Feb	0	0	0	0	0	0	3.2478	4.0290	0	0	0	0.4000	0.2250	0
Mar	0	0	0	0	0	0	2.3422	2.7820	0	0	0	0	0	0.0780
Apr	0	0	0	0	0	0	18.2189	5.8100	0	0.3120	0	0	0	0.1495
May	0.0648	0	0	0	0.0648	0	16.7711	17.2320	0	0	0	0	0	0.0975
Jun	0.0037	0	0	0	0.0037	0.2115	1.1128	14.1470	36.3000	0.3890	0	0	1.7250	0.0975
Sub-total	0.0685	0	0	0	0.0685	0.2115	46.6317	46.7070	36.3000	0.8560	0	0.4000	1.9500	0.4940
Jul	25.7183	0	0	25.7183	0	0.1125	0.8333	17.5210	0	0.6400	0.0060	0	0	0.1235
Aug	13.2494	0	0	13.2494	0	0	0	24.5210	76.0300	1.8870	0	0	0	0.1170
Sep	24.9072	0	0	24.8494	0.0578	0	0	16.2815	72.0600	0.3060	0	0	0	0.1885
Oct	13.3139	0	0	13.3006	0.0133	0	0	11.8665	78.1000	0.5800	0	0	0	0.2405
Nov	26.5583	0	0	26.5583	0	0	0	7.2055	0	0	0	0	0	0.1105
Dec	29.1411	0	0	29.1411	0	0	0	3.5174	0	0	0	0	0	0.2535
Total	132.9567	0	0	132.8171	0.1396	0.3240	47.4650	127.6199	262.4900	4.2690	0.0060	0.4000	1.9500	1.5275

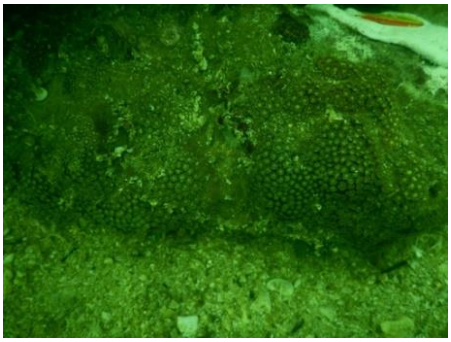
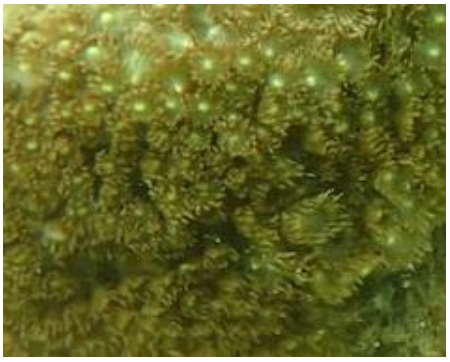
Notes:
(1) Broken concrete for recycling into aggregates.
(2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
(3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m^3 by volume.
(4) Use the conversion factor: sand density = 1.6T/m^3, public fill density = 1.8T/m^3 and rock density = 2T/m^3.
(5) Materials recycled.

Appendix F Photo Records for Coral Monitoring

Photo Plate for Tagged and Re-tagged Corals at Control Site during the 16th Quarterly Coral Monitoring during Construction Phase on 29 December 2022

Tag #	Baseline (26 June 2018 & 3 December 2018)	29 December 2022
#1	 *Goniopora stutchburyi*	 *Goniopora stutchburyi*
#2R	 *Goniopora stutchburyi*	 *Goniopora stutchburyi*
#3	 *Psammocora superficialis*	 *Psammocora superficialis*
#4	 *Turbinaria peltata*	 *Turbinaria peltata*

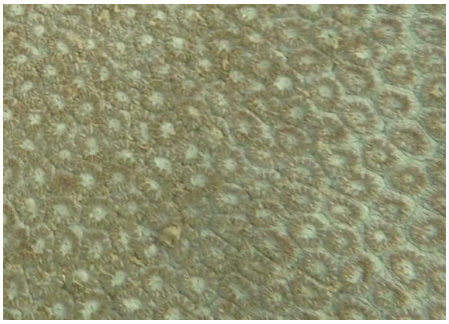
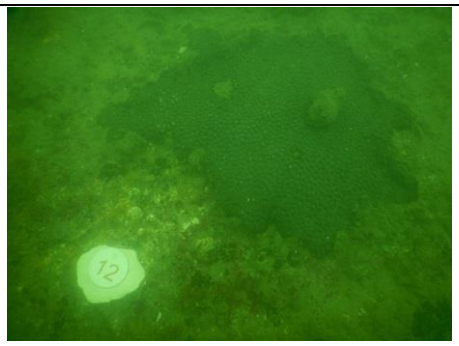
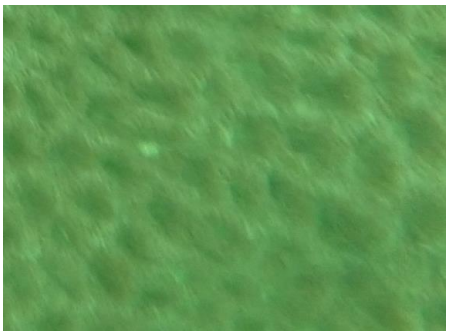
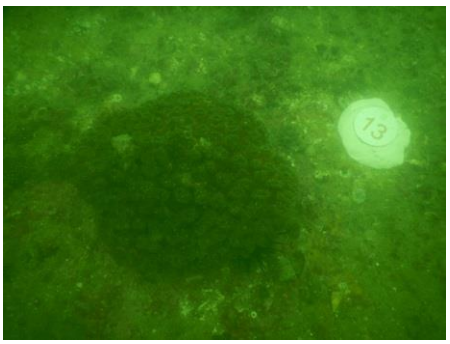
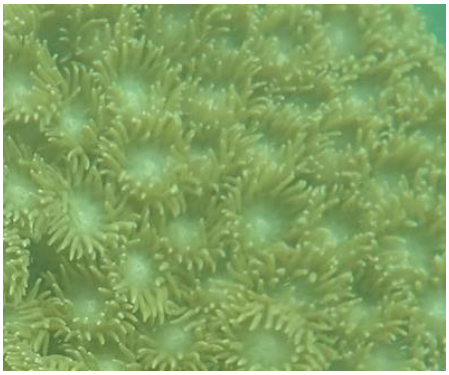
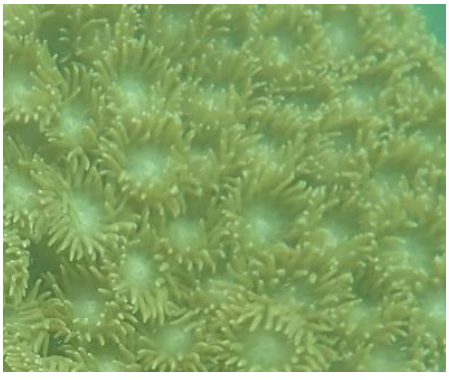
Tag #	Baseline (26 June 2018 & 3 December 2018)	29 December 2022
#5R	 *Goniopora stutchburyi*	 *Goniopora stutchburyi*
#6	 *Cyphastrea serailia*	 *Cyphastrea serailia*
#7R	 *Coscinaraea* sp.	 *Coscinaraea* sp.
#8	 *Goniopora stutchburyi*	 *Goniopora stutchburyi*
#9		

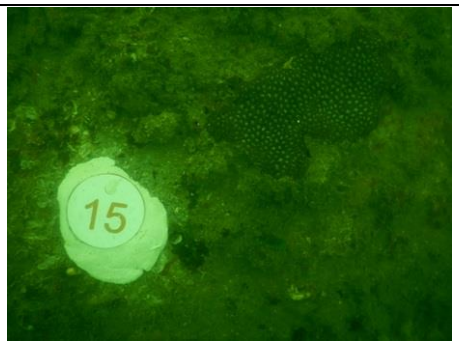
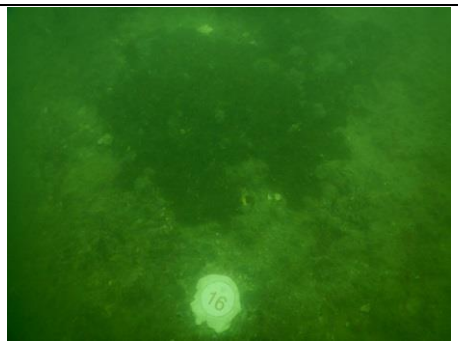
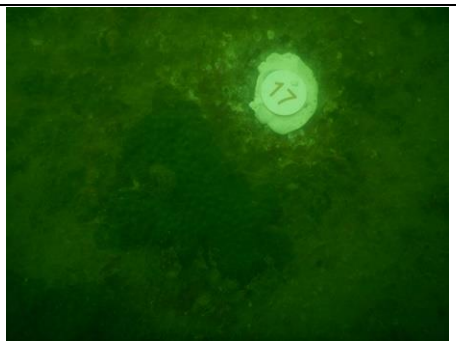
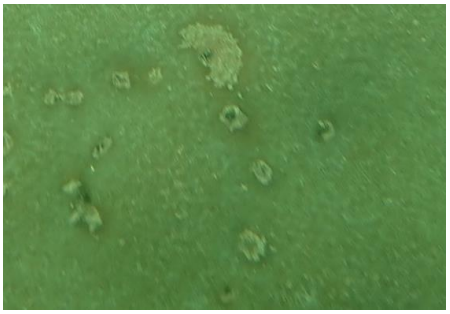
Tag #	Baseline (26 June 2018 & 3 December 2018)	29 December 2022
	Goniopora stutchburyi	*Goniopora stutchburyi*
#10R	 *Goniopora stutchburyi*	 *Goniopora stutchburyi*

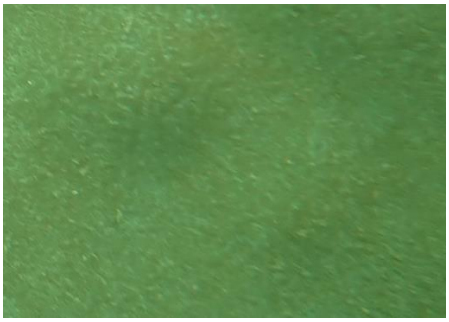
Notes:

i. The re-tagged corals were marked as ##**R**.

Photo Plate for Re-tagged Corals at Indirect Impact during the 16th Quarterly Coral Monitoring during Construction Phase on 29 December 2022

Tag #	Baseline (23 November 2018)	29 December 2022
#11R	 *Cyphastrea serailia*	 *Cyphastrea serailia*
#12R	 *Favites chinensis*	 *Favites chinensis*
#13R	 *Turbinaria peltata*	 *Turbinaria peltata*
#14R	 *Favites chinensis*	 *Favites chinensis*

Tag #	Baseline (23 November 2018)	29 December 2022
#15R	 *Goniopora stutchburyi*	 *Goniopora stutchburyi*
#16R	 *Psammocora superficialis*	 *Psammocora superficialis*
#17R	 *Favites chinensis*	 *Favites chinensis*
#18R	 *Psammocora superficialis*	 *Psammocora superficialis*
#19R	 *Psammocora superficialis*	 *Psammocora superficialis*

Tag #	Baseline (23 November 2018)	29 December 2022
#20R	 *Psammocora superficialis*	 *Psammocora superficialis*

Notes:

i. The re-tagged corals were marked as ##**R**.

Appendix G Photo Records for Marine Mammal Monitoring

Photo records of Vessel-based Line-Transect Survey Effort during the reporting period

Line-transect survey during October 2022:

Line-transect survey during November 2022:

NB_20221110_111756_0004_MED

NB_20221110_111757_0007_MED

NB_20221110_111757_0009_MED

NB_20221110_111947_0027_MED

Line-transect survey during December 2022:

Appendix H Photo Records for White-bellied Sea Eagle Monitoring

Photo Plate for 52nd Monthly WBSE monitoring

One adult WBSE staying near the nest on 27 October 2022

Photo Plate for 53rd Monthly WBSE monitoring

Two adult WBSE staying near the nest on 24 November 2022

Photo Plate for 54th Monthly WBSE monitoring

One adult female WBSE staying in nest for incubation on 29 December 2022

One adult male WBSE recorded near the nest area on 29 December 2022

Appendix I Complaint Log

Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
1 Oct 2022-31 Oct 2022	0	1	N/A
1 Nov 2022-30 Nov 2022	0	1	N/A
1 Dec 2022-31 Dec 2022	0	1	N/A

Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Details
1 Oct 2022-31 Oct 2022	0	0	N/A
1 Nov 2022-30 Nov 2022	0	0	N/A
1 Dec 2022-31 Dec 2022	0	0	N/A

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Details
1 Oct 2022-31 Oct 2022	0	0	N/A
1 Nov 2022-30 Nov 2022	0	0	N/A
1 Dec 2022-31 Dec 2022	0	0	N/A