香港電燈有限公司 The Hongkong Electric Co., Ltd.



Lamma Power Station Extension Construction Phase Monthly Environmental Monitoring & Audit Report

October 2021



ENVIRONMENTAL IMPACT ASSESSMENT (EIA) ORDINANCE, CAP. 499

ENVIRONMENTAL PERMIT NO. EP-071/2000/D

LAMMA POWER STATION EXTENSION ENVIRONMENTAL MONITORING & AUDIT PROGRAMME AT CONSTRUCTION PHASE

Report Title	Lamma Power Station Extension – Unit L11 & L12 Monthly EM&A Report (October 2021)
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EXECUTIVE SUMMARY

This is the 138th monthly Environmental Monitoring and Audit (EM&A) report for the Project "Construction of Lamma Power Station Extension" prepared by the Environmental Team (ET). This report presents the results of impact monitoring on air quality and noise for the said project in October 2021.

The reclamation and submarine pipeline works were completed with the first gas-fired combined cycle unit (viz. Unit L9) commissioned in October 2006, working currently on base load operation. To cope with the scheduled retirement of the existing units at Lamma Power Station, the second gas-fired combined cycle unit (viz. Unit L10) L10 was commissioned for reliable operation in February 2020. The operational EM&A work for L9 and L10 is recorded in the separate monthly EM&A report for the Project "Operation of Lamma Power Station Extension".

In September 2016, the Government approved HK Electric to construct the third combined cycle gasfired generating unit (L11) to implement the 2020 Fuel Mix Target. L11 is planned for commercial operation in 2022 and the associated construction work commenced in November 2016.

With the Government's approval to build the fourth combined cycle gas-fired generating unit (L12) in July 2018, the associated construction work commenced in April 2019. When L12 is commissioned in 2023, the total gas-fired electricity generation will further rise to reach about 70% of our total output.

Air and noise monitoring were performed. The results were checked against the established Action/Limit (AL) levels. An on-site audit was conducted once per week. The implementation status of the environmental mitigation measures, Event/Action Plan and environmental complaint handling procedures were also checked.

Construction Activities Undertaken

Construction activities for Lamma Extension during the reporting month are tabulated as follows:

Item	Construction Activities	
Unit L11 Civil and Building Works	Main Station Building external works and pipe jacking	
Unit L11 Mechanical Erection	Condenser installation, HRSG installation and turbine block installation	
Unit L11 Electrical, Instrumentation & Control Erection	Cable installation	
Unit L12 Civil and Building Works	Installation of columns and beam for Main Station Building, construction of No. 5 Chimney, construction of superstructure for ACB, installation of pipe and backfilling works for No. 5 C.W. Culvert, installation of precast beam for Cable Bridge (North & South), construction of pile cap for shunt reactor compound extension and soil nailing for No. 5 C.W. Intake.	

Environmental Monitoring Works

All monitoring work at designated stations was performed as scheduled satisfactorily.

Air Quality

No exceedance of Action/Limit levels on 1-hour TSP and 24-hour TSP for air quality was recorded in the month.

Noise

No exceedance of Action and Limit levels for noise arising from the construction of Lamma Extension was recorded in the month.

Site Environmental Audit

EPD officials from Regional Office (South) visited Lamma Power Station on 20/10/2021. There was no adverse comment from EPD regarding the construction site.

Site audits were carried out on a weekly basis to monitor environmental issues on the construction site. The site conditions were generally satisfactory.

Environmental Licensing and Permitting

Description	Permit No.	ermit No. Valid Period		Issued To	Date of
_		From	To		Issuance
Varied Environmental Permit	EP-071/2000/D	28/09/20	-	HK Electric	28/09/20
Construction Noise Permit	GW-RS0436-21	01/07/21	31/12/21	Contractor	15/06/21
Construction Noise Permit	GW-RS0600-21	08/08/21	07/02/22	Contractor	06/08/21
Construction Noise Permit	GW-RS0790-21	23/10/21	21/04/22	Contractor	21/10/21
WPCO Discharge Licence	WT00034006-2019	08/08/19	31/08/24	Contractor	22/08/19
WPCO Discharge Licence	WT00037613-2021	15/04/21	30/04/26	Contractor	15/04/21
WPCO Discharge Licence	WT00037665-2021	06/05/21	31/05/26	Contractor	06/05/21
Registration of Chemical Waste Producer	WPN5213-912- P2781-22	22/02/16	-	Contractor	22/02/16
Registration of Chemical Waste Producer	WPN5517-912- T2007-02	17/03/05	-	Contractor	17/03/05
Waste Disposal Billing Account	Account No.: 7031135	21/06/18	-	Contractor	21/06/18
Waste Disposal Billing Account	Account No.: 7027672	24/04/17	-	Contractor	24/04/17
Waste Disposal Billing Account	Account No.: 7038672	27/10/20	-	Contractor	27/10/20
Waste Disposal Billing Account	Account No.: 7039272	08/01/21	-	Contractor	08/01/21

Implementation Status of Environmental Mitigation Measures

Environmental mitigation measures for the construction activities as recommended in the EM&A manual were implemented in the reporting month.

Environmental Complaints

No complaint against the construction activities was received in the reporting month.

Future Key Issues

The future key issues to be considered in the coming month are as follows:

Unit L11 Civil and Building Works

- to continue executing the preventive measures for avoiding noise exceedance and keep monitoring/reviewing the performance;
- to monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary;
- to treat wastewater in sedimentation pit and tanks before discharge and to ensure compliance with the WPCO discharge licence already obtained.

Unit L11 Mechanical Erection

- to continue monitoring the noise level during construction and to ensure compliance with the CNP's already obtained;
- to continue executing the preventive measures for avoiding noise exceedance and keep monitoring/reviewing the performance;
- to monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Unit L11 Electrical, Instrumentation & Control Erection

- to continue monitoring the noise level during construction and to ensure compliance with the CNP's already obtained;
- to continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the performance;
- to monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Unit L12 Civil and Building Works

- to continue monitoring the noise level during construction and to ensure compliance with the CNP's already obtained;
- to monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary;
- to treat wastewater in sedimentation pit and tanks before discharge and to ensure compliance with the WPCO discharge licence already obtained;

Concluding Remarks

The environmental performance of the project was generally satisfactory.

1. INTRODUCTION

1.1 Background

The Environmental Team (hereinafter called the "ET") was formed within the Hongkong Electric Co. Ltd (HEC) to undertake Environmental Monitoring and Audit for "Construction of Lamma Power Station Extension" (hereinafter called the "Project"). Under the requirements of Section 6 of Environmental Permit EP-071/2000/D, an EM&A programme for impact environmental monitoring set out in the EM&A Manual (Construction Phase) is required to be implemented. In accordance with the EM&A Manual, environmental monitoring of air quality, noise and water quality and regular environmental audits are required for the Project. With the completion of reclamation and submarine pipeline works, no further marine water quality monitoring would be required.

The Project involves the construction of a gas-fired power station employing combined cycled gas turbine technology, forming an extension to the existing Lamma Power Station. The key elements of the Project including the construction activities associated with the transmission system and submarine gas pipeline are outlined as follows.

- dredging and reclamation to form approximately 22 hectares of usable area;
- construction of six 300MW class gas-fired combined cycle units;
- construction of a gas receiving station;
- construction of a transmission system linking the Lamma Extension to load centres on Hong Kong Island;
- laying of a gas pipeline for the supply of natural gas to the new power station

This report summarizes the environmental monitoring and audit work for the Project for the month of October 2021.

1.2 Project Organisation

An Environmental Management Committee (EMC) has been set up in HEC to oversee the Project. The management structure includes the following:

- Environmental Protection Department (The Authority);
- Environmental Manager (The Chairman of the Environmental Management Committee);
- Engineer:
- Independent Environmental Checker (IEC);
- Environmental Team (ET);
- Contractor.

The project organisation chart for the construction EM&A programme is shown in Appendix A.

1.3 Construction Works undertaken during the Reporting Month

Construction activities for Unit L11 civil and building works were, Main Station Building external works and pipe jacking. Construction activities for Unit L11 mechanical erection were condenser installation, HRSG installation and turbine block installation. Construction activity for Unit L11 electrical, instrumentation & control erection was cable installation. Construction activities for Unit L12 civil and building works were, installation of columns and beam for Main Station Building, construction of No.5 Chimney, construction of superstructure for ACB,

installation of pipe and backfilling works for No. 5 C.W. Culvert, and installation of precast beam for Cable Bridge (North & South), construction of pile cap for shunt reactor compound extension and soil nailing for No. 5 C.W. Intake. Layout plan for construction site is shown in Figure 1.1.

The main construction activities carried out during the reporting month and the corresponding environmental mitigation measures are summarized in Table 1.1. The implementation of major mitigation measures in the month is provided in Appendix I.

Table 1.1 Construction Activities and Their Corresponding Environmental Mitigation Measures

Item	Construction Activities	Environmental Mitigation Measures		
Unit L11	Unit L11 Civil and Building Works			
1.	Main Station Building external works and pipe jacking	Air - All regulated machine attached with valid exception/approval NRMM labels. - Water truck and water sprinkler system was used. - Excavated slope and soil stock covered with cement or tarpaulin. - Backfilled surface was compacted. - Wheel washing facility was provided. Wastewater - Wastewater should be treated in desilting pit and tanks before discharge. Solution should be added to speed up the sedimentation process. Sediment in pit		
		and tanks must be removed regularly. The frequency would be from every other day to weekly basis depends on the volume of sediment accumulated in order to maintain sufficient volume for wastewater treatment.		
		Waste Management - Excavated soil was temporary stored for backfilling. - Scrape metal would be recycled. - Timber would be reused as much as possible.		
Unit L11	Unit L11 Mechanical Erection			
2.	Condenser installation	Air - Dust suppression measures implemented according to		
	HRSG installation Turbine block installation	the EMP. Noise		
	-	General noise mitigation measures employed at all		

Item	Construction Activities	Environmental Mitigation Measures	
		work sites throughout the construction phase.	
		Waste Management	
		Waste Management Plan submitted and implemented	
Unit L1	1 Electrical, Instrume	entation & Control Erection	
3.	Cable installation	Air - Dust suppression measures implemented according to the EMP. Noise - General noise mitigation measures employed at all	
		work sites throughout the construction phase.	
		Waste Management	
		 Waste Management Plan submitted and implemented. 	
Unit L1	Unit L12 Civil and Building Works		
4.	Unit L12 Main Station Building Installation of Columns and beam Construction of No.5 Chimney ACB Construction of superstructure No.5 C.W. Culvert installation of pipe and backfilling works	Wastewater - Wastewater should be treated in desilting pit and tanks before discharge. Solution should be added to speed up the sedimentation process. Sediment in pit and tanks must be removed regularly. The frequency would be in weekly basis depends on the volume of sediment accumulated in order to maintain sufficient volume for wastewater treatment.	
		Waste Management - Excavated soil was temporary stored for backfilling	

Item	Construction Activities	Environmental Mitigation Measures	
		 and reuse in other projects. Scrape metal would be recycled. Chemical waste should be collected by licensed collector. 	
5.	Cable Bridge (North & South): Installation of precast beam Shunt Reactor Compound Extension Construction of pile cap No. 5 C.W. Intake Soil nailing	Air - All regulated machine attached with valid exception/approval NRMM labels. - Noise emission level was provided for air compressor. - Using canvas to cover 3 sides and top of the grouting station. - Water truck, water sprinkler system and mist cannon were used. - Excavated soil slop covered with tarpaulin. - Wheel washing facilities was provided. - Water spraying on haul road and during concrete breaking. Waste Management - Excavated soil would be stored for backfilling. Wastewater - Wastewater would be treated in desilting tanks before discharge.	

1.4 Summary of EM&A Requirements

The detailed EM&A monitoring work for air quality and noise are described in Sections 2 and 3 respectively. Regular environmental site audits for air quality, noise, water quality and waste management were carried out.

The following environmental audits are summarized in Section 4 of this report:

- Environmental monitoring results;
- Waste Management Records;
- Weekly site audit results;
- The status of environmental licensing and permits for the Project;
- The implementation status of environmental protection and pollution control/ mitigation measures.

Future key issues will be reported in Section 5 of this report.

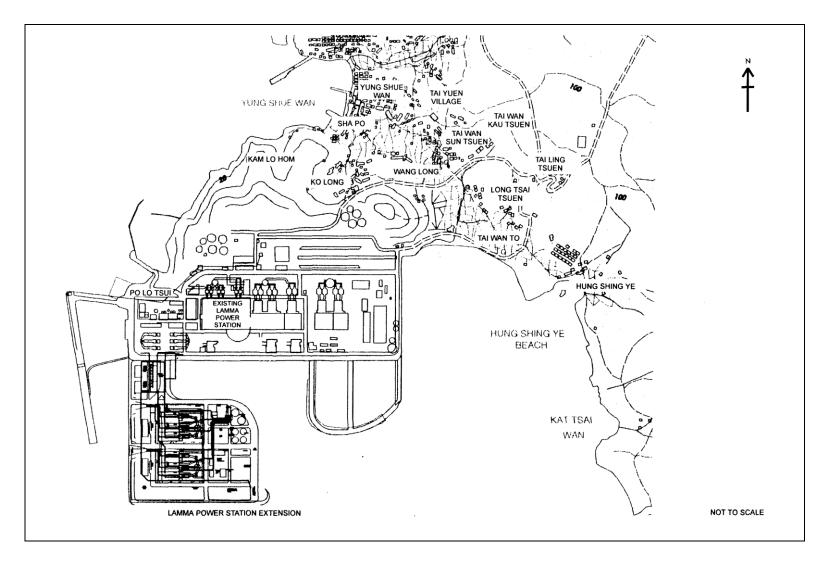


Figure 1.1 Layout of Work Site

2. AIR QUALITY

2.1 Monitoring Requirements

1-hour and 24-hour TSP monitoring at agreed frequencies were conducted to monitor air quality. The impact monitoring data were checked against the Action/Limit Levels as determined in the Baseline Monitoring Report (Construction Phase). Appendix B shows the established Action/Limit Levels for Air Quality.

2.2 Monitoring Locations

Three dust monitoring locations were selected for 1-hour TSP sampling (AM1, AM2 & AM3) while four monitoring locations were selected for 24-hour TSP sampling (AM1, AM2, AM3 and AM4). Table 2.1 tabulates the monitoring stations. The locations of the monitoring stations are shown in Figure 2.1.

Table 2.1 Air Quality Monitoring Locations

Location I.D.	Description
AM1	Reservoir
AM2	East Gate
AM3	Ash Lagoon
AM4	Tai Yuen Village

2.3 Monitoring Equipment

It is agreed with EPD that continuous 24-hour TSP air quality monitoring would be performed using TEOM continuous dust monitor and the MINIVOL Portable Sampler at AM1,2&3 and AM4 respectively. TEOM continuous dust monitors were used to carry out 1-hour TSP monitoring at AM1, AM2 and AM3. Table 2.2 summarises the equipment used in dust monitoring.

Table 2.2 Air Quality Monitoring Equipment

Equipment	Model and Make
24-hour sampling:	
Continuous TSP Dust Meter	TEOM continuous dust monitor Thermo Scientific
MINIVOL Portable Sampler	AIRMETRICS
1-hour sampling: Continuous TSP Dust Meter	TEOM continuous dust monitor Thermo Scientific

2.4 Monitoring Parameters, Frequency and Duration

Table 2.3 summarises the monitoring parameters, duration and frequency of air quality monitoring. The monitoring schedule for the reporting month is shown in Appendix C.

Table 2.3 Air Quality Monitoring Parameter, Duration and Frequency

Monitoring Stations	Parameter	Duration	Frequency
AM1	1-hour TSP	1	3 hourly samples every 6 days
AWII	24-hour TSP	24	Once every 6 days
AM2	1-hour TSP	1	3 hourly samples every 6 days
AlVIZ	24-hour TSP	24	Once every 6 days
AM2	1-hour TSP	1	3 hourly samples every 6 days
AM3	24-hour TSP	24	Once every 6 days
AM4	24-hour TSP	24	Once every 6 days

2.5 Monitoring Procedures and Calibration Details

MINIVOL (24- hour TSP Monitoring):

Preparation of Filter Papers

- Visual inspection of filter papers was carried out to ensure that there were no pinholes, tears and creases;
- The filter papers were then labeled before sampling.
- The filter papers were equilibrated at room temperature and relative humidity < 50% for at least 24 hours before weighing.

Field Monitoring

- During collection of the sampled filter paper, the information on the elapse timer was logged. Site observations around the monitoring stations, which might have affected the monitoring results, were also recorded. Major pollution sources, if any, would be identified and reported.
- The post-sampling filter papers were removed carefully from the filter holder and folded to avoid loss of fibres or dust particles from the filter papers;
- The filter holder and its surrounding were cleaned;
- A pre-weighed blank filter paper for the next sampling was put in place and aligned carefully. The filter holder was then tightened firmly to avoid leakage;
- The programmable timer was set for the next 24 hrs sampling period;
- The post-sampling filter papers were equilibrated at room temperature and relative humidity < 50% for at least 24 hours before weighing.

TEOM continuous dust monitor (24- hour TSP and 1- hour TSP Monitoring):

- The following parameters of the TEOM model dust meters are regularly checked to ensure proper functionality:
 - Operation Mode;
 - o Frequency of the tapered element;
 - o Main flow;
 - Bypass flow.

Maintenance & Calibration

• The monitoring equipment and their accessories are maintained in good working conditions.

• Monitoring equipment is calibrated at monthly intervals. Calibration details are shown in Appendix F.

2.6 Results and Observations

All dust monitoring works were conducted on schedule. All monitoring data and graphical presentation of the monitoring results are provided in Appendix D. Key findings and observations are provided below:

1-hour TSP

No exceedance of 1-hour TSP Action/Limit Level was recorded in the month.

24-hour TSP

No exceedance of 24-hour TSP Action/Limit Level was recorded in the month.

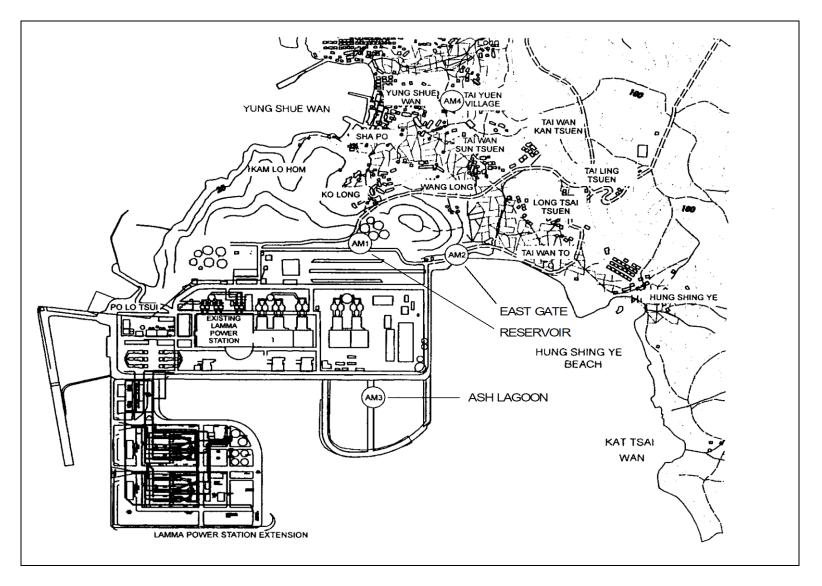


Figure 2.1 Location of Air Quality Monitoring Stations

3. NOISE

3.1 Monitoring Requirements

Continuous noise alarm monitoring at Ash Lagoon/Ching Lam were carried out to calculate the noise contributed by the construction activities at the two critical NSR's, viz. Long Tsai Tsuen/Hung Shing Ye and the school within the village of Tai Wan San Tsuen. The impact monitoring data for construction noise were checked against the limit levels specified in the EM&A Manual. With the availability of the construction noise permits, impact monitoring for the construction work during the restricted hours was also carried out. Section 3 presents the details of the construction noise permits.

The impact noise monitoring data were checked against the limit levels specified in the EM&A Manual. Appendix B shows the established Action/Limit Levels for noise.

3.2 Monitoring Locations

In accordance with the EM&A manual, the identified noise monitoring locations of Ash Lagoon and Ching Lam are shown in Figure 3.1.

3.3 Monitoring Equipment

The sound level meters used for noise monitoring complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1). The noise monitoring equipment used is shown in Table 3.1.

Table 3.1 Noise Monitoring Equipment

Equipment	Model
Sound level meters	B&K 2250
Sound level calibrator	B&K 4231 / GRAS 42AG

3.4 Monitoring Parameters, Frequency and Duration

Continuous alarm monitoring was carried out at Ash Lagoon and Ching Lam. The measurement duration and parameter of noise monitoring were presented in Table 3.2 as follows:

Table 3.2 Noise Monitoring Duration and Parameter

Location	Time Period	Frequency	Parameter
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	Day-time: 0700-1900 hrs on normal weekdays	Day-time: 30 minutes	30-min L _{Aeq}
Ash Lagoon Ching Lam	Evening-time & holidays: 0700-2300 hrs on holidays; and 1900-2300 hrs on all other days	Evening-time & holidays: 5 minutes	5-min L _{Aeq}
omig zum	Night-time: 2300-0700 hrs of next day	Night-time: 5 minutes	5-min L _{Aeq}

3.5 Monitoring Procedures and Calibration Details

Monitoring Procedures

Continuous Noise Monitoring for Lamma Extension Construction

The measured noise levels (MNL's) were collected at the noise alarm monitoring stations at Ash Lagoon and Ching Lam. The notional background noise levels (viz. baseline noise data at Ash Lagoon and Ching Lam) were applied to correct the corresponding MNL's in 30-min/5-min L_{Aeq}.

A wind speed sensor was installed at Station Building Rooftop. The wind speed signal was used to determine whether the data from Ash Lagoon and Ching Lam noise alarm monitoring stations were affected. The instantaneous data was discarded in case the instantaneous wind speed exceeded 10 m/s. The 30-min/5-min L_{Aeq} was considered valid only if the amount of valid data was equal to or above 70%.

Equipment Calibration

The sound level meters and calibrators were verified by the manufacturer or accredited laboratory. With the endorsement of the Independent Environmental Checker, the enhancement of calibration of sound level meter at the noise monitoring stations was implemented. The monthly manual on-site calibration using sound level calibrator was replaced by the daily auto charge injection calibration function of the sound level meter. For additional quality assurance, manual on-site calibration would still be conducted for the noise monitoring stations once every 6 months. The manual on-site calibrations for Ash Lagoon and Ching Lam noise monitoring stations were carried out in September 2021. The next calibrations for the two noise monitoring stations were scheduled in March 2022.

3.6 Results and Observations

Continuous noise monitoring was conducted at the two monitoring stations at Ash Lagoon and Ching Lam.

All monitoring results and their graphical presentations are provided in Appendix E. No exceedance of noise Action/Limit Level was recorded in the month.

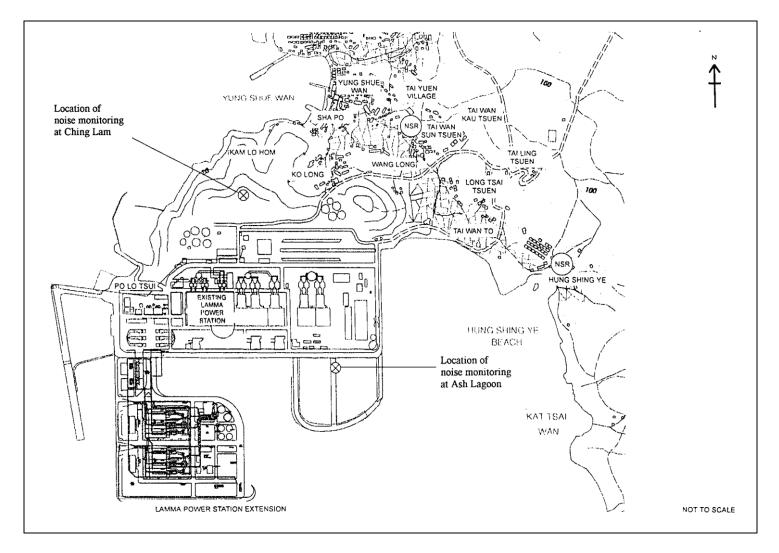


Figure 3.1 Location of Noise Monitoring Stations

4. ENVIRONMENTAL AUDIT

4.1 Review of Environmental Monitoring Procedures

The environmental monitoring procedures were regularly reviewed by the Environmental Team. No modification to the existing monitoring procedures was recommended.

4.2 Assessment of Environmental Monitoring Results

Monitoring results for Air Quality and Noise

The environmental monitoring results for Air Quality and Noise in the reporting month presented in Sections 2 and 3 respectively are summarized in Table 4.1.

Table 4.1 Summary of AL Level Exceedances on Monitoring Parameters

Item	Parameter Monitored	Monitoring Period		of ances In	Event/Action Plan Implementation Status
			Action Level	Limit Level	and Results
Air					
1	Ambient TSP (24-hour)	01/10/2021- 31/10/2021	0	0	
2	Ambient TSP (1-hour)	01/10/2021- 31/10/2021	0	0	
Noise					
1	Noise level at the critical NSR's predicted by the noise alarm monitoring system	01/10/2021- 31/10/2021	0	0	

4.3 Waste Management

Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. Inert C&D materials comprise excavated materials and broken concrete. Non-inert C&D materials comprise general refuse, metals and paper/ cardboard packaging, plastics, chemical waste, etc.

Inert C&D material and non-inert C&D material disposed of in October 2021 are shown in Table 4.2.

Table 4.2 Estimated Amounts of Waste in October 2021

	Non-inert C&D Materials			
Total Inert C&D Waste Materials	C&D Materials Recycled	C&D Waste Disposed of at Landfill	Chemical Waste	

0 Tonnes	17.47 Tonnes	127.98 Tonnes	0 Litres
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The monthly waste flow tables prepared by the contractors are attached in Appendix K

4.4 Site Environmental Audit

EPD officials from Regional Office (South) visited Lamma Power Station on 20/10/2021. There was no adverse comment from EPD regarding the construction site.

Site audits were carried out by ET on a weekly basis to monitor environmental issues at the construction sites to ensure that all mitigation measures were implemented timely and properly. The site audit findings for the reporting month are summarized in Appendix H. The site conditions were generally satisfactory. All required mitigation measures were implemented.

4.5 Status of Environmental Licensing and Permitting

All permits/licenses obtained for the project are summarised in Table 4.3.

Table 4.3 Summary of Environmental Licensing and Permit Status

Description	Description Permit No. Valid Period		Highlights	Status	
_		From	To		
Varied Environmental Permit	EP-071/2000/D	28/09/20	-	The whole construction work site	Valid
Construction Noise Permit	GW-RS0436-21	01/07/21	31/12/21	Power Block Facilities works for Unit L11. Operation of PME during restricted hours	Valid
Construction Noise Permit	GW-RS0600-21	08/08/21	07/02/22	Civil and Building Works for Unit L12. Operation of PME during restricted hours	Valid
Construction Noise Permit	GW-RS0790-21	23/10/21	21/04/22	Construction site of Unit L12. Operation of PME during restricted hours	Valid
WPCO Discharge Licence#	WT00034006- 2019	08/08/19	31/08/24	Civil and Building Works for Unit L11	Valid
WPCO Discharge Licence##	WT00037613- 2021	15/04/21	30/04/26	Civil and Building Works for No.5 C.W. Intake and Cable Bridge	Valid
WPCO Discharge Licence###	WT00037665- 2021	06/05/21	31/05/26	Civil and Building Works for Unit L12	Valid

Description	Permit No.	Permit No. Valid Period		Highlights	Status
_		From	To		
Registration of Chemical Waste Producer	WPN5213-912- P2781-22	22/02/16	-	Civil and Building Works	Valid
Registration of Chemical Waste Producer	WPN5517-912- T2007-02	17/03/05	-	E&M Equipment Installation and Maintenance	Valid
Waste Disposal Billing Account	Account No.: 7031135	21/06/18	-	Civil and Building Works for Unit L11	Valid
Waste Disposal Billing Account	Account No.: 7027672	24/04/17	-	E&M Erection of Power Block Facilities – L11	Valid
Waste Disposal Billing Account	Account No.: 7038672	27/10/20	-	Civil works for Unit L12 No.5 C.W. intake and cable bridge	Valid
Waste Disposal Billing Account	Account No.: 7039272	08/01/21	-	Civil and building works for Unit L12	Valid

Notes: #, ## and ### - Water quality monitoring was carried out in August 2021 and the results of which had been reported separately by the contractor.

4.6 Implementation Status of Environmental Mitigation Measures

Mitigation measures detailed in the permits and the EM&A Manual (Construction Phase) are required to be implemented. An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is presented in Appendix I.

4.7 Implementation Status of Event/Action Plans

The Event/Action Plans extracted from the EM&A Manual (Construction Phase) are presented in Appendix G.

4.8 Implementation Status of Environmental Complaint Handling Procedures

In October 2021, no complaint against the construction activities was received.

Table 4.4 Environmental Complaints Received in October 2021

Case Reference / Date, Time Received / Date, Time Concerned	Descriptions / Actions Taken	Conclusion / Status
Nil	N/A	N/A

Table 4.5 Outstanding Environmental Complaints Carried Over

Case Reference / Date, Time Received / Date, Time Concerned	Descriptions / Actions Taken	Conclusion / Status
Nil	N/A	N/A

5. FUTURE KEY ISSUES

5.1 Key Issues for the Coming Month

Key issues to be considered in the coming month include:

Unit L11 Civil and Building Works

Noise Impact

• To continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the noise performance.

Air Impact

• To monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Water Impact

• To treat wastewater in sedimentation pit and tanks before discharge and to ensure compliance in accordance with the WPCO discharge licence already obtained.

Unit L11 Mechanical Erection

Noise Impact

- To continue monitoring the noise level during construction and to ensure compliance with the CNP's already obtained.
- To continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the noise performance.

Air Impact

• To monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Unit L11 Electrical, Instrumentation & Control Erection

Noise Impact

- To continue monitoring the noise level during construction and to ensure compliance with the CNP's already obtained.
- To continue executing the preventive measures for avoiding noise exceedance and keep monitoring/reviewing the noise performance.

Air Impact

• To monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Unit L12 Civil and Building Works

Noise Impact

To continue monitoring the noise level during construction and to ensure compliance with the CNP's already obtained.

Air Impact

• To monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Water Impact

• To treat wastewater in sedimentation pit and tanks before discharge and to ensure compliance in accordance with the WPCO discharge licence already obtained.

5.2 Monitoring Schedules for the Next 3 Months

The tentative environmental monitoring schedules for the next 3 months are shown in Appendix C.

5.3 Construction Program for the Next 3 Months

The tentative construction programs for the next 3 months are shown in Appendix J.

6. CONCLUSION

All monitoring work at designated stations was performed as scheduled satisfactorily. The environmental monitoring works and site inspection were performed as scheduled in the reporting month. All monitoring results were checked and reviewed.

No Action/Limit level exceedance on 1-hour and 24-hour TSP level was recorded in the reporting month.

No Action/Limit level exceedance on noise was recorded in the reporting month.

Environmental mitigation measures recommended in the EM&A manual for the construction activities were implemented in the reporting month. No complaint against the construction activities was received in the reporting month. No prosecution was received for this Project in the reporting period.

The environmental performance of the Project was generally satisfactory.

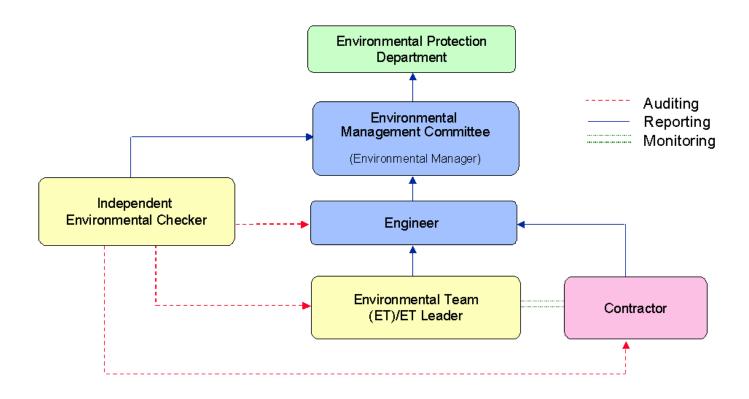


Figure A.1 Organisation of EM&A Programme at Construction Phase

Appendix B Action and Limit Levels for Air Quality and Noise Monitoring

B.1. Air

Table B.1 Action and Limit Levels for 1-hour and 24-hour TSP

	Action Level, μg/m ³	Limit Level, μg/m³
1-hour TSP*	340	500
24-hour TSP	190	260

* No Action/Limit Level for 1-hour TSP is applied to AM4 where no real time dust monitor is installed.

B.2. Noise

Table B.2 AL Levels for Construction Noise (Other than Percussive Piling)

Parameters	Action	Limit
Noise Levels at the NSR's at Long Tsai Tsuen/Hung Shing Ye and school within the village of Tai Wan San Tsuen predicted by the noise alarm monitoring system Manual noise monitoring at the nearest Pak Kok Tsui residences to cable landing points N4 and N5	When one or more documented complaints are received	 a. 75 dB(A) in L_{Aeq,30 min} (07:00-19:00 hrs on normal weekdays) (Note 1) b. subject to statutory control under the Noise Control Ordinance (07:00-23:00 hrs on holidays and 19:00-23:00 hrs on all other days). Set to 60 dB(A) in L_{Aeq,5 min} c. subject to statutory control under the Noise Control Ordinance (23:00-07:00 hrs of next day). Set to 45 dB(A) in
		L _{Aeq,5 min}
NI.4.		

Note:

1. For educational institution, the limit level shall be 70 dB(A), reduced to 65 dB(A) during examination periods.

Appendix C Environmental Monitoring Schedule

Table C.1 Monitoring schedule for 24hr and 1hr TSP monitoring for Lamma Extension Construction (October 2021 to January 2022)

24hr TSP Monitoring	1hr TSP Monitoring
3/October/2021	3/October/2021 1500hr to 1800hr
9/October/2021	9/October/2021 1500hr to 1800hr
15/October/2021	15/October/2021 1500hr to 1800hr
21/October/2021	21/October/2021 1500hr to 1800hr
27/October/2021	27/October/2021 1500hr to 1800hr
2/November/2021	2/November/2021 1500hr to 1800hr
8/November/2021	8/November/2021 1500hr to 1800hr
14/November/2021	14/November/2021 1500hr to 1800hr
20/November/2021	20/November/2021 1500hr to 1800hr
26/November/2021	26/November/2021 1500hr to 1800hr
2/December/2021	2/December/2021 1500hr to 1800hr
8/December/2021	8/December/2021 1500hr to 1800hr
14/December/2021	14/December/2021 1500hr to 1800hr
20/December/2021	20/December/2021 1500hr to 1800hr
26/December/2021	26/December/2021 1500hr to 1800hr
1/January/2022	1/January/2022 1500hr to 1800hr
7/January/2022	7/January/2022 1500hr to 1800hr
13/January/2022	13/January/2022 1500hr to 1800hr
19/January/2022	19/January/2022 1500hr to 1800hr
25/January/2022	25/January/2022 1500hr to 1800hr
31/January/2022	31/January/2022 1500hr to 1800hr

APPENDIX D AIR QUALITY MONITORING RESULTS

Site: Lamma Power Station Extension

Month: October 2021

24 hour TSP Measurement:-

	TSP concentration (μg/m³)				Weather Information (From Hong Kong Observatory)		
Date	Reservoir (AM1)	East Gate (AM2)	Ash Lagoon (AM3)	Tai Yuen Village (AM4)	Mean Wind Speed (km/hr)	Prevailing Wind Dir. (°)	Mean R.H.
3/10/2021	23	22	19	8	25.0	90	79
9/10/2021	21	27	15	-	58.8	100	91
12/10/2021	-	-	-	40*	62.4	360	65
15/10/2021	19	30	12	8	26.9	60	85
21/10/2021	25	33	26	14	20.3	360	80
27/10/2021	40	38	36	40	32.0	70	76

^{*}TSP sampling at AM4 on 9/10 was rescheduled to 12/10 due to typhoon

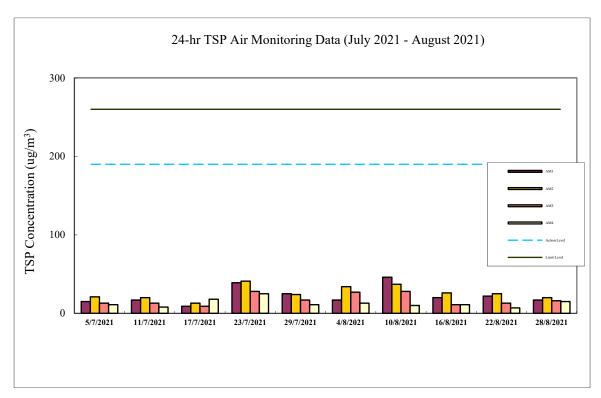
1 hour TSP Measurement:-

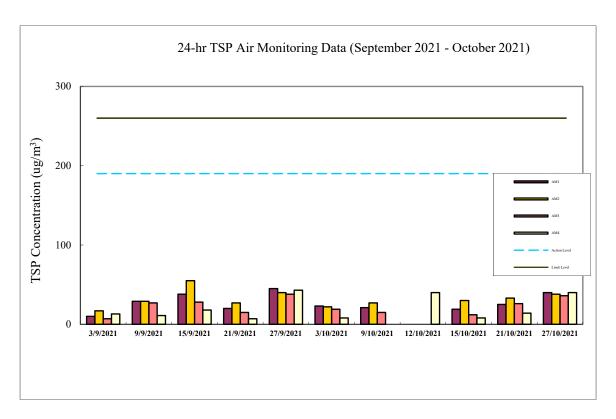
		TSP concentration (μg/m³)				
Date	Time	Reservoir (AM1)	East Gate (AM2)	Ash Lagoon (AM3)		
2/10/2021	15:00 - 15:59	27	23	19		
3/10/2021	16:00 - 16:59	25	25	20		
	17:00 - 17:59	33	28	25		
0/10/2021	15:00 - 15:59	20	32	18		
9/10/2021	16:00 - 16:59	21	29	21		
	17:00 - 17:59	22	32	20		
/	15:00 - 15:59	9	13	9		
15/10/2021	16:00 - 16:59	9	13	7		
	17:00 - 17:59	8	12	5		
	15:00 - 15:59	29	50	31		
21/10/2021	16:00 - 16:59	18	49	30		
	17:00 - 17:59	16	37	30		
	15:00 - 15:59	29	33	34		
27/10/2021	16:00 - 16:59	39	37	47		
	17:00 - 17:59	42	42	40		

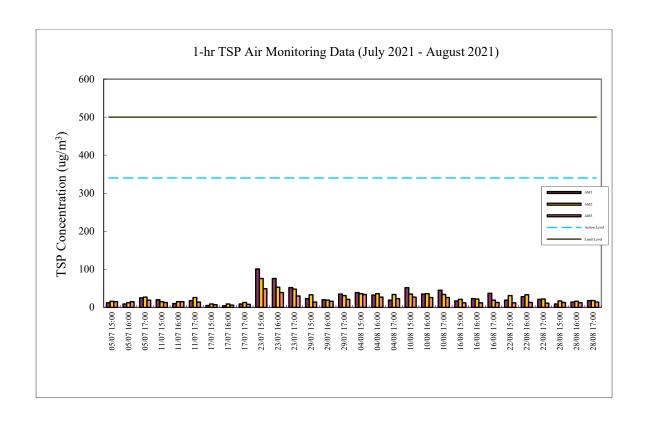
Calibration: Calibration details are shown in appendix F.

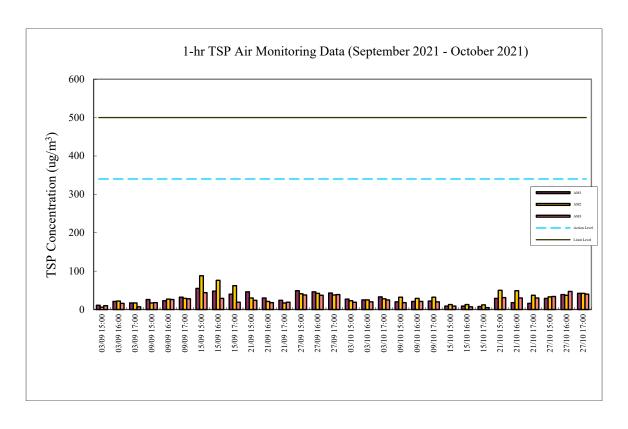
Equipment used:

Location	1-hr TSP	24-hr TSP
Reservoir, East Gate and Ash Lagoon	TEOM	TEOM
Tai Yuen Village	-	MINIVOL Portable Sampler









Appendix E Continuous Noise Monitoring Results for October 2021

Site: Lamma Power Station Extension Construction

Measurement Location: Ash Lagoon and Ching Lam

Measurement Parameter: 30-min Leq (07:00-19:00 hrs on normal weekdays)

5-min Leq (07:00-23:00 hrs on holidays and 19:00-23:00 hrs on all other days, and 23:00-

07:00 hrs of next day)

Noise Equipment: B&K 2250 sound level meters and B&K 4231 sound

Level calibrator

Lab. Calibration Date: B&K 2250 sound level meters - 28/06/2020 (Ash Lagoon)

03/09/2021 (Ching Lam)

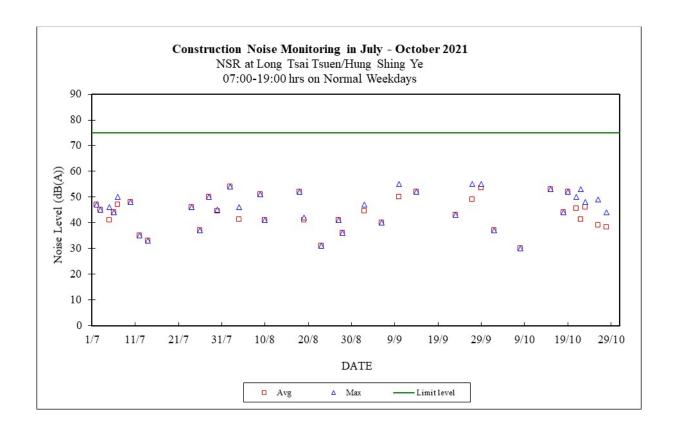
GRAS 42AG calibrator (03/09/2021)/ B&K 4231 calibrator (21/10/2021)

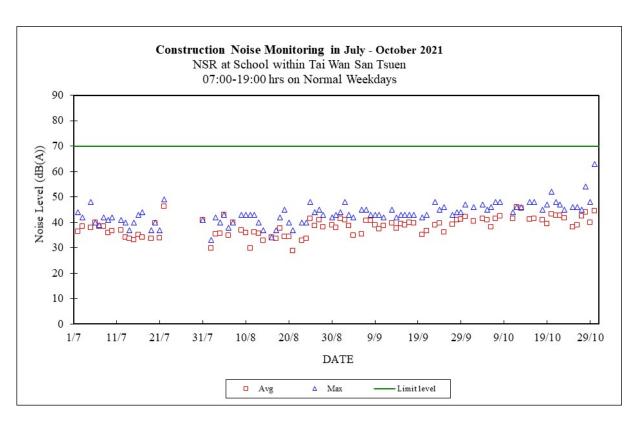
Date	Time	Calculated Noise Level at NSR at Long Tsai Tsuen/Hung Shing Ye (dB(A))		Calculated Noise Level at NSR at the Noise school Level within Tai (dB(A)) Wan San Tsuen (dB(A))		Limit Noise Level (dB(A))	
		Max	Avg		Max	Avg	
01/10/2021	07:00-23:00	58	50	60	48	41	60
01/10/2021	23:00-07:00	45	38	45	43	37	45
02/10/2021	07:00-19:00	37	37	75	46	41	70
02/10/2021	19:00-23:00			60	42	39	60
02/10/2021	23:00-07:00			45	44	42	45
03/10/2021	07:00-23:00	44	38	60	50	40	60
03/10/2021	23:00-07:00	39	35	45	45	41	45
04/10/2021	07:00-19:00			75	47	41	70
04/10/2021	19:00-23:00			60	41	38	60
04/10/2021	23:00-07:00	41	36	45	44	40	45
05/10/2021	07:00-19:00			75	45	41	70
05/10/2021	19:00-23:00			60	44	38	60
05/10/2021	23:00-07:00	41	38	45	42	39	45
06/10/2021	07:00-19:00			75	46	38	70
06/10/2021	19:00-23:00			60	40	34	60
06/10/2021	23:00-07:00	43	39	45	43	39	45
07/10/2021	07:00-19:00			75	48	42	70
07/10/2021	19:00-23:00	43	41	60	44	40	60
07/10/2021	23:00-07:00	45	36	45	45	38	45
08/10/2021	07:00-19:00	30	30	75	48	42	70
08/10/2021	19:00-23:00	41	41	60	36	36	60
08/10/2021	23:00-07:00			45			45
09/10/2021	07:00-19:00			75			70
09/10/2021	19:00-23:00			60			60
09/10/2021	23:00-07:00	45	41	45	43	39	45
10/10/2021	07:00-23:00	43	36	60	46	39	60
10/10/2021	23:00-07:00	42	37	45	42	35	45
11/10/2021	07:00-19:00			75	44	41	70
11/10/2021	19:00-23:00	38	34	60	47	42	60
11/10/2021	23:00-07:00	45	40	45	41	36	45
12/10/2021	07:00-19:00			75	46	46	70
12/10/2021	19:00-23:00	51	41	60	49	37	60
12/10/2021	23:00-07:00	44	39	45	44	36	45
13/10/2021	07:00-19:00			75	46	46	70
13/10/2021	19:00-23:00	42	37	60	49	39	60

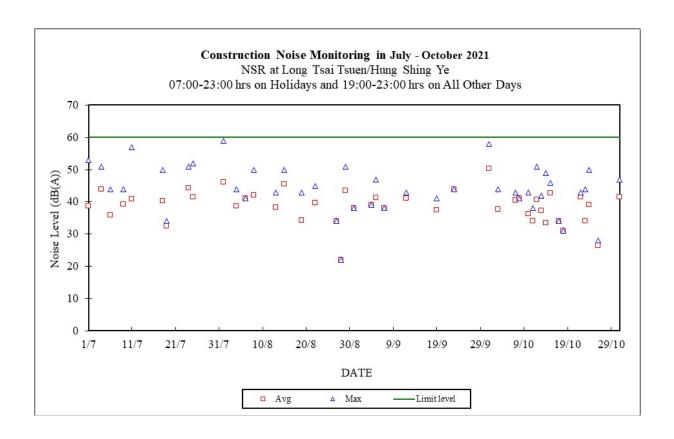
13/10/2021	23:00-07:00	37	34	45	45	38	45
14/10/2021	07:00-23:00	49	34	60	45	40	60
14/10/2021	23:00-07:00	41	36	45	41	36	45
15/10/2021	07:00-19:00	53	53	75	48	41	70
15/10/2021	19:00-23:00	46	43	60	40	37	60
15/10/2021	23:00-07:00	45	40	45	45	37	45
16/10/2021	07:00-19:00			75	48	42	70
16/10/2021	19:00-23:00			60	42	37	60
16/10/2021	23:00-07:00	44	39	45	42	37	45
17/10/2021	07:00-23:00	34	34	60	43	34	60
17/10/2021	23:00-07:00	45	40	45	44	35	45
18/10/2021	07:00-19:00	44	44	75	45	41	70
18/10/2021	19:00-23:00	31	31	60	45	39	60
18/10/2021	23:00-07:00	43	39	45	41	36	45
19/10/2021	07:00-19:00	52	52	75	47	40	70
19/10/2021	19:00-23:00			60	41	33	60
19/10/2021	23:00-07:00	43	38	45	44	36	45
20/10/2021	07:00-19:00			75	52	43	70
20/10/2021	19:00-23:00		-	60	48	43	60
20/10/2021	23:00-07:00	45	39	45	45	42	45
21/10/2021	07:00-19:00	50	46	75	48	43	70
21/10/2021	19:00-23:00			60	44	42	60
21/10/2021	23:00-07:00	44	37	45	44	39	45
22/10/2021	07:00-19:00	53	41	75	47	43	70
22/10/2021	19:00-23:00	43	42	60	50	38	60
22/10/2021	23:00-07:00	38	36	45	42	40	45
23/10/2021	07:00-19:00	48	46	75	45	42	70
23/10/2021	19:00-23:00	44	34	60	47	37	60
23/10/2021	23:00-07:00	45	42	45	44	41	45
24/10/2021	07:00-23:00	50	39	60	45	38	60
24/10/2021	23:00-07:00	44	37	45	43	33	45
25/10/2021	07:00-19:00			75	46	38	70
25/10/2021	19:00-23:00			60	45	39	60
25/10/2021	23:00-07:00	43	40	45	41	35	45
26/10/2021	07:00-19:00	49	39	75	46	39	70
26/10/2021	19:00-23:00	28	27	60	51	38	60
26/10/2021	23:00-07:00	44	37	45	45	37	45
27/10/2021				75	45	43	70
27/10/2021	19:00-23:00			60	47	40	60
27/10/2021	23:00-07:00	45	41	45	44	38	45
28/10/2021	07:00-19:00	44	38	75	54	44	70
28/10/2021	19:00-23:00			60	45	42	60
28/10/2021	23:00-07:00	42	38	45	45	41	45
29/10/2021	07:00-19:00			75	48	40	70
29/10/2021	19:00-23:00			60 45	48	42	60 45
29/10/2021	23:00-07:00			45	45	39	45
30/10/2021	07:00-19:00			75 60	63 E0	45	70
30/10/2021	19:00-23:00	2.4	2.1	60 45	50	38	60 45
30/10/2021	23:00-07:00	34	34	45	44	37	45
31/10/2021 31/10/2021	07:00-23:00 23:00-07:00	47	42 39	60 45	44	38 38	60 45
21/10/2021	∠3.00-07.00	43	39	45	44	٥٥	45

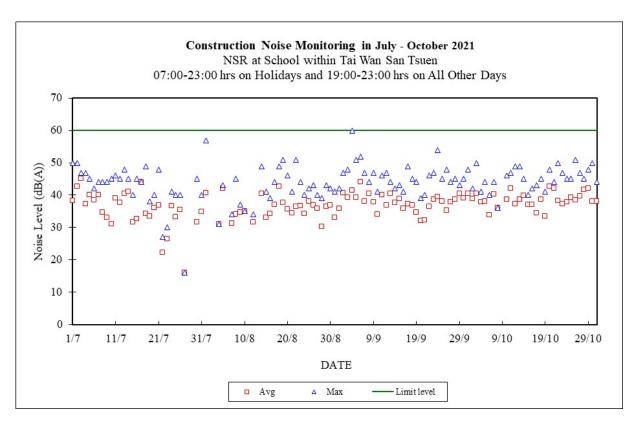
Note

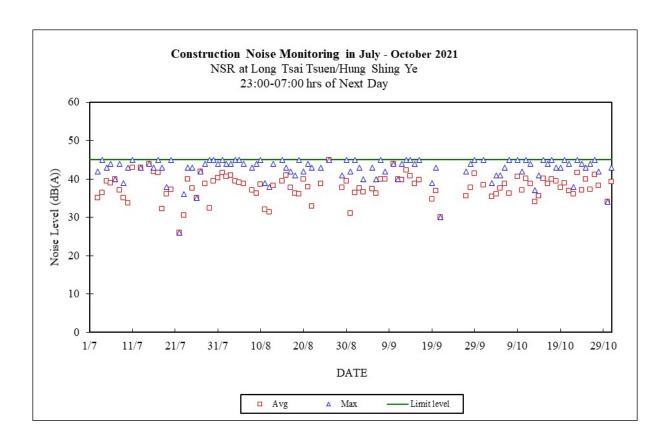
- a. "---" represents the measured noise monitoring data lower than the established notional background level/discarded under strong wind.
- b. Continuous noise monitoring was also carried out at holidays & evening-time (07:00-23:00 hrs on holidays and 19:00-23:00 hrs on all other days) and night-time (23:00-07:00 hrs of next day).

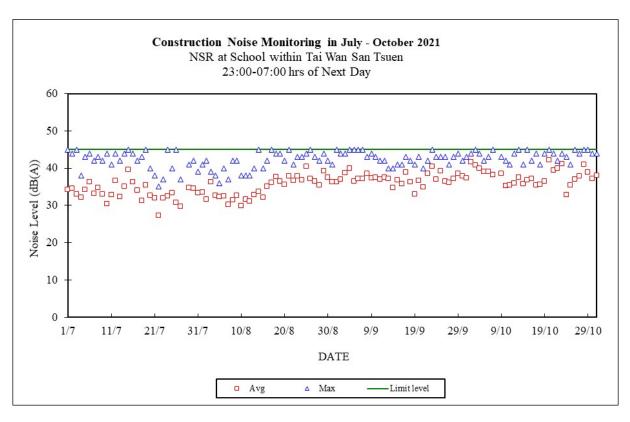












Appendix F

The QA/QC Procedures and Results

The Hongkong Electric Co., Ltd. Lamma Power Station Extension TEOM Continuous Dust Monitor Data Quality Assurance Log Sheet

Month: October Year: 2021

Reservoir (AM1)						
Date	Frequency (Hz) (240 - 275)	Operation Mode (Mode 4)	Main Flow (I/min) (2.70 - 3.30)	Bypass Flow (I/min) (12.30 - 15.04)		
3/10/2021	268.065	4	2.98	10.63		
9/10/2021	269.714	4.	2.95	9.39		
15/10/2021	269.292	4	2.96	9.58		
21/10/2021	268.914	4	2.99	9.90		
27/10/2021	268.493	4	2.99	13.20		

East Gate (AM2)					
Date	Frequency (Hz) (240 - 275)	Operation Mode (Mode 4)	Main Flow (I/min) (2.70 - 3.30)	Bypass Flow (I/min) (12.30 - 15.04)	
3/10/2021	250.450	4.	2.98	13.60	
9/10/2021	250.062	4	2.91	13.50	
15/10/2021	249.561	4	2.78	13.61	
21/10/2021	251.724	4	3.00	13.70	
27/10/2021	251.249	4	3.00	13.70	

Ash Lagoon (AM3)				
Date	Frequency (Hz) (240 - 275)	Operation Mode (Mode 4)	Main Flow (I/min) (2.70 - 3.30)	Bypass Flow (I/min) (12.30 - 15.04)
3/10/2021	255.855	4	3.00	13.68
9/10/2021	255.744	4	3.00	13.68
15/10/2021	255.560	4	1.53	13.68
21/10/2021	257.202	4	3.00	13.68
27/10/2021	256.845	4	3.00	13.68

Maintenance Record					
	Reservoir	East Gate	Ash Lagoon		
TEOM Filter Exchange	1	/	1		
Clean TSP Inlet	✓	/	1		
Replace flow in-line filter	1	√	1		
Pump Repair					
Leak Check					
Flow audit					
Flow Controller Calibration					
A/C filter cleaning					

Remarks:

Prepared by: Chris Chan

Checked by: HY Chan

The Hongkong Electric Co., Ltd. Mini Volume Air Sampler Site Visit Log Sheet

Attendance Log	Site Name: Tai Yuen Village (AM4)

Date/Time	Staff Name
18/10/2021 / 10:30	W.M. Tam

Equipment / Item

Equipment / Item	Serial No. / No.
MINIVOL	5580
Used filter paper no.	MR64
New filter paper no.	MR65

Type of filter: Glass-fibre

Calibration is performed by using Drycal DC-2 Flow Calibrator
 5 std. L/min set point is recommended

Before: 5.041

After: <u>5.011 (After Flow</u>

Adjustment)

II. General Services

Clean Rotameter: Yes
 Clean / Replace Pump Valves: No
 Clean / Replace Pump Diaphragms: No
 Clean Impaction Inlet: Yes
 Replace Timer Battery Every 6 months: No
 Replace Inlet Filter: Yes

Remarks

<u>N/A</u>

Conducted by: W.M. Tam Checked by: SM Hon

The Hongkong Electric Co., Ltd. Lamma Power Station Extension Noise Monitoring Station Daily Calibration Records

Date	Location: A	Ash Lagoon	Location: (Ching Lam
	Calibration Results	Deviation from Reference (dB)	Calibration Results	Deviation from Reference (dB)
01/10/2021	Passed	-0.04	Passed	-0.06
02/10/2021	Passed	-0.05	Passed	-0.07
03/10/2021	Passed	-0.06	Passed	-0.04
04/10/2021	Passed	-0.04	Passed	-0.03
05/10/2021	Passed	-0.03	Passed	-0.02
06/10/2021	Passed	-0.11	Passed	-0.12
07/10/2021	Passed	-0.11	Passed	-0.05
08/10/2021	Passed	-0.04	Passed	-0.12
09/10/2021	Passed	-0.08	Passed	-0.07
10/10/2021	Passed	-0.05	Passed	-0.03
11/10/2021	Passed	-0.09	Passed	-0.10
12/10/2021	Passed	-0.10	Passed	-0.05
13/10/2021	Passed	-0.07	Passed	-0.08
14/10/2021	Passed	-0.08	Passed	-0.08
15/10/2021	Passed	-0.07	Passed	-0.08
16/10/2021	Passed	-0.10	Passed	-0.10
17/10/2021	Passed	-0.09	Passed	-0.10
18/10/2021	Passed	-0.09	Passed	-0.09
19/10/2021	Passed	-0.07	Passed	-0.08
20/10/2021	Passed	-0.11	Passed	-0.14
21/10/2021	Passed	-0.13	Passed	-0.17
22/10/2021	Passed	-0.12	Passed	-0.12
23/10/2021	Passed	-0.12	Passed	-0.13
24/10/2021	Passed	-0.08	Passed	-0.10
25/10/2021	Passed	-0.07	Passed	-0.08
26/10/2021	Passed	-0.08	Passed	-0.09
27/10/2021	Passed	-0.09	Passed	-0.10
28/10/2021	Passed	-0.08	Passed	-0.09
29/10/2021	Passed	-0.09	Passed	-0.11
30/10/2021	Passed	-0.08	Passed	-0.09
31/10/2021	Passed	-0.08	Passed	-0.08

Remarks:

- 1. The B&K sound level meter at the noise monitoring station has an advanced feature of internal calibration checking (viz. Charge Injection Calibration (CIC)). CIC is a B&K patented method for in situ verification of the integrity of the entire sound measurement chain (including microphone, preamplifier and cabling).
- 2. The acceptance criterion of deviation from reference is \pm 0.5 dB.

Appendix G Event/Action Plans

Table G.1 Event and Action Plans for Air Quality

Event	Monitoring		Action		
	ET Leader	IEC	Engineer	Contractor	
Action Level					
Exceedance of one sample	Identify source Inform Engineer and IEC verbally Repeat measurement to confirm finding	Check monitoring data submitted by ET and advise Engineer.	Notify Contractor Checking monitoring data and contractor's working methods	Rectify any unacceptable practice amend any working methods if appropriate	
Exceedance of two or more consecutive samples	Identify source Inform Engineer and IEC verbally Repeat measurement to confirm finding Increase monitoring frequency Discuss with Engineer and Contractor on remedial actions required If exceedance continues, arrange meeting with Engineer If exceedance stops, discontinue additional monitoring	Check monitoring data submitted by ET and advise Engineer. Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Confirm receipt of notification of failure in writing Notify contractor Checking monitoring data and contractor's working methods Discuss proposed remedial actions with the ET and Contractor Ensure remedial actions properly implemented	Submit proposals for remedial actions to Engineer within 3 working days of notifications Implement the agreed proposals Amend proposal if appropriate	
Limit level					
Exceedance of one sample	Repeat measurement to confirm finding. Identify the source(s) of the impact. If the exceedance is found to be valid and due to the Construction works, verbally advise the Contractor, Engineer and IEC, and inform the EPD of the exceedance, as soon as practicable. Increase monitoring frequency to daily Assess the effectiveness of the contractor's remedial actions and keep Engineer, IEC and EPD informed of the results	Check monitoring data submitted by ET and advise Engineer Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Confirm receipt of notification of failure in writing Notify Contractor Checking monitoring data and Contractor's working method Discuss with ET and Contractor on remedial actions to be provided Ensure remedial measures properly implemented	Take immediate action to avoid further exceedance Submit proposals for remedial actions to Engineer within 3 working days of notifications Implement the agreed proposals Amend proposal if appropriate	
Exceedance of two or more	Identify source	Provide feedback to the Engineer on the remedial actions proposed by the	Confirm receipt of notification of	Take immediate action to	

Event	Monitoring		Action	
	ET Leader	IEC	Engineer	Contractor
consecutive	If the exceedance is found to be valid	ET / Contractor	failure in writing	avoid further exceedance
samples	and due to the construction works, verbally advise the Contractor, Engineer	Advise Engineer on the effectiveness of the proposed remedial measures	Checking monitoring data and Contractor's working methods	Submit proposals for remediactions to Engineer within 3
	and IEC, and inform the EPD of the exceedance as soon as practicable.	Verify the implementation of the	Notify Contractor	working days of notifications
	Repeat measurement to confirm finding	with ET and Contractor Ensure remedial measures properly	Discuss proposed remedial actions with ET and Contractor	Implement the agreed proposals
	Increase monitoring frequency to daily Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented		Ensure remedial measures properly implemented	Resubmit proposals if probl still not under control
			If exceedance continues, consider what portion of the work is	Stop the relevant portion of works as determined by the
	Arrange meeting with Engineer and Contractor to discuss the remedial actions to be taken		responsible and instruct the Contractor to stop the portion of work until the exceedance is abated	Engineer until the exceedance is abated
	If exceedance stops, discontinue additional monitoring			

Table G.2 Event and Action Plans for Construction Noise

Exceedance	ET Leader	IEC	Engineer	Contractor
Action Level	Undertake noise measurement/check monitoring data to establish validity of complaint.	Review the analysed results submitted by the ET.	Notify Contractor of the complaint if proven.	Submit proposals for remedial actions to Engineer.
	If the complaint is valid, inform Engineer and IEC verbally.	Review the remedial measures proposed by the Contractor and advise the Engineer and ET accordingly.	Check Contractor's working methods and advise IEC and ET accordingly.	Amend proposals if required by the Engineer.
	Identify the source(s) of the noise.	Verify the implementation of the remedial measures.	Remind the Contractor of his contractual obligations and discuss remedial actions.	Implement the remedial actions immediately upon instruction from the Engineer.
	Discuss remedial actions required with Contractor and Engineer.		Keep the Contractor informed of the efficacy of remedial actions.	Liaise with the Engineer to optimise the effectiveness of the agreed mitigation.
	Increase manual monitoring frequency to assess efficacy of remedial measures.			
	If exceedance continues, review implementation of appropriate mitigation measures.			
Limit Level	Repeat manual measurement/check monitoring data to confirm findings.	Agree potential remedial actions with Engineer, ET and Contractor.	Notify Contractor of exceedance.	Take immediate action to avoid further exceedance.
	Identify the source(s) of the impact. If the exceedance is found to be valid and due to	Review Contractor's remedial actions / measures to ensure their effectiveness and advise the Engineer and ET accordingly.	Check Contractor's working methods and advise IEC and ET accordingly.	Submit proposals for remedial actions to Engineer.
	the Construction works, verbally advise the Contractor, Engineer and IEC, and inform the EPD of the exceedance, as soon as practicable.		Discuss with Contractor the remedial actions to be implemented.	Amend proposals if required by the Engineer.
		Verify the implementation of the remedial measures	Keep the Contractor informed of the efficacy of remedial actions. Implement remedial actions.	Implement remedial actions immediately
	Discuss remedial actions required with Engineer.		If the exceedance continues, consider	upon instruction from the Engineer.
	Increase manual monitoring frequency to assess efficacy of remedial measures.		what portion of the work is responsible and instruct the Contractor to stop the portion of work until the exceedance is abated	If the exceedance continues, consider what portion of the work is responsible and, as instructed by the Engineer, stop the portion of work until the exceedance is abated

Table G.3 Event and Action Plans for Water Quality

Exceedance	ET Leader	IEC	Engineer	Contractor
Action level exceeded on one sampling day	Verbally inform the Contractor, and IEC. Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with Engineer and Contractor; Repeat measurement on next day of exceedance.	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with Contractor the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures.	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose and discuss mitigation measures with Engineer; Implement the agreed mitigation measures.
Action level exceeded on more than one consecutive sampling day	Repeat in-situ measurements to confirm findings; Identify source(s) of impact; Inform Contractor and IEC; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measure with Engineer and Contractor; Ensure mitigation measures are implemented; Prepare to increase the monitoring frequency to daily; Repeat measurement on next day of exceedance.	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with ET and Contractor on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures.	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose mitigation measures to Engineer within 3 working days and discuss with ET and Engineer; Implement the agreed mitigation measures.
Limit level exceeded on one sampling day	Verbally inform the Contractor, IEC and the EPD of the exceedance; Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Check monitoring data, all plant,	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose mitigation measures to Engineer

Exceedance	ET Leader	IEC	Engineer	Contractor
	equipment and Contractor's working methods;		implemented mitigation measures.	within 3 working days and discuss with Engineer;
	Discuss mitigation measure with Engineer and Contractor;			Implement the agreed mitigation measures.
	Ensure mitigation measures are implemented;			
	Increase the monitoring frequency to daily until no exceedance of Limit level.			
Limit level exceeded by more than one	Repeat in-situ measurement to confirm findings; Identify source(s) of impact;	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor	Discuss with Contractor on the proposed mitigation measures; Request Contractor to critically	Inform the Engineer and confirm notification of the non-compliance in writing;
consecutive sampling day	Inform Contractor, IEC and EPD;	Advise Engineer on the effectiveness of the	review the working methods;	Rectify unacceptable practice;
ampning day	Check monitoring data, all plant, equipment and Contractor's	Proposed remedial measures Verify the implementation of the remedial measures	Make agreement on the mitigation measures to be implemented;	Check all plant and equipment; Consider changes of working methods;
	working methods;		Assess the effectiveness of the	Propose mitigation measures to Engineer within 3 working days and discuss with Engineer;
	Discuss mitigation measure with Engineer and Contractor;		implemented mitigation measures; Consider and instruct, if necessary,	
	Ensure mitigation measures are implemented;		the Contractor to slow down or to stop all or part of the marine works until no exceedance of the Limit Level.	Implement the agreed mitigation measures
	Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.			As directed by the Engineer, to slow down or to stop all or part of the marine work

Appendix H Summary of Site Audit Findings

L11 Civil and Building Works						
<u>Dates of Inspection</u> : 5/10/2021, 15/10/2021, 19/10/2021 and 26/10/2021.						
Summary of Findings						
General						
- No environmental deficiency identified.						
Air Quality						
- No environmental deficiency identified.						
Noise						
- No environmental deficiency identified.						
Water Quality						
- No environmental deficiency identified.						
Waste Management						
- No environmental deficiency identified.						

L11 Mechanical, Electrical, Instrumentation & Control Erection Works Dates of Inspection: 7/10/2021, 15/10/2021, 21/10/2021 and 28/10/2021. Summary of Findings General

No environmental deficiency identified.

Air Quality

No environmental deficiency identified.

Noise

- No environmental deficiency identified.

Water Quality

- No environmental deficiency identified.

Waste Management

No environmental deficiency identified.

L12 Civil and Building Works

Dates of Inspection: 5/10/2021, 15/10/2021, 19/10/2021 and 26/10/2021.

Summary of Findings

General

- No environmental deficiency identified.

Air Quality

No environmental deficiency identified.

Noise

- No environmental deficiency identified.

Water Quality

- No environmental deficiency identified.

Waste Management

No environmental deficiency identified.

Summary of EMIS

Power Station – (Part B of EIA Report)

Construction Phase Mitigation Measures and their Implementation

EM&A Log Ref.	Mitigation Measures	Implementation Status
	AIR QUALITY	
A1	For general construction works, the dust control measures stipulated under the Air Pollution Control (Construction Dust) Regulation shall be complied with, such as:	
	the haul roads shall be sprayed with water to keep the entire road surface wet.	С
	• the load carried by vehicle shall be covered by impervious sheeting to ensure no leakage of dusty materials from the vehicle.	С
	the heights from which fill materials are dropped shall be controlled to a practical level to minimise the fugitive dust arising from unloading.	С
A2	For the concrete batching plant, the following control measures are recommended:	
	• loading, unloading, handling, transfer or storage or any dusty materials shall be carried out in a totally enclosed system.	С
	The materials which may generate airborne dust emissions shall be wetted by water spray system.	С
	All receiving hoppers shall be enclosed on three sides up to 3m above unloading point.	С
	All conveyor transfer points shall be totally enclosed.	С
	WATER QUALITY	
B1	Silt curtains shall be installed on the eastern, southern and north western sides of the reclamation site during dredging for the reclamation construction. This is a required mitigation measure for the construction works and shall be implemented prior to the commencement of bulk dredging. **	N/A
В3	As a necessary operational constraint combined bulk dredging and sand filling for site formation shall not be permitted at any time. In addition, sand filling for site platform shall take place behind constructed sea walls which pierce the water surface. **	N/A
B4	HEC shall ensure design to divert all storm drains away from Hung Shing Ye Bay. **	N/A
B5	Sand fill for the rubble mound seawalls shall be placed by controlled pumping down the trailer arm. **	N/A
В6	EM&A shall confirm the acceptability of any impacts during construction and should any unacceptable impacts be found then one or more of the following mitigation measures shall be implemented: **	N/A
	 reducing the number of dredgers working at any one time; reducing the rate of working of the dredgers; temporary suspension of operations; phasing of the works so that dredging / filling is only undertaken at certain stages of the tidal cycle. 	

EM&A Log Ref.	Mitigation Measures	Implementation Status
В7	In addition to the above specific measures the following general working procedures shall be adopted. **	
	fully-enclosed or watertight grabs shall be used to minimise loss of sediment during the raising of loaded grabs through the water column;	N/A
	the descent speed of grabs shall be controlled to minimise the seabed impact speed and to reduce the volume of over dredging;	N/A
	barges shall be loaded carefully to avoid splashing of material;	N/A
	all barges used for the transport of dredged materials shall be fitted with tight bottom seals in order to prevent leakage of material during loading and transport;	N/A
	all barges shall 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 maintained to ensure that the decks are not washed by wave action;	N/A
	• the speed of trailer dredgers shall be controlled to prevent propeller wash from stirring up the sea bed sediments;	N/A
	"rainbowing" sand fill from trailer dredgers shall not be permitted; and	N/A
	the works shall cause no visible foam, oil, grease or litter or other objectionable matter to be present in the water within and adjacent to the dredging site and along the route to the disposal site.	N/A
B8	Cumulative impacts shall be assessed through EM&A. Co-ordination with the EM&A consultants for other projects to determine if any exceedances are caused by the other projects or by HEC's activities. Should monitoring results indicate exceedances at sensitive receivers due to HEC's activities, then the above described mitigation measures shall be implemented until impacts reduce to acceptable levels.	N/A
	NOISE	
C1	General noise mitigation measures shall be employed at all work sites throughout the construction phase.	С
C2	Mitigate against general construction noise during Sunday's and public holidays, either at source with portable noise barriers, or by rescheduling of some PMEs to less sensitive time periods.	С
С3	Mitigate against night time noise from dredging equipment, with silencers or mufflers. **	N/A
	LANDSCADE & VISUAL IMDACTS	
D1	LANDSCAPE & VISUAL IMPACTS The following mitigation measures shall be allowed for landscape and visual	
וטו	improvement:	
	Use rubble mound seawall along south and west edges of the reclamation to provide a more natural look.	С
	Break the mass of main buildings by varying the height/division into smaller units.	С
	Plant trees and vegetation for screening.	С
	Adopt colour scheme to blend the buildings into the scenery.	С

EM&A Log Ref.	Mitigation Measures	Implementation Status
	WASTE MANAGEMENT	
E1	HEC to submit a Waste Management Plan for the construction phase to EPD. The Plan shall be verified by the IEC and shall describe the arrangements for avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities and shall take into account the recommendations of the EIA report.	С
	Dredging Waste	
E2	All vessels for marine transportation of dredged sediment shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials. In addition, loading of barges and hoppers shall be controlled to prevent splashing of dredged material into the surrounding water, and barges or hoppers should under no circumstances be filled to a level which shall cause the overflowing of materials or polluted water during loading or transportation**	N/A
	Storage, Collection and Transport of Waste	
E3	Minimise windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers.	С
	Obtain the necessary waste disposal permits from the appropriate authorities, if they are required, in accordance with the Waste Disposal Ordinance (Cap.354), Waste Disposal (Chemical Waste) (General) Regulation (Cap.354), the Crown Land Ordinance (Cap 28), Dumping at Sea Ordinance (Cap 466) and Work Branch Technical Circular No. 22/92, Marine Disposal of Dredged Mud.	С
	Disposal of waste at Licensed sites;	С
	Develop procedures such as a ticketing system to facilitate tracking of marine mud and chemical waste, and to ensure that illegal disposal does not occur;	С
	 Segregate and sort the waste materials into 3 categories: public fill (e.g. concrete and rubble) for re-use on-site or disposal at a public filling area; re-use and/or recycling waste (e.g. steel and other metals); waste which cannot be re-used and/or recycled (e.g. wood, glass and plastic) for landfill disposal. 	С
	The sorting process shall be carefully monitored to avoid missing of the 3 categories. Different types of wastes shall be stockpiled and stored in different containers or skips to enhance re-use or recycling of materials and their proper disposal.	
	Maintain records of the quantities of wastes generated and disposed off-site for each category of waste.	С
E4	Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes	С
	LAND CONTAMINATION	
F1	No land Contamination mitigation measures are required during the construction phase.	N/A
		•
	MARINE ECOLOGY	

EM&A Log Ref.	Mitigation Measures	Implementation Status				
G1	All percussive piling works shall be conducted on reclaimed land to avoid noise impact to marine mammals**	N/A				
G2	All construction related vessels shall approach the extension site from the north and via the East Lamma Channel to avoid disturbance to the finless porpoise**	N/A				
G3	Rubble mound seawall to the south and west edges of the reclamation to enhance recolonisation of marine organisms**	N/A				
G4	Artificial Reefs of a volume not less than 400 m ³ shall be deployed in a location to be decided upon consultation with the Director of Agriculture and Fisheries to serve the purpose of an Additional Habitat Enhancement Measure.**					
	FISHERIES					
H1	No Fisheries-specific mitigation measures are required during the construction phase.	N/A				
	RISK ASSESSMENT					
I1	No risk mitigation measures are required during the construction phase.	N/A				

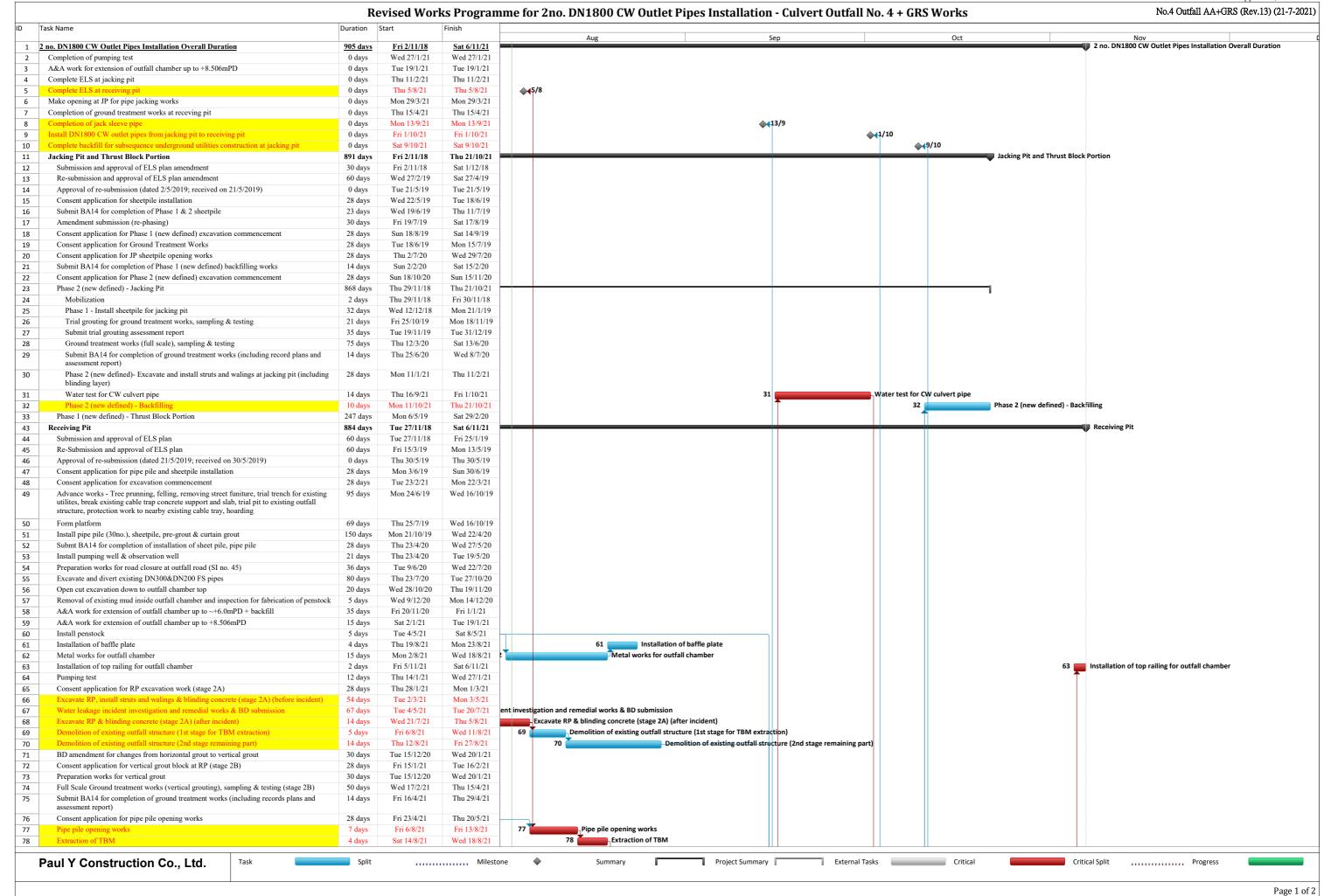
Remarks:

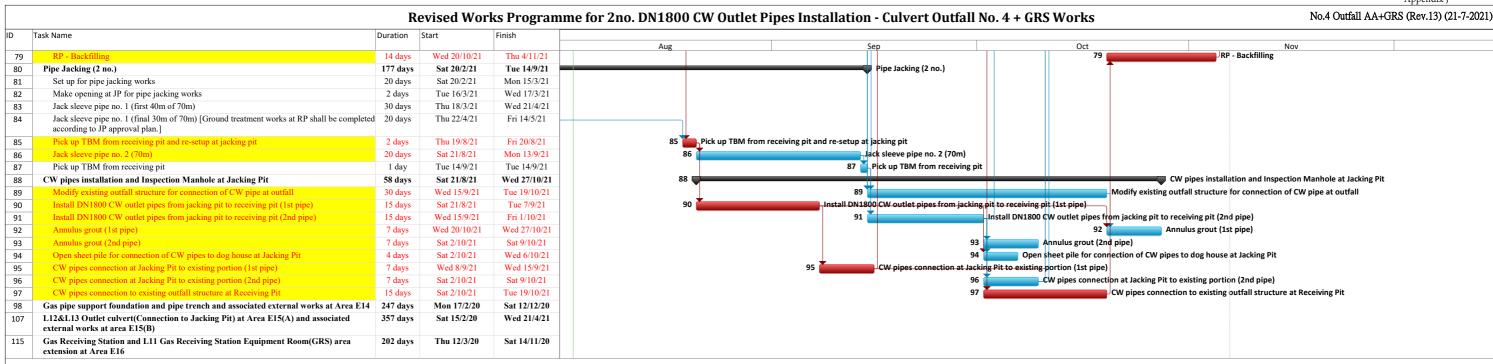
No dredging and reclamation work would be involved for L11 & L12 construction Compliance with mitigation measure
Non-compliance with mitigation measure
Not Applicable **

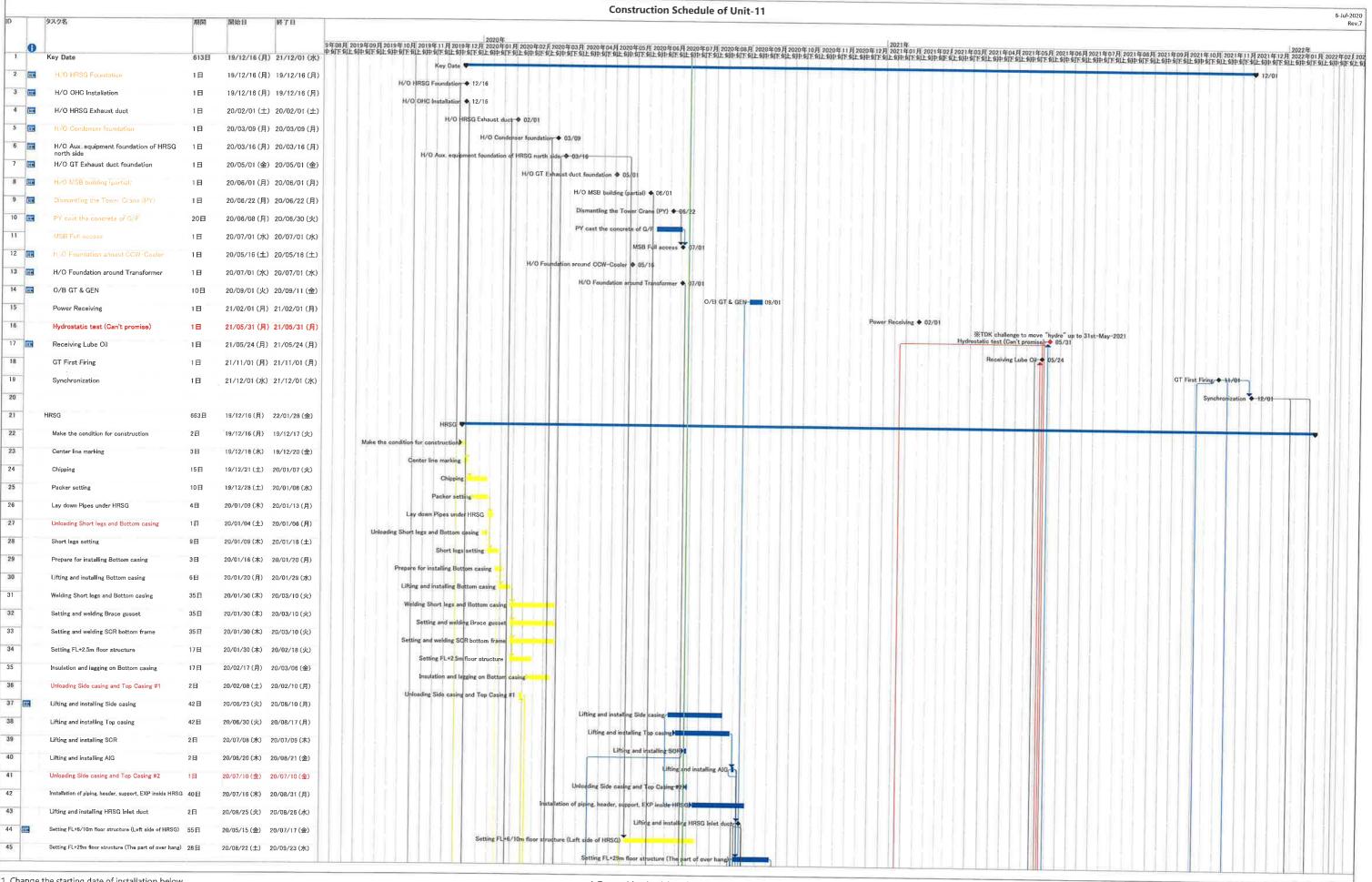
C

NC

N/A





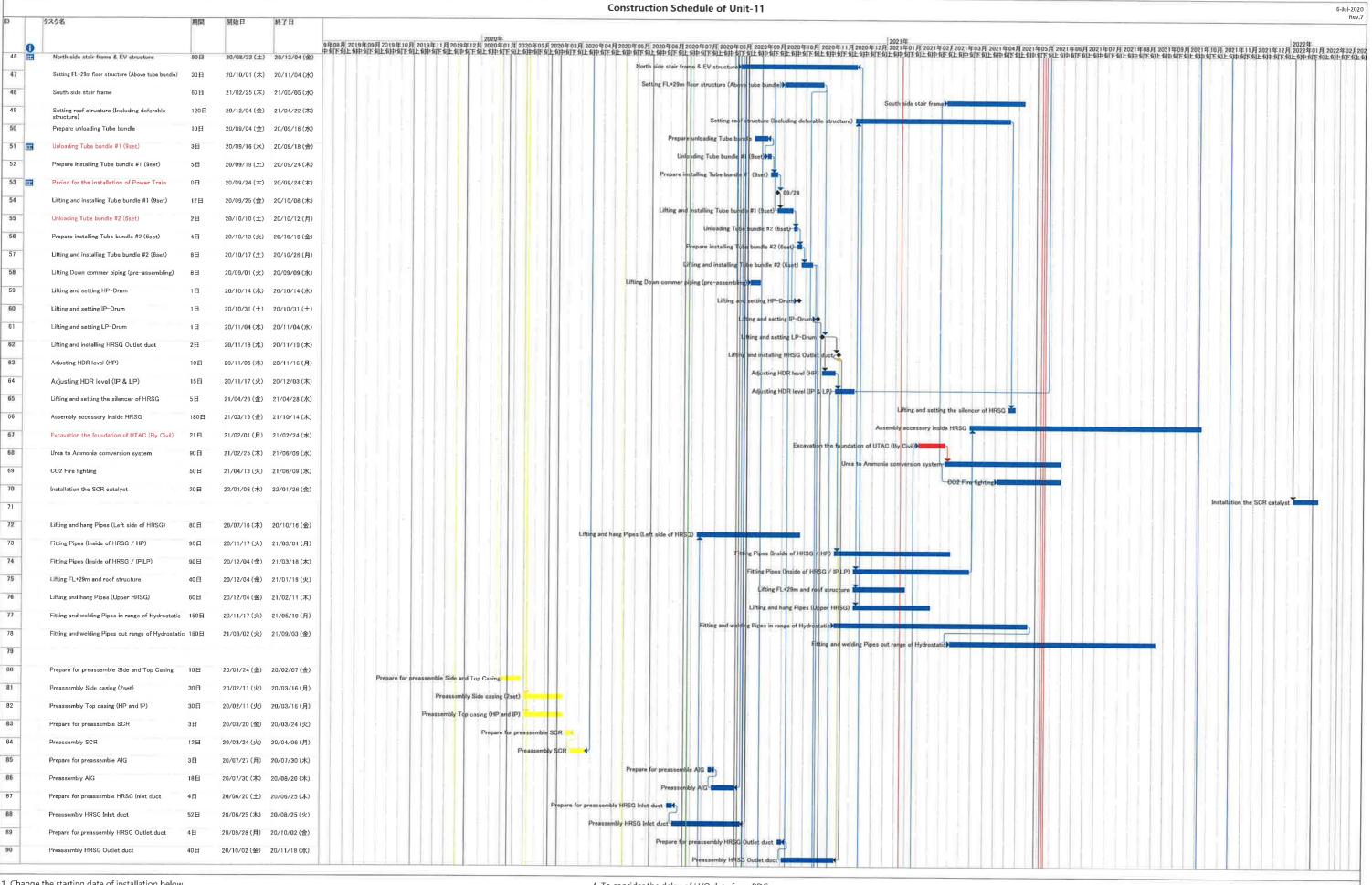


[.] Change the starting date of installation below

Installation HRSG was re-started from 23rd-Jun

Installation Exhaust duct was re-started from 15st-May

^{2,} To consider that structure of Takasago portion is delayed

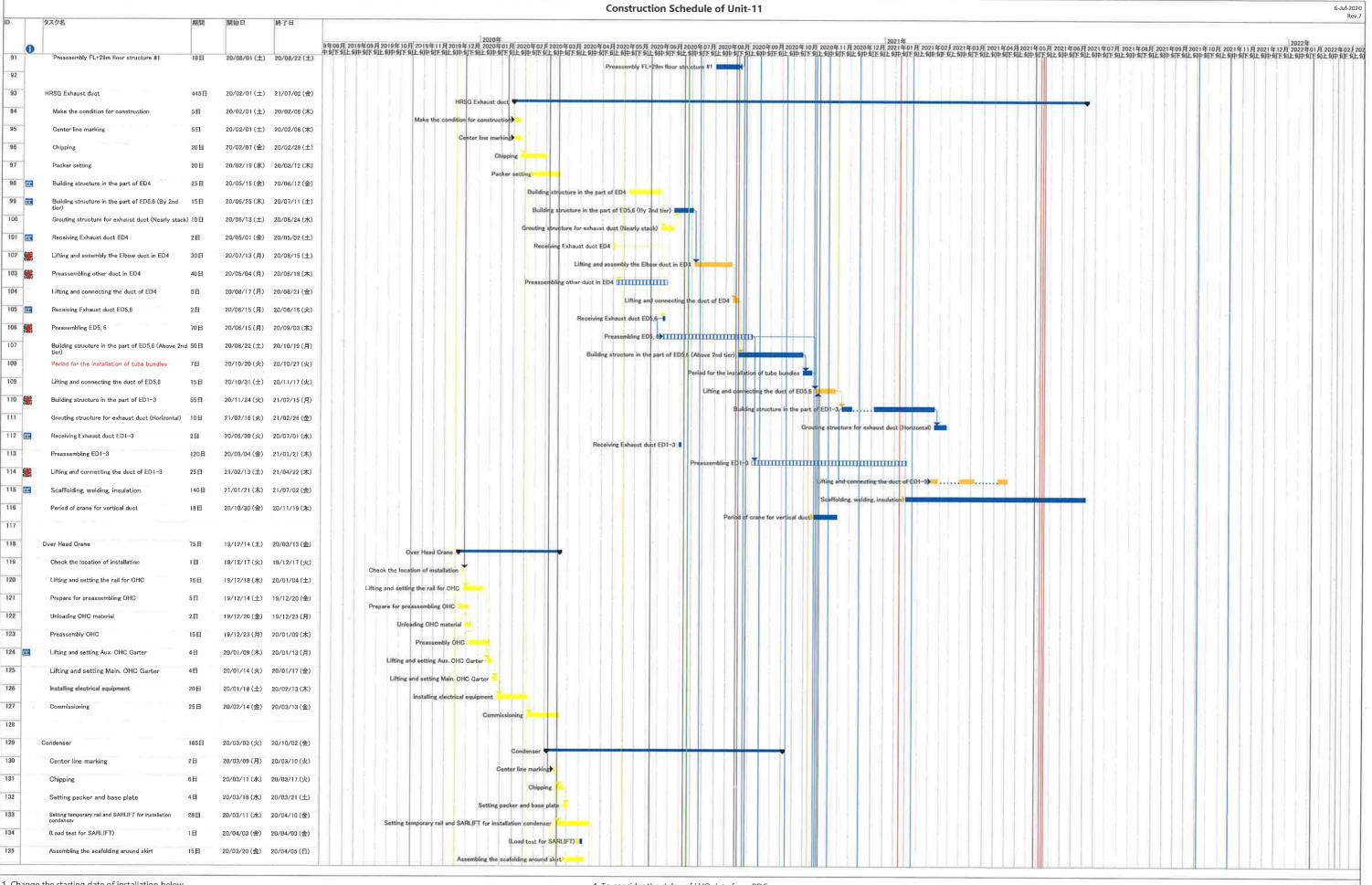


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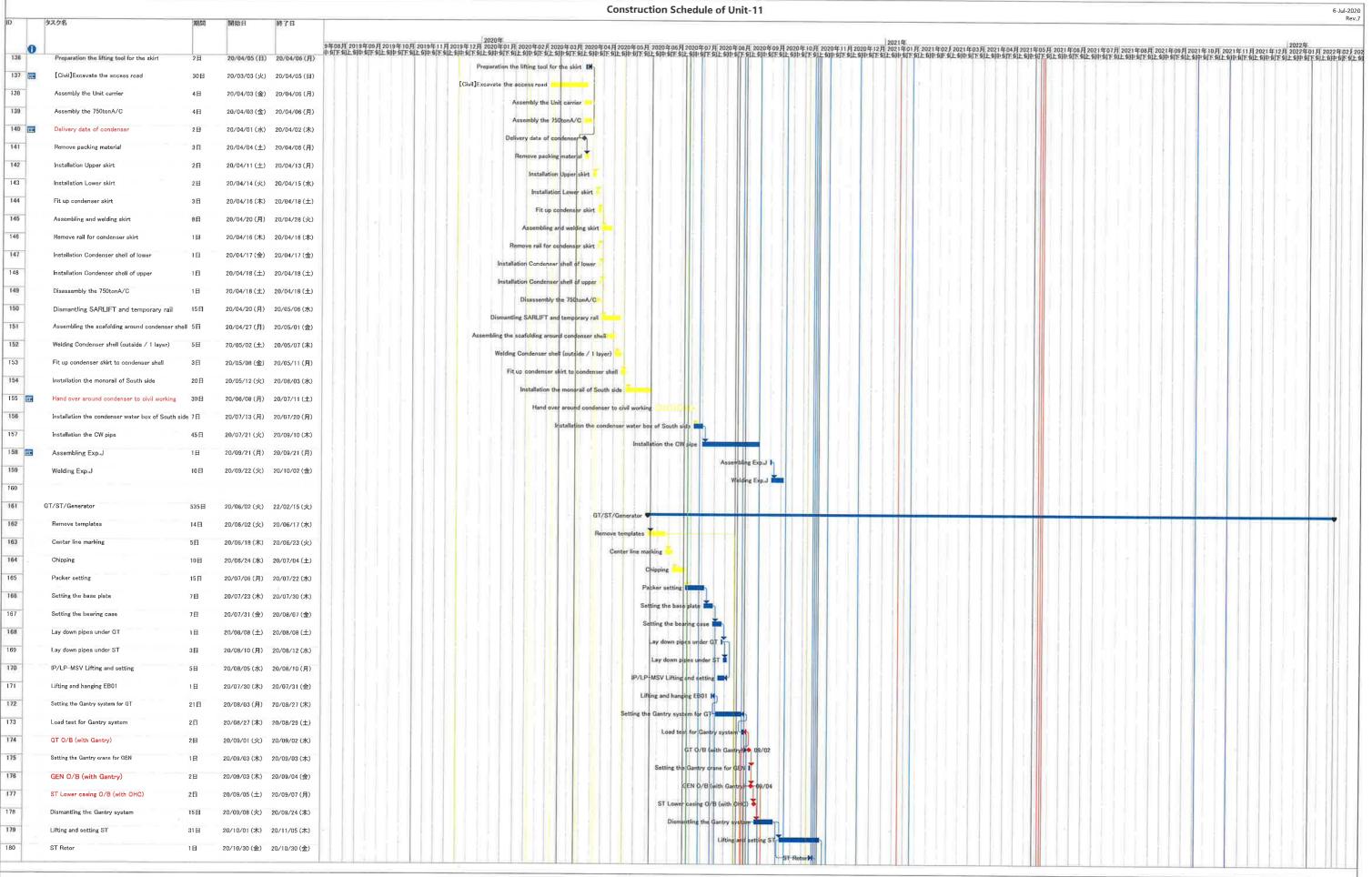


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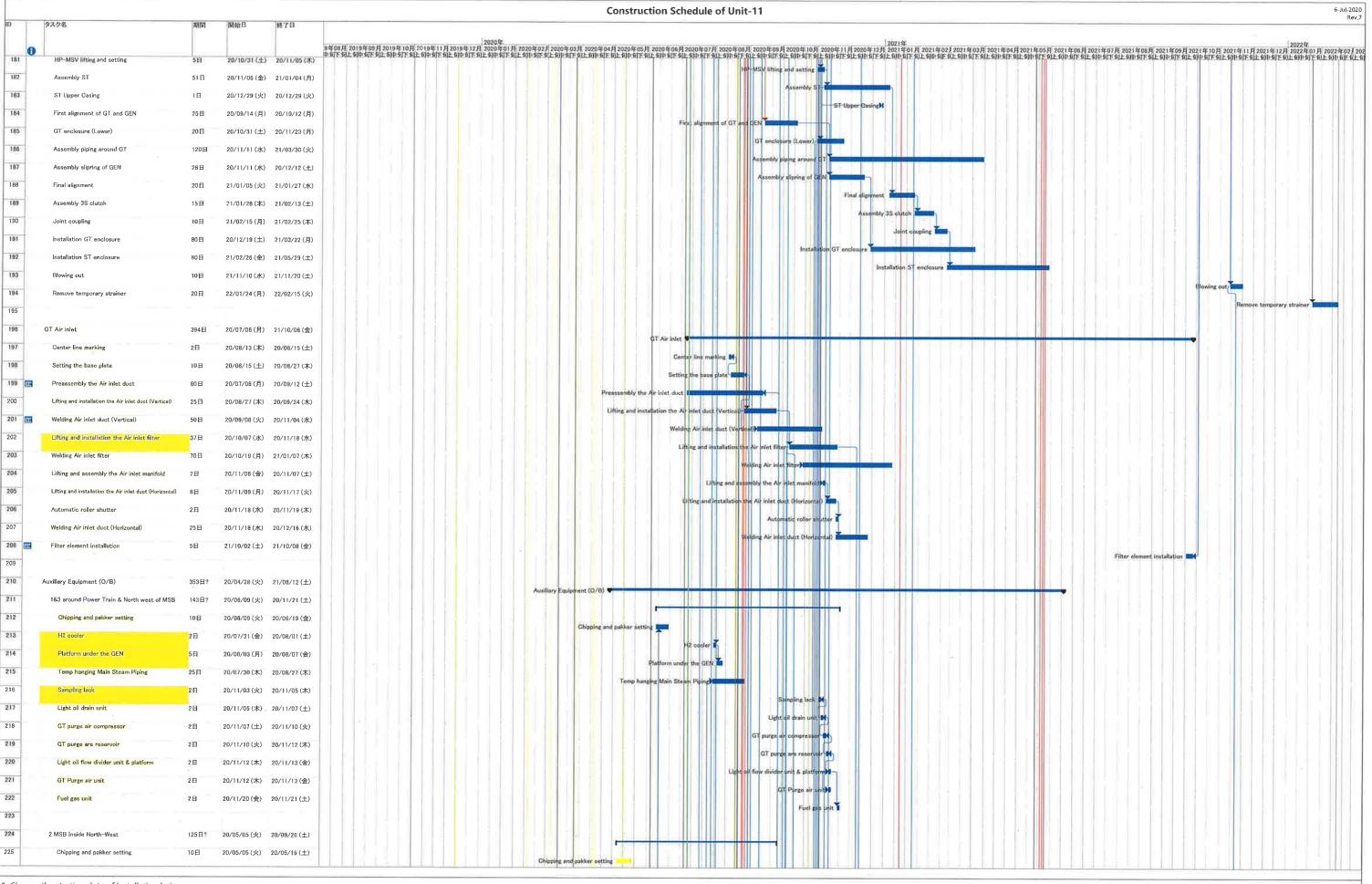
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- · Installation Exhaust duct was re-started from15st-May
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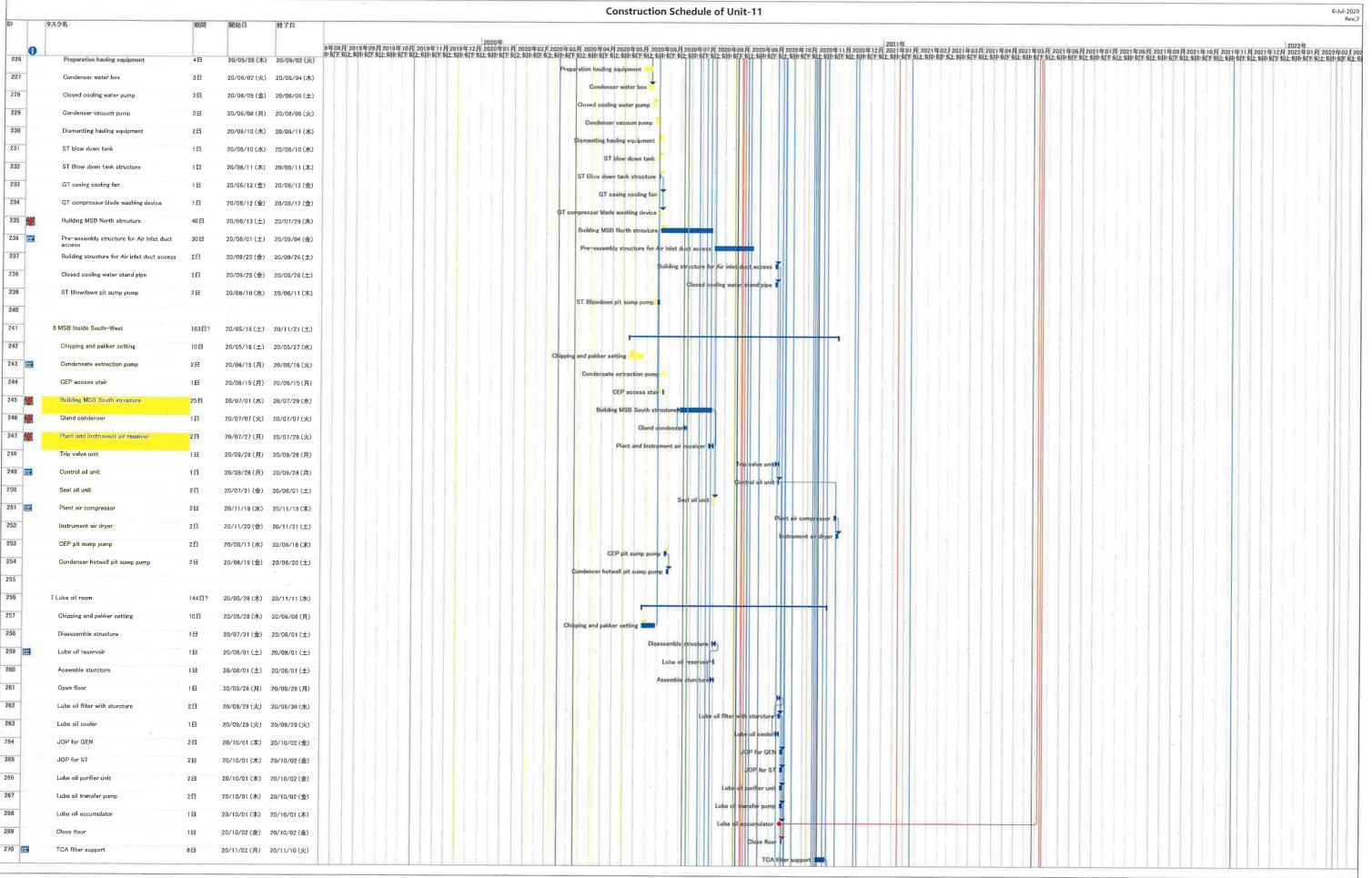


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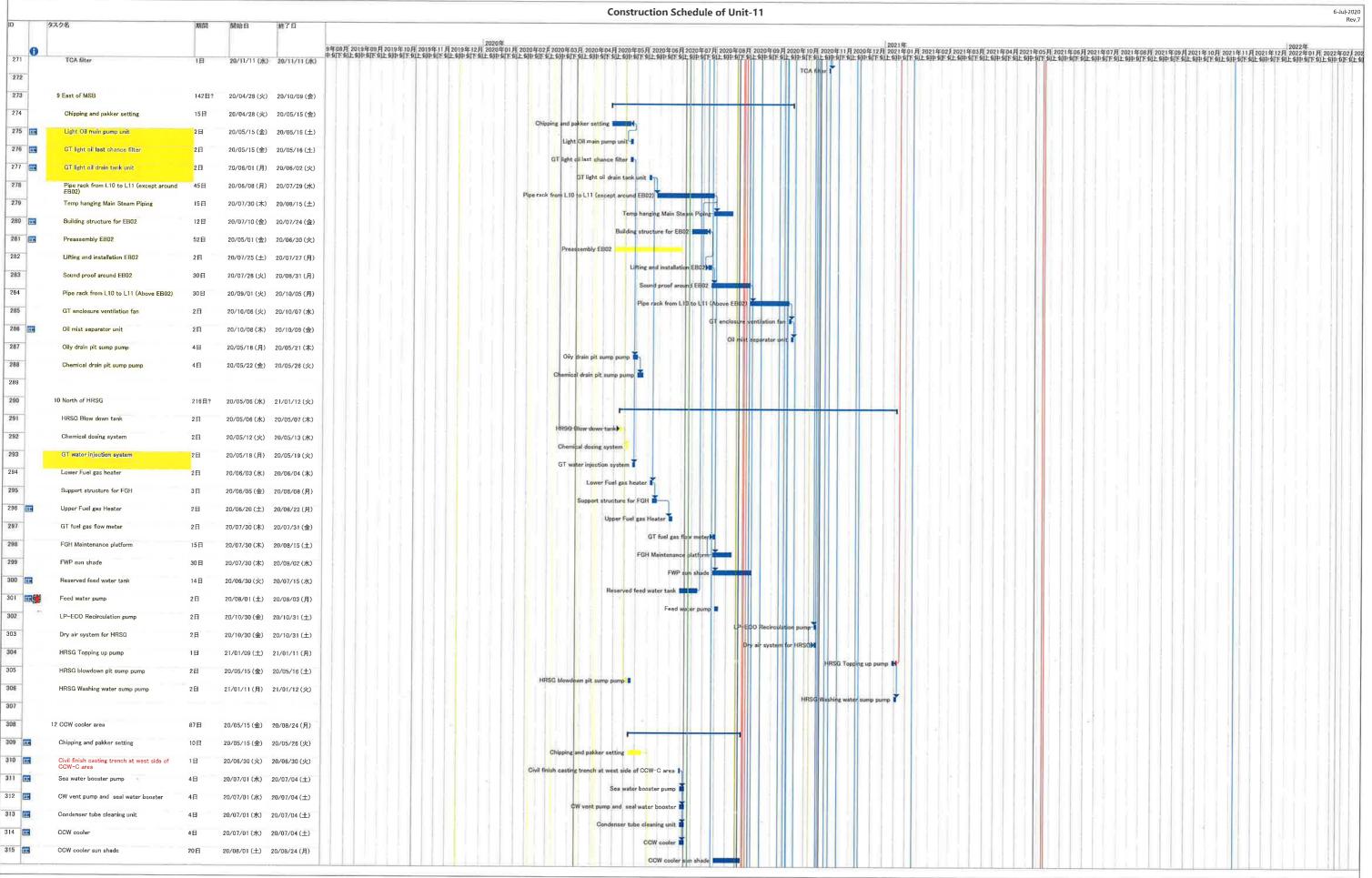


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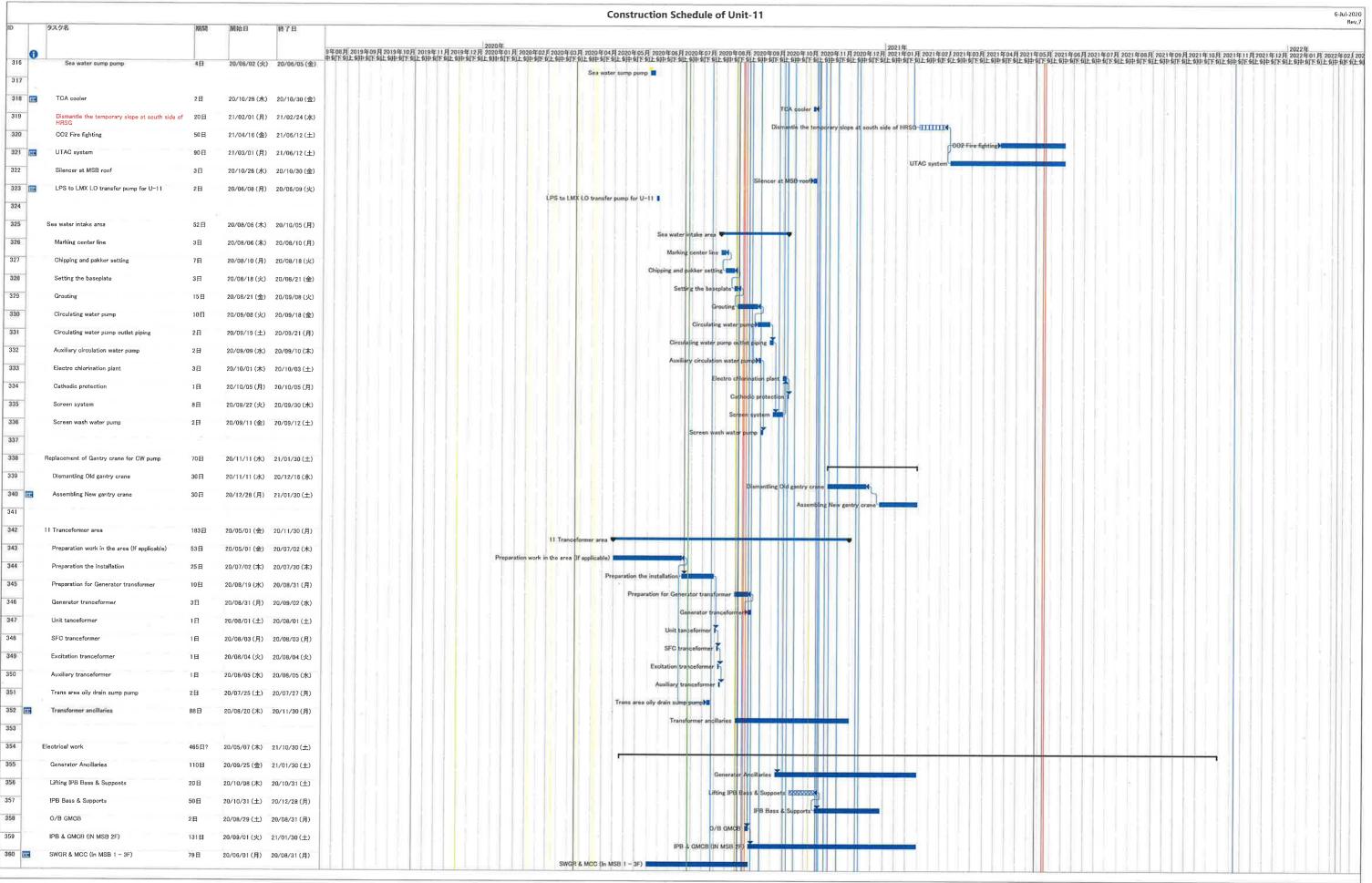


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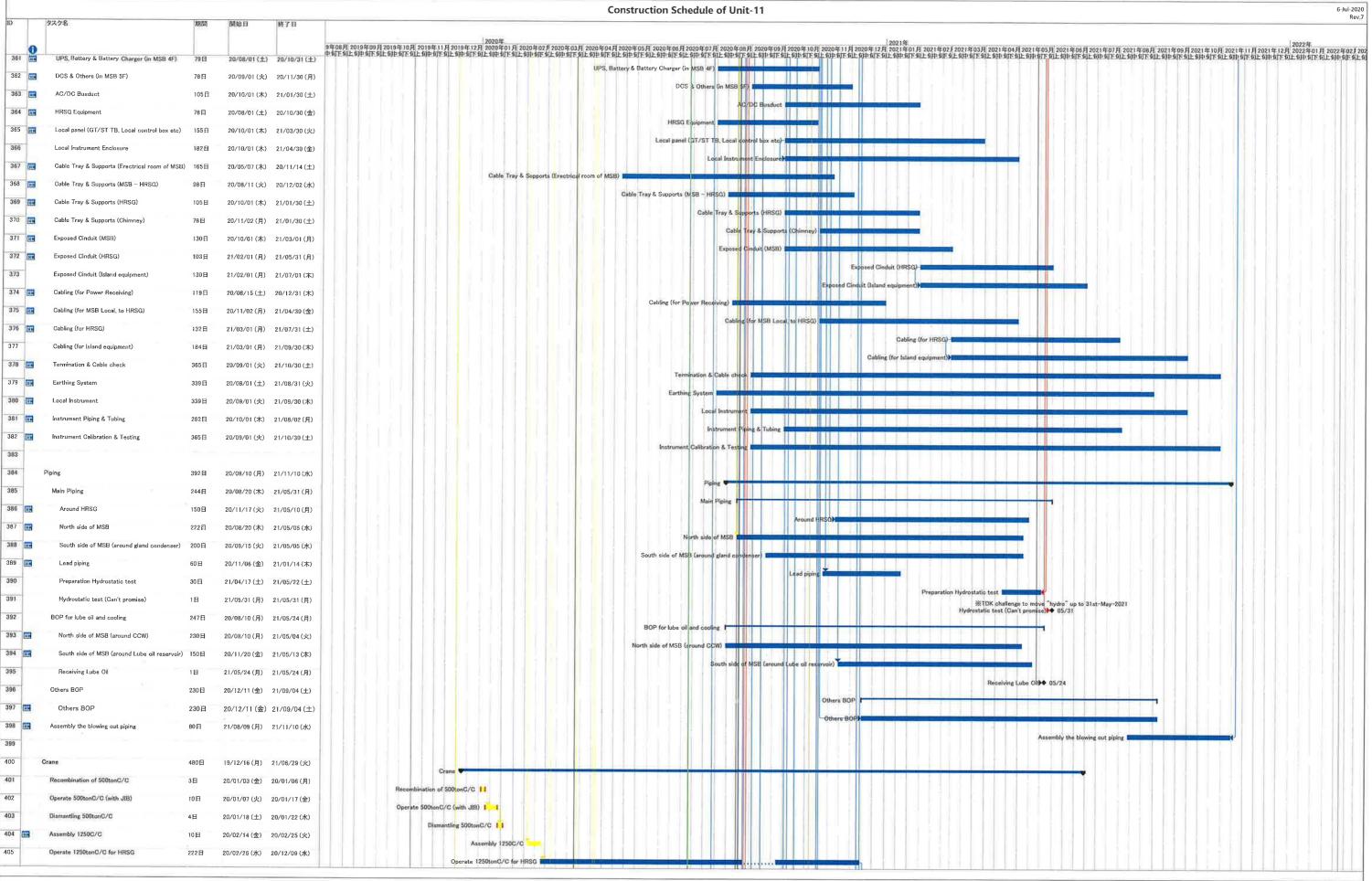


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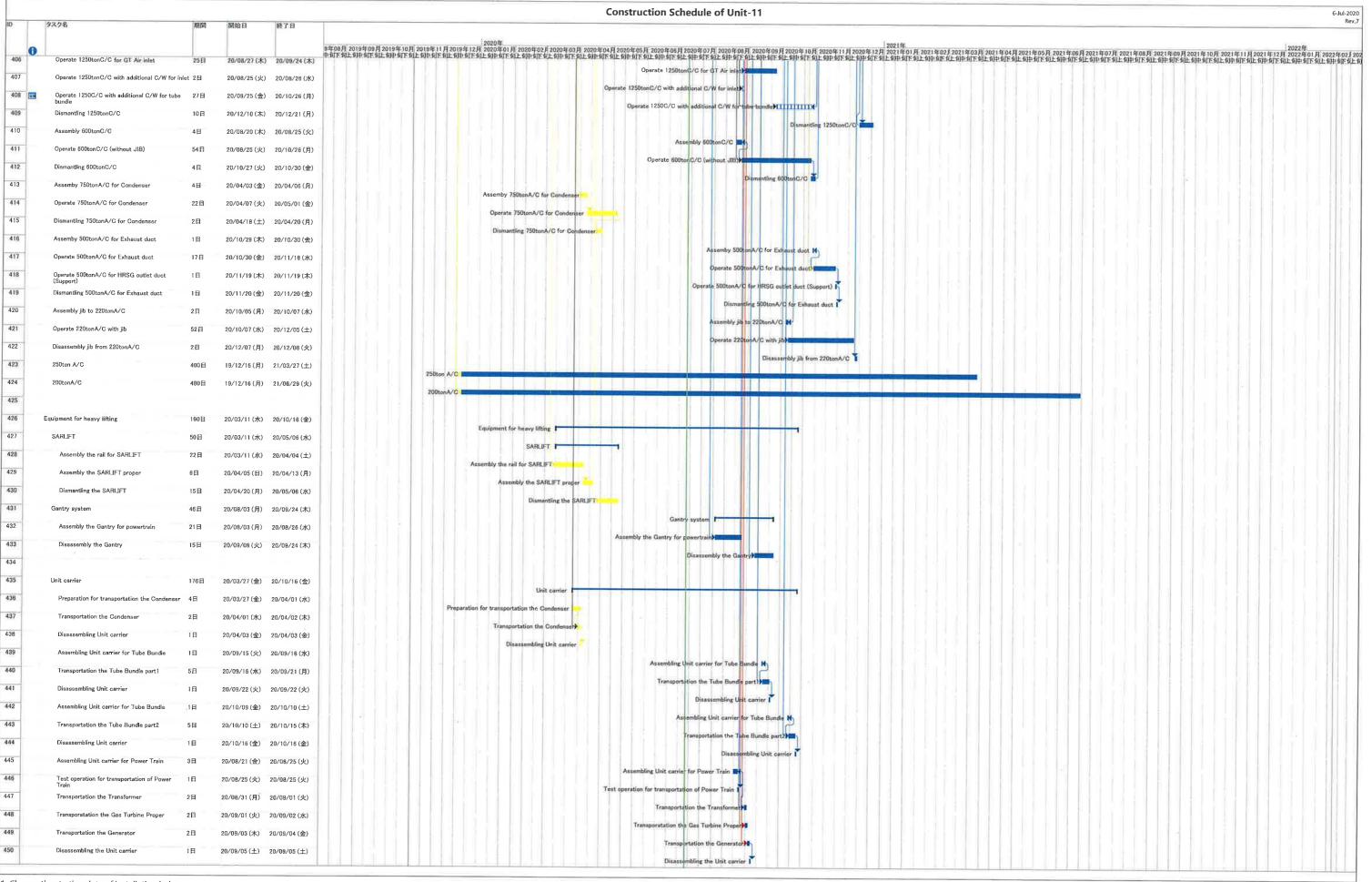


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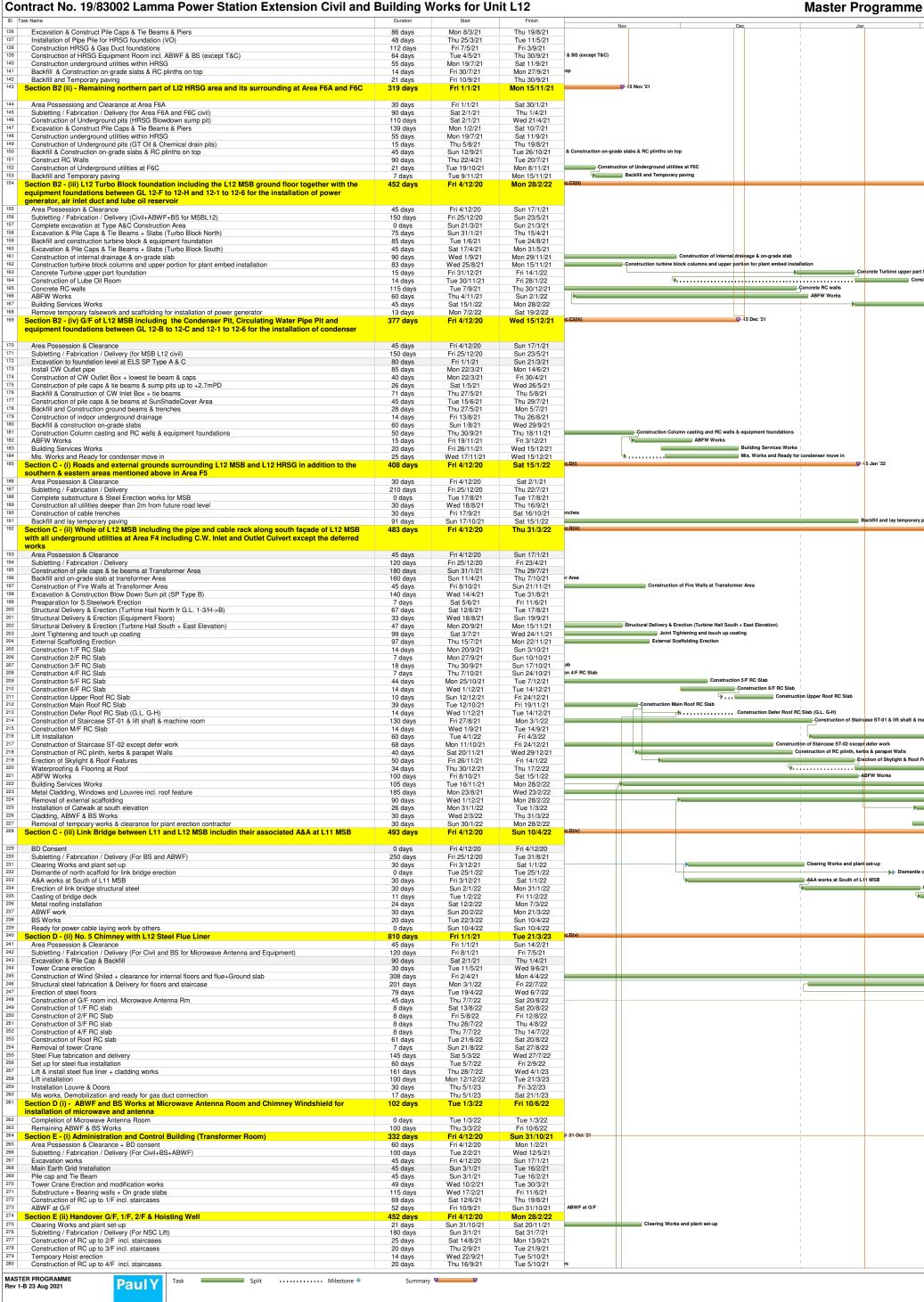
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[·] Installation Exhaust duct was re-started from 15st-May

^{2.} To consider that structure of Takasago portion is delayed

	ontract No. 19/83002 Lamma Power Station Extension Civil and		Vorks for Ur	nit L12			Maste	r Programme
ID 1	Task Name KEY DATES & MILESTONES	Duration 1123 days	Start Fri 4/12/20	Finish Sun 31/12/23	Nov D	lec		Jan
3	Contract Period Deferred Work Completion Key Dates	1123 days 784 days	Fri 4/12/20 Mon 8/11/21	Sun 31/12/23 Sun 31/12/23				
	Substantial Completion of the Whole Contract Works (1123 Days) SITE POSSESSION DATES	0 days 513 days	Sun 31/12/23 Fri 4/12/20	Sun 31/12/23 Sun 1/5/22			 	
6 7 8	Site Possession Date as phased site possesion plan and PS1.4.2 Site Possession Date as phased site possesion plan and PS1.4.2 Site Possession Date as phased site possesion plan and PS1.4.2	0 days 0 days	Fri 4/12/20 Fri 1/1/21	Fri 4/12/20 Fri 1/1/21			1	
9	Site Possession Date as phased site possession plan and PS1.4.2 Site Possession Date as phased site possession plan and PS1.4.2 Site Possession Date as phased site possesion plan and PS1.4.2	0 days 0 days	Sat 1/5/21 Fri 1/10/21 Fri 1/4/22	Sat 1/5/21 Fri 1/10/21 Fri 1/4/22	an and PS1.4.2		1	
11	Site Possession Date as phased site possesion plan and PS1.4.2	0 days 0 days	Sun 1/5/22	Sun 1/5/22			 	
13	COMPLETION DATES as per PS1.4.2 Time for Completion Section A1 (i) - Area south of L12 MSB and L12 HRSG from GL12-F eastwards leading to Chimney Road at Area F1 & F2	537 days 0 days	Thu 30/9/21 Thu 30/9/21	Tue 21/3/23 Thu 30/9/21	3G from GL12-F eastwards leading to Chimney Road at Area F1 & F2		İ	
14	Section A1 (ii) - Supporting structures for overhead cranes of L12 MSB including the associated roof structure except the roof deferred works	0 days	Mon 1/11/21	Mon 1/11/21	Section A1 (ii) - Supporting structures for overhead cranes of L12 MSB in	cluding the associated roo	of structure except	he roof deferred works
15 16	Section A2 (i) External Works including CW Inlet Culvert at Area F8A Section A2 (ii) External Works including CW Intet Culvert at Area F8B	0 days 0 days	Mon 10/1/22 Thu 31/3/22	Mon 10/1/22 Thu 31/3/22			•	Section A2 (i) External Works inclu
17	Section A2 (iii) External Works including CW Inlet Culvert at Area F8C Section B1 - Area south of L12 MSB from GL12-F westwards leading to Station Road at Area F3	0 days 0 days	Fri 11/3/22 Wed 15/12/21	Fri 11/3/22 Wed 15/12/21		Section B1 - Area south	of L12 MSB from G	L12-F westwards leading to Station
19	Section B2 (i)- Southern Part of L12 HRSG areas and its surrounding refer to Area F6B as shown in drawing no 553/03/2040 including the foundations for Gas Exhaust Duct	0 days	Thu 30/9/21	Thu 30/9/21	d its surrounding refer to Area F6B as shown in drawing no 553/03/2040 incl		1	
20	Section B2 (ii) - Remaining northern part of Ll2 HRSG area and its surrounding at Area F6A and F6C Section B2 - (iii) L12 Turbo Block foundation including the L12 MSB ground floor together with the equipment	0 days 0 days	Mon 15/11/21 Mon 28/2/22	Mon 15/11/21 Mon 28/2/22	♦ Section B2 (ii) - Remaining northern part of LI2 Hi	(SG area and its surround	ding at Area F6A and	I F6C
- 00	foundations between GL 12-F to 12-H and 12-1 to 12-6 for the installation of power generator, air inlet duct and lube oil reservoir					(C11 DO (b) 0/5 -11	 	N. Condense Bit Circulation Water
22	Section B2 - (iv) G/F of L12 MSB including the Condenser Pit, Circulating Water Pipe Pit and equipment foundations between GL 12-B to 12-C and 12-1 to 12-6 for the installation of condenser Section C - (i) Roads and external grounds surrounding L12 MSB and L12 HRSG in addition to the southern & eastern	0 days	Wed 15/12/21	Wed 15/12/21		Section B2 - (IV) G/F of L	 - 	the Condenser Pit, Circulating Wate
24	Section C - (i) Nodas and external grounds surrounding L12 MSB and L12 HRSG in addition to the southern & eastern areas mentioned above in Area F5 Section C - (ii) Whole of L12 MSB including the pipe and cable rack along south façade of L12 MSB with all	0 days	Sat 15/1/22 Thu 31/3/22	Sat 15/1/22 Thu 31/3/22			1	Oction C - (i) floads and c
25	underground utilities at Area F4 including C.W. Inlet and Outlet Culvert except the deferred works Section C - (iii) Link Bridge between L11 and L12 MSB including their associated A&A at L11 MSB	0 days	Sun 10/4/22	Sun 10/4/22			1	
26	Section D - (i) Microwave Antenna Room and Chimney Windshiled for the installation of miscrowave equipment and antenna	0 days	Fri 10/6/22	Fri 10/6/22			i I	
27 28	Section D (ii) - No. 5 Chimney with L12 Steel Flue liner Section E (i) Tx Room of Adminintration and Control Building	0 days 0 days	Tue 21/3/23 Sun 31/10/21	Tue 21/3/23 Sun 31/10/21	Section E (i) Tx Room of Adminintration and Control Building		1	
30	Section E (ii) - G/F,1/F, 2/F & Hoisting Well of Admin. & Control Building Section E (iii) - Whole of Admin. And Control Building	0 days 0 days	Mon 28/2/22 Tue 31/5/22	Mon 28/2/22 Tue 31/5/22	_		i I	
31	Section F (i) - Gas Receiving Station and L12 Gas Receiving Station Equipment Room (GRS) Area Extension at Area F14	0 days	Wed 30/11/22	Wed 30/11/22			1	
32 33	Setion F (ii) - Pipe and Cable rack and external work at Area F9A and F9B Section F (iii) - No. 5 CW Equipment Room, pipe and cable rack, external works at Area F10	0 days 0 days	Tue 31/5/22 Wed 31/8/22	Tue 31/5/22 Wed 31/8/22			1	
34 35 36	Section G (i) - External Work surrounding Area F11 Section G (ii) - External Works at Area F12 & F13 Section G (iii) - FS Modification works along South Seafront Road at Area F15	0 days 0 days 0 days	Wed 26/10/22 Fri 30/9/22 Fri 30/9/22	Wed 26/10/22 Fri 30/9/22 Fri 30/9/22			1	
36 37 38	Section G (iii) - FS Modification works along South Seafront Hoad at Area F15 Section G (iv) - 275kV cable trenches and External Works at Area F16 Section G (v) - Shunt Reactor Compound and External Works at Area F17	0 days 0 days 0 days	Fri 30/9/22 Fri 30/9/22 Fri 30/9/22	Fri 30/9/22 Fri 30/9/22 Fri 30/9/22			1 1 1	
39 40	Section G (v) - Shurt Reactor Compound and External Works at Area F17 Section G (vi) - 275kV cable trenches and External Works at Area F18 Section G (vii) - Flood Wall at No. 4 CW Intake Area along HUA at Area F20A	0 days 0 days 0 days	Wed 1/6/22 Sun 8/5/22	Wed 1/6/22 Sun 8/5/22			1	
41	Seciton G (viii) - Flood wall at No. 5 CW Intake Area along HUA at Area F20B Seciton G (ix) - Bund wall modification works at South Seafront Road at Area F21	0 days 0 days	Fri 30/9/22 Fri 15/10/21	Fri 30/9/22 Fri 15/10/21	modification works at South Seafront Road at Area F21		1	
43 44	Section G (x) - DAX Cable Diversion Works (from Part I to Part IV) Section H - All remaining works shall be completed for reporting completion to BD and ready for OP inspection	0 days 0 days	Sat 31/12/22 Tue 28/2/23	Sat 31/12/22 Tue 28/2/23			 	
45	GENERAL & PRELIMINARY	228 days	Fri 4/12/20	Mon 19/7/21			1	
46 47	First Mobilization Set up Temporary Site Office and Welfare Factiliites	18 days 90 days	Fri 4/12/20 Tue 22/12/20	Mon 21/12/20 Sun 21/3/21			1	
48 49	Permit Applications & Statuary Submissions Existing Utilities scanning & Excavation Permit	120 days 45 days	Mon 22/3/21 Tue 22/12/20	Mon 19/7/21 Thu 4/2/21			1	
50 51	Tower Crane erections TECHNICAL SUBMISSION AND APPROVAL	60 days 314 days	Sun 27/12/20 Thu 10/12/20	Wed 24/2/21 Wed 20/10/21			 	
52 53	BD Approval & Consent (If required) Submission and Approval of Master Programme	0 days 14 days	Thu 10/12/20 Fri 11/12/20	Thu 10/12/20 Thu 24/12/20			i I	
54 55	Work Execuation Overal Plan submission & approval Material Submissions and approval	14 days 300 days	Fri 11/12/20 Fri 25/12/20	Thu 24/12/20 Wed 20/10/21	ons and approval		1	
56 57	Method Statement submission and approval BIM Model, CSD & CBWD Submission & approval	300 days 120 days	Fri 25/12/20 Fri 25/12/20	Wed 20/10/21 Fri 23/4/21	t submission and approval		i i	
58 59	Structure Steelwork Connection Design Submission & BD approval Structure Steelwork Shop Drawing & Approval	45 days 30 days	Tue 29/12/20 Fri 12/2/21	Thu 11/2/21 Sat 13/3/21			1	
60	Metal Cladding, louvre & windows submission & BD approval Metal Cladding, louvre & windows shop drawing submission	45 days 45 days	Tue 29/12/20 Fri 12/2/21	Thu 11/2/21 Sun 28/3/21			1	
62 63 64	Order, Off Site Fabrication and Delivery (S. Steel & Cladding & louvres) ELS Submission and BD approval	120 days 90 days	Mon 29/3/21 Fri 11/12/20 Fri 11/12/20	Mon 26/7/21 Wed 10/3/21			1	
65	No. 5 Chimney windshield temporary work submission, approval & fabrication Steel Flue Assessment Report and Design Drawings submission & approval Folding Shutters Shop Drawing Submission & Approval	60 days 60 days 30 days	Tue 9/2/21 Thu 11/2/21	Mon 8/2/21 Fri 9/4/21 Fri 12/3/21			1	
67	Fabrication & Delivery of Folding Shutters Sewage Pump System Design submission & approval	180 days 45 days	Sat 13/3/21 Tue 23/2/21	Wed 8/9/21 Thu 8/4/21	- -		i I	
69 70	Sewage Fulling System Design Submission & approval Fabrication & Delivery of Sewage Pump Other material submission & approval & delivery	180 days 180 days	Fri 9/4/21 Sat 24/4/21	Tue 5/10/21 Wed 20/10/21	bmission & approval & delivery		1	
71 72	Other material submission & approval & delivery CONSTRUCTION	180 days 1123 days	Sat 24/4/21 Fri 4/12/20	Wed 20/10/21 Sun 31/12/23	omission & approval & delivery		į	
73 74	Coordination with the Employer's Specialist Contractors Installation of Puddle Pipes at C.W. outlet Culvert	562 days 7 days	Fri 15/1/21 Mon 22/3/21	Sat 30/7/22 Sun 28/3/21	ık.		1	
75 76	Installation of Puddle Pipes at C.W. Inlet Culvert Template setting at L12 Turbo Block Foundation	7 days 45 days	Thu 27/5/21 Tue 16/11/21	Wed 2/6/21 Thu 30/12/21			Template setting a	t L12 Turbo Block Foundation
77 78	Template setting of holding down bolts at HRSG column base I-beam / channel base installation on top of transformer foundations at Transformer Area	45 days 45 days	Fri 15/1/21 Tue 1/6/21	Sun 28/2/21 Thu 15/7/21			1	
79	Overhead crane erection at turbine hall using access through a temporary opening at L12 MSB roof between GL12-G to 12-H and 12-2 to 12-6	38 days	Mon 1/11/21	Wed 8/12/21	Overhead o	rane erection at turbine ha	all using access thr	ough a temporary opening at L12 M
80	Condenser assembly and erection using access through a temporary façade opening at L12 MSB below 1/F along GL 12-6 from GL12-B to 12-C including a clear space below 1/F between GL 12-B to 12-C	122 days	Thu 16/12/21	Sat 16/4/22	_		!	
81	Installation of power train equipment including air inlet duct using access through a temporary façade opening at L12 MSB below 1/F along GL 12-6 from GL12-F to 12-H including a clear space below 1/F of the above area	121 days	Fri 1/4/22	Sat 30/7/22			1	
82	Installation of embedded materials such as holding down bolts for equipment foundations - Commencement	0 days	Thu 15/4/21	Thu 15/4/21			1	
83	Section A1 (i) - Area south of L12 MSB and L12 HRSG from GL12-F eastwards leading to Chimney Road at Area F1 & F2	301 days	Fri 4/12/20	Thu 30/9/21			1	
84 85	Area Possession & Clearance Subletting / Fabrication / Delivery (both for Area F1 and Area F2)	30 days 60 days	Fri 4/12/20 Sun 17/1/21	Sat 2/1/21 Wed 17/3/21			i I	
86 87	Excavation for CW Inlet Culvert (Type D Construction Area) Installation CW Inlet Culvert pipe	14 days 70 days	Tue 1/6/21 Tue 15/6/21	Mon 14/6/21 Mon 23/8/21			1 1 1	
88 89	Backfill Construction UG Utilities 2m deep below further surface	7 days 21 days	Tue 24/8/21 Tue 31/8/21	Mon 30/8/21 Mon 27/9/21			1	
90 91	Temporary Paving and handover for plant erection Section A1 (ii) - Supporting structures for overhead cranes of L12 MSB including the associated roof	3 days 333 days	Tue 28/9/21 Fri 4/12/20	Thu 30/9/21 Mon 1/11/21	- Nov '21		I I I	
92	structure except the roof deferred workss Area Possession & Clearance	45 days	Fri 4/12/20	Sun 17/1/21			i I I	
93 94	Subletting / Fabrication / Delivery Complete structural steel erection	210 days 0 days	Tue 23/2/21 Tue 19/10/21	Mon 20/9/21 Tue 19/10/21	steel erection		1 1 1	
95 96 97	Install Crane Girders Construction of roof slab (except defer work)	11 days 14 days	Tue 12/10/21 Tue 12/10/21	Fri 29/10/21 Mon 1/11/21	stall Crane Girders Construction of roof slab (except defer work)		i I	
97 98 99	Touch up and handover for install overhead cranes Section A2 (i) External Works including CW Inlet Culvert at Area F8A PD consent for Sheatile, installation	3 days 403 days	Sat 30/10/21 Fri 4/12/20	Mon 1/11/21 Mon 10/1/22	Touch up and handover for install overhead cranes c.B1(ii)	_		-10 Jan '22
99 100 101	BD consent for Sheetpile installation Subletting / Fabrication / Delivery (both for Area F8A-F8B) Area Possession & Clearance	30 days 30 days	Fri 4/12/20 Fri 18/12/20 Sat 2/1/21	Sat 2/1/21 Sat 16/1/21 Fri 15/1/21			i I	
101 102 103	Area Possession & Clearance Install Sheet pile Installation of Additional sheet Pile at South of area F8A	14 days 55 days 7 days	Sat 2/1/21 Sat 16/1/21 Sat 17/4/21	Fri 15/1/21 Thu 11/3/21 Fri 23/4/21			1	
104	BD Consent for ELS ELS and install CW Inlet Pipe (NW to N direction) (Assume flexible joint deliver in Sep 2021)	28 days 100 days	Sat 17/4/21 Sat 24/4/21 Fri 16/7/21	Fri 21/5/21 Sat 23/10/21	all CW Inlet Pipe (NW to N direction) (Assume flexible joint deliver in Sep 202	1)	1	
106	Construction of Thrust Box & Manholes,etc Backfill, UG Utilities and Road Paving	15 days 79 days	Thu 16/9/21 Sun 24/10/21	Thu 30/9/21 Mon 10/1/22			<u>i</u>	Backfill, UG Utilities and Road Pavir
108	Section A2 (ii) External Works including CW Intet Culvert at Area F8B Area Possession & Clearance	483 days 30 days	Fri 4/12/20 Mon 1/3/21	Thu 31/3/22 Tue 30/3/21			1	
110 111	BD consent for Sheetpile installation Install Sheet pile	30 days 90 days	Fri 4/12/20 Fri 2/4/21	Sat 2/1/21 Wed 30/6/21			i I	
112 113	BD Consent for ELS ELS and install CW Inlet Pipe	28 days 100 days	Thu 1/7/21 Thu 29/7/21	Wed 28/7/21 Fri 5/11/21	ELS and install CW Inlet Pipe		1	
114	Construction of Thrust Box & Manholes,etc Backfill, UG Utilities and Road Paving	15 days 146 days	Wed 1/9/21 Sat 6/11/21	Wed 15/9/21 Thu 31/3/22	<u> </u>		<u>i</u>	
116	Area Possession & Clearance	365 days 30 days	Fri 12/3/21 Fri 12/3/21	Fri 11/3/22 Sat 10/4/21			Į.	
118 119	Subletting / Fabrication / Delivery (for Area F8C) BD consent for Sheetpile installation	60 days 30 days	Fri 12/3/21 Tue 13/4/21	Mon 10/5/21 Wed 12/5/21			i I	
120 121 122	Install Sheet pile BD Consent for ELS ELS and install CM later Pine (including ceil pail installation under 19/92014)	62 days 35 days	Thu 13/5/21 Wed 14/7/21	Tue 13/7/21 Tue 17/8/21			1 1	ELS and install CV
122 123 124	ELS and install CW Inlet Pipe (including soil nail installation under 19/83014) Construction of Thrust Box & Manholes,etc Backfill, UG Utilities and Road Paving	76 days 30 days 20 days	Wed 18/8/21 Fri 21/1/22 Sun 20/2/22	Thu 20/1/22 Sat 19/2/22 Fri 11/3/22			1 1	ELS and install CV
125	Section B1 - Area south of L12 MSB from GL12-F westwards leading to Station Road at Area F3	377 days	Fri 4/12/20	Wed 15/12/21	e.C1	5 Dec '21	1	
126 127	Area Possession & Clearance Subletting / Fabrication / Delivery	30 days 120 days	Fri 4/12/20 Fri 25/12/20	Sat 2/1/21 Fri 23/4/21			i I	
128	Complete CW Pipe Installation & Thrust box Backfill	45 days 30 days	Tue 25/5/21 Fri 9/7/21	Thu 8/7/21 Sat 7/8/21			1	
130 131	Construction of Storm Drain & Manholes Temp Paving and handover for Condenser Move in	67 days 20 days	Mon 20/9/21 Fri 26/11/21	Thu 25/11/21 Wed 15/12/21	Construction of Storm Drain &	anholes Temp Paving and handov	 ver for Condenser N	love in
132	Section B2 - (I) Southern part of L12 HRSG area and its surrounding at Area F6B including the foundations for Gas Exhaust Duct	273 days	Fri 1/1/21	Thu 30/9/21			1	
133	Area Possession & Clearance Subletting / Fabrication / Delivery (for F6B Civil and E&M)	30 days 120 days	Fri 1/1/21 Sat 2/1/21	Sat 30/1/21 Sat 1/5/21			1 1 1	
	Construction of Underground pits TER PROGRAMME Down V Task Split Milestone ♦	35 days Summary	Tue 8/6/21	Mon 12/7/21			1	
	1-B 23 Aug 2021 PaulY Task Split Milestone ❖	Suninary						



onstruction of RC up to R/F incl. staircases	25 days	Thu 30/9/21	Sun 24/10/21	on of RC up to R/F in	Nov Dec Jan cl. staircases
onstruction of RC up to lift machine room onstruction of RC up to lift machine room onstruction of RC up to UR/F	21 days 21 days	Mon 25/10/21 Mon 15/11/21	Sun 14/11/21 Sun 5/12/21		Construction of RC up to lift machine room -Construction of RC up to UR/F
sternal Wall Finish, Cladding + Windows and Louvres + Features	138 days 95 days	Thu 30/9/21 Fri 8/10/21	Mon 14/2/22 Mon 10/1/22		ABWF at 1/F
WF at 2/F	96 days	Fri 15/10/21	Tue 18/1/22		ABWF
ding Services Works at G/F, 1/F, 2/F & Hoisting Well on E (iii) Whole of Administration and Control Building	147 days 544 days	Tue 5/10/21 Fri 4/12/20	Mon 28/2/22 Tue 31/5/22		
bletting / Fabrication / Delivery (For BS+ABWF) nstruction of New UG Grey Water Tank	127 days 60 days	Sat 23/10/21 Mon 20/3/23	Sun 20/3/22 Thu 18/5/23		
bmission of WW046 for commencement WF at 3/F	60 days 120 days	Wed 19/1/22 Mon 25/10/21	Sat 19/3/22 Mon 21/2/22		· · · · · · · · · · · · · · · · · · ·
WF at 4/F WF at R/F	90 days	Wed 24/11/21 Wed 15/12/21	Mon 21/2/22 Sat 12/2/22		
WF at UR/F + Lift Machine Room	60 days 45 days	Wed 5/1/22	Fri 18/2/22		
dge Erection & Connection stallation of Raised floors	28 days 60 days	Mon 7/2/22 Fri 7/1/22	Mon 28/3/22 Fri 29/4/22		, , , , , , , , , , , , , , , , , , ,
moval of external scaffolding sterproofing & screeding	39 days 60 days	Mon 24/1/22 Mon 6/12/21	Wed 9/3/22 Thu 3/2/22		
moval of Tower Crane ternal utiliites and road work	7 days 45 days	Thu 10/3/22 Tue 8/2/22	Wed 16/3/22 Thu 14/4/22		
ilding Services Works	160 days	Tue 7/12/21	Sun 15/5/22		·
Ise ceiling after BS works bmission of WW046 for completion	54 days 30 days	Tue 29/3/22 Wed 9/3/22	Sat 21/5/22 Thu 7/4/22		
bmission of FS inspection bmission for OP Inspection	14 days 14 days	Fri 13/5/22 Wed 18/5/22	Thu 26/5/22 Tue 31/5/22		
ion F (i) - Gas Receiving Station and L12 Gas Receiving Station Equipment Room (GRS) Area	548 days	Tue 1/6/21	Wed 30/11/22		
pa Possession & Clearance + BD consent bletting / Fabrication / Delivery	90 days 30 days	Tue 1/6/21 Tue 22/6/21	Sun 29/8/21 Wed 21/7/21		
stallation of pipe pile at north of GRS (VO)	134 days	Mon 5/7/21	Mon 15/11/21		Installation of pipe pile at north of GRS (VO)
nstruction Equipment room extension dification of existing drainage	145 days 45 days	Sun 31/10/21 Fri 25/3/22	Thu 24/3/22 Sun 8/5/22		
cavation & earthing for Skid foundations nstruction of Skid foundation	21 days 45 days	Mon 9/5/22 Mon 30/5/22	Sun 29/5/22 Wed 13/7/22		
nstruct underground utilities and drainage ckfill and road works	45 days 60 days	Thu 14/7/22 Sun 28/8/22	Sat 27/8/22 Wed 26/10/22		
locate / install new fencing for completion	21 days	Thu 27/10/22	Wed 16/11/22		
s. Work and ready for OP inspection ion F (ii) - Pipe and Cable rack and external work at Area F9A and F9B	14 days 515 days	Thu 17/11/22 Sat 2/1/21	Wed 30/11/22 Tue 31/5/22	c.E2	
0 consent + Site Possession at Area F9A & F9B cavation & Plate load test	90 days 30 days	Sat 2/1/21 Mon 1/11/21	Thu 1/4/21 Tue 30/11/21		Excavation & Plate load test
Instruction new footing for pipe rack derground utilities and road works for completion	30 days 11 days	Wed 1/12/21 Thu 31/3/22	Thu 30/12/21 Tue 31/5/22		Construction new footing for pipe rack
terground utilities and hold works to completion rectural Steel fabrication & Delivery setion of new pipe rack	90 days 70 days	Sat 2/10/21 Fri 31/12/21	Thu 30/12/21 Thu 10/3/22		Structural Steel fabrication & Delivery
s. Work and ready for OP inspection	21 days	Wed 11/5/22	Tue 31/5/22	o F3	1
ion F (iii) - No. 5 CW Equipment Room, pipe and cable rack, external works at Area F10 pa Possession & Clearance + BD consent	457 days 90 days	Tue 1/6/21 Tue 1/6/21	Wed 31/8/22 Sun 29/8/21	ic.E3	!
bletting / Fabrication / Delivery For ABWF + BS stallation of Sheet Pile (VO)	150 days 85 days	Wed 2/6/21 Tue 1/6/21	Fri 29/10/21 Tue 24/8/21	ibletting / Fabrication	n/Delivery For ABWF + BS
Instent for ELS Works cavation & Plate load test	28 days 30 days	Wed 25/8/21 Wed 22/9/21	Tue 21/9/21 Thu 21/10/21	ate load test	
nstruction new footing for equipment room	68 days	Thu 23/12/21	Mon 28/2/22		*
perstructure for equipment room WF Works	60 days 45 days	Tue 1/3/22 Sat 30/4/22	Fri 29/4/22 Mon 13/6/22		
Works nstruction RC Wall & plinths & drainage at Chlorinator area	30 days 45 days	Wed 1/6/22 Wed 30/3/22	Thu 30/6/22 Fri 13/5/22		
ternal wall finish & remove scaffolding cavation & Plate load test for pipe rack extension (For F45-47 & F49)	30 days 30 days	Sat 14/5/22 Sat 16/10/21	Sun 12/6/22 Sun 14/11/21		Excavation & Plate load test for pipe rack extension (For F45-47 & F49)
derground utilities and road works for completion derground utilities and road works for completion	45 days 60 days	Mon 15/11/21 Thu 30/12/21	Wed 29/12/21 Sun 27/2/22		Construction new footing for pipe rack (F
uctural Steel fabrication & Delivery	90 days	Sun 12/12/21	Fri 11/3/22		
ckfilling and prepare for steel erection cavation & Plate Load test for pipe rack extenstion (For F48 F56)	12 days 14 days	Mon 28/2/22 Wed 30/3/22	Fri 11/3/22 Tue 12/4/22		
nstruction of new footing for pipe rak (For F48 & F56) ection of new pipe rack (For F48 & F56)	14 days 65 days	Wed 13/4/22 Tue 3/5/22	Tue 26/4/22 Wed 6/7/22		
action of new pipe rack (For F45-47 & F49) s. Work and ready for OP inspection	70 days 56 days	Sat 12/3/22 Thu 7/7/22	Fri 20/5/22 Wed 31/8/22		
ion G (i) - External Work surrounding Area F11 sa Possession & Clearance after handover from No. 5 Intake Contractor	145 days	Sat 4/6/22 Sat 4/6/22	Wed 31/0/22 Wed 26/10/22 Sun 3/7/22		
bletting / Fabrication / Delivery	30 days	Sat 4/6/22	Sun 3/7/22		
bmission WWO046 for commencement nstruct Underground utilities and drainage	30 days 30 days	Sat 4/6/22 Mon 20/6/22	Sun 3/7/22 Tue 19/7/22		
tall new FS Hydrant bmission WWO046 for completeion	20 days 30 days	Mon 20/6/22 Sat 30/7/22	Sat 9/7/22 Sun 28/8/22		
Instruction Road extension Instruction road paving and install fencing	58 days 30 days	Sat 30/7/22 Mon 26/9/22	Sun 25/9/22 Tue 25/10/22		
ady for OP inspection	14 days	Thu 13/10/22	Wed 26/10/22	ic.E4	
cion G (ii) - External Works at Area F12 & F13 ap Possession & Clearance after handover from other	666 days 45 days	Fri 4/12/20 Fri 4/12/20	Fri 30/9/22 Sun 17/1/21		
bletting / Fabrication / Delivery cavation	180 days 21 days	Thu 4/3/21 Sat 23/10/21	Mon 30/8/21 Fri 12/11/21		Excavation
bmission WW0046 for commencement onstruct Underground utilities and drainage	30 days 90 days	Sat 13/11/21 Mon 13/12/21	Sun 12/12/21 Sat 12/3/22	- F	Submission WW0046 for commencement
stall new FS Hydrant Ibmission WWO046 for completion	30 days 30 days	Sun 13/3/22 Tue 12/4/22	Mon 11/4/22 Wed 11/5/22		
onstruction Road extension	127 days	Thu 12/5/22	Thu 15/9/22		
omplete with Mis. Works for completion tion G (iii) - FS Modification works along South Seafront Road at Area F15	15 days 183 days	Fri 16/9/22 Fri 1/4/22	Fri 30/9/22 Fri 30/9/22		
ea Possession & Clearance after handover from other bletting / Fabrication / Delivery	45 days 21 days	Fri 1/4/22 Fri 1/4/22	Sun 15/5/22 Thu 21/4/22		
mporary Traffice Arrangement approval lities scanning and expose existing FS	14 days 14 days	Fri 1/4/22 Fri 15/4/22	Thu 14/4/22 Thu 28/4/22		
termine new FS alignment	21 days	Fri 29/4/22	Thu 19/5/22		
bmission to FSD diffication of FS	14 days 60 days	Fri 20/5/22 Fri 3/6/22	Thu 2/6/22 Mon 1/8/22		
ckfill and reinstatment + report to FSD ion G (iv) - 275kV cable trenches and External Works at Area F16	60 days 518 days	Tue 2/8/22 Sat 1/5/21	Fri 30/9/22 Fri 30/9/22	c.E4	
ea Possession & Clearance bletting / Fabrication / Delivery	60 days 210 days	Sat 1/5/21 Wed 17/11/21	Tue 29/6/21 Tue 14/6/22	_	
mporary Traffice Arrangement approval	60 days	Sat 1/5/21 Wed 30/6/21	Tue 29/6/21 Sat 28/8/21		
moval of aboveground services lities scanning and expose exising UU	60 days 30 days	Sun 29/8/21	Mon 27/9/21		
ange of diversion existing UG utilities nstruct new cable trenches	90 days 173 days	Tue 28/9/21 Mon 27/12/21	Sun 26/12/21 Fri 17/6/22		Arrangé of diversion existing UG utilities
aligment / install new UG utilities ckfill and reinstate & ready for cable laying by others	60 days 45 days	Sat 18/6/22 Wed 17/8/22	Tue 16/8/22 Fri 30/9/22		
ion G (v) - Shunt Reactor Compound and External Works at Area F17 mporary Traffice Arrangement approval	666 days 45 days	Fri 4/12/20 Fri 4/12/20	Fri 30/9/22 Sun 17/1/21	c.E4	
bletting / Fabrication / Delivery	100 days	Fri 25/12/20	Sat 3/4/21		
approval & consent for pipe pile installation as Possession & Clearance	90 days 14 days	Fri 4/12/20 Thu 4/3/21	Wed 3/3/21 Wed 17/3/21		
moval of aboveground services lities scanning and expose exising UU	21 days 15 days	Thu 18/3/21 Thu 8/4/21	Wed 7/4/21 Thu 22/4/21		
ange of diversion existing UG utilities tall pipe piles	45 days 61 days	Fri 23/4/21 Sun 23/5/21	Sun 6/6/21 Thu 22/7/21		
tail pipe piles 14 for pipepile and BD consent for ELS 2avation & install earthing	28 days 35 days	Fri 23/7/21 Fri 20/8/21	Thu 19/8/21 Thu 23/9/21		
avaturi & install eartilling struct Pile Caps and Tie Beams ckfill & Erect scaffold	45 days	Fri 24/9/21 Mon 8/11/21	Sun 7/11/21	Constru	ct Ple Caps and Tie Beams Backfill & Erect scaffold
nstruction of SRC Walls	21 days 75 days	Mon 29/11/21	Sun 28/11/21 Fri 11/2/22		F
Ill finish and remove scaffolding nstruct new cable trenches	24 days 60 days	Sat 12/2/22 Tue 8/3/22	Mon 7/3/22 Fri 6/5/22		
tall new UG Utilties, Backfill and reinstate & ready for cable laying by Others for DAX1 aligment / install new UG utilities (for DAX2, APX1 & APX3)	55 days 117 days	Thu 7/4/22 Sat 7/5/22	Tue 31/5/22 Wed 31/8/22		
ckfill and reinstate & ready for cable laying by others (for DAX2, APX1, & APX3) ion G (vi) - 275kV cable trenches and External Works at Area F18	30 days	Thu 1/9/22	Fri 30/9/22 Wed 1/6/22	c.E4	
mporary Traffice Arrangement approval	397 days 45 days	Sat 1/5/21 Sat 1/5/21	Mon 14/6/21		
bletting / Fabrication / Delivery pa Possession & Clearance	60 days 15 days	Tue 15/6/21 Sat 1/5/21	Fri 13/8/21 Sat 15/5/21		
moval of aboveground services lities scanning and expose exising UU	30 days 45 days	Sun 16/5/21 Tue 15/6/21	Mon 14/6/21 Thu 29/7/21		
ange of diversion existing UG utilities nstruct new cable trenches	60 days 172 days	Fri 30/7/21 Tue 28/9/21	Mon 27/9/21 Fri 18/3/22		
aligment / install new UG utilities	45 days	Sat 19/3/22	Mon 2/5/22		
ckfill and reinstate & ready for cable laying by others ion G (vii) - Flood wall at No. 5 CW Intake Area along HUA at Area F20A	30 days 521 days	Tue 3/5/22 Fri 4/12/20	Wed 1/6/22 Sun 8/5/22		<u> </u>
ea Possession & Clearance bletting / Fabrication / Delivery	30 days 60 days	Fri 4/12/20 Fri 25/12/20	Sat 2/1/21 Mon 22/2/21		
metring / Fabrication / Belivery mporary Traffice Arrangement approval S BD approval & consent	300 days	Fri 4/12/20 Fri 18/12/20	Wed 29/9/21 Wed 17/3/21		
molition of existing carriageway	90 days 30 days	Thu 11/11/21	Fri 10/12/21	graund '	Demolition of existing carriageway
moval of aboveground services lities scanning and expose exising UU	21 days 21 days	Thu 30/9/21 Thu 21/10/21	Wed 20/10/21 Wed 10/11/21	ground services Util	lities scanning and expose exising UU
ange of diversion existing UG utilities cavation and construction of new Flood wall	30 days 65 days	Sat 11/12/21 Mon 10/1/22	Sun 9/1/22 Tue 15/3/22	_	Arrange of diversion e
advation and extraordior of the miles of wall alignment / install new UG utilities chill and construct new carriageway	30 days 18 days	Wed 16/3/22 Fri 15/4/22	Thu 14/4/22 Mon 2/5/22		
s. Work for completion	6 days	Tue 3/5/22	Sun 8/5/22		
ion G (viii) - Flood wall at No. 5 CW Intake Area along HUA at Area F20B ea Possession & Clearance	365 days 45 days	Fri 1/10/21 Fri 1/10/21	Fri 30/9/22 Sun 14/11/21		Area Possession & Clearance
bletting / Fabrication / Delivery mporary Traffice Arrangement approval	90 days 14 days	Fri 22/10/21 Fri 1/10/21	Wed 19/1/22 Thu 14/10/21	ment approval	Suble
S BD approval & consent	.,.				ELS BD approval

Paul Y

ract No. 19/83002 Lamma Power Station Extension Civil and B	Duration	Start	Finish	Nov Dec	Master Progra
Demolition of existing carriageway Removal of aboveground services	60 days 21 days	Fri 1/10/21 Tue 30/11/21	Mon 29/11/21 Mon 20/12/21	Demolition of existing carriageway	aboveground services
Jtilities scanning and expose exising UU Arrange of diversion existing UG utilities	21 days 30 days	Tue 21/12/21 Tue 11/1/22	Mon 10/1/22 Wed 9/2/22		Utilities scanning and
nstall Sheetpiles BA14 for sheetpile and BD consent for ELS	55 days 28 days	Thu 10/2/22 Wed 6/4/22	Tue 5/4/22 Tue 3/5/22		1
excavation and construction of new Flood wall Realigment / install new UG utilities	90 days 30 days	Wed 4/5/22 Tue 2/8/22	Mon 1/8/22 Wed 31/8/22		1
Backfill and construct new carriageway dis. Work for completion	21 days 9 days	Thu 1/9/22 Thu 22/9/22	Wed 21/9/22 Fri 30/9/22		i
ction G (ix) - Bund wall modification works at South Seafront Road at Area F21 urea Possession & Clearance	316 days 45 days	Fri 4/12/20 Fri 4/12/20	Fri 15/10/21 Sun 17/1/21		I I
Subletting / Fabrication / Delivery emporary Traffice Arrangement approval	90 days 165 days	Fri 25/12/20 Fri 4/12/20	Wed 24/3/21 Mon 17/5/21		
ELS BD approval & consent Demolition of existing carriageway	0 days 14 days	Thu 17/12/20 Tue 18/5/21	Thu 17/12/20 Mon 31/5/21		
Removal of aboveground services Utilities scanning and expose exising UU	14 days 21 days	Tue 1/6/21 Tue 15/6/21	Mon 14/6/21 Mon 5/7/21		i
Arrange of diversion existing UG utilities (include FS pipe under 17/8002) Excavation and expose existing bund wall & demolish	40 days 18 days	Tue 6/7/21 Wed 28/7/21	Sat 14/8/21 Sat 14/8/21		I I
Construction new bund wall for road junction Realigment / install new UG utilities (include FS pipe under 17/8002)	21 days 60 days	Sat 4/9/21 Sun 1/8/21	Fri 24/9/21 Wed 29/9/21	under 17/8002)	1
Sackfill and construct new carriageway Alis. Work for completion	16 days 5 days	Thu 30/9/21 Mon 11/10/21	Fri 15/10/21 Fri 15/10/21	carriageway	
ction G (x) - DAX Cable Diversion Works (from Part I to Part IV) Temporary Traffice Arrangement approval	758 days 14 days	Fri 4/12/20 Fri 4/12/20	Sat 31/12/22 Thu 17/12/20		i i
Subletting / Fabrication / Delivery trea Possession & Clearance	90 days 45 days	Fri 25/12/20 Fri 4/12/20	Wed 24/3/21 Sun 17/1/21		
dentification of existing cable trench art 1 Re-excavation works incl.construction of joint bay (at Water Reservoir Road)	7 days 246 days	Mon 18/1/21 Mon 25/1/21	Sun 24/1/21 Mon 27/9/21	(at Water Reservoir Road)	
Part 1 Re-excavation works incl construction of joint bay (other than Reservoir road base on revised routing)	310 days	Mon 25/1/21	Tue 30/11/21	Part 1 Re-excavation works incl construction of	of joint bay (other than Reservoir road base or
Part 2 Re-excavation works incl. joint bay Part 3 Re-excavation works incl. joint bay	120 days 242 days	Mon 1/11/21 Mon 1/11/21	Mon 28/2/22 Thu 30/6/22		
ant of newcavation works incl. joint bay & new oil tank pits ackfill & Reinstatement Part 1	92 days 61 days	Sat 1/10/22 Mon 1/11/21	Sat 31/12/22 Fri 31/12/21		-Backfill & Reinstatement Part 1
Backfill & Reinstatement Part 2	61 days	Sun 1/5/22	Thu 30/6/22		
Backfill & Reinstatement Part 3 ction H - All remaining works shall be completed for reporting completion to BD and ready for OP	61 days 775 days	Thu 1/9/22 Wed 17/11/21	Mon 31/10/22 Sun 31/12/23	17 Nov 21 Sec.K3	1
spection (PS1.4.4) Deferred works (MSB & HRSG) Listed in PS 1.4.4	272 days	Wed 17/11/21	Mon 15/8/22	17 Nov 21	1
Construction of L12 MSB roof between GL12-G to 12-H and 12-2 to 12-6 after the overhead crane installation by the Employer's Specialist Contractors	38 days	Wed 17/11/21	Fri 7/1/22	\$	Construction of L12 MSB ro
Construction of walls of L12 MSB below 1/F along GL 12-6 from GL12-B to 12-C and the associated staircases including the enclosure walls between G/F and 1/F. The Contractor shall allow access for the Employer's Specialist	92 days	Mon 16/5/22	Mon 15/8/22		1
Contractors to use the hoisting we Provision in associated with hoisting well	21 days	Mon 6/6/22	Sun 26/6/22		i I
Construction of internal partition wall at 1/F of L12 MSB along GL 12-C from GL 12-2 to 12-3 AND North Façade at 1/F of L12 MSB along GL 12-1 from GL 12-B to 12-C	30 days	Sat 16/4/22	Sun 15/5/22		1
Construction of metal fence and the associated Fire Services (F.S.) installations and installation of removable shelter at Transformer Area	92 days	Mon 16/5/22	Mon 15/8/22		1
Deferred works (DAX1 and DAX2) Listed in PS 1.4.4 Backfilling of whole DAXI compartment inside existing joint bay "STJI2" and the new oil tank pit A located aside	334 days 59 days	Wed 1/2/23 Wed 1/2/23	Sun 31/12/23 Fri 31/3/23		1
existing joint bay "STJI2". Re-excavation of whole DAX2 compartment inside existing joint bay "STJI2".	61 days	Tue 1/8/23	Sat 30/9/23		1
Backfilling of whole DAX2 compartment inside existing joint bay "STJI2" and the new oil tank pit B located aside existing joint bay "STJI2".	61 days	Wed 1/11/23	Sun 31/12/23		
Deferred works (External Work) Listed in PS 1.4.4 Final reinstatement of access roads and pavement surrounding and within L12 MSB and L12 HRSG area	121 days 62 days	Thu 1/12/22 Thu 1/12/22	Fri 31/3/23 Tue 31/1/23		
Installation of trench cover and road reinstatement of gas pipe and cable trenches within Area F5, F14, F16, F17	90 days	Sun 1/1/23	Fri 31/3/23	_	! !
and F18. Backfilling and road-reinstatement of 275kV cable trenches	90 days	Sun 1/1/23	Fri 31/3/23	_	
All Remaining work ready for OP inspection TUTORY SUBMISSION, INSPECTION & APPROVAL	0 days 560 days	Tue 28/2/23 Tue 16/11/21	Tue 28/2/23 Mon 29/5/23		
SD Statutory Submission, Inspection and Approval WWO Part I to III Submission / Approval WSD : Submit to WSD Form WWO 046 Part I to II - FOR ACB Building (for Ext Works at later stage)	256 days 0 days	Tue 16/11/21 Tue 16/11/21	Fri 29/7/22 Tue 16/11/21	16 Nov '2' WSD : Submit to WSD Form WWO 046 Part I to II - FOR ACB Building (or Ext Works at later stage)
WSD: Vesting Form WWO 046 Part I and II Submission WSD: lssued of Form WWO 046 Part I lby WSD - FOR ACB Building	90 days 0 days	Wed 17/11/21 Tue 15/2/22	Mon 14/2/22 Tue 15/2/22		1
WSD: Submit to WSD 1st Amendment for Plumbing Plan WSD: Submit to WSD 1st Amendment for Plumbing Plan	60 days	Tue 15/2/22 Fri 15/4/22	Fri 15/4/22 Fri 15/4/22		I I
WSD: Vetting of Plumbing Plan by WSD	0 days 60 days	Sat 16/4/22	Tue 14/6/22		
WSD: 1st Approval for Plumbing Plan by WSD WSD: Prepare and Submit for Final Amendment for Plumbing Plan	0 days 45 days	Tue 14/6/22 Wed 15/6/22	Tue 14/6/22 Fri 29/7/22		
WSD: Vetting and Final Approval for Plumbing Plan by WSD SD Statutory Submission, Inspection and Approval WWO Part IV to V Fire Services Water Submission / proval	0 days 33 days	Fri 29/7/22 Fri 29/7/22	Fri 29/7/22 Wed 31/8/22		I I
WSD: Form WWO 046 Part IV Submission (FS) WSD: WSD Recieved Form WWO046 Part IV and arrange for inspection (FS)	0 days 7 days	Fri 29/7/22 Sat 30/7/22	Fri 29/7/22 Fri 5/8/22		
WSD: WSD inspection (FS) WSD: WSD inspection (FS) WSD: WWO 046 Part V Endorsement by WSD (FS)	7 days 7 days 12 days	Sat 6/8/22 Sat 13/8/22	Fri 12/8/22 Wed 24/8/22		i I
WSD: WSD Processing Water Supply Connection Certificate (FS) WSD: Issue by WSD Water Supply Connection Certificate (FS)	7 days 0 days?	Thu 25/8/22 Wed 31/8/22	Wed 24/6/22 Wed 31/8/22 Wed 31/8/22		1
Wood issue by Wood Water Supply Connection Certificate (r S) Statutory Submission, Inspection and Approval WWO Part IV to V Potable /Flush Water Submission / proval	60 days	Fri 19/8/22	Tue 18/10/22		
WSD: Form WWO 046 Part IV Submission (Fresh/Flush) WSD: WSD Acknowledge Form WWO 046	0 days 6 days	Fri 19/8/22 Sat 20/8/22	Fri 19/8/22 Thu 25/8/22		:
WSD: WSD Inspection with Testing to lead (Fresh/Fluhs) WSD: Cleansing/Disinfecting Water Tanks / Piping System (Fresh/Flush)	12 days 6 days	Fri 26/8/22 Wed 7/9/22	Tue 6/9/22 Mon 12/9/22		1 1
WSD: Collection of Sample for Testing at Accredited Lab (Fresh/Flush) WSD:Accredited Lab Testing at Accredited Lab (Sept.)	12 days	Tue 13/9/22 Sun 25/9/22	Sat 24/9/22 Thu 6/10/22		
WSD: Accredited Lab Testing Report of Sample to WSD WSD: Vetting of Test Report by WSD WSD: Issue of WWO 046 Part V (Fresh/Flush)	12 days 6 days	Fri 7/10/22	Wed 12/10/22		
WSD: WSD Processing WW01005 Water Certification (Fresh/Flush)	0 days 6 days	Wed 12/10/22 Thu 13/10/22	Wed 12/10/22 Tue 18/10/22		I I
WSD: Issue by WSD WWO 1005 Water Certification (Fresh/Flush) ISD LIFT Statutory Submission, Inspection and Approval INCD: Submission of Life Form LEE to EMSD.	0 days 45 days	Tue 18/10/22 Sat 26/3/22	Tue 18/10/22 Mon 9/5/22 Wod 6/4/22		1
EMSD: Submission of Lift Form LE5 to EMSD MSD: EMSD Makes arrangement for Lift Installation MSD: Lenseline to Lift Installation	12 days 5 days	Sat 26/3/22 Thu 7/4/22	Wed 6/4/22 Mon 11/4/22		
MSD: EMSD Inspection to Lift Installation MSD: Processing Lift Certificate (Form LE6) MSD: Lift Legislate (Form LE6)	14 days 14 days	Tue 12/4/22 Tue 26/4/22	Mon 25/4/22 Mon 9/5/22		1 1
EMSD: Lift Issuance of Form 6 (Lift Certificate) E Transformer Final Inspection	0 days	Mon 9/5/22 Thu 30/6/22	Mon 9/5/22 Thu 27/10/22		I I
X Room: Invite HKE For Transformer Room Inspection X Room: Give Access to Transformer Room for HKE Contractor	7 days 0 days	Thu 30/6/22 Wed 6/7/22	Wed 6/7/22 Wed 6/7/22		
X Room: Move-IN HKE Transformer Equipments X Room: Install HKE Transformer, MEP Works & Testing	5 days 90 days	Thu 7/7/22 Tue 12/7/22	Mon 11/7/22 Sun 9/10/22		1
X Room: HKE Power Energization / Inspection X Room: Metering Installation	6 days 12 days	Mon 10/10/22 Sun 16/10/22	Sat 15/10/22 Thu 27/10/22		1 1
X Room: HKE Power-ON Date D Drainage Completion Memo	0 days 65 days	Thu 27/10/22 Sun 2/10/22	Thu 27/10/22 Mon 5/12/22		1
DSD: CCTV Survey Report on Completed Drainage DSD: Submitted CCTV Report & Form HPB1 of Completed Drainage to DSD For Technical Audit	30 days 7 days	Sun 2/10/22 Tue 1/11/22	Mon 31/10/22 Mon 7/11/22		
DSD: Completed Drainage System including TMC Inspection/Technical Audit by DSD DSD: Preparation of Drainage Connection Completion Memo by DSD	14 days 14 days	Tue 8/11/22 Tue 22/11/22	Mon 21/11/22 Mon 5/12/22		i I
DSD: Issue of Drainage Connection Completion Memo by DSD D Submission, Inspection and Approval	0 days 60 days	Mon 5/12/22 Thu 30/6/22	Mon 5/12/22 Mon 29/8/22		
PD: License Application to EPD under APCO (Cap 311) for Generator Sets EPD: Vetting of Application by EPD under APCO (Cap 311) for Generator Sets	0 days 60 days	Thu 30/6/22 Fri 1/7/22	Thu 30/6/22 Mon 29/8/22		
EPD: Approval from EPD under APCO (Cap 311) for Generator Sets Installation D VAC Statutory Submission, Inspection and Approval	0 days 150 days	Mon 29/8/22 Wed 20/7/22	Mon 29/8/22 Fri 16/12/22		1
Preparation of FSD VAC Drawings and Submission to HEC HEC: Review and Approval	60 days 30 days	Wed 20/7/22 Sun 18/9/22	Sat 17/9/22 Mon 17/10/22		I I
Preparation of VAC Drawings and Submission to FSD SD: Review and Approval	30 days 30 days	Tue 18/10/22 Thu 17/11/22	Wed 16/11/22 Fri 16/12/22		[[
D Statutory Submission, Inspection and Approval Festing and Commissioning (Individual System - FSI Related)	91 days 45 days	Tue 28/2/23 Tue 28/2/23	Mon 29/5/23 Thu 13/4/23		
SD: All Sections FS Ingration Test by NSC_BS SD: Completion of FS Integration Test by NSC_BS for FS314/501	15 days 0 days	Fri 14/4/23 Fri 28/4/23	Fri 28/4/23 Fri 28/4/23		I I
FSD: Submit Form 213/314 & Form 501 Request for Inspection FSD: FSD Makes Arrangement for Inspection	0 days 7 days	Fri 28/4/23 Sat 29/4/23	Fri 28/4/23 Fri 5/5/23		
FSD: FSD Inspection FSD: Completion of FS Inspection	12 days 0 days	Sat 6/5/23 Wed 17/5/23	Wed 17/5/23 Wed 17/5/23		1
FSD: FSD Processing FS Certicate Form 172 FSD: Issue of Fire Services FS Certificate Form 172	12 days 0 days	Thu 18/5/23 Mon 29/5/23	Mon 29/5/23 Mon 29/5/23		I I
ACTICAL COMPLETION Unspection	216 days 97 days	Tue 30/5/23	Sun 31/12/23 Sun 3/9/23		1
3D: Application Form BA13 for OP Application 3D: BD Inspection Date	21 days 15 days	Tue 30/5/23 Tue 20/6/23	Mon 19/6/23 Tue 4/7/23		
3D: Reinspection date with defects and rectification works 3D: Obtain Occupation Permit (OP) from BD	60 days 1 day	Wed 5/7/23 Sun 3/9/23	Sat 2/9/23 Sun 3/9/23		
Built Drawings & Handover Documentation Prepare and Submit As-Built Drawings & Handover Documentation	120 days	Wed 14/6/23 Wed 14/6/23	Wed 11/10/23 Fri 28/7/23		I I
Review and Approval	45 days 45 days	Sat 29/7/23	Mon 11/9/23		1
As-Built Drawings & Handover Documentation - Revision by MC Revised As-Built Drawings & Handover Documentation - Final Submission	30 days 0 days	Tue 12/9/23 Wed 11/10/23	Wed 11/10/23 Wed 11/10/23		
mpletion of the Whole Contract Works st Client Inspection for Review and Comments	119 days 30 days	Mon 4/9/23 Mon 4/9/23	Sun 31/12/23 Tue 3/10/23		1 1
Defects and Rectification works	60 days	Wed 4/10/23	Sat 2/12/23		I
2nd Client Inspection Minor Defects Rectification Works and Final Inspection	14 days 15 days	Sun 3/12/23 Sun 17/12/23	Sat 16/12/23 Sun 31/12/23		1

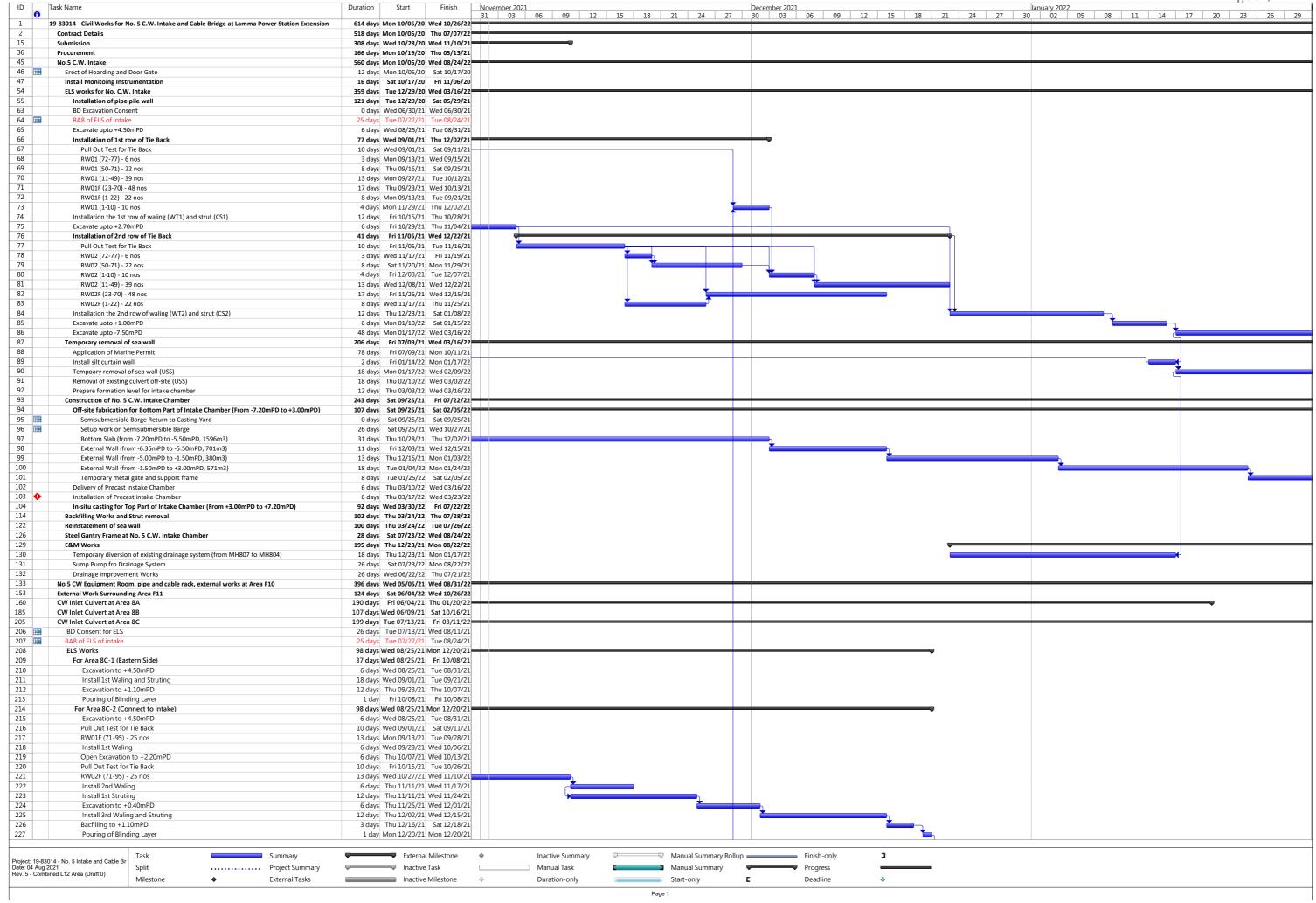
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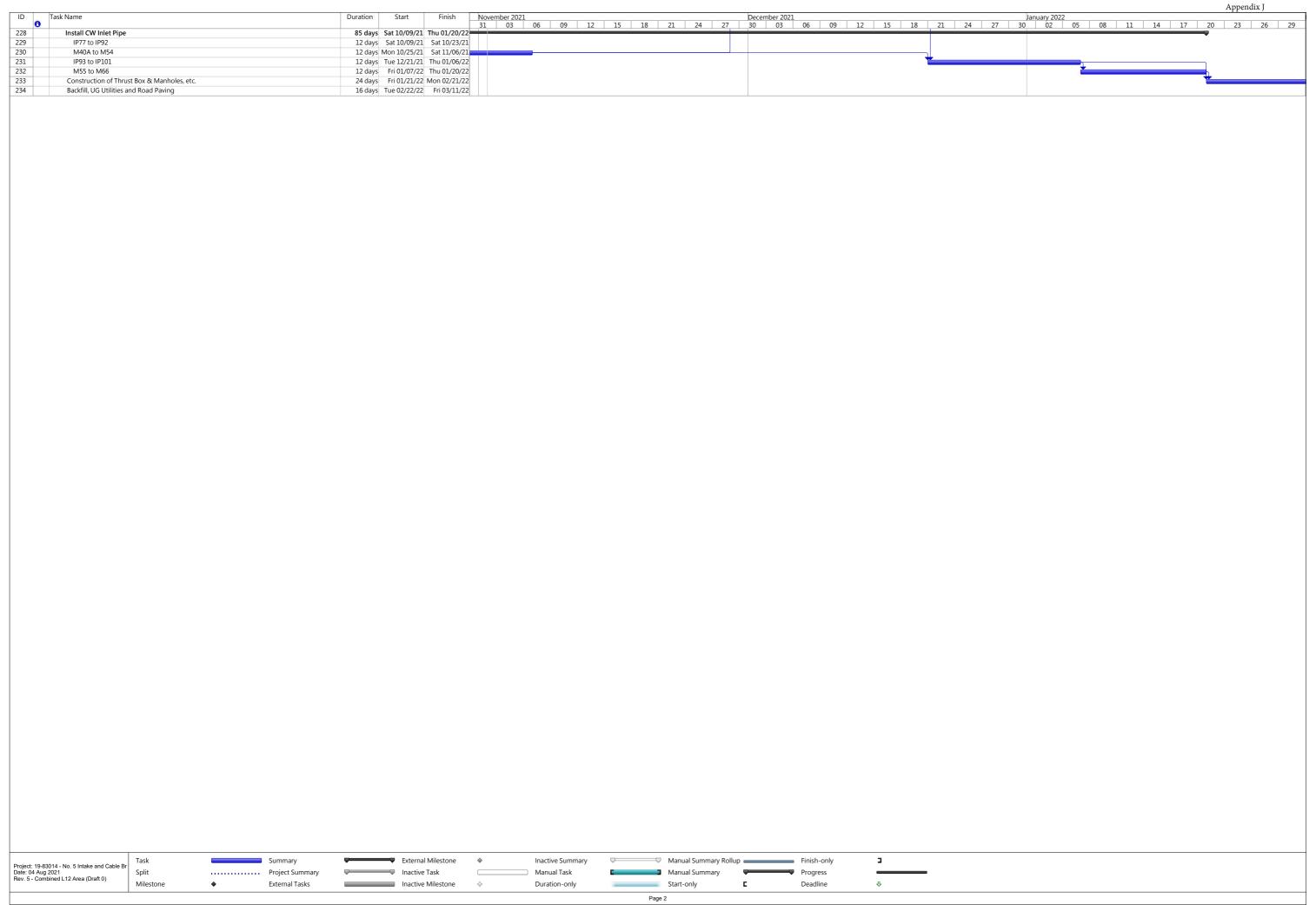
MASTER PROGRAMME Rev 1-B 23 Aug 2021

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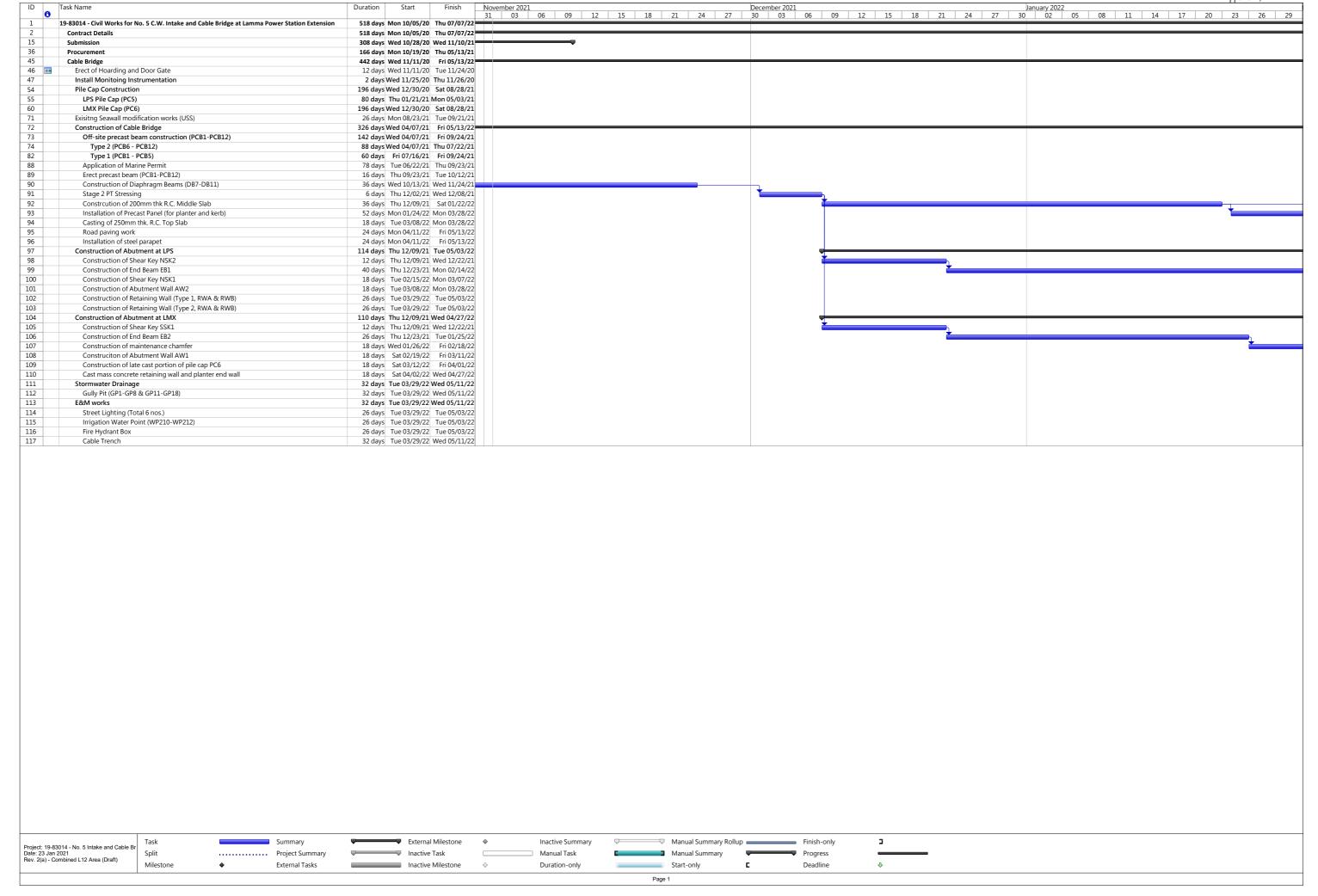
Task Split Milestone ❖

Summary -





Appendix J



Monthly Waste Flow Table for Oct 2021

Lamma Power Station Extension - Civil and Building Works for Unit L11

Contractor: Paul Y. Construction Company, Limited

Ben Lam Record by:

Year of Record: 2018, 2019, 2020 & 2021

MANOOCI				W 1 - ·	000 14-4-1	I- O	Manadala		A -4 C		In a land CO	D. Material C	0	Manadal
MM.YYYY				ities of Inert		ls Generated	,		Actual Q	uantities of P	Non-inert C&	D Materials	Generated	Monthly
	Exc	avated Mate	erials		Non-	excavated Ma	aterials							
	Disposed in Public Fill	Disposed in Sorting Facilities	Others (e.g Reused in the Contract / Other Projects)	Broken Concrete or Construction Waste Collected by Recycled Company	Reused in the Contract	Reused in other Projects	Disposed in Public Fill	Disposed in Sorting Facilities	Metals (steel bar / metal strip) (1)	Metals (aluminum can) ⁽¹⁾	Paper / cardboard packaging ⁽¹⁾	Plastics	Chemical waste (wasted lubricant oil/oil container)	Other, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000L)	(in '000kg)
Jul 2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 2018	3160.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct 2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov 2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.87
Dec 2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.67
Jan 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.66	0.00	0.00	0.00	0.60	0.00
Mar 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.05	0.00	0.00	0.00	0.00	0.00
Apr 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.08	0.00	0.00	0.00	0.00	19.09
May 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.63	0.00	0.00	0.00	0.00	59.75
Jun 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.64
Jul 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.66
Aug 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.31
Oct 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.109	0.00	0.00	4.76
Nov 2019 Dec 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	4.87
Jan 2020	0.00	0.00	0.00	0.00	0.00	10226.24 7981.09	0.00	0.00	0.00	0.00	0.00 0.157	0.00	0.00	18.19 26.89
Jan 2020 Feb 2020	0.00	0.00	0.00	0.00	0.00	7981.09 8782.98	0.00	0.00	0.00	0.00	0.157	0.00	0.00	0.00
Mar 2020	0.00	0.00	0.00	0.00	0.00	20252.12	0.00	0.00	0.00	0.00	0.000	0.00	0.00	78.96
Apr 2020	0.00	0.00	0.00	0.00	0.00	12976.86	0.00	0.00	8.30	0.00	0.000	0.00	0.00	68.75
May 2020	0.00	0.00	0.00	0.00	0.00	20203.01	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00
Jun 2020	0.00	0.00	0.00	0.00	0.00	28030.33	0.00	0.00	0.00	0.00	0.000	0.00	0.00	58.49
Jul 2020	0.00	0.00	0.00	0.00	0.00	12481.37	0.00	0.00	0.00	0.00	0.000	0.00	0.00	33.88
Aug 2020	0.00	0.00	0.00	0.00	0.00	11179.56	0.00	0.00	0.00	0.00	0.000	0.00	0.60	73.73
Sep 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.53	0.00	0.286	0.00	0.00	64.93
Oct 2020	0.00	0.00	0.00	0.00	0.00	10762.20	0.00	0.00	7.12	0.00	0.297	0.00	0.00	83.34
Nov 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.46	0.00	0.000	0.00	0.20	61.21
Dec 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	59.98
Jan 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	51.37
Feb 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	44.94
Mar 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	34.57
Apr 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	30.92
May 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	18.65
Jun 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	10.76
Jul 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00
Aug 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	24.19
Sep 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	14.90
Oct 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	27.62
Total	3160.23	0.00	0.00	0.00	0.00	142875.75	0.00	0.00	74.83	0.00	0.849	0.00	2.00	1038.89

Total Inert C&D Waste Materials		Non-inert C&D Materials	3
Generated	C&D Materials Recycled	C&D Waste Disposed of at Landfill	Chemical Waste
146035.98 tonnes	75.68 tonnes	1038.89 tonnes	2000 Liters

Where	(A)	Inert C&D materials include bricks, concrete, building debris, rubble and excavated spoil. In total, 146035.98 tonnes of inert C&D material
		were generated from the Project, of which 142875.75 tonnes were reused in this and other contracts, and the remaining
		3160.23 tonnes were disposed as public fill to Fill Banks / Sorting Facilities.

(b)	Non-inert C&D materials (construction wastes) include metals, paper / cardboard packaging waste, plastics and other wastes such as general refus-
	Metals generated from the Project were grouped into construction wastes as the materials were not disposed of with others at the public fill.

(c) 0 kg of metals, 0 kg of papers/ cardboard packing and for recycling during the reporting period. 0 kg of plastics were sent to recyclers

(d) Construction wastes other than metals, paper/cardboard packaging, plastics and chemicals were disposed of at Landfill.

(1) metal, paper & plastic were collected by recycler

- (1) metal, pager 6 pastic were coincided by recycler

 (2) The performance target of waste recycling are specified in the Contract.

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

 (4) Plastics refer to plastic bottles/ containers, plastic foam from packaging material.

 (5) Broken concrete for recycling into aggregates.

 (6) Disposal of inert waste to public fill or sorting facilities will NOT be considered as recycled waste.

Appendix K

Monthly Waste Flow Table for October 2021

Project: LAMMA POWER STATION EXTENSION – Unit 11 Complete Erection, Inspection, Testing & Commissioning of Power Block Facilities

Contractor: Taihei Dengyo Kaisha, Ltd.

Record by: Stephen Sin

Year of Record: 2019, 2020, 2021

MM.YYYY		Actual	Quantities o	of Inert C&D	Materials (Generated	Monthly		Actual Quantities of Non-inert C&D Materials Generated					
	Exca	avated Mate	erials		Non-ex	cavated M	aterials							
	Disposed in Public Fill	Disposed in Sorting Facilities	Others (e.g Reused in the Contract / Other Projects)	Broken Concrete or Construction Waste Collected by Recycled Company	Reused in the Contract	Reused in other Projects	Disposed in Public Fill	Disposed in Sorting Facilities	Metals (steel bar / metal strip)	Metals (aluminum can) (1)	Paper / cardboard packaging (1)	Plastics (1) & (4)	Chemical waste (wasted lubricant oil/oil container)	Other, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in L)	(in '000kg)
Nov 2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dec 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.35
Apr 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.61
May 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.39
Jun 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.03
Jul 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.32
Aug 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2600	10.38
Sep 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.20
Oct 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.02
Nov 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2400	26.18
Dec 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.38
Jan 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.65
Feb 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.40
Mar 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.43
Apr 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2400	20.24
May 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.08
Jun 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.43
Jul 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.38
Aug 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.38
Sep 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.43	0.00	0.00	0.00	0.00	0.00	19.26
Oct 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.35
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.43	0.00	0.00	0.00	0.00	7400	307.46

Total Inert C&D Waste Materials	Non-inert C&D Materials							
Generated	C&D Materials Recycled	C&D Waste Disposed of at Landfill	Chemical Waste					
5.43 tonnes	0.00 tonnes	307.46 tonnes	7400 Liters					

Where	(A)	Inert C&D materials include bricks, concrete, building debris, rubble and excavated spoil. In total, 5.43 tonnes of inert C&D materials include bricks, concrete, building debris, rubble and excavated spoil.									
		were generated from the Project, of which 0 tonnes were reused in this and other contracts, and the remaining									
		5.43 tonnes were disposed in Public Fill and Sorting Facilities.									
	(b)	Non-inert C&D materials (construction wastes) include metals, paper / cardboard packaging waste, plastics and other wastes such as general refuse.									
		Metals generated from the Project were grouped into construction wastes as the materials were not disposed of with others at the public fill.									
	(c)	0 kg of metals, 0 kg of papers/ cardboard packing and 0 kg of plastics were sent to recyclers									
		for recycling during the reporting period.									
	(d)	Construction wastes other than metals, paper/cardboard packaging, plastics and chemicals were disposed of at Landfill.									
otes:		(1) metal, paper & plastic were collected by recycler									
	(2) The performance target of waste recycling are specified in the Contractt.										
		(3) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.									
		(4) Plastics refer to plastic bottles/ containers, plastic/ foam from packaging material.									
		(5) Broken concrete for recycling into aggregates.									
		(6) Disposal of inert waste to public fill or sorting facilities will NOT be considered as recycled waste.									

Appendix K

Monthly Waste Flow Table for Oct 2021

Project: Lamma Power Station Extension Civil and Building Works for Unit L12

Contractor: Paul Y. Construction Company, Limited

Record by: Ben Lam Year of Record: 2020 & 2021

			Actual Quantities of Inert C&D Materials Generated Monthly Actual Quantities of Non-inert C&D Materials Generated								Generated	Monthly		
1	Excavated Materials				Non-	excavated Ma								
	Disposed in Public Fill	Disposed in Sorting Facilities	Others (e.g Reused in the Contract / Other Projects)	Broken Concrete or Construction Waste Collected by Recycled Company	Reused in the Contract	Reused in other Projects	Disposed in Public Fill	Disposed in Sorting Facilities	Metals (steel bar / metal strip) (1)	Metals (aluminum can) (1)	Paper / cardboard packaging (1)	Plastics (1) & (4)	Chemical waste (wasted lubricant oil/oil container)	Other, e.g. general refuse
(1	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000L)	(in '000kg)
Dec 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 2021	0.00	0.00	21020.16	0.00	0.00	0.00	0.00	0.00	8.82	0.00	0.00	0.00	0.00	0.00
Feb 2021	0.00	0.00	18083.97	0.00	0.00	0.00	0.00	0.00	18.25	0.00	0.25	0.00	0.00	0.00
Mar 2021	0.00	0.00	9048.21	0.00	0.00	0.00	0.00	0.00	7.69	0.00	0.00	0.00	0.00	2.61
Apr 2021	0.00	0.00	3205.15	0.00	0.00	0.00	0.00	0.00	28.08	0.00	0.00	0.00	0.00	14.45
May 2021	0.00	0.00	6267.49	0.00	0.00	0.00	0.00	0.00	34.68	0.00	0.00	0.00	0.00	0.00
Jun 2021	0.00	0.00	6555.38	0.00	0.00	0.00	0.00	0.00	26.87	0.00	0.00	0.00	0.00	25.03
Jul 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.95	0.00	0.00	0.00	0.00	10.97
Aug 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.55	0.00	0.00	0.00	0.00	3.49
Sep 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	49.15
Oct 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.47	0.00	0.00	0.00	0.00	62.08
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Total	0.00	0.00	64180.35	0.00	0.00	0.00	0.00	0.00	173.36	0.00	0.25	0.00	0.40	167.78

Total Inert C&D Waste Materials	Non-inert C&D Materials						
Generated	C&D Materials Recycled	C&D Waste Disposed of at Landfill	Chemical Waste				
64180.35 tonnes	173.61 tonnes	167.78 tonnes	400 Liters				

Where	(A)	Inert C&D materials include bricks, concrete, building debris, rubble and excavated spoil. In total, 64180.35 tonnes of inert C&D material were generated from the Project, of which 0.00 tonnes were reused in this and other contracts, and the remaining tonnes were disposed as public fill to Fill Banks / Sorting Facilities.
	(b)	Non-inert C&D materials (construction wastes) include metals, paper / cardboard packaging waste, plastics and other wastes such as general refuse. Metals generated from the Project were grouped into construction wastes as the materials were not disposed of with others at the public fill.
	(c) 17470 kg of metals, 0 kg of papers/ cardboard packing and 0 kg of plastics were sent to recyclers for recycling during the reporting period.
	(d	() Construction wastes other than metals, paper/cardboard packaging, plastics and chemicals were disposed of at Landfill.

- (1) metal, paper & plastic were collected by recycler(2) The performance target of waste recycling are specified in the Contract.(3) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- (4) Plastics refer to plastic bottles/ containers, plastic/ foam from packaging material.
- (5) Broken concrete for recycling into aggregates.
 (6) Disposal of inert waste to public fill or sorting facilities will NOT be considered as recycled waste.

Monthly Waste Flow Table for Oct 2021

Project: Civil Works for No. 5 C.W. Intake and Cable Bridge at Lamma Power Station Extension

Paul Y. Construction Company, Limited Contractor:

Record by: Ben Lam Year of Record: 2020 & 2021

MM.YYYY		Ac	ctual Quant	ities of Inert (C&D Materia	ls Generated I	Monthly		Actual C	uantities of N	Ion-inert C&I	O Materials	Generated	Monthly
	Exc	avated Mate	erials		Non	excavated Ma	aterials							
	Disposed in Public Fill	Disposed in Sorting Facilities	Others (e.g Reused in the Contract / Other Projects)	Broken Concrete or Construction Waste Collected by Recycled Company	Reused in the Contract	Reused in other Projects	Disposed in Public Fill	Disposed in Sorting Facilities	Metals (steel bar / metal strip) (1)	Metals (aluminum can) ⁽¹⁾	Paper / cardboard packaging (1)	Plastics	Chemical waste (wasted lubricant oil/oil container)	Other, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000L)	(in '000kg)
Oct 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.21	0.00	0.00	0.00	0.00	0.00
Jan 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.49
Apr 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	4.85
May 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.61
Jun 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jul 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37.84
Oct 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.93
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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.21	0.00	0.00	0.00	0.60	97.72

Total Inert C&D Waste Ma	aterials	Non-inert C&D Materials							
Generated		C&D Materials Recycled	C&D Waste Disposed of at Landfill	Chemical Waste					
0.00 to	nnes	4.21 tonnes	97.72 tonnes	600 Liters					

Where	(A)	Inert C&D materials include bricks, concrete, building debris, rubble and excavated spoil. In total, were generated from the Project, of which 0.00 tonnes were reused in this and other contracts, and the remaining ones were disposed as public fill to Fill Banks / Sorting Facilities.										
	(b)	Non-inert C&D materials (construction wastes) include metals, paper / cardboard packaging waste, plastics and other wastes such as general refuse. Metals generated from the Project were grouped into construction wastes as the materials were not disposed of with others at the public fill.										
	(c	0 kg of metals, 0 kg of papers/ cardboard packing and 0 kg of plastics were sent to recyclers for recycling during the reporting period.										
	(d	Construction wastes other than metals, paper/cardboard packaging, plastics and chemicals were disposed of at Landfill.										
otes.		(1) metal paper & plactic were collected by recycler										

- metal, paper & plastic were collected by recycler
 The performance target of waste recycling are specified in the Contract.
 The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- (4) Plastics refer to plastic bottles/ containers, plastic/ foam from packaging material.
- (5) Broken concrete for recycling into aggregates.
 (6) Disposal of inert waste to public fill or sorting facilities will NOT be considered as recycled waste.