JOB NO.: TCS01216/21

WSD Contract No.: 3/WSD/20 -

Reclaimed Water Supply to Sheung Shui and Fanling

MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT (NO.13) – DECEMBER 2022

PREPARED FOR

WATER SUPPLIES DEPARTMENT

Quality Index

Date	Reference No.	Prepared By	Approved By
11 January 2023	TCS01216/21/600/R0056v1	Martin Li Environmental Consultant	TW Tam Environmental Team Leader

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1	11 January 2023	First Submission

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Date: 13th January 2023

Project Manager
Water Supplies Department
Immigration Tower, 7 Gloucester Road,
Wan Chai, Hong Kong
Attn: Mr. Tim Wong

Dear Sir,

Agreement No. CE67/2017(WS)
Reclaimed Water Supply to Sheung Shi and Fanling – Investigation, Design and Construction
Independent Environmental Checker (IEC) Services for
Shek Wu Hui Water Reclamation Plant under Contract No. 3/WSD/20

Monthly EM&A Monitoring Report for December 2022

We refer to the monthly EM&A Report for December 2022 for WSD Contract No.: 3/WSD/20 – Reclaimed Water Supply to Sheung Shui and Fanling certified by the Environmental Team Leader on 11th January 2023. Please note we have no adverse comments on the captioned submission. The captioned submission is hereby verified in accordance with the requirement stipulated in Condition 3.4 of Environmental Permit No. FEP-01/470/2013.

Should you have any query, please feel free to contact the undersigned at 6113 2368.

Yours Sincerely,

Vega Wong
Independent Environmental Checker
c.c.
- ET Leader –- AUES (Attn: Mr. T.W. Tam) [by Email: twtam@fordbusiness.com]
- Resident Engineer – Binnies Hong Kong Limited (Attn: Mr. Chester Chan) [by Email: chancw@binnies.com]

EXECUTIVE SUMMARY

ES.01 Water Supplies Department (WSD) is the Project Proponent and the Permit Holder of **Reclaimed Water Supply to Sheung Shui and Fanling** (hereinafter referred as "the Contract Works"), which is a Designated Project to be implemented under Further Environmental Permit number FEP-01/470/2013 (hereinafter referred as "the FEP-01/470/2013" or "the FEP").

ES.02 In according with the Updated EM&A Manual stipulation and the location of Contract Works, only construction noise monitoring and waterbird of ecological monitoring are required during the construction phase of the Contract Works.

ES.03 As part of the EM&A programme, Baseline Monitoring Report which determined Action and Limit Levels (A/L Levels) based on the baseline data, has been verified by Independent Environmental Checker (IEC) and submitted to EPD endorsement on ***24 November 2021***. Also, construction activities under the Contract Works were commenced on ***7 December 2021***.

ES.04 This is the **13th** monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from **1** to **31 December 2022** (hereinafter 'the Reporting Period').

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

ES.06 Environmental monitoring activities under the EM&A programme in the Reporting Period are summarized in the following table.

Table ES-1 Environmental monitoring activities in the Reporting Period

Environmental Aspect	Environmental Monitoring Parameters / Inspection	Total Occasions during Reporting Period
Construction Noise	$L_{eq(30min)}$ Daytime	**4**
Ecology	Waterbirds	**4**
Site Inspection / Audit	ET, the Contractor and RE joint site Environmental Inspection	**5**

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES.07 In the Reporting Period, no construction noise limit level exceedance construction noise was recorded and no noise complaint (i.e. Action Level) was received. No action and limit level exceedance for waterbirds survey was recorded in the Reporting Period. No Notifications of Exceedances (NOEs) was issued to the Resident Engineer (RE), IEC and the Main Contractor. The statistics of environmental exceedance, NOE issued and investigation of exceedance are summarized in the following table.

Table ES-2 Breach of Action and Limit (A/L) Levels in the Reporting Period

Environmental Aspect	Monitoring Parameters	Action Level	Limit Level	Event & Action		
				NOE Issued	Investigation	Corrective Actions
Construction Noise	$L_{eq(30min)}$ Daytime	0	0	0	0	0
Ecology	Waterbirds Abundance	0	0	0	0	0

ENVIRONMENTAL COMPLAINT

ES.08 No environmental complaint was recorded or received in this Reporting Month. The statistics of environmental complaint are summarized in the following table.

Table ES-3 Environmental Complaint Summaries in the Reporting Month

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 31 December 2022	0	0	NA

ES.09 In addition, no complaint received and emergency events relating to violation of environmental legislation for illegal dumping and landfilling were received.

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES.10 No environmental summons or successful prosecution was recorded in this Reporting Month. The statistics of summons or successful prosecutions are summarized in the following tables.

Table ES-4 Environmental Summons Summaries in the Reporting Month

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 31 December 2022	0	0	NA

Table ES-5 Environmental Prosecution Summaries in the Reporting Month

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 31 December 2022	0	0	NA

REPORTING CHANGE

ES.11 No report change in the reporting period.

SITE INSPECTION

ES.12 Weekly site inspections to evaluate the site environmental performance have been carried out by the RE, ET and the Main Contractor on ***1, 8, 15, 19*** and ***29 December 2022***. No non-compliance was noted during the site inspection.

ES.13 No site visit was undertaken by EPD within the Reporting Period. IEC inspection was conducted on 30 December 2022.

FUTURE KEY ISSUES

ES.14 Construction of reinforced concrete structure of ReWPS and HCF will be the major construction work in the coming month. Noise mitigation measures such as using soft face hammer for hammering work and erect barrier for wood/steel bar cutting machines were recommended to reduce noise impact generated from rebar fixing and formwork erection work. In addition, the Contractor should pay attention to potential water quality impact from concreting works and implement measure to collect spilt cement/concrete washings during concreting works.

ES.15 As the coming month will be dry season, the Contractor was general reminded to paid attention to air quality mitigation measures such as regularly water at dry haul road and cover any stockpile on site when not in use to reduce dust generation.

ES.16 Details of the future issues in the coming month are described in Section 9.4.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

1. INTRODUCTION

1.1 BACKGROUND

1.1.1 Water Supplies Department (WSD) is the Project Proponent of Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works. On 30th July 2021, China Geo-Engineering Corporation (hereinafter named as "the Main-Contractor") was awarded WSD Contract Works 3/WSD/20 - Reclaimed Water Supply to Sheung Shui and Fanling (hereinafter referred as "the Contract Works").

1.1.2 The reclaimed water supply to Sheung Shui and Fanling (SSF) comprises a Shek Wu Hui Water Reclamation Plant (SWHWRP), part of pumping water mains to Table Hill Reclaimed Water Service Reservoir (TBHRWSR), and Kwu Tung North (KTN) New Development Area (NDA) and distribution water mains to SSF area.

1.1.3 The SWHWRP, which comprises Hypo-Chlorination Facilities (HCF) and Reclaimed Water Pumping Station (ReWPS), will be located at a long-stripped area between Ng Tung River and Sheung Shui Slaughter House at the northwest of the Shek Wu Hui Sewage Treatment Works (SWHSTW).

1.1.4 The HCF, which consists of a hypo-chlorination dosing plant, a chlorine contact tank, dye dosing system, water refilling station, other post-treatment facilitates and storage areas for chemicals, would produce reclaimed water by further treatment of the treated sewage effluent (TSE) pumped from the discharge outlet of the SWHSTW. The treatment capacity of the SWHWRP will be 73,000m3/day.

1.1.5 The Reclaimed Water P/S, which will be located at the northwest of the HCF, will receive reclaimed water by gravity from the HCF and deliver to the TBHRWSR serving SSF areas, Kwu Tung North Flushing Water Service Reservoir (KTN FLWSR) serving KTN NDA and Fanling North Flushing Water Service Reservoir (FLN FLWSR) serving Fanling North (FLN) NDA

1.1.6 This Work Contract mainly comprise construction of Shek Wu Hui Water Reclamation Plant and laying of the associated water main to produce reclaimed water for supply to the Northeast New Territories areas for non-potable used. It is estimated that about 22 million cubic metres of fresh water can be saved each year ultimately.

1.1.7 The construction of Shek Wu Hui Water Reclamation Plant under the Work Contract is a Designated Project to be implemented under Further Environmental Permit number FEP-01/470/2013 (hereinafter referred as "the FEP-01/470/2013" or "the FEP"). Location of Shek Wu Hui Water Reclamation Plant is shown in ***Appendix A***.

1.1.8 The major work of the Work Contract under FEP included:

- Civil engineering construction works, including structures, foundations and earthworks for the SWHWRP and ancillary buildings;
- Electrical and mechanical (E&M), building services, fire services installations, and treatment process system engineering work;
- Other associated systems and facilities for the SWHWRP.

1.1.9 Pursuant to the FEP stipulation, the Main Contractor has commissioned Action-United Environmental Services & Consulting (hereinafter referred as "AUES") as Environmental Team (hereinafter referred as "ET") perform relevant EM&A programme and as well as the associated duties.

1.1.10 As part of the EM&A programme, Baseline Monitoring Report which determined Action and Limit Levels (A/L Levels) based on the baseline data, has been verified by Independent Environmental Checker (IEC) and submitted to EPD endorsement on ***24 November 2021***. Also, construction activities of the Contract were commencement on ***7 December 2021***.

1.1.11 This is **13th** monthly EM&A report to presenting the monitoring results and inspection findings from ***1*** to ***31 December 2022*** of the Reporting Period.

1.2 REPORT STRUCTURE

1.2.1 The report was structured into the following sections:-

Section 1	*Introduction*
Section 2	*Project Organization and Construction Progress*
Section 3	*Summary of Impact Monitoring Requirements*
Section 4	*Construction Noise Monitoring*
Section 5	*Ecology Waterbirds Monitoring*
Section 6	*Waste Management*
Section 7	*Site Inspections*
Section 8	*Environmental Complaints and Non-Compliance*
Section 9	*Implementation Status of Mitigation Measures*
Section 10	*Conclusions and Recommendations*

2. PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

2.1 PROJECT ORGANIZATION

2.1.1 The project organization is shown in ***Appendix B***. The roles and responsibilities of the various parties involved in the EM&A process and the organizational structure of the organizations responsible for implementing the EM&A programme are outlined below.

Water Supplies Department (WSD)

2.1.2 WSD is the Project Proponent and the Permit Holder of the EP of the development of the Project and will assume overall responsibility for the project. An Independent Environmental Checker (IEC) shall be employed by WSD to audit the results of the EM&A works carried out by the ET.

Environmental Protection Department (EPD)

2.1.3 EPD is the statutory enforcement body for environmental protection matters in Hong Kong.

Engineer or Engineers Representative (ER)

2.1.4 The ER is responsible for overseeing the construction works and for ensuring that the works are undertaken by the Contractor in accordance with the specification and contract requirements. The duties and responsibilities of the ER with respect to EM&A are:

- Supervise the Contractor's activities and ensure that the requirements in the Contract Works Specific EM&A Manual are fully complied with;
- Inform the Contractor when action is required to reduce impacts in accordance with the Even and Action Plans;
- Employ an IEC to audit the results of the EM&A works carried out by the ET; and
- Comply with the agreed Event Contingency Plan in the event of any exceedance.

The Main Contractor

2.1.5 The Main Contractor is responsible perform construction works and for ensuring that the works are undertaken compliance with the specification and contract requirements. The duties and responsibilities of the Main Contractor with respect to EM&A are:

- Employ an Environmental Team (ET) to undertake monitoring, laboratory analysis and reporting of environmental monitoring and audit;
- Provide assistance to ET in carrying out monitoring and auditing;
- Submit proposals on mitigation measures in case of exceedances of Action and Limit levels in accordance with the Event and Action Plans;
- Implement measures to reduce impact where Action and Limit levels are exceeded; and
- Adhere to the agreed procedures for carrying out compliant investigation.

Environmental Team (ET)

2.1.6 The ET is responsible perform implementation EM&A programmes of the Contract Works as stipulated in the Updated EM&A Manual ensure the works are fully compliance with environmental regulations. The duties and responsibilities of the ET with respect to EM&A are:

- Set up all the required environmental monitoring stations;
- Monitor various environmental parameters as required in the EM&A Manual;
- Analyze the EM&A data and review the success of EM&A programme to cost effectively confirm the adequacy of mitigation measures implemented and the validity of the EIA predictions and to identify any adverse environmental impacts arising;
- Carry out site inspection to investigate and audit the Contractors' site practice, equipment and work methodologies with respect to pollution control and environmental mitigation, and take proactive actions to pre-empt problems;
- Audit and prepare audit reports on the environmental monitoring data and site environmental conditions;
- Report on the EM&A results to the IEC, Contractor, the ER and EPD or its delegated representative;
- Recommend suitable mitigation measures to the Contractor in the case of exceedance of

Action and Limit levels in accordance with the Event and Action Plans;
- Undertake regular and ad-hoc on-site audits / inspections and report to the Contractor and the ER of any potential non-compliance; and
- Follow up and close out non-compliance actions.

Independent Environmental Checker (IEC)

2.1.7 The duties and responsibilities of IEC with respect to EM&A are:
- Review the EM&A works performed by the ET (at not less than monthly intervals);
- Audit the monitoring activities and results (at not less than monthly intervals);
- Report the audit results to the ER and EPD in parallel;
- Review the EM&A reports (monthly summary reports) submitted by the ET;
- Review the proposal on mitigation measures submitted by the Contractor in accordance with the Event and Action Plans;
- Check the mitigation measures submitted by the Contractor in accordance with the Event and Action Plans;
- Check the mitigation measures that have been recommended in the EIA and this Manual, and ensure they are properly implemented in a timely manner, when necessary;
- Report the findings of site inspections and other environmental performance reviews to ER and EPD;
- Coordinate the monitoring and auditing works for all the on-going contracts in the area in order to identify possible sources / causes of exceedances and recommend suitable remedial actions where appropriate; and
- Coordinate the assessment and response to complaints / enquires from locals, green groups, district councils or the public at large.

2.2 CONSTRUCTION PROGRESS

2.2.1 In the Reporting Period, the construction activities of the Contract Works under FEP are listed in below. Moreover, the master construction program and site overview photo in the reporting period are enclosed in ***Appendix C***.
- Construction of Reinforced Concrete Structure (R.C. Structure) of HCF – Beam & slab at Roof level and Upper Pile Cap
- Construction of Reinforced Concrete Structure (R.C. Structure) of ReWPS – Beam & slab at Ground level and Upper Pile Cap

2.3 SUMMARY OF ENVIRONMENTAL SUBMISSIONS

2.3.1 To according with the FEP stipulation, the required documents has submitted to EPD for retention as listed below:
- Project Location Plans;
- Updated Environmental Monitoring and Audit Manual of Project Specific (*TCS01176/21/600/R0012v2*); and
- Baseline Monitoring Report (*TCS01216/21/600/R0017v3*) for the Project.

2.3.2 Summary of the relevant permits, licenses, and/or notifications on environmental protection for the Project is presented in ***Table 2-3-1***.

Table 2-3-1 Status of Environmental Licenses and Permits

Item	Description	Licence/Permit Status		
		Ref. no.	Effective Date	Expiry Date
1	Air Pollution Control (Construction Dust) Regulation	Notification was made on 3 Aug 2021	3 Aug 2021	Till the Contract ends
2	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account No.: 7041397	8 Aug 2021	Till the Contract ends
3	Chemical Waste Producer Registration	Application was made on 3 Aug 2021	3 Aug 2021	Till the Contract ends
4	Water Pollution Control	Discharge Licence No.:	17 Nov 2021	30 Nov 2026

Item	Description	Licence/Permit Status		
		Ref. no.	Effective Date	Expiry Date
	Ordinance – Discharge Licence	WT00039707-2021		
5	Construction Noise Permit	CNP No. GW-RN0880-22	27 Sept 2022	26 Jan 2023

3. SUMMARY OF IMPACT MONITORING REQUIREMENTS

3.1 GENERAL

3.1.1 According to the Updated EM&A Manual and the location of the Contract Works, only construction noise monitoring and waterbirds ecological of environmental monitoring are related the Contract Works during the construction phase. Details requirement of noise and waterbirds ecological impact monitoring are presented sub-sections as below.

3.2 REQUIREMENT OF CONSTRUCTION NOISE MONITORING

3.2.1 One set of $L_{eq(30min)}$ as 6 consecutive $L_{eq(5min)}$ between 0700-1900 hours on normal weekdays and once every week during course of works. If construction work necessary to carry out at other time periods, i.e. restricted time period (19:00 to 07:00 the next morning and whole day on public holidays) (hereinafter referred as "the restricted hours"), $L_{eq(5min)}$ measurement will be carried out in accordance with the CNP requirements. Supplementary information for data auditing, statistical results such as L_{10} and L_{90} shall also be obtained for reference.

3.2.2 Noise measurements shall not be made in fog, rain, wind with a steady speed exceeding 5m/s or wind with gusts exceeding 10m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

3.3 LOCATION OF CONSTRUCTION NOISE IMPACT MONITORING

3.3.1 According to the Updated EM&A Manual of CEDD Contract No. NDO 14/2018 - *Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas*, four noise sensitive receivers are designated on Fanling North New Development Areas for construction noise monitoring.

3.3.2 According to the geographic location of proposed Shek Wu Hui Water Reclamation Plant and all the recommended designated construction noise monitoring stations, only the designated noise monitoring station CP-KTN-NMS5 (prior named "CP-NMS7") shown in ***Appendix D***, is located near the proposed Shek Wu Hui Water Reclamation Plant within 300m (distance about 110m). Therefore, the designated noise monitoring station CP-KTN-NMS5 is recommended for the Contract Works to undertake construction noise monitoring. If the recommended noise monitoring location CP-KTN-NMS5 not available, the ET shall propose alternative monitoring locations/additional monitoring locations and seek approval from the Supervisor of the proposal. When alternative/new monitoring location is proposed, the monitoring location shall be chosen based on the following criteria:

(i) at locations close to the major site activities which are likely to have noise impacts;
(ii) close to the noise sensitive receivers; and
(iii) for monitoring locations located in the vicinity of the sensitive receivers, care shall be taken to cause minimal disturbance to the occupants during monitoring.

3.3.3 The construction noise monitoring station shall normally be at a point 1 m from the exterior of the sensitive receivers building façade and be a position 1.2m above the ground. If there is problem with access to the normal monitoring position, an alternative position may be chosen, and a correction to the measurements shall be made to the free field measurements. The ET shall agree with the Supervisor on the monitoring station that is chosen for impact monitoring.

3.4 ACTION AND LIMIT LEVEL FOR CONSTRUCTION NOISE

3.4.1 The Action and Limit levels for construction noise are defined in ***Table 3-4-1***. Should non-compliance of the criteria occur, action in accordance with the Action Plan which shown in Section 4 of this report**,** shall be carried out.

Table 3-4-1 Action and Limit Levels for Construction Noise

Monitoring Location	Action Level	Limit Level in dB(A)
	Time Period: 0700-1900 hours on normal weekdays	
CP-KTN-NMS5	When one or more documented complaints are received	75 dB(A)[Note 1]
Note 1: If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the NCA have to be followed.		

3.5 NOISE MONITORING METHODOLOGY

Monitoring Equipment

3.5.1 Sound level meter in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications was used for carrying out the noise monitoring. Noise equipment used for impact monitoring is listed in ***Table 3-5-1***.

Table 3-5-1 Equipment of Noise Impact Monitoring

Equipment	Model
Integrating Sound Level Meter	Rion NL – 52
Calibrator	Rion NC – 73

Remark: Sound level meter IEC 60651:1979 (Type 1) was replaced by 60672 (Type 1) in 2002 (Ref: https://webstore.iec.ch/publication/17086

3.5.2 The sound level meter and calibrator are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme at yearly basis. The valid calibration certificates of the monitoring equipment are shown in ***Appendix E***.

3.6 MONITORING PROCEDURE

3.6.1 All noise measurements were performed with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (Leq). $Leq_{(30min)}$ in six consecutive $Leq_{(5min)}$ measurements was used as the monitoring parameter for the time period between 07:00-19:00 hours during the baseline monitoring.

3.6.2 In general, the sound level meter would be mounted on a tripod at a height of 1.2 m and placed at the assessment point and oriented such that the microphone was pointed to the site with the microphone facing perpendicular to the line of sight. The windshield would be fitted for all measurement. Where a measurement was to be carried out at a building, the assessment point would normally be at a position 1 m from the exterior of the building façade. Where a measurement was to be made for noise being received at a place other than a building, the assessment point would be at a position 1.2 m above the ground in a free-field situation, i.e. at least 3.5 m away from reflective surfaces such as adjacent buildings or walls.

3.6.3 Immediately prior to and following each noise measurement the accuracy of the sound level meter was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements would be accepted as valid only if the calibration level from before and after the noise measurement agrees to within 1.0 dB.

3.6.4 Noise measurements would not be made in fog, rain, wind with a steady speed exceeding 5m/s or wind with gusts exceeding 10m/s. The wind speed would be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

3.7 DATA MANAGEMENT AND DATA QA/QC CONTROL

3.7.1 The monitoring data recorded in the equipment would be downloaded directly from the equipment at each monitoring day. The downloaded monitoring data would input into a computerized database properly maintained and handled by the ET's in-house data recording and management system.

3.8 REQUIREMENT OF WATERBIRDS ECOLOGICAL IMPACT MONITORING

3.8.1 Where development under the NDAs project is undertaken within 200m (the maximum distance at which it is predicted there may be some disturbance, and hence a reduction in numbers, of large waterbirds) of the Ng Tung, Sheung Yue and Shek Sheung Rivers and Long Valley the monitoring protocol detailed in the updated EM&A Manual Table 12.1 should be followed. A transect should be undertaken throughout the sections of the rivers where NDA construction activities are proposed; as the sensitive receivers (large waterbirds) are easily visible, the transect route needs only follow one bank of the rivers. The transect route should remain the same during the different phases in order to ensure that data are comparable. Monitoring of large waterbirds should be conducted in pre-construction, construction and operational phases of the concerned development.

3.8.2 The proposed Shek Wu Hui Water Reclamation Plant location is located less than 200m to Ng Tung River, Sheung Yue River and Shek Sheung River, waterbirds ecological monitoring included pre-construction (i.e. baseline), construction (i.e. impact) and post-construction (i.e. operating) should be requires. The detailed monitoring protocol is listed in ***Table 3-8-1***.

Table 3-8-1 Monitoring of Measures to Minimize Disturbance to Waterbirds on the Ng Tung, Sheung Yue and Shek Sheung Rivers

Phase	Methodology
Pre-construction (baseline)	Weekly transect at both high and low tides to identify and enumerate all bird species utilising the river channels for 12 months prior to the commencement of construction.
Construction	Weekly transect at both high and low tides to identify and enumerate all bird species utilising the river channels and identify any sources of actual or potential disturbance to birds due to construction activities throughout the construction period.
Post-construction	Weekly transect at both high and low tides to identify and enumerate all bird species utilising the river channels and identify any sources of actual or potential disturbance to birds due to operational activities for 12 months following the completion of the construction period.

3.8.3 Waterbirds ecological baseline monitoring at Ng Tung River, Sheung Yue River and Shek Sheung River was conducted by DSD between ***December 2017*** and ***June 2019*** (total 19 months baseline monitoring)**,** in compliance with the Updated EM&A Manual. Thus, the action and limit levels and responses to evidence of disturbance to waterbirds using in Ng Tung, Sheung Yue and Shek Sheung Rivers will be made reference during construction phase of the Project.

3.9 MONITORING METHODOLOGY FOR WATERBIRDS ECOLOGICAL IMPACT MONITORING

3.9.1 Three transects and seven point count locations were selected at the Ng Tung, Sheung Yue and Shek Sheung River. These locations are shown in Appendix L and summarized in ***Table 3-9-1***.

Table 3-9-1 Ecological Monitoring Stations

Monitoring Stations	Descriptions	Influenced by Tidal Action
Transect T1	Along Ng Tung River	No
Transect T2		
Point Count Location P1		
Point Count Location P2		
Point Count Location P3		
Point Count Location P4		
Point Count Location P5	At Shek Sheung River (Low-flow Channel)	No
Transect T3	Along Shek Sheung River & Sheung Yue River	Yes
Point Count Location P6	At Shek Sheung River	Yes
Point Count Location P7	At Intersection between Sheung Yue and Shek Sheung River	Yes

3.9.2 Surveys will be conducted on a weekly basis at both high and low tides (it is considered high tide when tidal levels are above 1.5m and low tide when tidal level are below 1.5m at Tsim Bei Tsui Station).

3.9.3 All avifauna species that were seen or heard would be identified and quantified along transects and at point count locations. Survey data would be recorded continuously by the surveyor as they walk along the transects, while survey data of each point count location would be collected for 5-minutes after surveyor reaches the designated point count location.

3.9.4 Noticeable behaviours such as breeding, nesting, roosting, feeding and presences of recently fledged juveniles were recorded and reported. In the case which such behaviours were observed for species of conservation importance, the Resident Engineer (RE), the Contractor and the Independent Environmental Checker (IEC) would be immediately notified after the survey such that the Contractor could review the current construction programme and minimize disturbances due to construction activities.

3.10 EVENT ACTION PLAN

Noise

3.10.1 Should non-compliance of the construction noise criteria occur, action in accordance with the Action Plan in **Table 3-10-1** shall be carried out.

Table 3-10-1 Event and Action Plan for Construction Noise

Event	Action			
	ET	IEC	ER	Contractor
Action Level Exceedance	1. Notify the IEC, ER and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the monitoring data submitted by the ET; 2. Review the construction methods and proposed remedial measures by the Contractor, and advise the ET and ER if the proposed remedial measures would be sufficient; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify the Contractor; 3. Require the Contractor to propose remedial measures for the analyzed noise problem; 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to the ER and IEC and copy to the ET; 2. Implement noise mitigation proposals.
Limit Level Exceedance	1. Identify sources. 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase the monitoring frequency; 5. Carry out analysis of the Contractor's working procedures with the ER and Contractor to determine possible mitigations to be implemented; 6. Inform IEC, ER, EPD and Contractor the causes and	1. Discuss amongst the ER, ET and Contractor on the potential remedial actions; 2. Review the Contractor's remedial action whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analyzed noise problems; 4. Ensure remedial measures are properly implemented; 5. If exceedance continues,	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial action to the ER and IEC and copy to the ET within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
	actions taken for the exceedances; 7. Assess the effectiveness of the Contractor's remedial action with the ER and keep the IEC informed of the results; 8. If exceedance stops, cease additional monitoring.		consider what portion of work is responsible and instruct the Contractor to stop that portion of works until the exceedance is abated.	proposals if problems still not under control; stop the relevant portion of works as determined by the ER until the exceedance is abated.

Waterbird of Ecological

3.10.2 Should any exceedance encountered during construction phase, action in accordance with the Action Plan listed in ***Table 3-10-2*** shall be carried out.

Table 3-10-2 Event and Action Plan of Waterbirds of Ecological

Action Level	Response	Limit Level	Response
Construction Phase			
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified as related to NDAs project instigate remedial action. Review and adjust LVNP management measures to improve conditions for affected species.
Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified as related to NDAs project instigate remedial action. Review and adjust LVNP management measures to improve conditions for affected species.

(*) W*aterbird numbers refer to combined numbers using the channels*

4. CONSTRUCTION NOISE MONITORING

4.1 GENERAL

4.1.1 The noise monitoring schedule is presented in ***Appendix F*** and the monitoring results are presented in the following sections.

4.2 RESULTS OF NOISE MONITORING

4.2.1 In the Reporting Period, a total of **4** occasions noise monitoring were carried out at the designated location CP-KTN-NMS5. The sound level meter was set in free-field situation, and therefore, façade correction (+3dB) is added according to acoustical principles and EPD guidelines. The noise monitoring results at the designated locations are summarized in ***Tables 4-2-1.*** The detailed noise monitoring data is presented in ***Appendix G*** and the relevant graphical plot shown in ***Appendix H***.

Table 4-2-1 Summaries of Noise Monitoring Results of CP-KTN-NMS5

Date	Start Time	$L_{Aeq30min}$ (dB(A))
7-Dec-22	9:21	57
16-Dec-22	15:24	60
22-Dec-22	9:12	58
28-Dec-22	13:02	61
Limit Level		**75 dB(A)**

Note: façade correction +3dB has added according to acoustical principles and EPD guidelines

4.2.2 During construction noise monitoring, no rain was encountered and wind speed is below 5m/s and gusts not exceeding 10m/s.

4.2.3 As shown in ***Table 4-2-1***, the noise level measured at the designated monitoring location was below 75dB(A). Furthermore, there were no noise complaints (Action Level exceedance) received by the RE, Contractor, WSD or EPD in the Reporting Period. Therefore, no Action or Limit Level exceedance was triggered and no corrective action was therefore required.

4.2.4 During the reporting period, no construction work was carried out during restricted hours.

5. ECOLOGY WATERBIRD MONITORING

5.1 GENERAL

5.1.1 Ecological monitoring for waterbirds shall be performed as transects and point count surveys along Ng Tung River, Sheung Yue River and Shek Sheung River in accordance with general surveying practices.

5.1.2 The surveying shall be undertaken by a qualified ecologist and he/she shall be a member of the ET. Throughout the construction period, weekly transect shall be conducted at both high and low tides to identify and enumerate all bird species utilising the river channels and identify any sources of actual or potential disturbance to birds due to construction activities.

5.1.3 Since occurrence of waterbirds has distinctive seasonal pattern, the construction phase data for all waterbirds and representative waterbirds shall be compared with the baseline data for the respective month and season. Total number of Waterbirds and six representative Waterbird species are used as an indicator of the level disturbance to water birds at each of the survey location. The representatives of waterbirds are listed in ***Table 5-1-1***.

Table 5-1-1 Representative Waterbirds

Species Name	Common Name	Chinese Name
Egretta garzetta	Little Egret	小白鷺
Ardea alba	Great Egret	大白鷺
Ardea cinerea	Grey Heron	蒼鷺
Ardeola bacchus	Chinese Pond Heron	池鷺
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺
Phalacrocorax carbo	Great Cormorant	普通鸕鷀

5.2 RESULTS OF WATERBIRDS SURVEY

5.2.1 ***Four (4)*** occasion of waterbirds survey were conducted in the Reporting Month.

5.2.2 Abundance and diversity of total bird species and key waterbirds species in the Reporting Month are summarized in **Table 5-2-1** and **Table 5-2-2**.

Table 5-2-1 Total Bird Species and Abundance at Point Count Locations in the Reporting Month

Category	Number of Species	Abundance
All Avifauna	36	328
Waterbirds	15	177

Table 5-2-2 Abundance of Representative Waterbirds at Point Count Locations in the Reporting Month

Common Name	Species Name	Chinese Name	Abundance
Chinese Pond Heron	Ardeola bacchus	池鷺	17
Eastern Cattle Egret	Bubulcus coromandus	牛背鷺	7
Grey Heron	Ardea cinerea	蒼鷺	22
Great Egret	Ardea alba	大白鷺	8
Little Egret	Egretta garzetta	小白鷺	31
Great Cormorant	Phalacrocorax carbo	普通鸕鷀	28

5.2.3 The result was compared with the baseline data and decline in all waterbirds were recorded. A table showing the waterbirds abundance comparison with baseline data was provided in **Appendix L**. (Appendix C of the waterbirds survey report).

5.2.4 According to surveyors, concrete blocks laying work was observed across Ng Tung River at P2 and P3 by other Project since November 2022. Although the laying work was completed in November 2022, the presence of the concrete blocks throughout the entire reporting month and intentional damming of Ng Tung River have also caused the water level at the entire Ng Tung River covering T1, T2, P1, P2, P3 and P4 to be visibly higher when compared to previous months. This may result in a loss of foraging grounds for waterbirds in the river, leading to the general reduction in abundance of waterbirds and the representative waterbird species.

5.2.5 Furthermore, construction involving excavation and sheet piling right next to P3 by other Project near the Sheung Shui Slaughter house was recorded throughout the entire month. The noise level of the construction was noted to be particularly high during the survey on the 9th December 2022, which is a potential cause to discourage birds from foraging in P3.

5.2.6 A new construction by other Project was also recorded during the survey on 29th December 2022 near P7, which seemed to involve piling and pavement reconstruction. The surveyor described the construction to be very noisy on 29th December 2022 and might discourage birds from foraging near P7 and T3.

5.2.7 During all surveys, a number of representative waterbirds were recorded in a pond on T1 instead of its nearby point count location of P2, this is likely due to the pond providing a habitat with more shallow water and thus is more suitable for foraging, and is less disturbed by anthropogenic activities.

5.2.8 A combination of these factors may lead to the overall decrease in number of waterbirds recorded in the point count and transect count, although the observations from the surveys could not discount the possibility that the reduction in waterbird numbers is simply a result of natural fluctuation or other external factors (e.g. active management in providing more favourable habitats in Long Valley Nature Reserve).

5.2.9 However, as construction activities of the current project and disturbances caused by the current project have not changed significantly in the reporting months (only use of crane and scaffolding works), it is suggested that the decline in the number of multiple species of waterbirds is not related to the construction works.

5.2.10 The details of the waterbirds survey for the Reporting Month can be referred to the full waterbirds survey report provided in **Appendix L**.

6. WASTE MANAGEMENT

6.1 GENERAL WASTE MANAGEMENT

6.1.1 Waste management was carried out by an on-site Environmental Officer or an Environmental Supervisor from time to time.

6.2 RECORDS OF WASTE QUANTITIES

6.2.1 All types of waste arising from the construction work are classified into the following:

- Construction & Demolition (C&D) Material;
- Chemical Waste;
- General Refuse; and
- Excavated Soil.

6.2.2 The quantities of waste for disposal in this Reporting Period are summarized in ***Tables 6-2-1*** and ***6-2-2*** and the Monthly Summary Waste Flow Table is shown in ***Appendix I***. Whenever possible, materials were reused on-site as far as practicable.

Table 6-2-1 Summary of Quantities of Inert C&D Materials

Type of Waste	Quantity	Disposal Location
C&D Materials (Inert) (in '000m^3)	0.1500	-
Reused in this Contract (Inert) (in '000 m^3)	0	-
Reused in other Contracts/ Projects (Inert) (in '000 m^3)	0	-
Disposal as Public Fill (Inert) (in '000 m^3)	0.1500	TM38

Table 6-2-2 Summary of Quantities of C&D Wastes

Type of Waste	Quantity	Disposal Location
Recycled Metal (‘000kg)	0	-
Recycled Paper / Cardboard Packing (‘000kg)	0	-
Recycled Plastic (‘000kg)	0	-
Chemical Wastes (‘000kg)	0	-
General Refuses (‘000m^3)	0.0209	SENT

7. SITE INSPECTION

7.1 REQUIREMENTS

7.1.1 According to the approved Updated EM&A Manual, the environmental site inspection shall be formulation by ET Leader. Weekly environmental site inspections should carry out to confirm the environmental performance.

7.2 FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH

7.2.1 In the Reporting Month, weekly regular site inspection by the RE, the Main Contractor and ET was carried out on ***1, 8, 15, 19*** and ***29 December 2022*** to evaluate site environmental performance of the Contract Works. During the site inspections, no non-compliance was noted.

7.2.2 The findings/deficiencies of the Contract Works observed that during the weekly site inspection are listed in ***Table 7-2-1***.

Table 7-2-1 Site Observations

Date	Findings / Deficiencies	Follow-Up Status
1 December 2022	• Stockpile of dusty material should be covered with impervious sheet to reduce dust generation. (Near ReWPS) • Construction waste should be dispose regularly.	Stockpile of dusty material was properly covered. Construction waste was disposed.
8 December 2022	• Stagnant water should be removed to prevent mosquito breeding. (HCF) • Stockpile of excavated material should be covered with impervious sheet to reduce dust generation.	Stagnant water was removed. Stockpile of excavated material was covered properly with impervious sheet.
15 December 2022	• No adverse environmental issue was observed during site inspection.	NA
19 December 2022	• Stagnant water should be removed to prevent mosquito breeding. (near ReWPS)	Stagnant water within site area was removed.
29 December 2022	• No adverse environmental issue was observed during site inspection.	NA

8. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

8.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

8.1.1 For the Contract Works, no environmental complaint, summons and prosecution was received in the Reporting Period. The statistical summary table of environmental complaint is presented in ***Tables 8-1-1, 8-1-2*** and ***8-1-3***.

Table 8-1-1 Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 31 December 2022	0	0	NA

Table 8-1-2 Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 31 December 2022	0	0	NA

Table 8-1-3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 31 December 2022	0	0	NA

9. IMPLEMENTATION STATUS OF MITIGATION MEASURES

9.1 GENERAL REQUIREMENTS

9.1.1 The environmental mitigation measures that recommended in the Implementation Schedule for Environmental Mitigation Measures (ISEMM) in the approved Updated EM&A Manual covered the issues of dust, noise, water and waste and they are summarized presented in ***Appendix J.***

9.2 IMPLEMENTATION STATUS OF THE MITIGATION MEASURES IN THE REPORTING PERIOD

9.2.1 The Contract Works shall be implementing the required environmental mitigation measures according to the approved Updated EM&A Manual as subject to the site condition. Environmental mitigation measures implemented by the Main Contractor in this Reporting Month are summarized in ***Table 9-1-1***. An as-built drawing of site temporary drainage is shown in ***Appendix K***.

Table 9-1-1 Environmental Mitigation Measures Implemented in the Reporting Period

Issues	Environmental Mitigation Measures
Air Quality	• All vehicles must be washed before leaving the site; • Sprayed water during excavation works; • Stockpile of dusty material was covered entirely with impervious sheeting or sprayed with water so as to maintain the entire surface wet; • Water spraying on haul road and dry site area was provided regularly; and • Where a vehicle leaving the works site is carrying a load of dusty materials, the load has covered entirely with clean impervious sheeting;
Constriction Noise	• Keep all vehicles/plants in good condition to minimize noise impact; • Shut down the plants when not in used; • Provided quiet powered mechanical equipment to use onsite; • Avoided using multiple vehicles at the same time as far as practicable
Water Quality	• All the surface runoff are collected to sedimentation pit and tanks for sedimentation prior discharged • Sand bag bund was provided along the boundary of the site area near Ng Tung River to divert the surface runoff to sedimentation pit and avoid direct discharge of surface runoff. • Standby water pumps were provided on site to pump the runoff water collected at pit to the sedimentation tank for sedimentation. • Standby sedimentation tanks were provided on site to ensure sufficient sedimentation capacity. • Complied with the requirement under the discharge license. • Avoid spilt concrete during concreting works • Haul road was hard paved to reduce muddy runoff during rainy days.
Waste and Chemical Management	• Disposal of C&D wastes to any designated public filling facility and/or landfill followed a trip ticket system; • Debris and refuse generated on-site collected regularly; • Oils and fuels were stored in designated areas; • Kept the site tidy and clean.

9.3 TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH

9.3.1 The tentative construction works schedule of the Contract Works under FEP in the coming month are listed below:

- Construction of Reinforced Concrete Structure (R.C. Structure) of HCF
- Construction of Reinforced Concrete Structure (R.C. Structure) of ReWPS

9.4 KEY ISSUES FOR THE COMING MONTH

9.4.1 Key issues to be considered in the coming month for the Contract Works under FEP include:

- Ensure the sand bag bund at site boundary near the Ng Tung River is properly maintained to avoid muddy discharge during heavy rain;
- Ensure sufficient capacity of sedimentation pit and tanks for wastewater sedimentation;

- Ensure all surface runoff are diverted to sedimentation pit and tanks properly;
- Sufficient stock of standby pump should be available on site for pumping the runoff water/wastewater to the sedimentation tank.
- Collect spilt cement/concrete washings during concreting works to avoid water quality impact
- Cover the dusty stockpile on site to reduce potential fugitive dust quality impact;
- Spraying water at dry haul road more frequently to reduce dust generation;
- All the vehicles should be properly washed prior leaving the site;
- Erect barrier for wood/steel bar cutting machine;
- Use Quiet powered mechanical equipment (QPME) whenever applicable;
- Minimize the number of plants used at the same time to reduce cumulative noise impact;
- Properly management of general refuse and chemical waste generated on site.

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS

10.1.1 This is **13th** monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from **1** to **31 December 2022**.

10.1.2 No noise complaint (which is an Action Level exceedance) was received and no construction noise measurement results that exceeded the Limit Level were recorded in the Reporting Period. No NOEs or the associated corrective actions were therefore issued.

10.1.3 Four (4) occasions of the weekly waterbirds survey has been taken in the Reporting Period. Although decline in waterbirds were recorded in the Reporting Period, the cause of decline was considered unlikely due to the Project. No action and limit level exceedance was considered triggered in the Reporting Month.

10.1.4 No documented complaint, notification of summons or successful prosecution was received by either the RE or WSD or the Main Contractor.

10.1.5 Weekly site inspection by the RE, ET and the Main Contractor had carried out on ***1, 8, 15, 19*** and ***29 December 2022***. The mitigation measures implemented was considered satisfactory. No non-compliance observed during the site inspection.

10.2 RECOMMENDATIONS

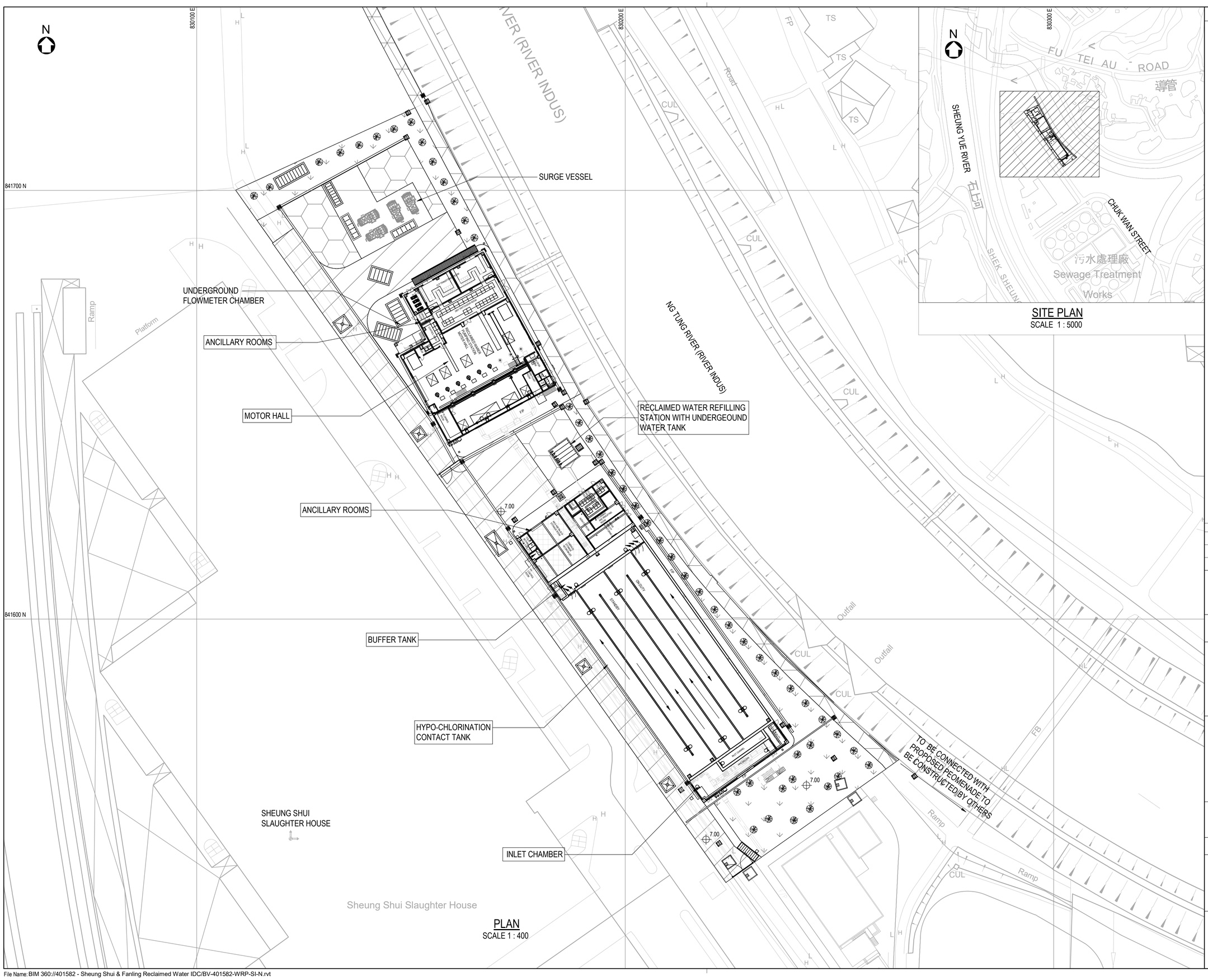
10.2.1 Construction of reinforced concrete structure of ReWPS and HCF will be the major construction work in the coming month. Noise mitigation measures such as using soft face hammer for hammering work and erect barrier for wood/steel bar cutting machines were recommended to reduce noise impact generated from rebar fixing and formwork erection work. In addition, the Contractor should pay attention to potential water quality impact from concreting works and implement measure to collect spilt cement/concrete washings during concreting works.

10.2.2 As the coming month will be dry season, the Contractor was general reminded to paid attention to air quality mitigation measures such as regularly water at dry haul road and cover any stockpile on site when not in use to reduce dust generation.

10.2.3 The Contractor was reminded to pay attention to the key issues for the coming month mentioned in Section 9.4.

Appendix A

Location of Shek Wu Hui Water Reclamation Plant



SITE PLAN
SCALE 1 : 5000

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFED.
2. THE BASE PLAN IS EXTRACTED FROM SURVEY SHEET NOS. 2-SE ADN 3-SW.
3. TOP SLABS OF STRUCTURES ARE NOT SHOWN FOR CLARITY.

LEGEND:

- SITE BOUNDARY OF SWHWRP
- FENCING
- EVA
- PLANTER GREENING AREA
- GRASSCRETE
- RIVERSIDE PROMENADE
- GROUND LEVEL
- TREE (INDICATIVE)
- F/P — FOOTPATH
- MANHOLE/CABLE PIT
- ACCESS GATE

Revision	Date	Description		Initial
	Designed	Checked	Drawn	Checked
Initial	CWC	GC	SZ	GC
Date	02/21	02/21	02/21	02/21

Approved

Contract No.
3 / WSD / 20

Contract Title
RECLAIMED WATER SUPPLY TO SHEUNG SHUI AND FANLING

Drawing Title
GENERAL ARRANGEMENT OF SWHWRP - GENERAL PLAN

Drawing No.
401582/B&V/WRP/GA/101

Revision
-

Scale
AS SHOWN

水務署
Water Supplies Department

BINNIES HONG KONG LIMITED
賓尼斯工程顧問有限公司

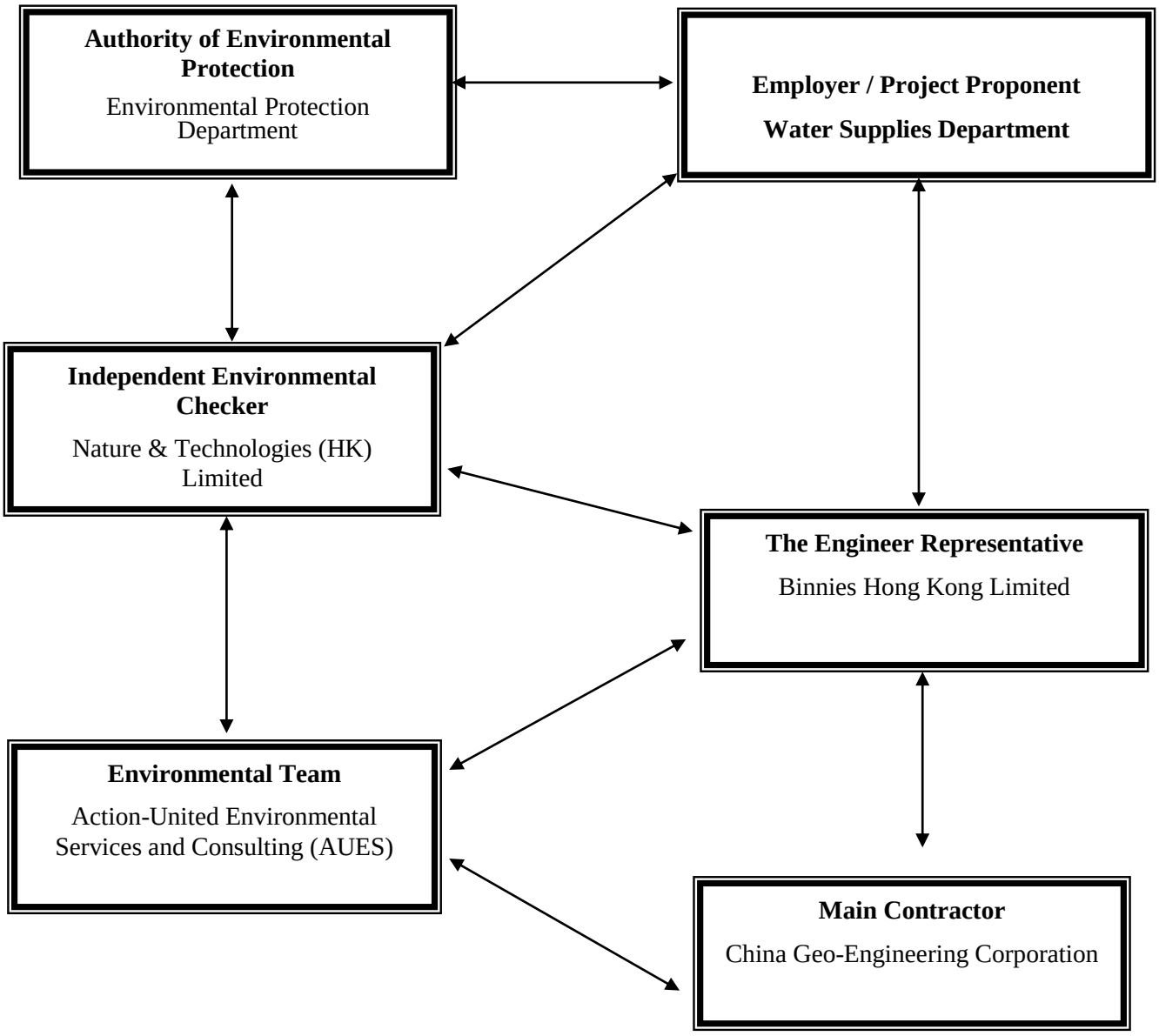
Plot Date: 3/15/2021 11:20:19 AM

File Name: BIM 360://401582 - Sheung Shui & Fanling Reclaimed Water IDC/BV-401582-WRP-SI-N.rvt

Appendix B

Project Organization

Project Organization Chart



Contact Details of Key Personnel for the Project

Organization	Project Role	Name of Key Staff	Tel No.	Email
WSD	Project Proponent	Tim Wong	2829 5638	tim_cw_wong@wsd.gov.hk
Binnies	Senior Resident Engineer	S.H. Chung	2608 7380	sre.3wsd20@gmail.com
Binnies	Resident Engineer	Chester Chan,	2608 7380	chancw@binnies.com
N&T	Independent Environmental Checker	Vega Wong	2877 3122	vegawong@nt.com.hk
CGC	Site Agent	Wong Fai	9785 2545	3wsd20@gmail.com
CGC	Environmental Officer	Walter Man	6711 9155	cgc.walterman@gmail.com
AUES	Environmental Team Leader	T. W. Tam	2959 6059	twtam@fordbusiness.com
AUES	Environmental Consultant	Nicola Hon	2959 6059	nicolahon@fordbusiness.com
AUES	Environmental Consultant	Martin Li	2959 6059	martinli@fordbusiness.com
AUES	Assistant Environmental Consultant	Fai So	2959 6059	faiso@fordbusiness.com

Legend:

WSD (Employer) – Water Supplies Department
Binnies (Engineer Representative) – Binnies Hong Kong Limited
CGC (Main Contractor) –China Geo-Engineering Corporation
N&T (IEC) –Nature & Technologies (HK) Limited
AUES (ET) – Action-United Environmental Services and Consulting (AUES)

Appendix C

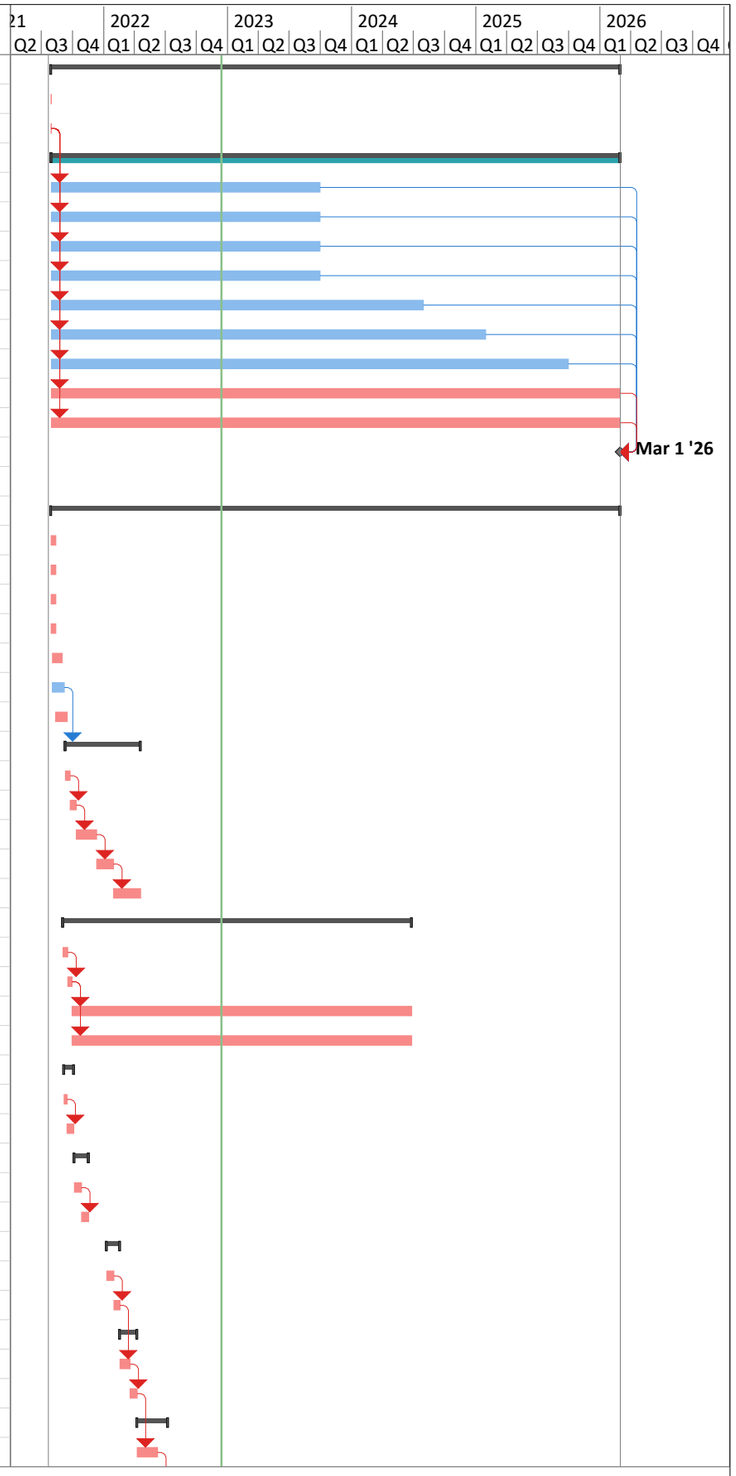
Master Construction Program and Site Overview Photo in the Reporting Period

SITE OVERVIEW PHOTO IN THE REPORTING PERIOD

Reinforced Concrete Structure of HCF

Reinforced Concrete Structure of ReWSP

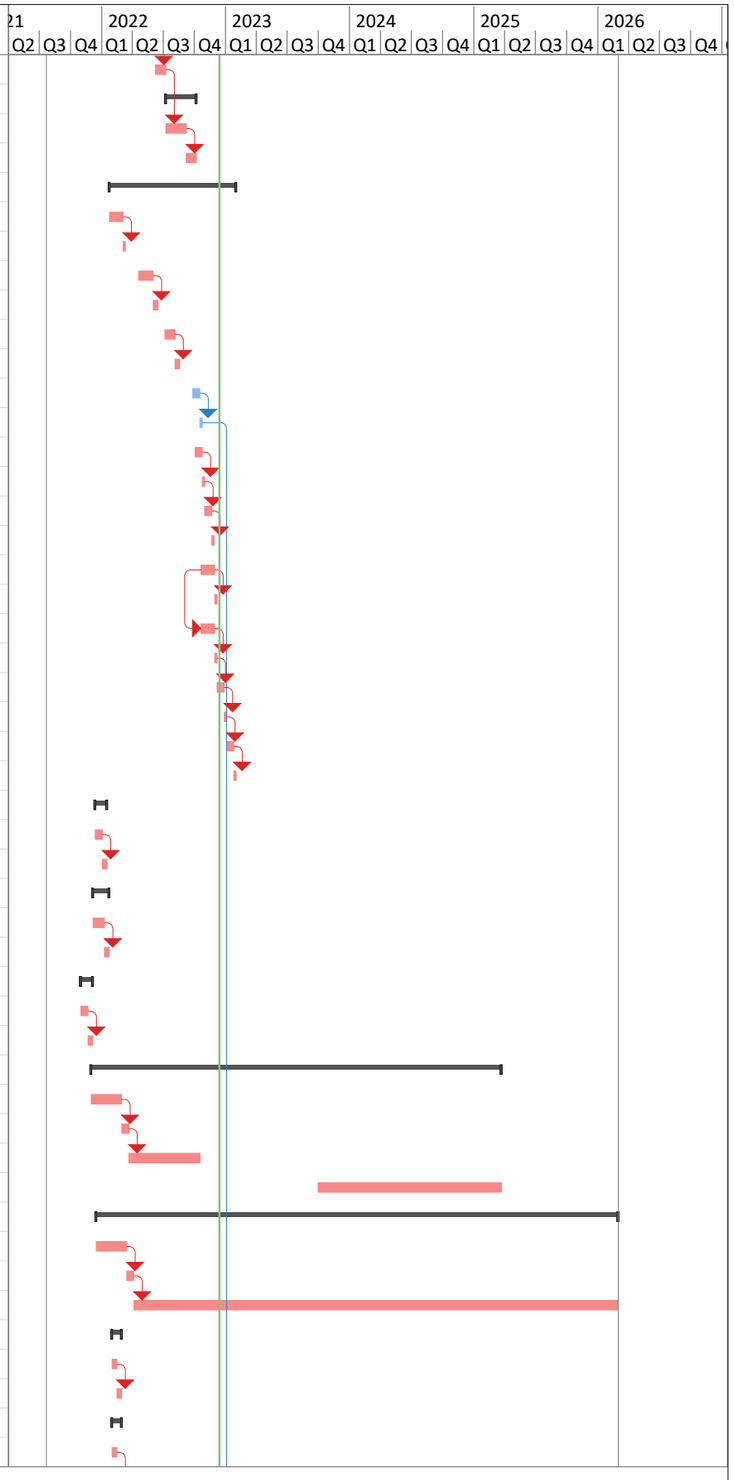
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1	**Key Dates**	**1676 days**	**Jul 30 '21**	**Mar 1 '26**			
2	Contract Date	1 day	Jul 30 '21	Jul 30 '21			
3	Starting Date	1 day	Jul 30 '21	Jul 30 '21			5,6,7,8,9,10,11,12,13
4	**Contract Period**	**1675 days**	**Jul 31 '21**	**Mar 1 '26**			
5	Section 1 - Shek Wu Hui Water Reclamation Plant (SWHWRP)	791 days	Jul 31 '21	Sep 29 '23		3	14FF
6	Section 2 - Landscaping works of SWHWRP	791 days	Jul 31 '21	Sep 29 '23		3	14FF
7	Section 3 - Modification of Table Hill Reclaimed Water Service Reservoir	791 days	Jul 31 '21	Sep 29 '23		3	14FF
8	Section 4 - Mainlaying works in part 3 of the Site	791 days	Jul 31 '21	Sep 29 '23		3	14FF
9	Section 5 - Mainlaying works in part 4 of the Site	1095 days	Jul 31 '21	Jul 29 '24		3	14FF
10	Section 6 - Mainlaying works in part 5 of the Site	1279 days	Jul 31 '21	Jan 29 '25		3	14FF
11	Section 7 - Mainlaying works in part 6 of the Site	1522 days	Jul 31 '21	Sep 29 '25		3	14FF
12	Section 8 - Mainlaying works in part 7 of the Site & remaining WM works	1675 days	Jul 31 '21	Mar 1 '26		3	14FF
13	Section 9 - Conversion works of reclaimed water	1675 days	Jul 31 '21	Mar 1 '26		3	14FF
14	**Contract Completion date**	**0 days**	**Mar 1 '26**	**Mar 1 '26**		**5FF,6FF,7FF,8FF,9FF,1**	
15							
16	**Preliminary & General**	**1676 days**	**Jul 30 '21**	**Mar 1 '26**			
17	Submission of Draft Safety Plan	14 days	Jul 30 '21	Aug 12 '21			
18	Submission of Draft Environmental Management Plan	14 days	Jul 30 '21	Aug 12 '21			
19	Submission of Sub-contractor Management Plan	14 days	Jul 30 '21	Aug 12 '21			
20	Notification & request for UU record from utility undertakers	14 days	Jul 30 '21	Aug 12 '21			
21	Submission and acceptance of selection procedure for supplier	29 days	Aug 3 '21	Aug 31 '21			
22	Submission and acceptance of selection procedure for subcontractor	35 days	Aug 3 '21	Sep 6 '21			24
23	Agreement on preliminary office layout	35 days	Aug 12 '21	Sep 15 '21			
24	Provision of Project Manager's Accommodation	222 days	Sep 10 '21	Apr 19 '22		22	
25	Submission and acceptance of subletting package	14 days	Sep 10 '21	Sep 23 '21			26
26	Selection of Subcontractor	18 days	Sep 24 '21	Oct 11 '21		25	27
27	Submission and acceptance of design and material	60 days	Oct 12 '21	Dec 10 '21		26	28
28	Manufacture and delivery of MiC office	50 days	Dec 11 '21	Jan 29 '22		27	29
29	Erection of Project Manager's Accommodation	80 days	Jan 30 '22	Apr 19 '22		28	
30	**Selection of Traffic Consultant**	**1027 days**	**Sep 3 '21**	**Jun 25 '24**			
31	Submission and acceptance of subletting package	14 days	Sep 3 '21	Sep 16 '21			32
32	Selection of traffic consultant	13 days	Sep 17 '21	Sep 29 '21		31	33,34
33	XP application for different Sections	1000 days	Sep 30 '21	Jun 25 '24		32	
34	TTA application and Attend TMLG Meetings for different Sections	1000 days	Sep 30 '21	Jun 25 '24		32	
35	**Selection of Concrete Supplier**	**29 days**	**Sep 6 '21**	**Oct 4 '21**			
36	Submission and acceptance of subletting package	9 days	Sep 6 '21	Sep 14 '21			37
37	Selection of concrete supplier	20 days	Sep 15 '21	Oct 4 '21		36	
38	**Selection of Subcontractor for Excavation and ELS Works at SWHWRP**	**42 days**	**Oct 7 '21**	**Nov 17 '21**			
39	Submission and acceptance of subletting package	21 days	Oct 7 '21	Oct 27 '21			40
40	Selection of subcontractor	21 days	Oct 28 '21	Nov 17 '21		39	
41	**Selection of Subcontractor for Structural Works**	**39 days**	**Jan 10 '22**	**Feb 17 '22**			
42	Submission and acceptance of subletting package	21 days	Jan 10 '22	Jan 30 '22			43
43	Selection of subcontractor	18 days	Jan 31 '22	Feb 17 '22		42	45
44	**Selection of Subcontractor for Roadworks**	**51 days**	**Feb 18 '22**	**Apr 9 '22**			
45	Submission and acceptance of subletting package	30 days	Feb 18 '22	Mar 19 '22		43	46
46	Selection of subcontractor	21 days	Mar 20 '22	Apr 9 '22		45	48
47	**Selection of Subcontractor for Architectural Works**	**90 days**	**Apr 10 '22**	**Jul 8 '22**			
48	Submission and acceptance of subletting package	60 days	Apr 10 '22	Jun 8 '22		46	49



Project: 3WSD20 Programme
Date: Dec 14 '22

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
49	Selection of subcontractor	30 days	Jun 9 '22	Jul 8 '22		48	51
50	**Selection of Subcontractor for Landscape Works**	**90 days**	**Jul 9 '22**	**Oct 6 '22**			
51	Submission and acceptance of subletting package	60 days	Jul 9 '22	Sep 6 '22		49	52
52	Selection of subcontractor	30 days	Sep 7 '22	Oct 6 '22		51	
53	**Selection of Subcontractor for Mainlaying Works**	**373 days**	**Jan 24 '22**	**Jan 31 '23**			
54	Submission and acceptance of subletting package - open trench (for Section 4)	40 days	Jan 24 '22	Mar 4 '22			55
55	Selection of subcontractor - open trench (for Section 4)	7 days	Mar 5 '22	Mar 11 '22		54	
56	Submission and acceptance of subletting package - open trench (for Section 5)	43 days	Apr 20 '22	Jun 1 '22			57
57	Selection of subcontractor - open trench (for Section 5)	14 days	Jun 2 '22	Jun 15 '22		56	
58	Submission and acceptance of subletting package - open trench (SC-028)	30 days	Jul 6 '22	Aug 4 '22			59
59	Selection of subcontractor - open trench (SC-028)	14 days	Aug 5 '22	Aug 18 '22		58	
60	Submission and acceptance of subletting package - open trench (Shek Wu Hui) (SC-035)	21 days	Sep 26 '22	Oct 16 '22			61
61	Selection of subcontractor - open trench (Shek Wu Hui) (SC-035)	7 days	Oct 17 '22	Oct 23 '22		60	1206
62	Submission and acceptance of subletting package - open trench (Remaining) (SC-036)	21 days	Oct 3 '22	Oct 23 '22			63
63	Selection of subcontractor - open trench (Remaining) (SC-036)	7 days	Oct 24 '22	Oct 30 '22		62	64
64	Submission and acceptance of subletting package - road marking	21 days	Oct 31 '22	Nov 20 '22		63	65
65	Selection of subcontractor - road marking	7 days	Nov 21 '22	Nov 27 '22		64	
66	Submission and acceptance of subletting package - trenchless (SC-029)	40 days	Oct 21 '22	Nov 29 '22			67,68SS
67	Selection of subcontractor - trenchless (SC-029)	7 days	Nov 30 '22	Dec 6 '22		66	
68	Submission and acceptance of subletting package - trenchless (SC-042)	40 days	Oct 21 '22	Nov 29 '22		66SS	69
69	Selection of subcontractor - trenchless (SC-042)	7 days	Nov 30 '22	Dec 6 '22		68	70
70	Submission and acceptance of subletting package - trenchless (SC-051)	21 days	Dec 7 '22	Dec 27 '22		69	71
71	Selection of subcontractor - trenchless (SC-051)	7 days	Dec 28 '22	Jan 3 '23		70	72
72	Submission and acceptance of subletting package - trenchless (SC-052)	21 days	Jan 4 '23	Jan 24 '23		71	73
73	Selection of subcontractor - trenchless (SC-052)	7 days	Jan 25 '23	Jan 31 '23		72	
74	**Selection of Supplier for Survey Equipment**	**35 days**	**Dec 13 '21**	**Jan 16 '22**			
75	Submission and acceptance of subletting package	21 days	Dec 13 '21	Jan 2 '22			76
76	Selection of subcontractor	14 days	Jan 3 '22	Jan 16 '22		75	
77	**Selection of Supplier for Computer Facilities**	**47 days**	**Dec 7 '21**	**Jan 22 '22**			
78	Submission and acceptance of subletting package	33 days	Dec 7 '21	Jan 8 '22			79
79	Selection of subcontractor	14 days	Jan 9 '22	Jan 22 '22		78	
80	**Selection of Environment Team**	**35 days**	**Nov 1 '21**	**Dec 5 '21**			
81	Submission and acceptance of subletting package	21 days	Nov 1 '21	Nov 21 '21			82
82	Selection of Environment Team	14 days	Nov 22 '21	Dec 5 '21		81	
83	**BEAM Plus**	**1208 days**	**Dec 1 '21**	**Mar 22 '25**			
84	Submission and acceptance of subletting package	90 days	Dec 1 '21	Feb 28 '22			85
85	Selection of BEAM plus consultant	21 days	Mar 1 '22	Mar 21 '22		84	86
86	BEAM Plus PA submission	210 days	Mar 22 '22	Oct 17 '22		85	
87	BEAM Plus FA submission	540 days	Sep 30 '23	Mar 22 '25			
88	**BIM**	**1537 days**	**Dec 16 '21**	**Mar 1 '26**			
89	Submission and acceptance of subletting package	90 days	Dec 16 '21	Mar 15 '22			90
90	Selection of BIM consultant	21 days	Mar 16 '22	Apr 5 '22		89	91
91	Execution of BIM (rebar BIM, CSD and CBWD coordination and production)	1426 days	Apr 6 '22	Mar 1 '26		90	
92	**Selection of Contractor's Designer for foundation works**	**28 days**	**Feb 1 '22**	**Feb 28 '22**			
93	Submission and acceptance of subletting package	14 days	Feb 1 '22	Feb 14 '22			94
94	Selection of Contractor's Designer	14 days	Feb 15 '22	Feb 28 '22		93	
95	**Selection of Independent Checking Engineer (ICE) for Permanent Works (foundation)**	**28 days**	**Feb 1 '22**	**Feb 28 '22**			
96	Submission and acceptance of subletting package	14 days	Feb 1 '22	Feb 14 '22			97



Project: 3WSD20 Programme
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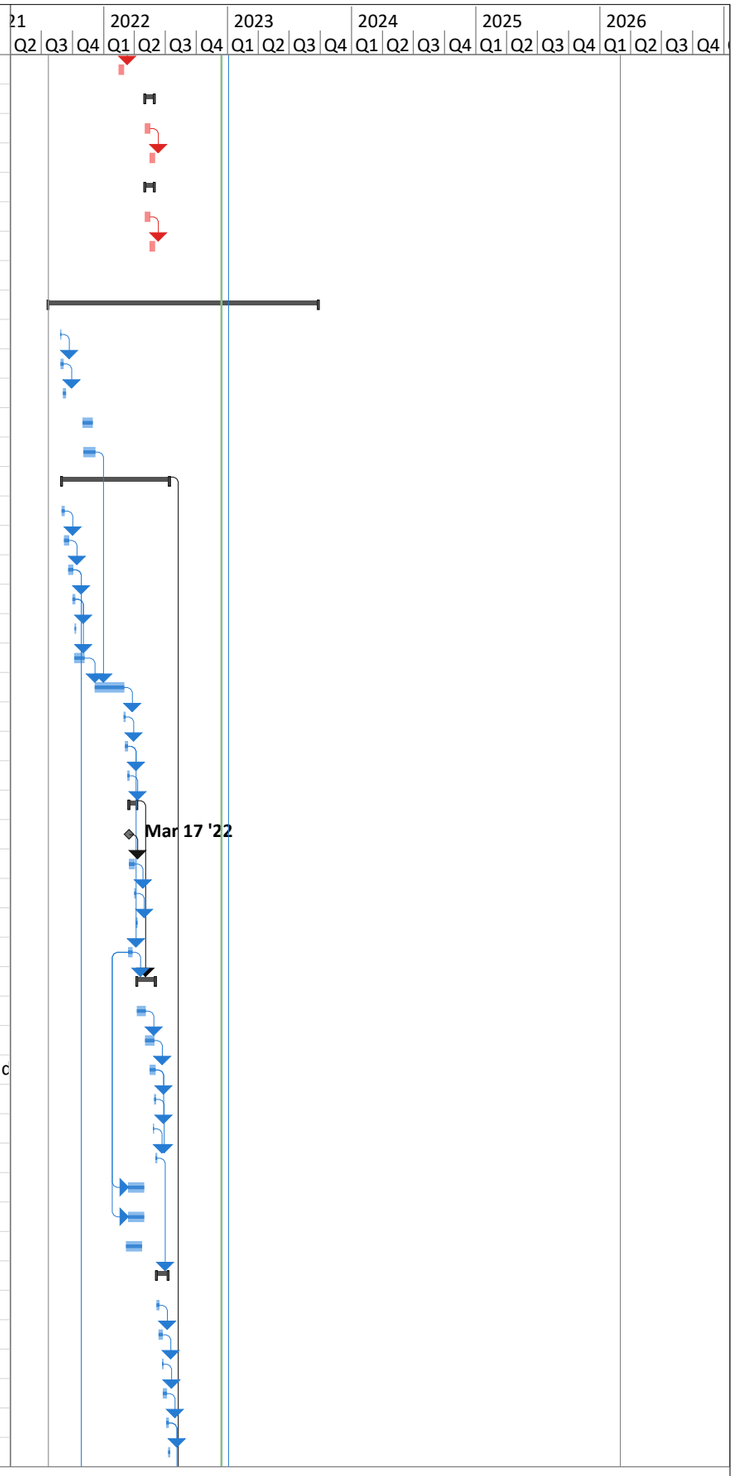
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
97	Selection of ICE for Permanent Works	14 days	Feb 15 '22	Feb 28 '22		96	
98	**Selection of Contractor's Designer for Civil & Structural Works**	**28 days**	**May 3 '22**	**May 30 '22**			
99	Submission and acceptance of subletting package	14 days	May 3 '22	May 16 '22			100
100	Selection of Contractor's Designer	14 days	May 17 '22	May 30 '22		99	
101	**Selection of Independent Checking Engineer (ICE) for Permanent Works (Civil & Structural)**	**28 days**	**May 3 '22**	**May 30 '22**			
102	Submission and acceptance of subletting package	14 days	May 3 '22	May 16 '22			103
103	Selection of ICE for Permanent Works	14 days	May 17 '22	May 30 '22		102	
104							
105	**Section 1 & 2 - Construction of SWHWRP and Landscaping Works**	**796 days**	**Jul 22 '21**	**Sep 25 '23**			
106	Access Date (part 1 of the Site)	1 day	Aug 27 '21	Aug 27 '21			107
107	Site clearance	7 days	Aug 28 '21	Sep 3 '21		106	108
108	Initial survey	7 days	Sep 4 '21	Sep 10 '21		107	
109	Installation of monitoring instruments and take initial readings	28 days	Nov 1 '21	Nov 28 '21			
110	Environmental baseline montioring by ET	33 days	Nov 4 '21	Dec 6 '21			118
111	**Foundation Works - ReWPS**	**318 days**	**Aug 31 '21**	**Jul 14 '22**			**182**
112	Submission and approval of subletting package for pre-drilling works	7 days	Aug 31 '21	Sep 6 '21			113
113	Selection of pre-drilling subcontractor	13 days	Sep 7 '21	Sep 19 '21		112	114
114	Pre-drilling works (15 nos.)	12 days	Sep 20 '21	Oct 1 '21		113	147,115
115	Pre-drill log report and Point Load Test	6 days	Oct 2 '21	Oct 7 '21		114	117,116
116	CE-020 _ Inclement Weather in October 2021	3 days	Oct 8 '21	Oct 10 '21		115	
117	Design review for foundation works	28 days	Oct 8 '21	Nov 4 '21		115	118
118	Piling works (54 nos. of pre-bored H piles) - Total length = 2387m	85 days	Dec 7 '21	Mar 1 '22		110,117	119
119	CE-040 _ Inclement Weather in February 2022	3.5 days	Mar 2 '22	Mar 5 '22		118	120
120	Installation of King Post	7 days	Mar 5 '22	Mar 12 '22		119	127FS+3 days,121
121	CE-041 _ Inclement Weather in March 2022	5 days	Mar 12 '22	Mar 17 '22		120	122
122	**Testing of pre-bored H-pile - tension load test**	**23.5 days**	**Mar 17 '22**	**Apr 9 '22**		**121**	**128**
123	Site ready for setting up of tension load test	0 days	Mar 17 '22	Mar 17 '22			124
124	(CE-044) EoT due to Shortage of Acetylene Gas Supply	15 days	Mar 17 '22	Apr 1 '22		123	125
125	Setting up of load test	4.5 days	Apr 1 '22	Apr 5 '22		124	126
126	Tension Load Test	4 days	Apr 6 '22	Apr 9 '22		125	
127	Sheet piling works for ELS - 300 pcs (length 12m)	10 days	Mar 15 '22	Mar 25 '22		120FS+3 days	128,135SS,136SS
128	**Excavation works (6900m3) and ELS installation**	**54.5 days**	**Apr 10 '22**	**Jun 3 '22**		**122,127**	
129	(CE-044) EoT due to Shortage of Acetylene Gas Supply	24 days	Apr 10 '22	May 3 '22			130
130	ELS installation and excavation	25 days	May 4 '22	May 28 '22		129	131FS-11 days
131	Welding of pile head capping plate	15 days	May 18 '22	Jun 1 '22		130FS-11 days	132FS-3 days,133FS-6 c
132	CE-052 _ Inclement Weather in May 2022 (under assessment)	4.5 days	May 30 '22	Jun 3 '22		131FS-3 days	134
133	Laying of blinding layer (1st pour)	1 day	May 27 '22	May 27 '22		131FS-6 days	134
134	Laying of blinding layer (2nd pour)	3 days	Jun 3 '22	Jun 6 '22		132,133	138
135	Submission and acceptance of method statement for pile cap construction	45 days	Mar 15 '22	Apr 29 '22		127SS	
136	Submission and acceptance of water proofing material	45 days	Mar 15 '22	Apr 29 '22		127SS	
137	Concrete mix submission, plant trial and acceptance of Grade 50 concrete	45 days	Mar 9 '22	Apr 22 '22			
138	**Construction of pile cap**	**34.5 days**	**Jun 6 '22**	**Jul 10 '22**		**134**	
139	CE-053 _ Inclement Weather in June 2022 (under assessment)	6.5 days	Jun 6 '22	Jun 12 '22			140
140	Installation of water proofing system and testing	10 days	Jun 13 '22	Jun 22 '22		139	141
141	CE-025 _ GI works of Contract ND/2021/01	2 days	Jun 23 '22	Jun 24 '22		140	142
142	Rebar fixing	10 days	Jun 25 '22	Jul 4 '22		141	143
143	Concreting of pile cap (996 m3)	6 days	Jul 5 '22	Jul 10 '22		142	144,145
144	Backfilling to pile cap top level	4 days	Jul 11 '22	Jul 14 '22		143	



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Project Summary	Duration-only	External Tasks	Progress		

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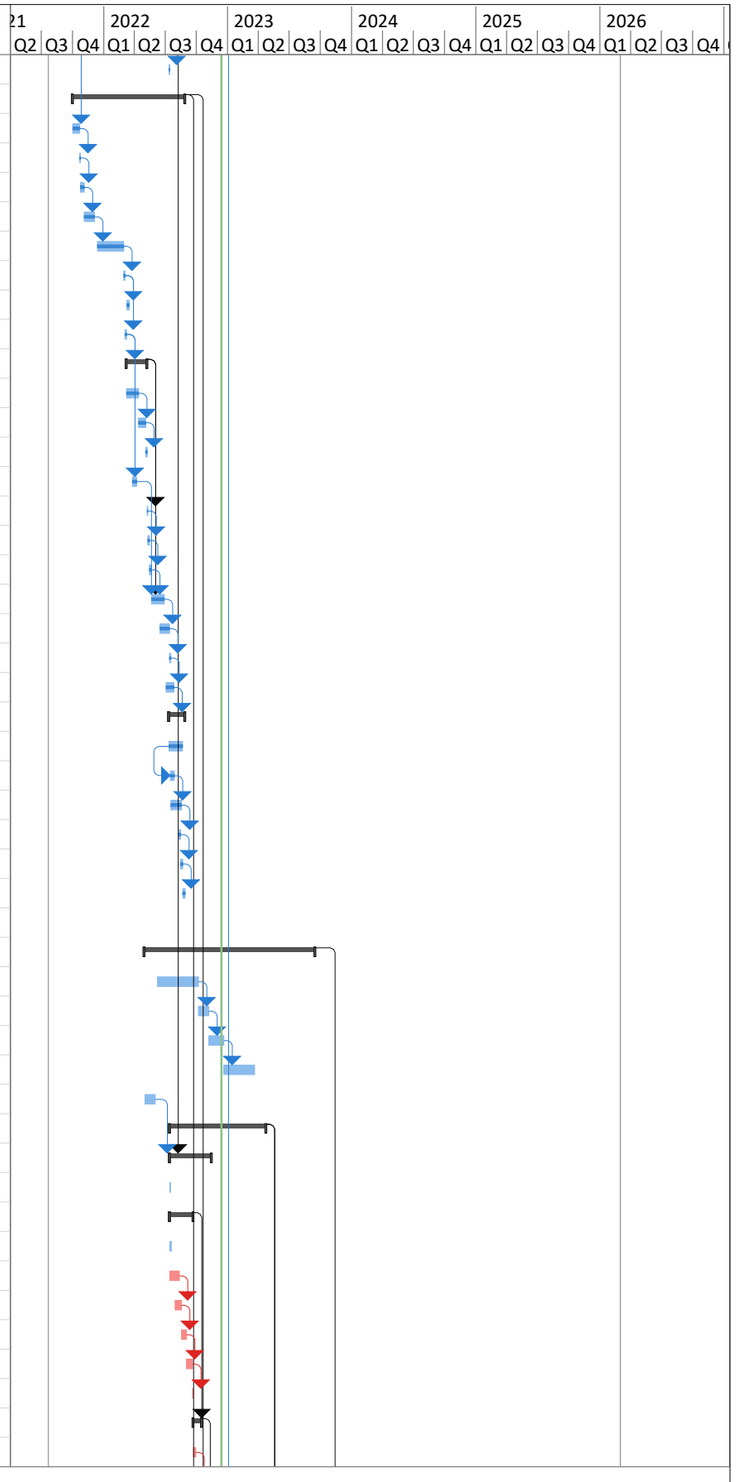
145	Rebar fixing (horizontal bars at starter bars from pile cap)	3 days	Jul 12 '22	Jul 14 '22		143	
146	**Foundation Works - HCF**	**331 days**	**Oct 2 '21**	**Aug 28 '22**			**310FS+60 days,346**
147	Pre-drilling works (25 nos.)	20 days	Oct 2 '21	Oct 21 '21		114	148
148	CE-020 _ Inclement Weather in October 2021	3 days	Oct 22 '21	Oct 24 '21		147	149
149	Pre-drill log report and Point Load Test	11 days	Oct 25 '21	Nov 4 '21		148	150
150	Design review for foundation works	30 days	Nov 5 '21	Dec 4 '21		149	151
151	Piling works - HCF (56 nos. of pre-bored H piles) - Total length = 1871m	77 days	Dec 14 '21	Feb 28 '22		150	152
152	CE-040 _ Inclement Weather in February 2022	3.5 days	Mar 1 '22	Mar 4 '22		151	154,153FS+6 days
153	Testing of pre-bored H-pile - proof drilling	7 days	Mar 10 '22	Mar 17 '22		152FS+6 days	
154	CE-041 _ Inclement Weather in March 2022	5 days	Mar 4 '22	Mar 9 '22		152	155,159FS+17 days
155	**Testing of pre-bored H-pile - compression load test**	**60.5 days**	**Mar 9 '22**	**May 8 '22**		**154**	**163,160**
156	(CE-044) EoT due to Shortage of Acetylene Gas Supply	35 days	Mar 9 '22	Apr 13 '22			157
157	Construction of mini-piles and setting up of load test	21 days	Apr 13 '22	May 4 '22		156	158
158	Compression load test	4.5 days	May 4 '22	May 8 '22		157	
159	Sheet piling works for ELS - 425 pcs (length 6m)	13 days	Mar 26 '22	Apr 8 '22	3	154FS+17 days	163
160	CE-025 _ GI works of Contract ND/2021/01	2 days	May 9 '22	May 10 '22		155	161
161	CE-052 _ Inclement Weather in May 2022 (under assessment)	4.5 days	May 11 '22	May 15 '22		160	162
162	CE-053 _ Inclement Weather in June 2022 (under assessment)	6.5 days	May 15 '22	May 21 '22		161	163
163	Excavation works (7600m3)	37 days	May 22 '22	Jun 27 '22		155,159,162	164FS-12 days
164	Welding of pile head capping plate	28 days	Jun 16 '22	Jul 13 '22		163FS-12 days	165
165	CE-054 _ Inclement Weather in July 2022 (under assessment)	4 days	Jul 14 '22	Jul 17 '22		164	166FS-14 days
166	Laying of blinding layer	22 days	Jul 4 '22	Jul 25 '22		165FS-14 days	167FS-14 days
167	**Construction of pile cap**	**48 days**	**Jul 12 '22**	**Aug 28 '22**		**166FS-14 days**	
168	Formwork erection	40 days	Jul 12 '22	Aug 20 '22			169SS+4 days
169	Installation of water proofing system and testing	12 days	Jul 16 '22	Jul 27 '22		168SS+4 days	170FS-10 days
170	Rebar fixing	31 days	Jul 18 '22	Aug 17 '22		169FS-10 days	171FS-7 days
171	Concreting of pile cap - 1600m3	5 days	Aug 11 '22	Aug 15 '22		170FS-7 days	172
172	Concreting of pile cap - 400m3	6 days	Aug 16 '22	Aug 21 '22		171	173
173	Concreting of pile cap - 1000m3	7 days	Aug 22 '22	Aug 28 '22		172	
174							
175	**Construction of SWHWRP**	**503 days**	**May 1 '22**	**Sep 15 '23**			**569FF**
176	Submission and acceptance of DfMA proposal	120 days	Jun 9 '22	Oct 6 '22			177
177	Selection of Designer & Supplier for DfMA	30 days	Oct 7 '22	Nov 5 '22		176	178
178	Manufacture of DfMA Precast Segments	45 days	Nov 6 '22	Dec 20 '22		177	179
179	Installation of DfMA segments	90 days	Dec 21 '22	Mar 20 '23		178	
180	Submission and acceptance of method statement for construction of ReWPS and HCF	30 days	May 3 '22	Jun 1 '22			182
181	**Construction of RC structure of ReWPS**	**284 days**	**Jul 15 '22**	**Apr 24 '23**			**427,306**
182	**Construction of basement (below ground) - Grid Line 1-4**	**123 days**	**Jul 15 '22**	**Nov 14 '22**		**111,180**	
183	Removal of ELS strut and wailing (2nd layer)	2 days	Jul 15 '22	Jul 16 '22			
184	Construction of external walls, W6, W8-W15 (+0mPD to +3.6mPD)	69 days	Jul 15 '22	Sep 21 '22			191
185	CE-054 _ Inclement Weather in July 2022 (under assessment)	4 days	Jul 15 '22	Jul 18 '22			
186	Scaffolding and Falsework erection	28 days	Jul 15 '22	Aug 11 '22			187FS-13 days
187	Formwork erection	19 days	Jul 30 '22	Aug 17 '22		186FS-13 days	188
188	CE-068 _ Inclement Weather in August 2022	15 days	Aug 18 '22	Sep 1 '22		187	189
189	Rebar fixing (up to +7.2mPD) and formwork erection (up to +3.6mPD)	18 days	Sep 2 '22	Sep 19 '22		188	190
190	Concreting	2 days	Sep 20 '22	Sep 21 '22		189	
191	Construction of external walls, W6, W8-W15 (+3.6mPD to +5.7mPD)	25 days	Sep 22 '22	Oct 16 '22		184	195
192	C.J. preparation at +3.6mPD	7 days	Sep 22 '22	Sep 28 '22			193



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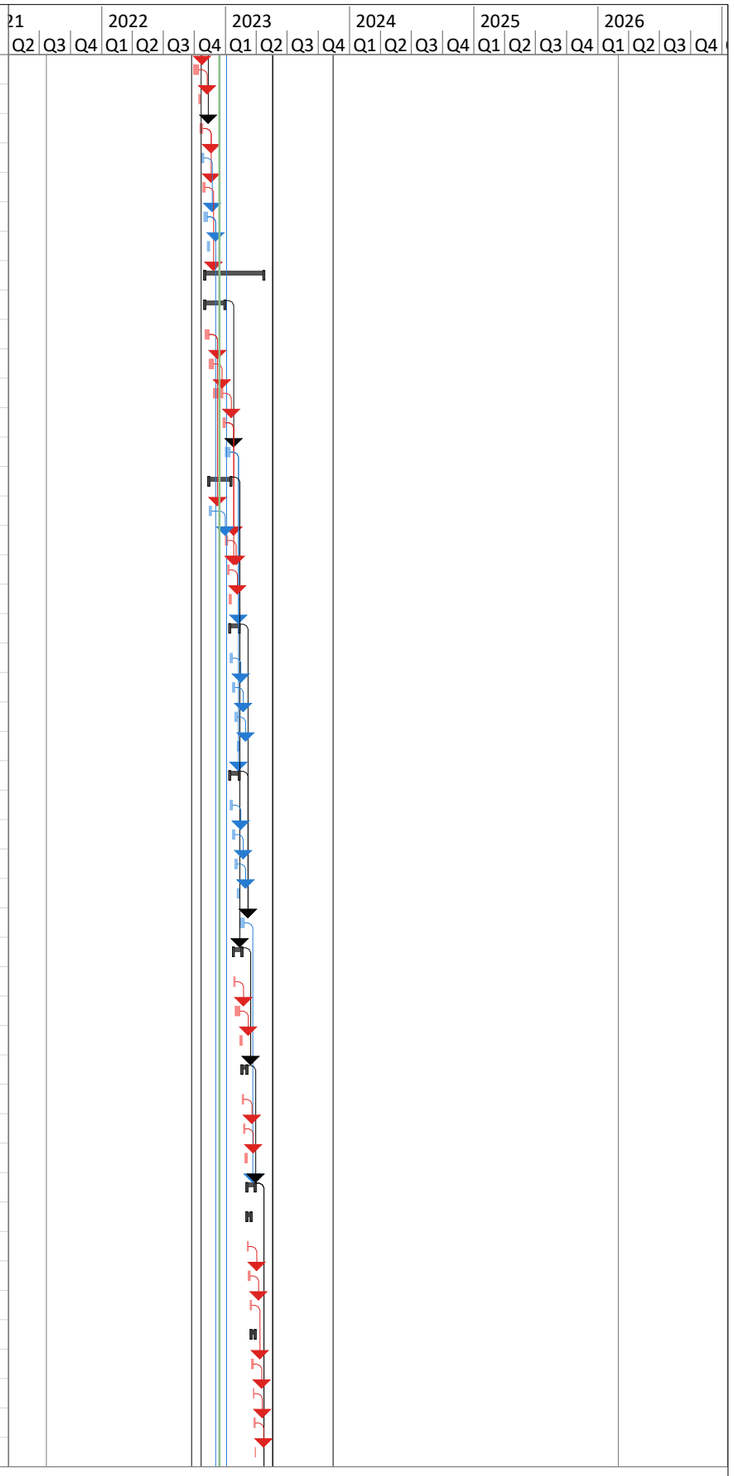
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
193	Formwork erection	15 days	Sep 29 '22	Oct 13 '22		192	194
194	Concreting	3 days	Oct 14 '22	Oct 16 '22		193	
195	Removal of formwork (+0mPD to +5.7mPD)	9 days	Oct 17 '22	Oct 25 '22		191	197,196FS-4 days
196	Rectification of exposed piles between G.L. 4-5	7 days	Oct 22 '22	Oct 28 '22		195FS-4 days	198
197	Installation and testing of water proofing system (+0mPD to +5.7mPD)	7 days	Oct 26 '22	Nov 1 '22		195	200
198	Backfilling of sand (+0mPD to +4.4mPD)	10 days	Oct 29 '22	Nov 7 '22		196	261,199
199	Removal of ELS strut and wailing	7 days	Nov 8 '22	Nov 14 '22		198	
200	**Construction of Superstructure (above ground) - Grid Line 1-4**	**174 days**	**Nov 2 '22**	**Apr 24 '23**		**197**	
201	Construction of Beams and Slabs at +7.2mPD	59 days	Nov 2 '22	Dec 30 '22			206
202	Falsework erection	11 days	Nov 2 '22	Nov 12 '22			203,208
203	Formwork erection	14 days	Nov 13 '22	Nov 26 '22		202	204
204	Rebar fixing	27 days	Nov 27 '22	Dec 23 '22		203	205
205	Concreting (+5.7mPD to +7.2mPD)	7 days	Dec 24 '22	Dec 30 '22		204	210,209
206	Partial Removal of formwork and falsework below +7.2mPD	14 days	Dec 31 '22	Jan 13 '23		201	212,217
207	Construction of Beams and Slabs at +9.1mPD	66 days	Nov 13 '22	Jan 17 '23			223FS+7 days
208	Falsework erection	7 days	Nov 13 '22	Nov 19 '22		202	209
209	Formwork erection	7 days	Dec 31 '22	Jan 6 '23		208,205	210
210	Rebar fixing	4 days	Jan 7 '23	Jan 10 '23		205,209	211
211	Concreting (+7.2mPD to +9.1mPD)	7 days	Jan 11 '23	Jan 17 '23		210	
212	Construction of Beams and Slabs at +3.6mPD	28 days	Jan 14 '23	Feb 10 '23		206	222
213	Scaffolding and falsework erection	7 days	Jan 14 '23	Jan 20 '23			214
214	Formwork erection	7 days	Jan 21 '23	Jan 27 '23		213	215
215	Rebar fixing	7 days	Jan 28 '23	Feb 3 '23		214	216
216	Concreting (+3.6mPD)	7 days	Feb 4 '23	Feb 10 '23		215	
217	Construction of Staircase ST1, ST2 (+0mPD to +7.2mPD)	28 days	Jan 14 '23	Feb 10 '23		206	222
218	Scaffolding and falsework erection	7 days	Jan 14 '23	Jan 20 '23			219
219	Formwork erection	7 days	Jan 21 '23	Jan 27 '23		218	220
220	Rebar fixing	7 days	Jan 28 '23	Feb 3 '23		219	221
221	Concreting	7 days	Feb 4 '23	Feb 10 '23		220	
222	Re-instatement of formwork and falsework below +7.2mPD	14 days	Feb 11 '23	Feb 24 '23		212,217	231
223	Construction of Walls and Columns (+7.2mPD/+9.1mPD to +11.8mPD)	25 days	Jan 25 '23	Feb 18 '23		207FS+7 days	227
224	Scaffolding erection and Formwork erection	4 days	Jan 25 '23	Jan 28 '23			225
225	Rebar fixing and Formwork erection	14 days	Jan 29 '23	Feb 11 '23		224	226
226	Concreting	7 days	Feb 12 '23	Feb 18 '23		225	
227	Construction of Walls and Columns (+11.8mPD to +15.2mPD)	15 days	Feb 19 '23	Mar 5 '23		223	231
228	Scaffolding erection and Formwork erection	4 days	Feb 19 '23	Feb 22 '23			229
229	Rebar fixing and Formwork erection	4 days	Feb 23 '23	Feb 26 '23		228	230
230	Concreting	7 days	Feb 27 '23	Mar 5 '23		229	
231	Construction of Beams and Slabs at +15.2mPD	24 days	Mar 6 '23	Mar 29 '23		227,222	251,241
232	Construction of Beams	12 days	Mar 6 '23	Mar 17 '23			
233	Falsework and formwork erection for beam	3 days	Mar 6 '23	Mar 8 '23			234
234	Rebar fixing for beam	5 days	Mar 9 '23	Mar 13 '23		233	235
235	Concreting and curing of concrete for beam	4 days	Mar 14 '23	Mar 17 '23		234	237
236	Construction of Slabs	12 days	Mar 18 '23	Mar 29 '23			
237	Installation of precast segments (65 nos.)	6 days	Mar 18 '23	Mar 23 '23		235	238
238	Formwork erection for half slab	1 day	Mar 24 '23	Mar 24 '23		237	239
239	Rebar fixing for half slab	4 days	Mar 25 '23	Mar 28 '23		238	240
240	Concreting for half slab and curing of concrete	1 day	Mar 29 '23	Mar 29 '23		239	



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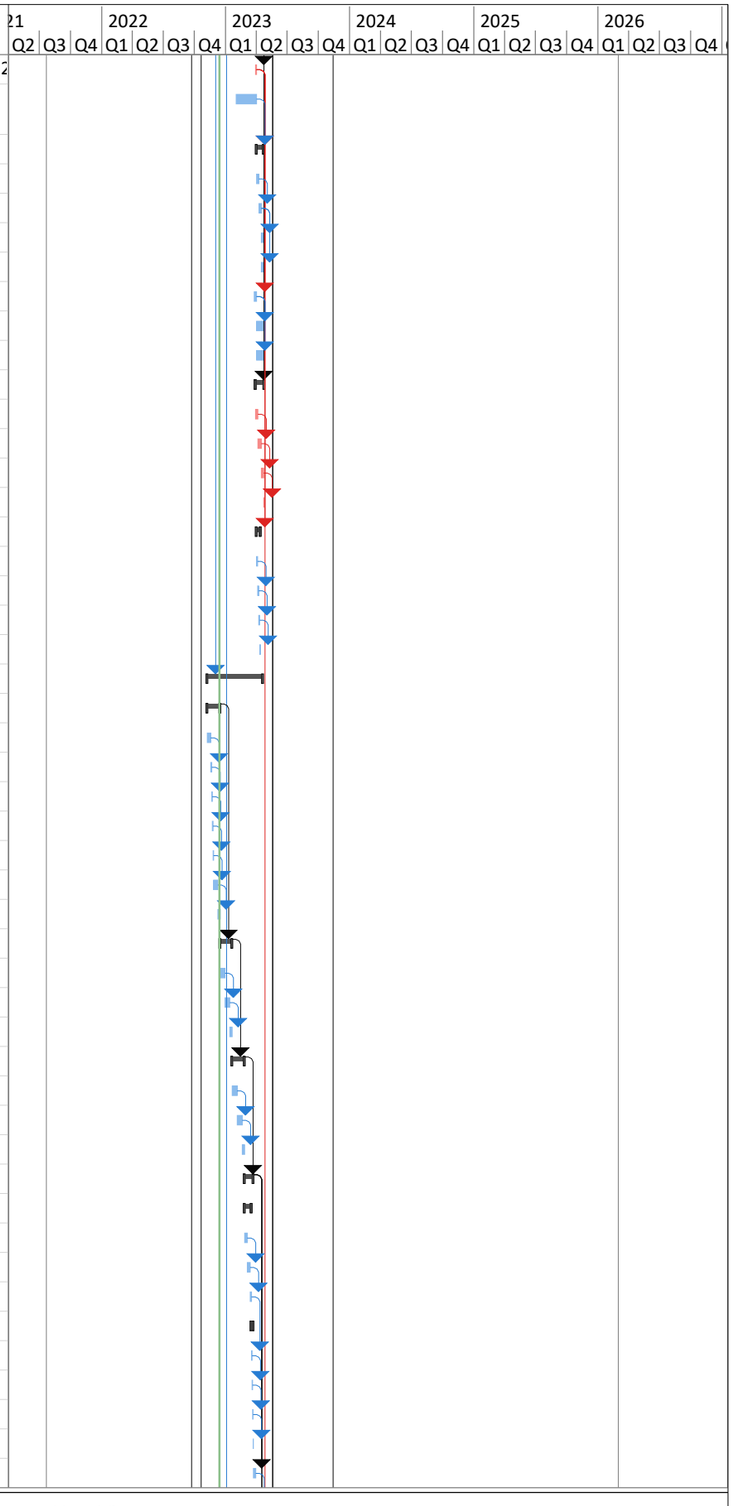
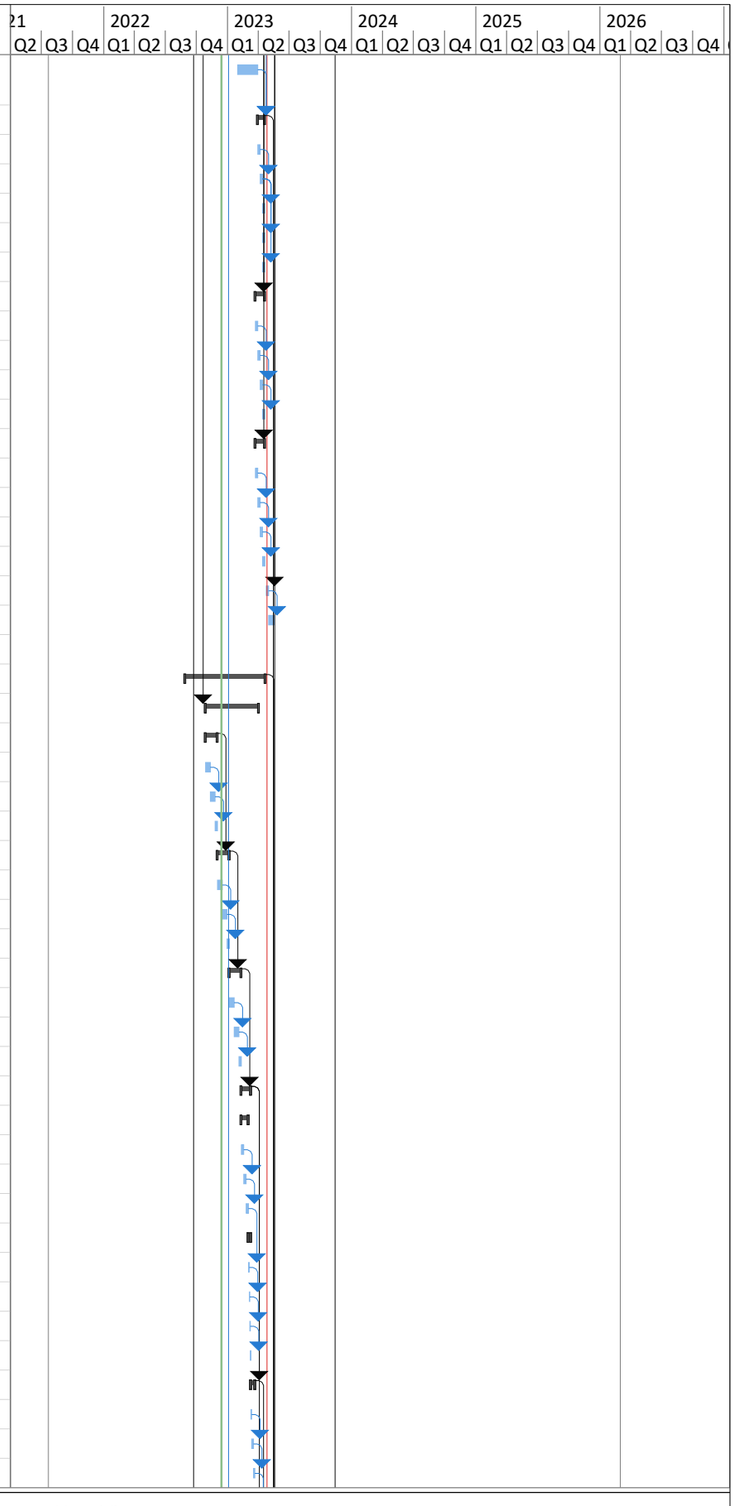
241	Removal of formwork and falsework	3 days	Mar 30 '23	Apr 1 '23		231	248FS-7 days,243,518,2
242	Detailed Design for Internal Façade Treatment for Assess Road and Interior Fitting for Internal Rooms	60 days	Feb 1 '23	Apr 1 '23			243
243	Installation of internal finishing works above ground (above +7.2mPD & 9.1mPD)	21 days	Apr 2 '23	Apr 22 '23		241,242	
244	Plaster and paint at wall and soffit	7 days	Apr 2 '23	Apr 8 '23			245
245	Epoxy painting on floor finish	7 days	Apr 9 '23	Apr 15 '23		244	246,247
246	Chequer plate system at cable trench	7 days	Apr 16 '23	Apr 22 '23		245	
247	SS door and aluminum louver	7 days	Apr 16 '23	Apr 22 '23		245	
248	Installation of water proofing system below ground (below +7.2mPD & +9.1mPD)	7 days	Mar 26 '23	Apr 1 '23		241FS-7 days	249,250
249	Watertightness test (G.L. 2-3, below +9.1mPD)	21 days	Apr 2 '23	Apr 22 '23		248	
250	Installation of internal finishing works (G.L. 3-4, below +7.2mPD)	21 days	Apr 2 '23	Apr 22 '23		248	
251	Construction of Parapet Walls (+15.2mPD to +16.6mPD)	26 days	Mar 30 '23	Apr 24 '23		231	
252	Scaffolding erection	7 days	Mar 30 '23	Apr 5 '23			253
253	Rebar fixing	10 days	Apr 6 '23	Apr 15 '23		252	254
254	Formwork erection	7 days	Apr 16 '23	Apr 22 '23		253	255
255	Concreting	2 days	Apr 23 '23	Apr 24 '23		254	
256	Construction of Staircase ST4 & ST5 (+7.2mPD to +8.85mPD)	12 days	Apr 2 '23	Apr 13 '23		241	
257	Scaffolding and falsework erection	3 days	Apr 2 '23	Apr 4 '23			258
258	Formwork erection	3 days	Apr 5 '23	Apr 7 '23		257	259
259	Rebar fixing	3 days	Apr 8 '23	Apr 10 '23		258	260
260	Concreting	3 days	Apr 11 '23	Apr 13 '23		259	
261	**Construction of Superstructure (above ground) - Grid Line 4-6**	**164 days**	**Nov 8 '22**	**Apr 20 '23**		**198**	
262	Construction of base slab (+4.45mPD to +5.95mPD & +5.6mPD to +7.1mPD)	38 days	Nov 8 '22	Dec 15 '22			270
263	Open-cut excavation to formation level	10 days	Nov 8 '22	Nov 17 '22			264
264	Welding of pile head capping plate (11 nos.)	3 days	Nov 18 '22	Nov 20 '22		263	265
265	Laying of blinding layer	2 days	Nov 21 '22	Nov 22 '22		264	266
266	Installation of water proofing system and testing	2 days	Nov 23 '22	Nov 24 '22		265	267
267	Formwork erection	2 days	Nov 25 '22	Nov 26 '22		266	268
268	Rebar fixing	12 days	Nov 27 '22	Dec 8 '22		267	269
269	Concreting	7 days	Dec 9 '22	Dec 15 '22		268	
270	Construction of Bearing walls and Slabs (+5.95mPD to +7.2mPD)	35 days	Dec 16 '22	Jan 19 '23		262	274
271	Formwork erection and Rebar fixing	14 days	Dec 16 '22	Dec 29 '22			272
272	Formwork erection	14 days	Dec 30 '22	Jan 12 '23		271	273
273	Concreting	7 days	Jan 13 '23	Jan 19 '23		272	
274	Construction of Columns, Walls, Beams & Slabs (+7.2mPD to +11.8mPD)	37 days	Jan 20 '23	Feb 25 '23		270	278
275	Scaffolding erection and formwork erection	15 days	Jan 20 '23	Feb 3 '23			276
276	Rebar fixing and formwork erection	15 days	Feb 4 '23	Feb 18 '23		275	277
277	Concreting	7 days	Feb 19 '23	Feb 25 '23		276	
278	Construction of Columns, Walls, Beams & Slabs (+11.8mPD to +13.25mPD)	26 days	Feb 26 '23	Mar 23 '23		274	296,288,301
279	Construction of Columns, Walls and Beams (+11.8mPD to +13.05mPD)	20 days	Feb 26 '23	Mar 17 '23			
280	Falsework and formwork erection	8 days	Feb 26 '23	Mar 5 '23			281
281	Rebar fixing	8 days	Mar 6 '23	Mar 13 '23		280	282
282	Concreting and curing of concrete	4 days	Mar 14 '23	Mar 17 '23		281	284
283	Construction of Slabs at +13.25mPD	6 days	Mar 18 '23	Mar 23 '23			
284	Installation of precast segments (22 nos.)	2 days	Mar 18 '23	Mar 19 '23		282	285
285	Formwork erection for half slab	1 day	Mar 20 '23	Mar 20 '23		284	286
286	Rebar fixing for half slab	2 days	Mar 21 '23	Mar 22 '23		285	287
287	Concreting for half slab	1 day	Mar 23 '23	Mar 23 '23		286	
288	Removal of formwork and falsework	7 days	Mar 24 '23	Mar 30 '23		278	290



Project: 3WSD20 Programme
Date: Dec 14 '22

Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress	
Split	Inactive Milestone	Manual Summary	Deadline		
Milestone	Inactive Summary	Start-only	Critical		
Summary	Manual Task	Finish-only	Critical Split		
Project Summary	Duration-only	External Tasks	Progress		

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
289	Detailed Design for Internal Façade Treatment for Assess Road and Interior Fitting for Internal Rooms	60 days	Jan 30 '23	Mar 30 '23			290
290	Installation of internal finishing works for Grid Line 4-6	21 days	Mar 31 '23	Apr 20 '23		288,289	537
291	Plaster and paint at wall and soffit	7 days	Mar 31 '23	Apr 6 '23			292
292	Epoxy painting on floor finish	7 days	Apr 7 '23	Apr 13 '23		291	293,294,295
293	Chequer plate system at cable trench and aerator room	7 days	Apr 14 '23	Apr 20 '23		292	
294	Steel grating floor system	7 days	Apr 14 '23	Apr 20 '23		292	
295	SS door and aluminum louver	7 days	Apr 14 '23	Apr 20 '23		292	
296	Construction of Parapet Walls (+13.25mPD to +14.65mPD)	28 days	Mar 24 '23	Apr 20 '23		278	
297	Scaffolding erection	7 days	Mar 24 '23	Mar 30 '23			298
298	Rebar fixing	7 days	Mar 31 '23	Apr 6 '23		297	299
299	Formwork erection	7 days	Apr 7 '23	Apr 13 '23		298	300
300	Concreting	7 days	Apr 14 '23	Apr 20 '23		299	
301	Construction of Staircase ST3 (+7.1mPD to +15.45mPD)	28 days	Mar 24 '23	Apr 20 '23		278	
302	Scaffolding and falsework erection	7 days	Mar 24 '23	Mar 30 '23			303
303	Formwork erection	7 days	Mar 31 '23	Apr 6 '23		302	304
304	Rebar fixing	7 days	Apr 7 '23	Apr 13 '23		303	305
305	Concreting	7 days	Apr 14 '23	Apr 20 '23		304	
306	Construction of water proofing system at roof slab of ReWPS	7 days	Apr 25 '23	May 1 '23		181	307
307	Water tightness test for roof slab of ReWPS	15 days	May 2 '23	May 16 '23		306	
308							
309	**Construction of RC structure of HCF**	**236 days**	**Aug 29 '22**	**Apr 21 '23**			**427**
310	**Construction of Superstructure (above ground) - Grid Line 1-3**	**157 days**	**Oct 28 '22**	**Apr 2 '23**		**146FS+60 days**	
311	Construction of Columns and Walls (+5.55mPD to +9.30mPD)	35 days	Oct 28 '22	Dec 1 '22			315
312	Scaffolding erection and formwork erection	14 days	Oct 28 '22	Nov 10 '22			313
313	Rebar fixing and formwork erection	14 days	Nov 11 '22	Nov 24 '22		312	314
314	Concreting	7 days	Nov 25 '22	Dec 1 '22		313	
315	Construction of Columns and Walls (+9.30mPD to +13.00mPD)	35 days	Dec 2 '22	Jan 5 '23		311	319
316	Scaffolding erection and formwork erection	14 days	Dec 2 '22	Dec 15 '22			317
317	Rebar fixing and formwork erection	14 days	Dec 16 '22	Dec 29 '22		316	318
318	Concreting	7 days	Dec 30 '22	Jan 5 '23		317	
319	Construction of Bearing walls and Slabs (+5.55mPD to +7.1mPD)	35 days	Jan 6 '23	Feb 9 '23		315	323
320	Formwork erection	14 days	Jan 6 '23	Jan 19 '23			321
321	Rebar fixing and formwork erection	14 days	Jan 20 '23	Feb 2 '23		320	322
322	Concreting	7 days	Feb 3 '23	Feb 9 '23		321	
323	Construction of Beams and Slabs at +13.00mPD	28 days	Feb 10 '23	Mar 9 '23		319	333,339
324	Construction of Beams	21 days	Feb 10 '23	Mar 2 '23			
325	Falsework and formwork erection for beam	7 days	Feb 10 '23	Feb 16 '23			326
326	Rebar fixing for beam	7 days	Feb 17 '23	Feb 23 '23		325	327
327	Concreting and curing of concrete for beam	7 days	Feb 24 '23	Mar 2 '23		326	329
328	Construction of Slabs	7 days	Mar 3 '23	Mar 9 '23			
329	Installation of precast segments (32 nos.)	3 days	Mar 3 '23	Mar 5 '23		327	330
330	Formwork erection for half slab	1 day	Mar 6 '23	Mar 6 '23		329	331
331	Rebar fixing for half slab	2 days	Mar 7 '23	Mar 8 '23		330	332
332	Concreting for half slab	1 day	Mar 9 '23	Mar 9 '23		331	
333	Construction of Parapet Walls (+13.00mPD to +15.1mPD)	13 days	Mar 10 '23	Mar 22 '23		323	385
334	Scaffolding erection	3 days	Mar 10 '23	Mar 12 '23			335
335	Rebar fixing	5 days	Mar 13 '23	Mar 17 '23		334	336
336	Formwork erection	4 days	Mar 18 '23	Mar 21 '23		335	337



Project: 3WSD20 Programme
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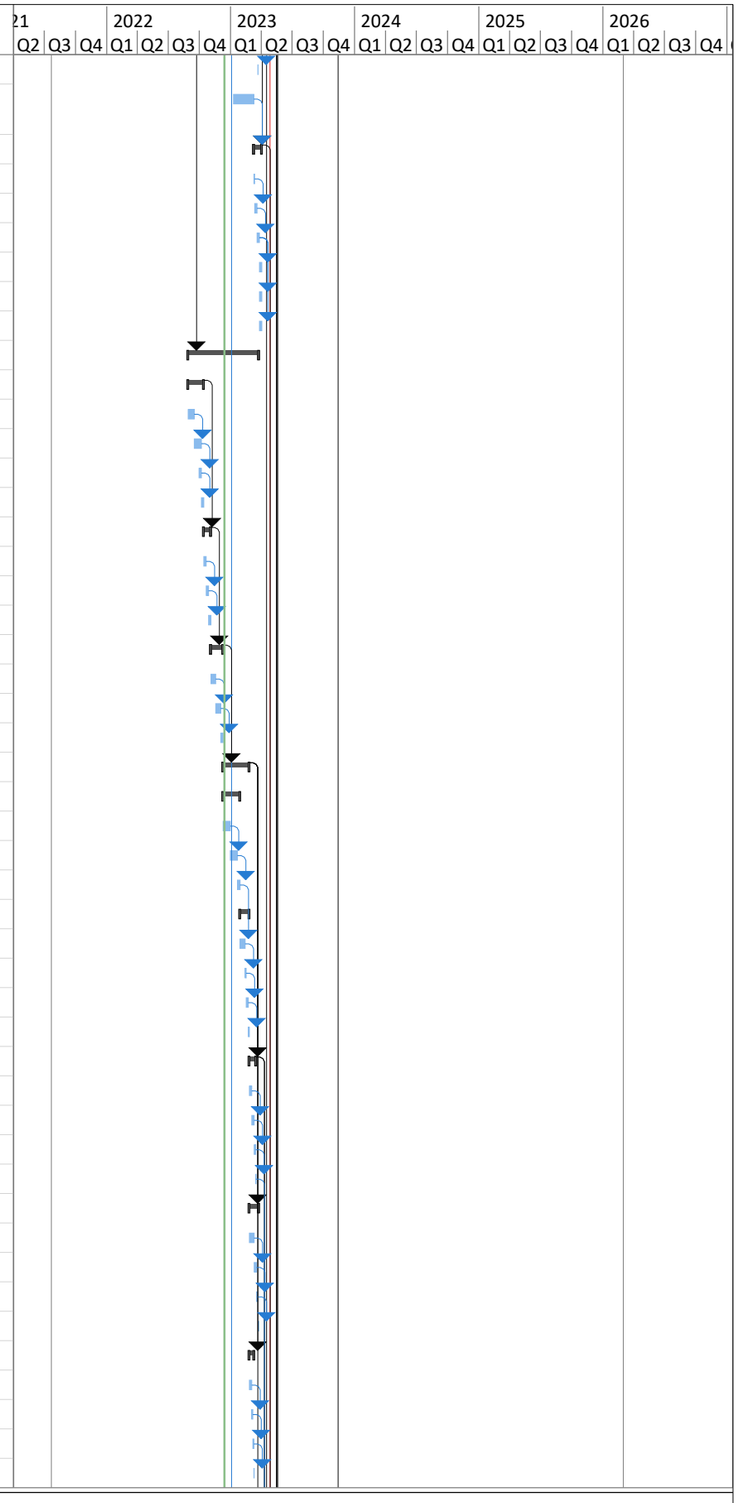
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
337	Concreting	1 day	Mar 22 '23	Mar 22 '23		336	
338	Detailed Design for Internal Façade Treatment for Assess Road and Interior Fitting for Internal Rooms	60 days	Jan 9 '23	Mar 9 '23			339
339	Installation of internal finishing works for Grid Line 1-3	24 days	Mar 10 '23	Apr 2 '23		323,338	536
340	Waterproofing system at slabs	3 days	Mar 10 '23	Mar 12 '23			341
341	Plaster and paint at wall and soffit	7 days	Mar 13 '23	Mar 19 '23		340	342
342	Epoxy painting on floor finish	7 days	Mar 20 '23	Mar 26 '23		341	343,344,345
343	Chequer plate system at cable trench and aerator room	7 days	Mar 27 '23	Apr 2 '23		342	
344	Steel grating floor system at chemical storage rooms	7 days	Mar 27 '23	Apr 2 '23		342	
345	SS door and aluminum louver	7 days	Mar 27 '23	Apr 2 '23		342	
346	**Construction of Superstructure (above ground) - Grid Line 3-7**	**208 days**	**Aug 29 '22**	**Mar 24 '23**		**146**	
347	Construction of Walls W2, W3, W5, W6 and columns within G.L. 3-5	46 days	Aug 29 '22	Oct 13 '22			352
348	Scaffolding erection and Formwork erection	18 days	Aug 29 '22	Sep 15 '22			349
349	Rebar fixing and Formwork erection	21 days	Sep 16 '22	Oct 6 '22		348	350FS-7 days
350	Concreting of walls W2, W3 and Columns	7 days	Sep 30 '22	Oct 6 '22		349FS-7 days	351
351	Concreting of walls W5, W6 and Columns	7 days	Oct 7 '22	Oct 13 '22		350	
352	Construction of remaining walls and columns within G.L. 3-5	21 days	Oct 14 '22	Nov 3 '22		347	356
353	Scaffolding erection and Formwork erection	7 days	Oct 14 '22	Oct 20 '22			354
354	Rebar fixing and Formwork erection	7 days	Oct 21 '22	Oct 27 '22		353	355
355	Concreting	7 days	Oct 28 '22	Nov 3 '22		354	
356	Construction of walls and columns within G.L. 5-7	36 days	Nov 4 '22	Dec 9 '22		352	360
357	Scaffolding erection and Formwork erection	14 days	Nov 4 '22	Nov 17 '22			358
358	Rebar fixing and Formwork erection	15 days	Nov 18 '22	Dec 2 '22		357	359
359	Concreting	7 days	Dec 3 '22	Dec 9 '22		358	
360	Construction of Beams and Slabs at +10.4mPD and +10.8mPD	77 days	Dec 10 '22	Feb 24 '23		356	370,375,380,386
361	Construction of Beams	50 days	Dec 10 '22	Jan 28 '23			
362	Falsework and formwork erection for beam	21 days	Dec 10 '22	Dec 30 '22			363
363	Rebar fixing for beam	21 days	Dec 31 '22	Jan 20 '23		362	364
364	Concreting and curing of concrete	8 days	Jan 21 '23	Jan 28 '23		363	366
365	Construction of Slabs	27 days	Jan 29 '23	Feb 24 '23			
366	Installation of precast segments (156 nos.)	15 days	Jan 29 '23	Feb 12 '23		364	367
367	Formwork erection for half slab	3 days	Feb 13 '23	Feb 15 '23		366	368
368	Rebar fixing for half slab	6 days	Feb 16 '23	Feb 21 '23		367	369
369	Concreting for half slab	3 days	Feb 22 '23	Feb 24 '23		368	
370	Construction of Parapet Walls (+10.4mPD/+10.8mPD to +12.5mPD)	20 days	Feb 25 '23	Mar 16 '23		360	385,399
371	Scaffolding erection	7 days	Feb 25 '23	Mar 3 '23			372
372	Rebar fixing	7 days	Mar 4 '23	Mar 10 '23		371	373
373	Formwork erection	5 days	Mar 11 '23	Mar 15 '23		372	374
374	Concreting	1 day	Mar 16 '23	Mar 16 '23		373	392
375	Construction of Staircase ST01 (+7.1mPD to +11.35mPD)	28 days	Feb 25 '23	Mar 24 '23		360	
376	Scaffolding and falsework erection	14 days	Feb 25 '23	Mar 10 '23			377
377	Rebar fixing	7 days	Mar 11 '23	Mar 17 '23		376	378
378	Formwork erection	5 days	Mar 18 '23	Mar 22 '23		377	379
379	Concreting	2 days	Mar 23 '23	Mar 24 '23		378	
380	Construction of Staircase ST02 (+10.4mPD to +13.95mPD)	14 days	Feb 25 '23	Mar 10 '23		360	
381	Scaffolding and falsework erection	7 days	Feb 25 '23	Mar 3 '23			382
382	Rebar fixing	3 days	Mar 4 '23	Mar 6 '23		381	383
383	Formwork erection	3 days	Mar 7 '23	Mar 9 '23		382	384
384	Concreting	1 day	Mar 10 '23	Mar 10 '23		383	



Project: 3WSD20 Programme
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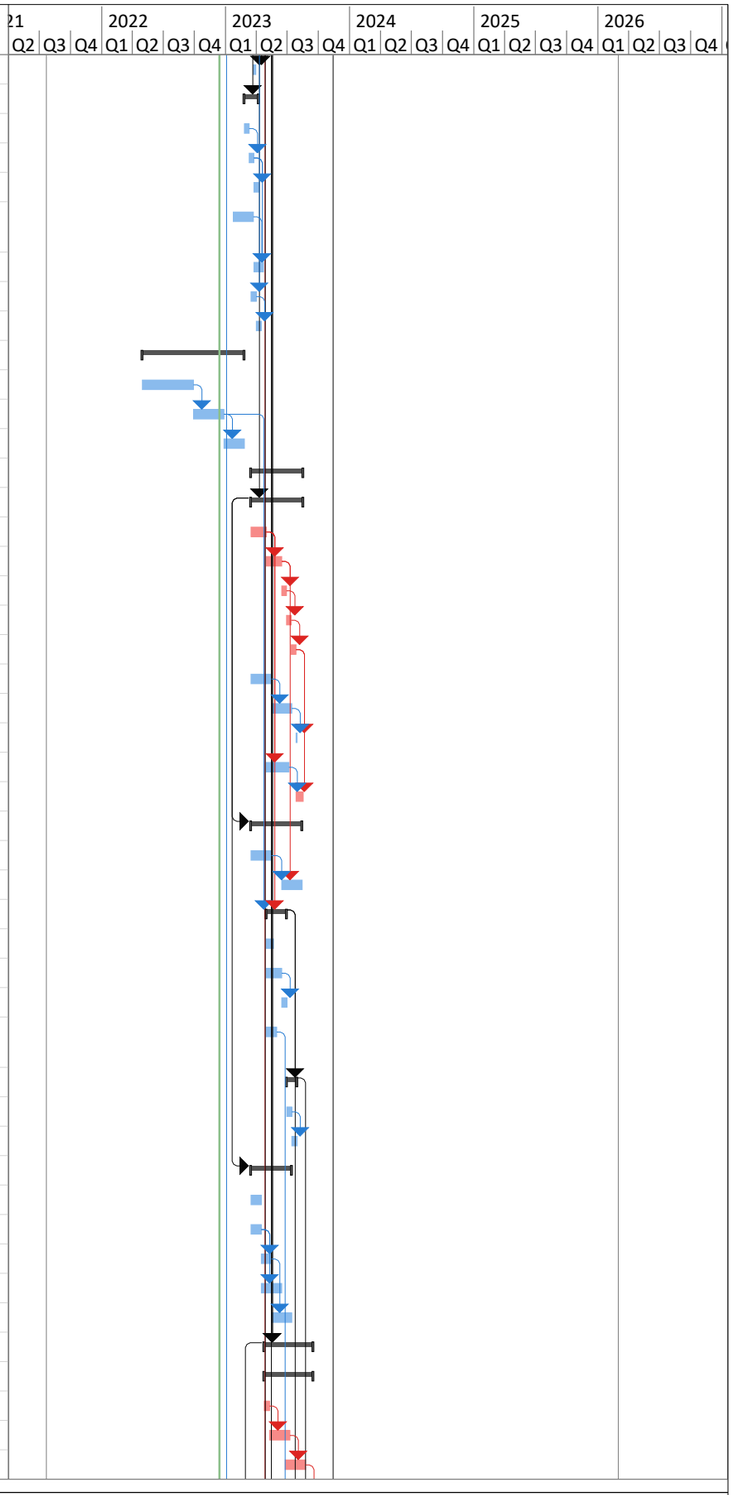
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
385	Backfilling of general fill material up to +7.2mPD, and removal of ELS	8 days	Mar 23 '23	Mar 30 '23		370,333	
386	**Watertightness test in stages**	**42 days**	**Feb 25 '23**	**Apr 7 '23**		**360**	
387	Inlet Channel and Outlet Channel	14 days	Feb 25 '23	Mar 10 '23			388
388	On duty contact tank	14 days	Mar 11 '23	Mar 24 '23		387	389,391
389	Standby contact tank	14 days	Mar 25 '23	Apr 7 '23		388	
390	Detailed Design for Internal Façade Treatment for Assess Road and Interior Fitting for Internal Rooms	60 days	Jan 23 '23	Mar 23 '23			391
391	Installation of internal finishing works for Grid Line 3-7	28 days	Mar 25 '23	Apr 21 '23		388,390	
392	Construction of water proofing system at roof slab of HCF	15 days	Mar 17 '23	Mar 31 '23		374	393
393	Water tightness test for roof slab of HCF	15 days	Apr 1 '23	Apr 15 '23		392	
394	**Provisional of Fire Service, Flushing and Fresh Water Supply by WSD**	**300 days**	**May 1 '22**	**Feb 24 '23**			
395	WWO542 design submission for Fire Service, Flushing and Fresh Water Supply	150 days	May 1 '22	Sep 27 '22			396
396	Acceptance of WWO542 submission by WSD	90 days	Sep 28 '22	Dec 26 '22		395	397,413
397	Provision of water supply to Part 1 by WSD	60 days	Dec 27 '22	Feb 24 '23		396	
398	**Construction of roadworks**	**153 days**	**Mar 17 '23**	**Aug 16 '23**			
399	**Construction of fence wall**	**153 days**	**Mar 17 '23**	**Aug 16 '23**		**370**	**421SS,410SS**
400	Type-2 & Type-3 fence wall at West side (198m)	45 days	Mar 17 '23	Apr 30 '23			401,413,408
401	Type-1 fence wall at East side (189m)	45 days	May 1 '23	Jun 14 '23		400	402,412
402	Type-3 fence wall at North side (44m)	14 days	Jun 15 '23	Jun 28 '23		401	403
403	Type-4 fence wall at middle (28m)	14 days	Jun 29 '23	Jul 12 '23		402	404
404	Type-2 & Type-3 fence wall at South side (37m)	14 days	Jul 13 '23	Jul 26 '23		403	407,409
405	Detailed design of Entrance Logo Feature	60 days	Mar 17 '23	May 15 '23			406
406	Fabrication of Entrance Gates and Logo Feature	60 days	May 16 '23	Jul 14 '23		405	407
407	Installation of Gate 1 and Gate 2	3 days	Jul 27 '23	Jul 29 '23		404,406	
408	Fabrication of steelworks	66 days	May 1 '23	Jul 5 '23		400	409
409	Installation of wall finishes and steelworks	21 days	Jul 27 '23	Aug 16 '23		408,404	
410	**Construction of River Promenade**	**150 days**	**Mar 17 '23**	**Aug 13 '23**		**399SS**	
411	Detailed design of River Promenade	60 days	Mar 17 '23	May 15 '23			412
412	Construction of River Promenade	60 days	Jun 15 '23	Aug 13 '23		401,411	
413	**Construction of underground utilities**	**60 days**	**May 1 '23**	**Jun 29 '23**		**396,400**	**418,545**
414	Laying of pipe work system outside ReWPS and HCF	21 days	May 1 '23	May 21 '23			
415	Construction of chambers and water refilling station	45 days	May 1 '23	Jun 14 '23			416
416	Installation of surge vessels	15 days	Jun 15 '23	Jun 29 '23		415	
417	Construction of underground utilities (Drainage, Telecom ducts, CLP cable ducts & drawpits, Fire Service, Flushing & Fresh Watermain, etc.)	30 days	May 1 '23	May 30 '23			544
418	**Construction of EVA road pavement**	**30 days**	**Jun 30 '23**	**Jul 29 '23**		**413**	**552**
419	Construction of road pavement near ReWPS	15 days	Jun 30 '23	Jul 14 '23			420
420	Construction of road pavement near HCF	15 days	Jul 15 '23	Jul 29 '23		419	
421	**Design submission and fabrication of steelwork system for the aluminum fin**	**120 days**	**Mar 17 '23**	**Jul 14 '23**		**399SS**	
422	Detailed Design for External Façade Treatment and Vertical Green Wall	30 days	Mar 17 '23	Apr 15 '23			
423	Design submission of steelwork system for vertical aluminum fin at ReWPS	30 days	Mar 17 '23	Apr 15 '23			424,425
424	Design submission of steelwork system for horizontal aluminum fin at HCF	30 days	Apr 16 '23	May 15 '23		423	426
425	Fabrication of vertical aluminum fin for ReWPS	60 days	Apr 16 '23	Jun 14 '23		423	
426	Fabrication of horizontal aluminum fin for HCF	60 days	May 16 '23	Jul 14 '23		424	
427	**Installation of architectural works**	**144 days**	**Apr 25 '23**	**Sep 15 '23**		**181,309**	**438SS**
428	**Installation of architectural works near ReWPS**	**144 days**	**Apr 25 '23**	**Sep 15 '23**			
429	Erection of working platform	15 days	Apr 25 '23	May 9 '23			430
430	Laying of artificial granite tile at external wall	60 days	May 10 '23	Jul 8 '23		429	431FS-14 days
431	Installation of steelworks	60 days	Jun 25 '23	Aug 23 '23		430FS-14 days	432FS-7 days



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Split	Inactive Milestone	Manual Summary	Deadline	
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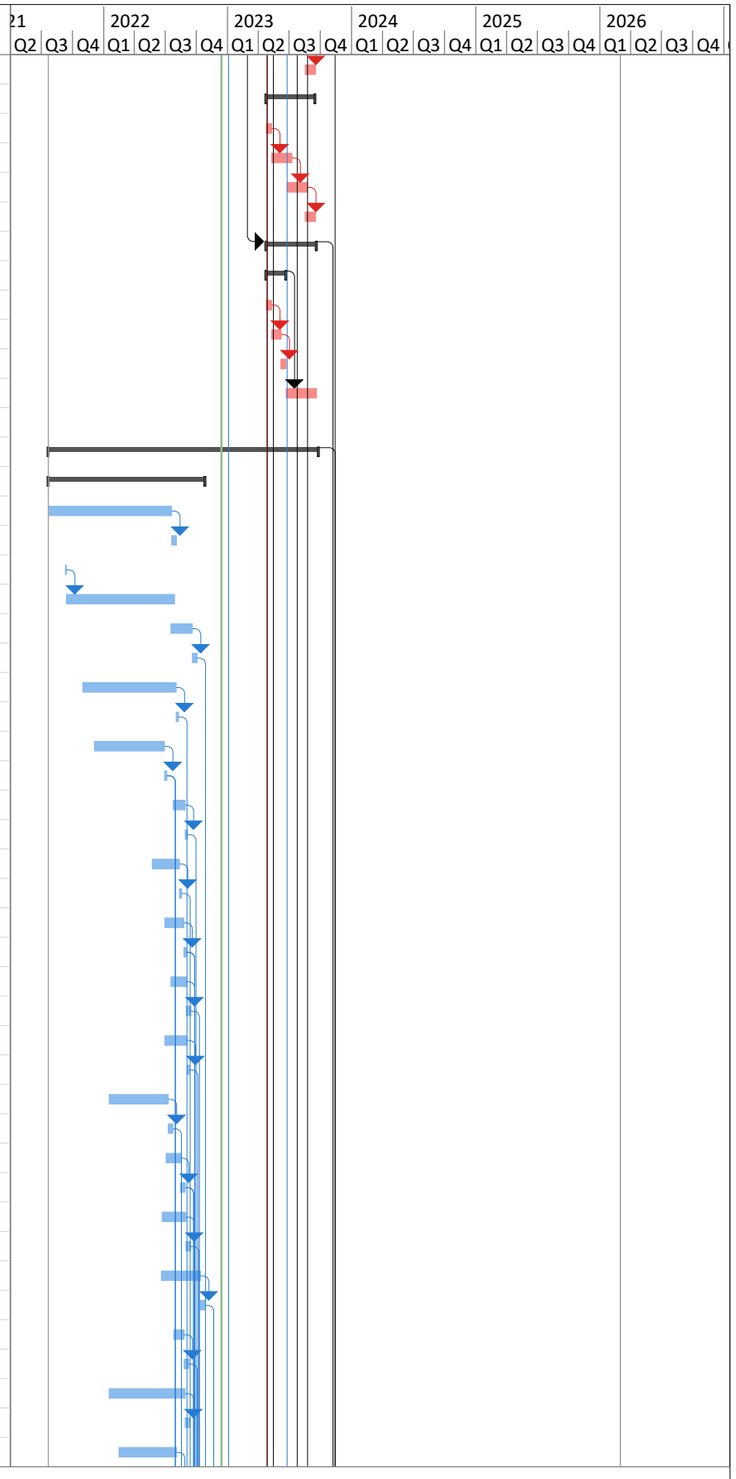
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
432	Installation of cladding	30 days	Aug 17 '23	Sep 15 '23		431FS-7 days	
433	**Installation of architectural works near HCF**	**144 days**	**Apr 25 '23**	**Sep 15 '23**			
434	Erection of working platform	15 days	Apr 25 '23	May 9 '23			435
435	Laying of artificial granite tile at external wall	60 days	May 10 '23	Jul 8 '23		434	436FS-14 days
436	Installation of steelworks	60 days	Jun 25 '23	Aug 23 '23		435FS-14 days	437FS-7 days
437	Installation of cladding	30 days	Aug 17 '23	Sep 15 '23		436FS-7 days	
438	**Landscape works**	**148 days**	**Apr 25 '23**	**Sep 19 '23**		**427SS**	**570FF**
439	**Landscape works at roof top**	**58 days**	**Apr 25 '23**	**Jun 21 '23**			**443**
440	Installation of composite timber decking with pedestal	15 days	Apr 25 '23	May 9 '23			441
441	Laying of artificial granite floor tile / paver block	28 days	May 10 '23	Jun 6 '23		440	442
442	Construciton of roof drainage system	15 days	Jun 7 '23	Jun 21 '23		441	
443	Landscape works within SWHWRP	90 days	Jun 22 '23	Sep 19 '23		439	
444							
445	**E&M Works of SWHWRP**	**796 days**	**Jul 22 '21**	**Sep 25 '23**			**569FF**
446	**Design and Submission Stage**	**462 days**	**Jul 22 '21**	**Oct 26 '22**			
447	Submission of Surge Analysis Report	363 days	Jul 22 '21	Jul 19 '22			448
448	Acceptance of Surge Analysis Report	14 days	Jul 20 '22	Aug 2 '22		447	
449	Submission and review of Reclaimed Water Main Pumps	3 days	Sep 10 '21	Sep 12 '21			450
450	Acceptance of Reclaimed Water Main Pumps	319 days	Sep 13 '21	Jul 28 '22		449	
451	Submission and review of Surge Vessels and Air Compressors	63 days	Jul 18 '22	Sep 18 '22			452
452	Acceptance of Surge Vessels and Air Compressors	14 days	Sep 19 '22	Oct 2 '22		451	486
453	Submission and review of Penstock & Stoplog	274 days	Nov 1 '21	Aug 1 '22			454
454	Acceptance of Penstock & Stoplog	7 days	Aug 2 '22	Aug 8 '22		453	488
455	Submission and review of Chemical Dosing System & Static In-line Mixer	205 days	Dec 6 '21	Jun 28 '22			456
456	Acceptance of Chemical Dosing System & Static In-line Mixer	7 days	Jun 29 '22	Jul 5 '22		455	490,492
457	Submission and review of Air Blower and Air Diffuser	35 days	Jul 25 '22	Aug 28 '22			458
458	Acceptance of Air Blower and Air Diffuser	7 days	Aug 29 '22	Sep 4 '22		457	494
459	Submission and review of Lifting Appliances	80 days	May 24 '22	Aug 11 '22			460
460	Acceptance of Lifting Appliances	7 days	Aug 12 '22	Aug 18 '22		459	496
461	Submission and review of Minor Mechanical Equipment	56 days	Jun 30 '22	Aug 24 '22			462
462	Acceptance of Minor Mechanical Equipment	7 days	Aug 25 '22	Aug 31 '22		461	498,500
463	Submission and review of LV switchboard	45 days	Jul 18 '22	Aug 31 '22			464
464	Acceptance of LV switchboard	14 days	Sep 1 '22	Sep 14 '22		463	502
465	Submission and review of DCS	65 days	Jun 30 '22	Sep 2 '22			466
466	Acceptance of DCS	7 days	Sep 3 '22	Sep 9 '22		465	504
467	Submission and review of Instrumenation & Water Monitoring Equipment	174 days	Jan 17 '22	Jul 9 '22			468
468	Acceptance of Instrumenation & Water Monitoring Equipment	14 days	Jul 10 '22	Jul 23 '22		467	506
469	Submission and review of Misc. Electrical Items	42 days	Jul 4 '22	Aug 14 '22			470
470	Acceptance of Misc. Electrical Items	14 days	Aug 15 '22	Aug 28 '22		469	508,516
471	Submission and review of Fire Services Equipment	70 days	Jun 22 '22	Aug 30 '22			472
472	Acceptance of Fire Services Equipment	14 days	Aug 31 '22	Sep 13 '22		471	510
473	Submission and review of MVAC Equipment	115 days	Jun 20 '22	Oct 12 '22			474
474	Acceptance of MVAC Equipment	14 days	Oct 13 '22	Oct 26 '22		473	512
475	Submission and review of Plumbing & Drainage Equipment	31 days	Jul 26 '22	Aug 25 '22			476
476	Acceptance of Plumbing & Drainage Equipment	14 days	Aug 26 '22	Sep 8 '22		475	514
477	Submission and review of General Arrangement Drawing	224 days	Jan 17 '22	Aug 28 '22			478
478	Acceptance of General Arrangement Drawing	14 days	Aug 29 '22	Sep 11 '22		477	
479	Submission and review of Civil Requirement Drawing	169 days	Feb 15 '22	Aug 2 '22			480



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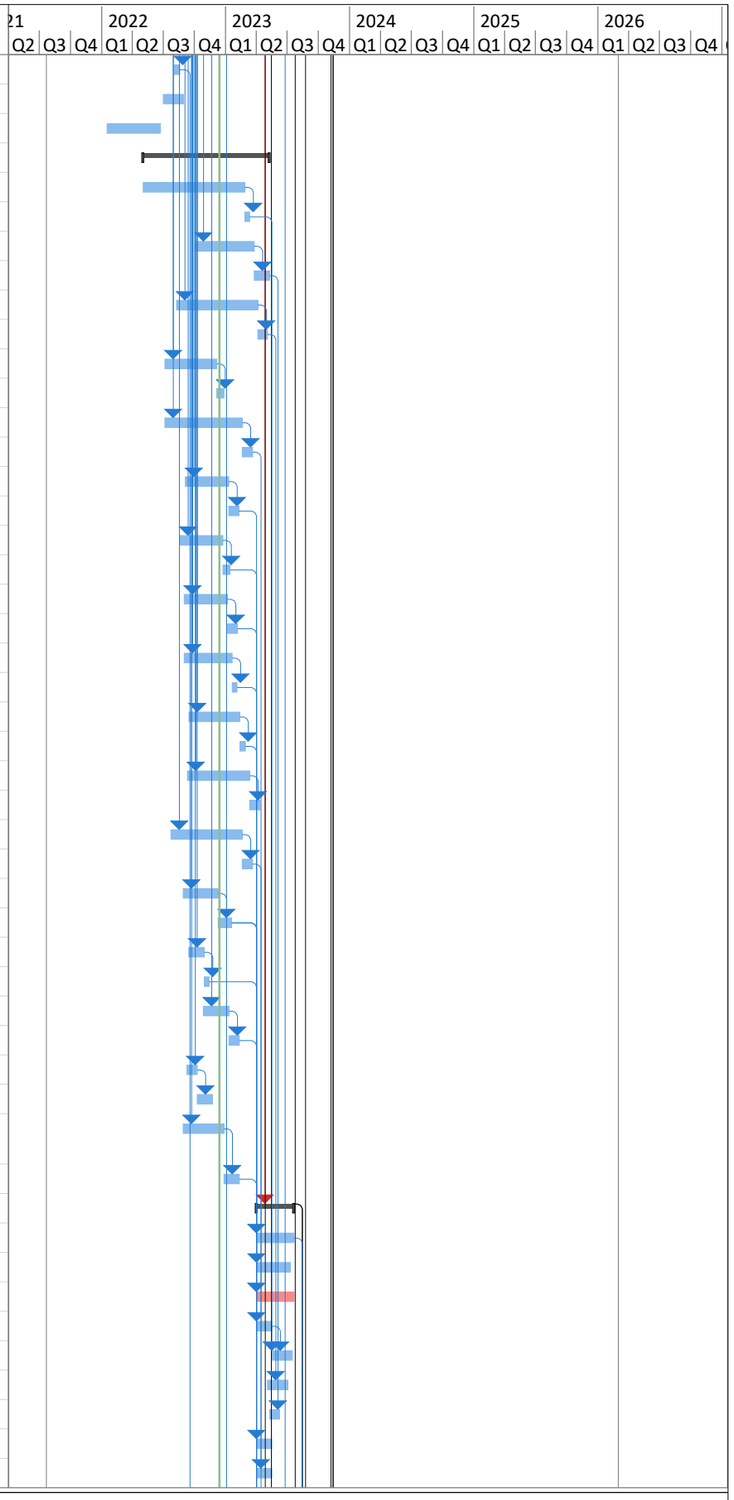
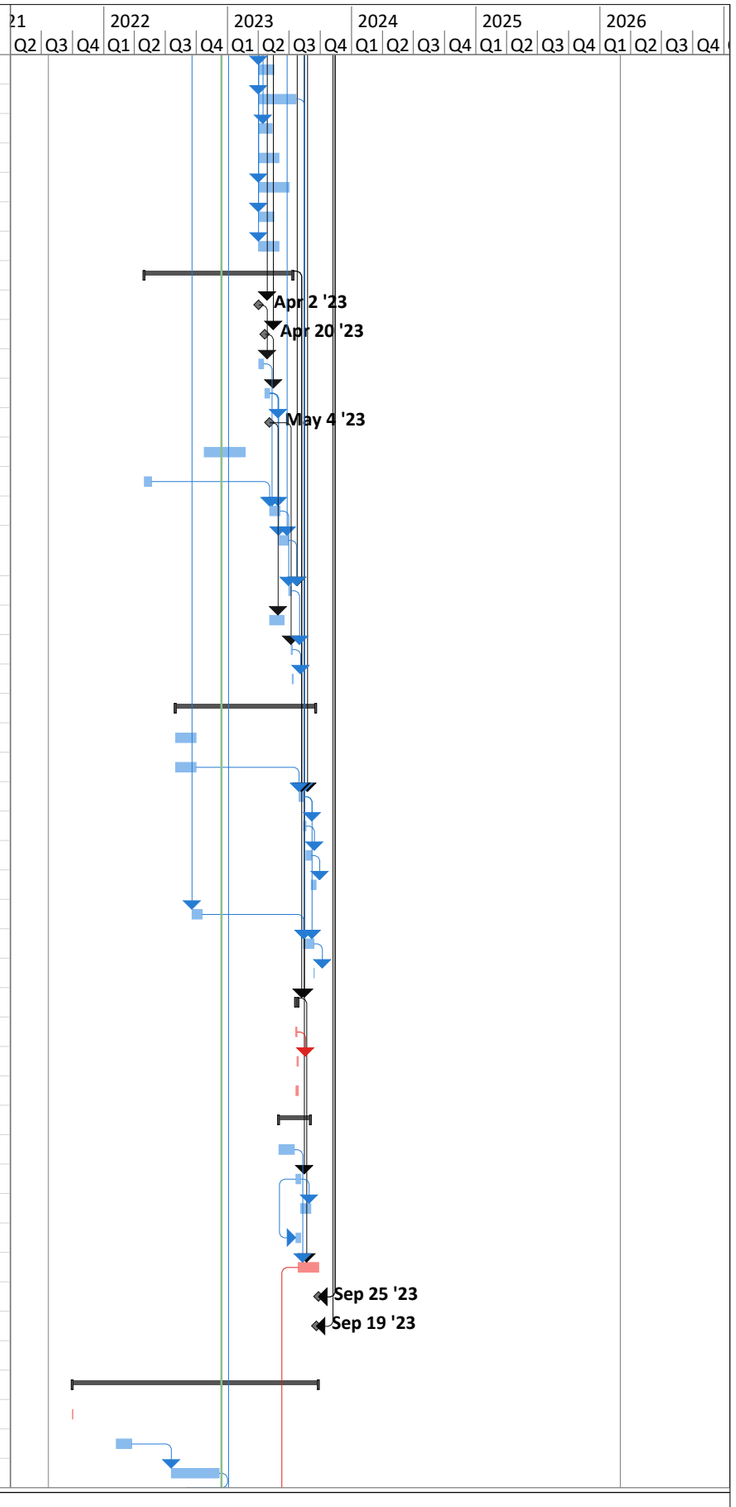
480	Acceptance of Civil Requirement Drawing	16 days	Aug 3 '22	Aug 18 '22		479	556FS+30 days
481	Submission and acceptance of method statement for E&M installation works	60 days	Jul 1 '22	Aug 29 '22			
482	CSD, CBWD coordination	157 days	Jan 17 '22	Jun 22 '22			
483	**Procurement and Delivery of Equipment**	**372 days**	**May 3 '22**	**May 9 '23**			
484	Procerement and manufacturing of Reclaimed Water Main Pumps (6 nos.)	300 days	May 3 '22	Feb 26 '23			485
485	Delivery of Reclaimed Water Main Pumps (6 nos.)	14 days	Feb 27 '23	Mar 12 '23		484	523
486	Procerement and manufacturing of Surge Vessels and Air Compressors	174 days	Oct 3 '22	Mar 25 '23		452	487
487	Delivery of Surge Vessels and Air Compressors	45 days	Mar 26 '23	May 9 '23		486	525
488	Procerement and manufacturing of Penstock & Stoplog	240 days	Aug 9 '22	Apr 5 '23		454	489
489	Delivery of Penstock & Stoplog	28 days	Apr 6 '23	May 3 '23		488	524
490	Procerement and manufacturing of Chemical Dosing System	153 days	Jul 6 '22	Dec 5 '22		456	491
491	Delivery of Chemical Dosing System	21 days	Dec 6 '22	Dec 26 '22		490	
492	Procerement and manufacturing of Static In-line Mixer	228 days	Jul 6 '22	Feb 18 '23		456	493
493	Delivery of Static In-line Mixer	30 days	Feb 19 '23	Mar 20 '23		492	527
494	Procerement and manufacturing of Air Blower and Air Diffuser	127 days	Sep 5 '22	Jan 9 '23		458	495
495	Delivery of Air Blower and Air Diffuser	30 days	Jan 10 '23	Feb 8 '23		494	526
496	Procerement and manufacturing of Lifting Appliances	127 days	Aug 19 '22	Dec 23 '22		460	497
497	Delivery of Lifting Appliances	21 days	Dec 24 '22	Jan 13 '23		496	522
498	Procerement and manufacturing of Sump Pumps	127 days	Sep 1 '22	Jan 5 '23		462	499
499	Delivery of Sump Pumps	30 days	Jan 6 '23	Feb 4 '23		498	532
500	Procerement and manufacturing of Pipework and Valves	141 days	Sep 1 '22	Jan 19 '23		462	501
501	Delivery of Pipework and Valves	14 days	Jan 20 '23	Feb 2 '23		500	528
502	Procerement and manufacturing of LV switchboard	150 days	Sep 15 '22	Feb 11 '23		464	503
503	Delivery of LV switchboard	16 days	Feb 12 '23	Feb 27 '23		502	534
504	Procerement and manufacturing of DCS	184 days	Sep 10 '22	Mar 12 '23		466	505
505	Delivery of DCS	30 days	Mar 13 '23	Apr 11 '23		504	
506	Procerement and manufacturing of Instrumenation and Water Monitoring Equipment	210 days	Jul 24 '22	Feb 18 '23		468	507
507	Delivery of Instrumenation and Water Monitoring Equipment	30 days	Feb 19 '23	Mar 20 '23		506	530
508	Procerement and manufacturing of Misc. Electrical Items (PV Panel, Earthing & Cables, etc)	103 days	Aug 29 '22	Dec 9 '22		470	509
509	Delivery of Misc. Electrical Items (PV Panel, Earthing & Cables, etc)	40 days	Dec 10 '22	Jan 18 '23		508	521,533
510	Procerement and manufacturing of Fire Services Equipment	46 days	Sep 14 '22	Oct 29 '22		472	511
511	Delivery of Fire Services Equipment	14 days	Oct 30 '22	Nov 12 '22		510	519
512	Procerement and manufacturing of MVAC Equipment	76 days	Oct 27 '22	Jan 10 '23		474	513
513	Delivery of MVAC Equipment	30 days	Jan 11 '23	Feb 9 '23		512	520
514	Procerement and manufacturing of Plumbing & Drainage Equipment	30 days	Sep 9 '22	Oct 8 '22		476	515
515	Delivery of Plumbing & Drainage Equipment	45 days	Oct 9 '22	Nov 22 '22		514	
516	Procerement and manufacturing of Misc. Electrical Items (Cables, Cable Containment, Lightings)	120 days	Aug 29 '22	Dec 26 '22		470	517
517	Delivery of Misc. Electrical Items (Cables, Cable Containment, Lightings)	45 days	Dec 27 '22	Feb 9 '23		516	529
518	**Installation Works**	**110 days**	**Apr 2 '23**	**Jul 20 '23**		**241**	**559,565**
519	Installation FS Equipment	110 days	Apr 2 '23	Jul 20 '23		511	552
520	Installation of MVAC Equipment	100 days	Apr 2 '23	Jul 10 '23		513	
521	Installation of BS Equipment	110 days	Apr 2 '23	Jul 20 '23		509	
522	Installation of Lifting Appliance (12 nos.)	45 days	Apr 2 '23	May 16 '23		497	523
523	Installation of Reclaimed Water Pumps (6 Nos.)	60 days	May 17 '23	Jul 15 '23		485,522	
524	Installation of penstocks (10 nos.) & Stoplogs (2 nos.)	60 days	May 4 '23	Jul 2 '23		489	
525	Installation of Surge Vessel (4 Nos.) & Air Compressor (4 Nos.)	30 days	May 10 '23	Jun 8 '23		487	
526	Installation of Air Blower (2 Nos.) & Air Diffuser (1 set)	45 days	Apr 2 '23	May 16 '23		495	
527	Installation of tanks (14 nos.) & Chemical Pumps (12 nos.)	45 days	Apr 2 '23	May 16 '23		493	



Project: 3WSD20 Programme
Date: Dec 14 '22

Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress	
Split	Inactive Milestone	Manual Summary	Deadline		
Milestone	Inactive Summary	Start-only	Critical		
Summary	Manual Task	Finish-only	Critical Split		
Project Summary	Duration-only	External Tasks	Progress		

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
528	Installation of Pipeworks (DI, Chemical pipe, Air pipe)	45 days	Apr 2 '23	May 16 '23		501	
529	Installation of Cabling, MCC & DCS	110 days	Apr 2 '23	Jul 20 '23		517	557
530	Installation of Instrumentation and Monitoring Stations	40 days	Apr 2 '23	May 11 '23		507	
531	Installation of ELV System (CCTV & Access Control)	60 days	Apr 2 '23	May 31 '23			
532	Installation of Plumbing & Drainage Equipment	90 days	Apr 2 '23	Jun 30 '23		499	
533	Installation of PV Panels	45 days	Apr 2 '23	May 16 '23		509	
534	Installation of LV Switchborad / MCC	60 days	Apr 2 '23	May 31 '23		503	
535	**Power Energization Related Items**	**438 days**	**May 1 '22**	**Jul 12 '23**			**559,552**
536	CLP Room Ready for BS installation (HCF)	0 days	Apr 2 '23	Apr 2 '23		339	538
537	CLP Room Ready for BS installation (ReWPS)	0 days	Apr 20 '23	Apr 20 '23		290	539
538	Installation of BS Equipment (HCF)	14 days	Apr 3 '23	Apr 16 '23		536	543
539	Installation of BS Equipment (ReWPS)	14 days	Apr 21 '23	May 4 '23		537	543,544,540
540	Handover of Transformer Room to CLP	0 days	May 4 '23	May 4 '23		539	546,547
541	CLP meter application	120 days	Oct 24 '22	Feb 20 '23			
542	Cable laying by CLP in DSD's EVA	21 days	May 1 '22	May 21 '22			543
543	Lead time for CLP installation works	30 days	May 5 '23	Jun 3 '23		538,539,542	545
544	CLP's Inspection for Transformer Room(ReWPS), CLP Room(HCF), draw pit and accsociated cable ducts	28 days	May 31 '23	Jun 27 '23		539,417	545
545	CLP to install Transformers and Cabling	7 days	Jun 30 '23	Jul 6 '23		543,544,413	547
546	Lead time for power energization	42 days	May 5 '23	Jun 15 '23		540	
547	Power Energization from CLP Transformer to LVSB	3 days	Jul 7 '23	Jul 9 '23		545,540	548
548	Power Energization from LVSB to All Equipment	3 days	Jul 10 '23	Jul 12 '23		547	
549	**FS / DG Inspection Related Items**	**413 days**	**Aug 1 '22**	**Sep 17 '23**			
550	VAC Desgin Submission to FSD	60 days	Aug 1 '22	Sep 29 '22			
551	FS related statutory submission to FSD	60 days	Aug 1 '22	Sep 29 '22			552
552	T&C of FS Related Installation (Integrated Test & Rehearsal)	14 days	Jul 30 '23	Aug 12 '23		418,519,535,551	553,557
553	Submission of FSI 314 & 501	7 days	Aug 13 '23	Aug 19 '23		552	554
554	Target FS Inpsection	15 days	Aug 20 '23	Sep 3 '23		553	555
555	Obtain FSD approval letter (Form FS172 Fire Certificate)	14 days	Sep 4 '23	Sep 17 '23		554	
556	DG Design Submission to FSD	30 days	Sep 18 '22	Oct 17 '22		480FS+30 days	557
557	DG Inspection	30 days	Aug 13 '23	Sep 11 '23		529,552,556	558
558	Obtain DG License	1 day	Sep 12 '23	Sep 12 '23		557	
559	**Preliminary Test of Equipment**	**7 days**	**Jul 21 '23**	**Jul 27 '23**		**518,535**	**568**
560	Inspection of Equipment/System with SOR	3 days	Jul 21 '23	Jul 23 '23			561
561	Trial Run of Equipment/System	4 days	Jul 24 '23	Jul 27 '23		560	
562	Site Acceptance Test (SAT) of Equipment/Systems with SOR	7 days	Jul 21 '23	Jul 27 '23			
563	**Submission**	**94 days**	**Jun 1 '23**	**Sep 2 '23**			
564	Submission of Testing Procedures & Commissioning Plan	45 days	Jun 1 '23	Jul 15 '23			568
565	Submission of As Fitted Drawings	14 days	Jul 21 '23	Aug 3 '23		518	566,567SS
566	Submission of Manual	30 days	Aug 4 '23	Sep 2 '23		565	
567	Submission of Training Material	14 days	Jul 21 '23	Aug 3 '23		565SS	
568	**System Commissioning Test**	**60 days**	**Jul 28 '23**	**Sep 25 '23**		**559,564**	**580SS**
569	Planned completion for section 1	0 days	Sep 25 '23	Sep 25 '23		175FF,445FF	
570	Planned completion for section 2	0 days	Sep 19 '23	Sep 19 '23		438FF	
571							
572	**Section 3 - Modification of Table Hill Reclaimed Water Service Reservoir**	**725 days**	**Oct 1 '21**	**Sep 25 '23**			
573	Access Date (part 2 of the Site)	1 day	Oct 1 '21	Oct 1 '21			
574	Initial survey and condition survey	45 days	Feb 7 '22	Mar 23 '22			575FS+117 days
575	Design submission and acceptance of the supplementary dosing and dyeing system (E&M)	141 days	Jul 19 '22	Dec 6 '22		574FS+117 days	576FS-60 days



Project: 3WSD20 Programme
Date: Dec 14 '22

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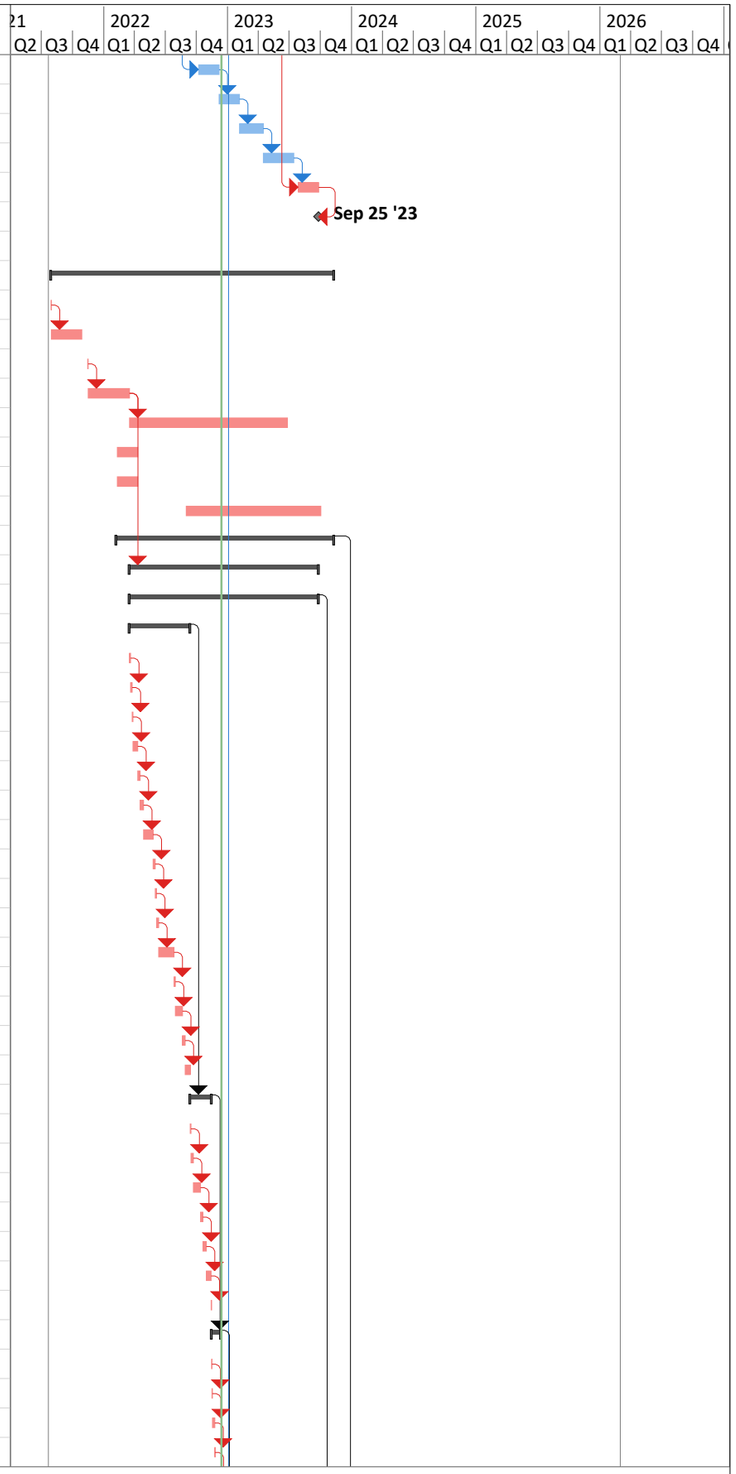
Split	Inactive Milestone	Manual Summary	Deadline		
Milestone	Inactive Summary	Start-only	Critical		
Summary	Manual Task	Finish-only	Critical Split		
Project Summary	Duration-only	External Tasks	Progress		

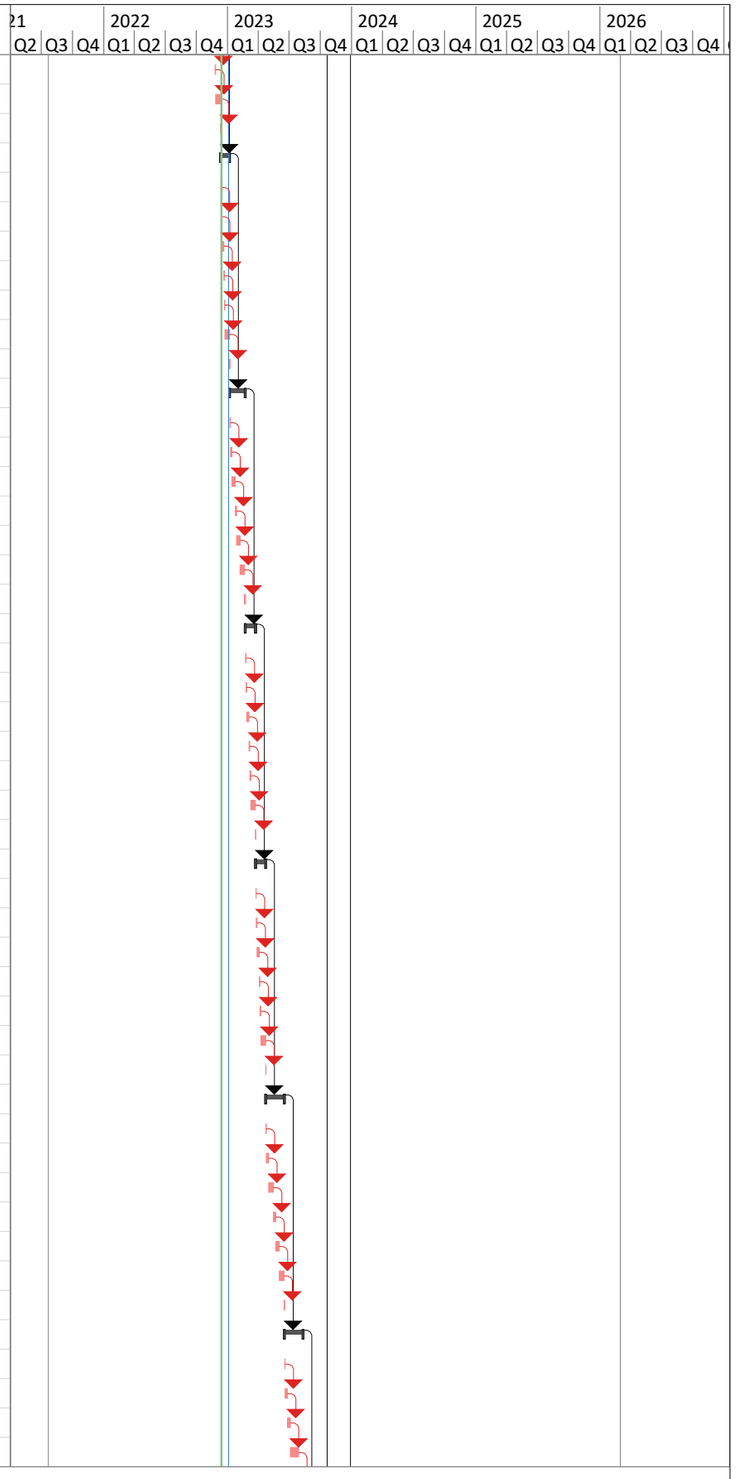
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
576	Submission and acceptance of method statement for supplementary dosing and dyeing system	60 days	Oct 8 '22	Dec 6 '22		575FS-60 days	577
577	Selection of sub-contractor	60 days	Dec 7 '22	Feb 4 '23		576	578
578	Construction of chemical room	70 days	Feb 5 '23	Apr 15 '23		577	579
579	Installation of supplementary dosing and dyeing system	90 days	Apr 16 '23	Jul 14 '23		578	580
580	T&C of E&M equipment	60 days	Jul 28 '23	Sep 25 '23		579,568SS	581FF
581	Planned completion for section 3	0 days	Sep 25 '23	Sep 25 '23		580FF	
582							
583	**Section 4 - Water main laying works in part 3 of the Site**	**833 days**	**Jul 30 '21**	**Nov 9 '23**			
584	Access Date (part 3 of the Site)	1 day	Jul 30 '21	Jul 30 '21			585
585	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		584	
586	1st TMLG meeting	1 day	Nov 15 '21	Nov 15 '21			587
587	Application and approval of XP and TTA, including local consultation	122 days	Nov 16 '21	Mar 17 '22		586	588,593
588	Implementation of TTA by stages	465 days	Mar 18 '22	Jun 25 '23		587	
589	Procurement and Delivery of pipes, fittings and related materials	60 days	Feb 10 '22	Apr 10 '22			
590	Submission and acceptance of method statement and material	60 days	Feb 10 '22	Apr 10 '22			
591	Excavation of Inspection Pit	396 days	Sep 1 '22	Oct 1 '23			
592	**Mainlaying by open trench method (RW03 & RW43)**	**641 days**	**Feb 7 '22**	**Nov 9 '23**			**950FF**
593	**RW03 : DN600 DI pipe - 1092m**	**557 days**	**Mar 18 '22**	**Sep 25 '23**		**587**	
594	**Team A : CH000 - CH550**	**557 days**	**Mar 18 '22**	**Sep 25 '23**			**782**
595	**CH450 - CH550 (100m)**	**179 days**	**Mar 18 '22**	**Sep 12 '22**			**611**
596	TTA establishment	3 days	Mar 18 '22	Mar 20 '22			597
597	CE-041 _ Inclement Weather in March 2022	4.5 days	Mar 21 '22	Mar 25 '22		596	598
598	Hard material excavation and disposal	3 days	Mar 25 '22	Mar 28 '22		597	599
599	Soil excavation , laying sheetpile and disposal	14 days	Mar 28 '22	Apr 11 '22		598	600
600	Obstruction of unchart 900mm pipe	7 days	Apr 11 '22	Apr 18 '22		599	601
601	Pending for setting out of DSD	10 days	Apr 18 '22	Apr 28 '22		600	602
602	Amendment of ELS	28 days	Apr 28 '22	May 26 '22		601	603
603	CE-052 _ Inclement Weather in May 2022 (under assessment)	6 days	May 26 '22	Jun 1 '22		602	604
604	Treatment of bedding	4 days	Jun 1 '22	Jun 5 '22		603	605
605	CE-053 _ Inclement Weather in June 2022 (under assessment)	6.5 days	Jun 5 '22	Jun 11 '22		604	606
606	Pipe laying D.I. & PE (DSD's pipe)	45 days	Jun 12 '22	Jul 26 '22		605	607
607	CE-054 _ Inclement Weather in July 2022 (under assessment)	4 days	Jul 27 '22	Jul 30 '22		606	608
608	Backfilling sand/aggregate, concurrent bend block/chambers	21 days	Jul 31 '22	Aug 20 '22		607	609
609	Reinstatement	8 days	Aug 21 '22	Aug 28 '22		608	610
610	CE-068 _ Inclement Weather in August 2022	15 days	Aug 29 '22	Sep 12 '22		609	
611	**CH420 - CH450 (30m)**	**63 days**	**Sep 13 '22**	**Nov 14 '22**		**595**	**619**
612	TTA establishment	2 days	Sep 13 '22	Sep 14 '22			613
613	Hard material excavation and disposal	7 days	Sep 15 '22	Sep 21 '22		612	614
614	Soil excavation , laying sheetpile and disposal	21 days	Sep 22 '22	Oct 12 '22		613	615
615	Treatment of bedding	7 days	Oct 13 '22	Oct 19 '22		614	616
616	Pipe laying D.I.	10 days	Oct 20 '22	Oct 29 '22		615	617
617	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Oct 30 '22	Nov 12 '22		616	618
618	Reinstatement	2 days	Nov 13 '22	Nov 14 '22		617	
619	**CH390 - CH420 (30m)**	**27 days**	**Nov 15 '22**	**Dec 11 '22**		**611**	**627**
620	TTA establishment	1 day	Nov 15 '22	Nov 15 '22			621
621	Hard material excavation and disposal	1 day	Nov 16 '22	Nov 16 '22		620	622
622	Soil excavation , laying sheetpile and disposal	7 days	Nov 17 '22	Nov 23 '22		621	623
623	Treatment of bedding	1 day	Nov 24 '22	Nov 24 '22		622	624



Project: 3WSD20 Programme
Date: Dec 14 '22

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
624	Pipe laying D.I.	2 days	Nov 25 '22	Nov 26 '22		623	625
625	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Nov 27 '22	Dec 10 '22		624	626
626	Reinstatement	1 day	Dec 11 '22	Dec 11 '22		625	
627	**CH360 - CH390 (30m)**	**27 days**	**Dec 12 '22**	**Jan 7 '23**		**619**	**635**
628	TTA establishment	1 day	Dec 12 '22	Dec 12 '22			629
629	Hard material excavation and disposal	1 day	Dec 13 '22	Dec 13 '22		628	630
630	Soil excavation , laying sheetpile and disposal	7 days	Dec 14 '22	Dec 20 '22		629	631
631	Treatment of bedding	1 day	Dec 21 '22	Dec 21 '22		630	632
632	Pipe laying D.I.	2 days	Dec 22 '22	Dec 23 '22		631	633
633	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Dec 24 '22	Jan 6 '23		632	634
634	Reinstatement	1 day	Jan 7 '23	Jan 7 '23		633	
635	**CH290 - CH360 (70m)**	**46 days**	**Jan 8 '23**	**Feb 22 '23**		**627**	**643**
636	TTA establishment	1 day	Jan 8 '23	Jan 8 '23			637
637	Hard material excavation and disposal	4 days	Jan 9 '23	Jan 12 '23		636	638
638	Soil excavation , laying sheetpile and disposal	10 days	Jan 13 '23	Jan 22 '23		637	639
639	Treatment of bedding	4 days	Jan 23 '23	Jan 26 '23		638	640
640	Pipe laying D.I.	10 days	Jan 27 '23	Feb 5 '23		639	641
641	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Feb 6 '23	Feb 19 '23		640	642
642	Reinstatement	3 days	Feb 20 '23	Feb 22 '23		641	
643	**CH250 - CH290 (40m)**	**30 days**	**Feb 23 '23**	**Mar 24 '23**		**635**	**651**
644	TTA establishment	1 day	Feb 23 '23	Feb 23 '23			645
645	Hard material excavation and disposal	2 days	Feb 24 '23	Feb 25 '23		644	646
646	Soil excavation , laying sheetpile and disposal	7 days	Feb 26 '23	Mar 4 '23		645	647
647	Treatment of bedding	2 days	Mar 5 '23	Mar 6 '23		646	648
648	Pipe laying D.I.	3 days	Mar 7 '23	Mar 9 '23		647	649
649	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Mar 10 '23	Mar 23 '23		648	650
650	Reinstatement	1 day	Mar 24 '23	Mar 24 '23		649	
651	**CH210 - CH250 (40m)**	**30 days**	**Mar 25 '23**	**Apr 23 '23**		**643**	**659**
652	TTA establishment	1 day	Mar 25 '23	Mar 25 '23			653
653	Hard material excavation and disposal	2 days	Mar 26 '23	Mar 27 '23		652	654
654	Soil excavation , laying sheetpile and disposal	7 days	Mar 28 '23	Apr 3 '23		653	655
655	Treatment of bedding	2 days	Apr 4 '23	Apr 5 '23		654	656
656	Pipe laying D.I.	3 days	Apr 6 '23	Apr 8 '23		655	657
657	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Apr 9 '23	Apr 22 '23		656	658
658	Reinstatement	1 day	Apr 23 '23	Apr 23 '23		657	
659	**CH150 - CH210 (60m)**	**55 days**	**Apr 24 '23**	**Jun 17 '23**		**651**	**667**
660	TTA establishment	1 day	Apr 24 '23	Apr 24 '23			661
661	Hard material excavation and disposal	7 days	Apr 25 '23	May 1 '23		660	662
662	Soil excavation , laying sheetpile and disposal	14 days	May 2 '23	May 15 '23		661	663
663	Treatment of bedding	7 days	May 16 '23	May 22 '23		662	664
664	Pipe laying D.I.	10 days	May 23 '23	Jun 1 '23		663	665
665	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Jun 2 '23	Jun 15 '23		664	666
666	Reinstatement	2 days	Jun 16 '23	Jun 17 '23		665	
667	**CH100 - CH150 (50m)**	**55 days**	**Jun 18 '23**	**Aug 11 '23**		**659**	**673**
668	TTA establishment	1 day	Jun 18 '23	Jun 18 '23			669
669	Removal of existing railing	7 days	Jun 19 '23	Jun 25 '23		668	670
670	Installation of mild steel pipe	9 days	Jun 26 '23	Jul 4 '23		669	671
671	Construction of thrust block	24 days	Jul 5 '23	Jul 28 '23		670	672



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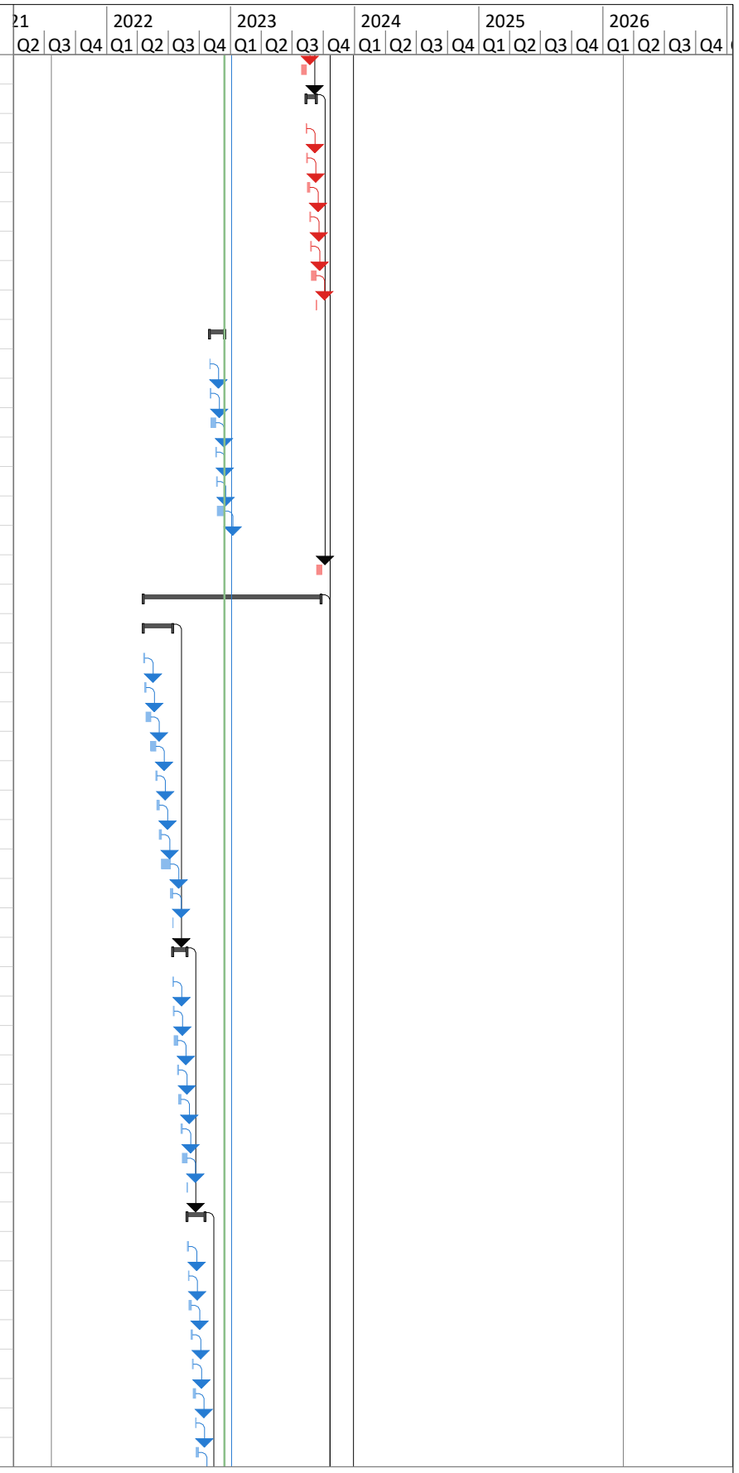
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
672	Reinstatement of railing	14 days	Jul 29 '23	Aug 11 '23		671	
673	**CH060 - CH100 (40m)**	**30 days**	**Aug 12 '23**	**Sep 10 '23**		**667**	**689**
674	TTA establishment	1 day	Aug 12 '23	Aug 12 '23			675
675	Hard material excavation and disposal	2 days	Aug 13 '23	Aug 14 '23		674	676
676	Soil excavation , laying sheetpile and disposal	7 days	Aug 15 '23	Aug 21 '23		675	677
677	Treatment of bedding	2 days	Aug 22 '23	Aug 23 '23		676	678
678	Pipe laying D.I.	3 days	Aug 24 '23	Aug 26 '23		677	679
679	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Aug 27 '23	Sep 9 '23		678	680
680	Reinstatement	1 day	Sep 10 '23	Sep 10 '23		679	
681	**CH000 - CH060 (60m)**	**44 days**	**Nov 1 '22**	**Dec 14 '22**			
682	TTA establishment	1 day	Nov 1 '22	Nov 1 '22			683
683	Hard material excavation and disposal	2 days	Nov 2 '22	Nov 3 '22		682	684
684	Soil excavation , laying sheetpile and disposal	14 days	Nov 4 '22	Nov 17 '22		683	685
685	Treatment of bedding	2 days	Nov 18 '22	Nov 19 '22		684	686
686	Pipe laying D.I.	3 days	Nov 20 '22	Nov 22 '22		685	687
687	Backfilling sand/aggregate, concurrent bend block/chambers	21 days	Nov 23 '22	Dec 13 '22		686	688
688	Reinstatement	1 day	Dec 14 '22	Dec 14 '22		687	
689	Pressure test, swabbing and CCTV	15 days	Sep 11 '23	Sep 25 '23		673	
690	**Team B : CH550 - CH1090 (540m)**	**523.5 days**	**Apr 20 '22**	**Sep 25 '23**			**782**
691	**CH970 - CH1010 (40m)**	**86.5 days**	**Apr 20 '22**	**Jul 15 '22**			**702**
692	TTA establishment	3 days	Apr 20 '22	Apr 22 '22			693
693	Hard material excavation and disposal	4 days	Apr 23 '22	Apr 26 '22		692	694
694	Soil excavation , laying sheetpile and disposal	14 days	Apr 27 '22	May 10 '22		693	695
695	CE-068 _ Inclement Weather in August 2022	15 days	May 11 '22	May 25 '22		694	696
696	Treatment of bedding	3 days	May 26 '22	May 28 '22		695	697
697	Pipe laying D.I.	7 days	May 29 '22	Jun 4 '22		696	698
698	CE-052 _ Inclement Weather in May 2022 (under assessment)	6 days	Jun 5 '22	Jun 10 '22		697	699
699	Backfilling sand/aggregate	27 days	Jun 11 '22	Jul 7 '22		698	700
700	CE-053 _ Inclement Weather in June 2022 (under assessment)	6.5 days	Jul 8 '22	Jul 14 '22		699	701
701	Reinstatement	1 day	Jul 14 '22	Jul 15 '22		700	
702	**CH910 - CH970 (60m)**	**42 days**	**Jul 15 '22**	**Aug 26 '22**		**691**	**711**
703	TTA establishment	1 day	Jul 15 '22	Jul 16 '22			704
704	Hard material excavation and disposal	2 days	Jul 16 '22	Jul 18 '22		703	705
705	Soil excavation , laying sheetpile and disposal	10 days	Jul 18 '22	Jul 28 '22		704	706
706	Treatment of bedding	3 days	Jul 28 '22	Jul 31 '22		705	707
707	Pipe laying D.I.	7 days	Jul 31 '22	Aug 7 '22		706	708
708	CE-054 _ Inclement Weather in July 2022 (under assessment)	4 days	Aug 7 '22	Aug 11 '22		707	709
709	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Aug 11 '22	Aug 25 '22		708	710
710	Reinstatement	1 day	Aug 25 '22	Aug 26 '22		709	
711	**CH850 - CH910 (60m)**	**53 days**	**Aug 26 '22**	**Oct 18 '22**		**702**	**724**
712	TTA establishment	3 days	Aug 26 '22	Aug 29 '22			713
713	Hard material excavation and disposal (CH880 - CH910)	2 days	Aug 29 '22	Aug 31 '22		712	714
714	Soil excavation, laying sheetpile and disposal (CH880 - CH910)	7 days	Aug 31 '22	Sep 7 '22		713	715
715	Treatment of bedding (CH880 - CH910)	3 days	Sep 7 '22	Sep 10 '22		714	716
716	Pipe laying D.I. (CH880 - CH910)	2 days	Sep 10 '22	Sep 12 '22		715	717
717	Backfilling sand/aggregate, concurrent bend block/chambers (CH880 - CH910)	7 days	Sep 12 '22	Sep 19 '22		716	718
718	Hard material excavation and disposal (CH850 - CH880)	2 days	Sep 19 '22	Sep 21 '22		717	719
719	Soil excavation, laying sheetpile and disposal (CH850 - CH880)	7 days	Sep 21 '22	Sep 28 '22		718	720



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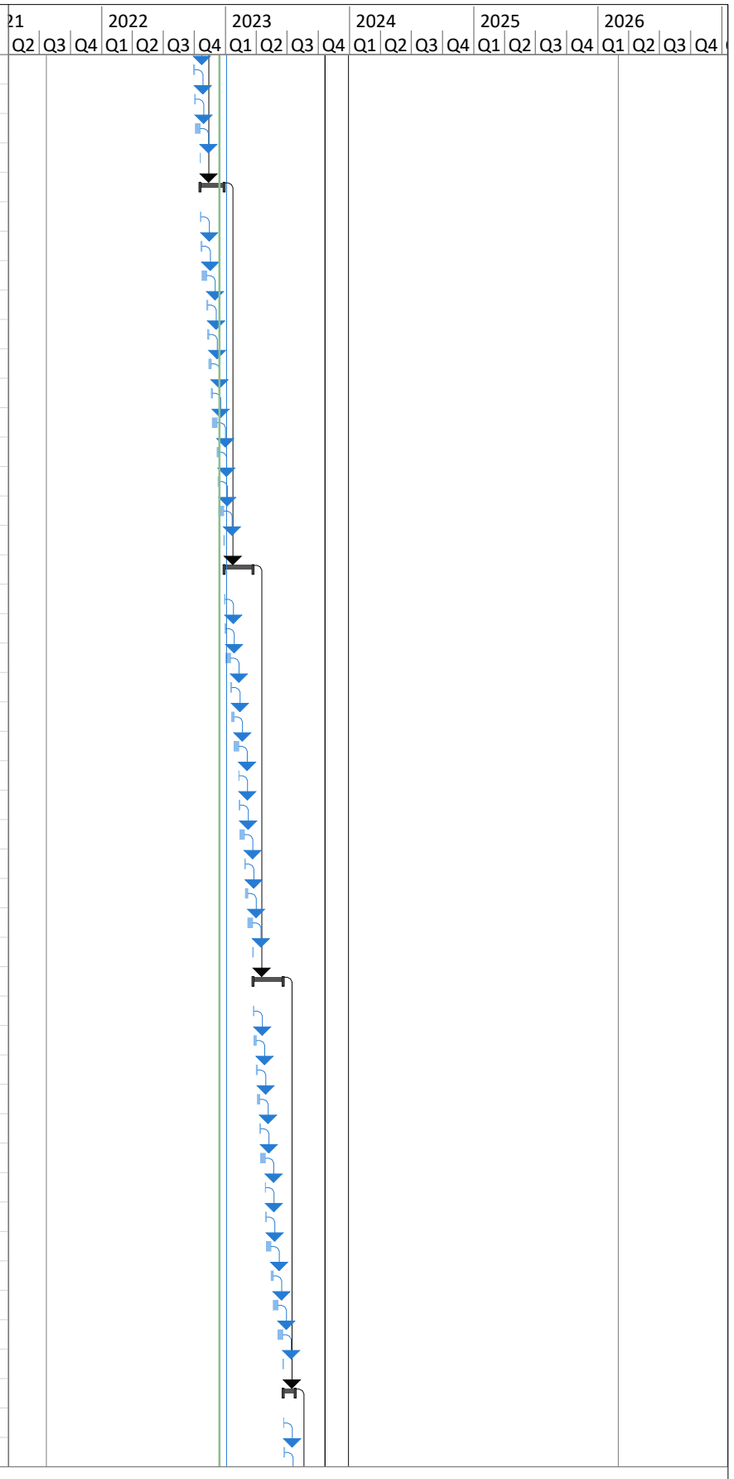
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

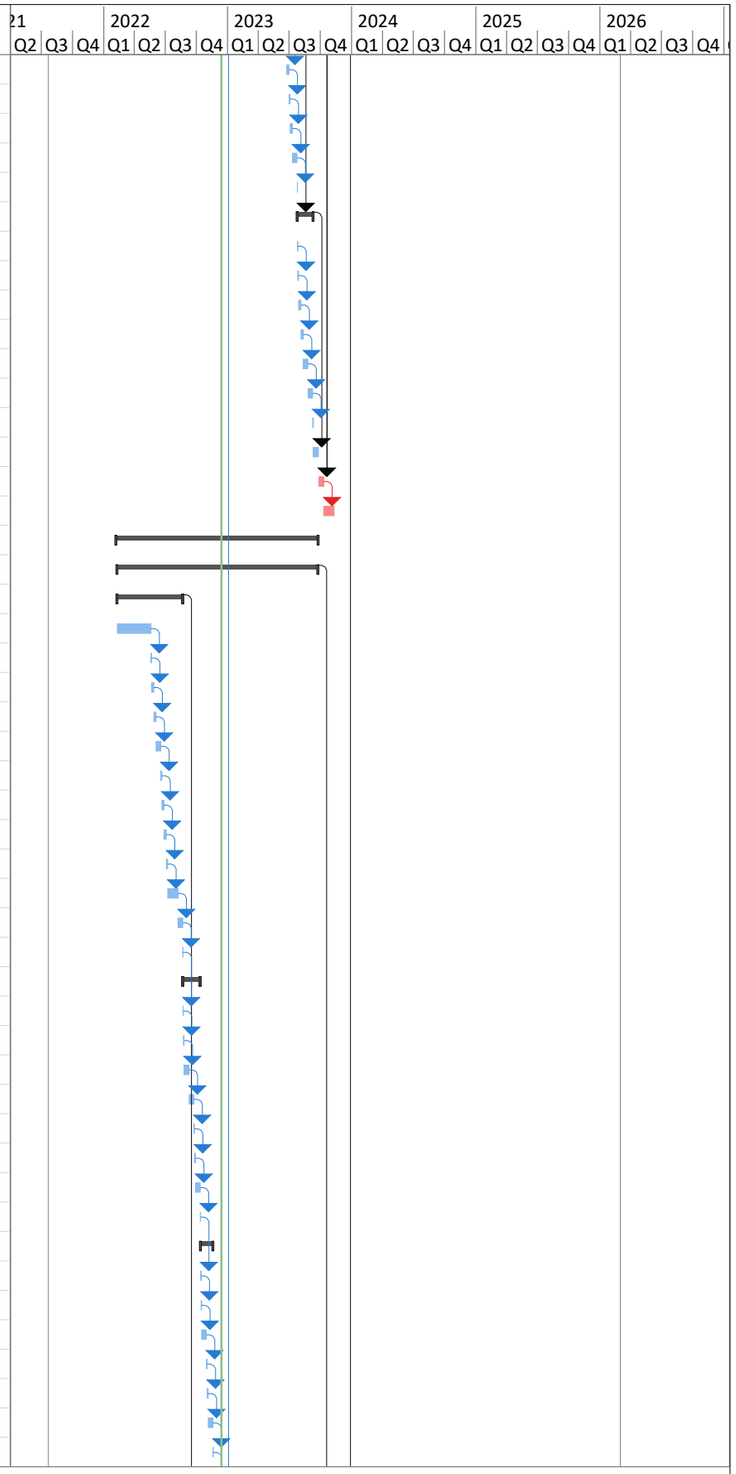
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
720	Treatment of bedding (CH850 - CH880)	3 days	Sep 28 '22	Oct 1 '22		719	721
721	Pipe laying D.I. (CH850 - CH880)	2 days	Oct 1 '22	Oct 3 '22		720	722
722	Backfilling sand/aggregate, concurrent bend block/chambers (CH850 - CH880)	14 days	Oct 3 '22	Oct 17 '22		721	723
723	Reinstatement	1 day	Oct 17 '22	Oct 18 '22		722	
724	**CH750 - CH850 (100m)**	**71 days**	**Oct 18 '22**	**Dec 28 '22**		**711**	**737**
725	TTA establishment	2 days	Oct 18 '22	Oct 20 '22			726
726	Hard material excavation and disposal (CH800 - CH850)	3 days	Oct 20 '22	Oct 23 '22		725	727
727	Soil excavation , laying sheetpile and disposal (CH800 - CH850)	14 days	Oct 23 '22	Nov 6 '22		726	728
728	Treatment of bedding (CH800 - CH850)	3 days	Nov 6 '22	Nov 9 '22		727	729
729	Pipe laying D.I. (CH800 - CH850)	3 days	Nov 9 '22	Nov 12 '22		728	730
730	Backfilling sand/aggregate, concurrent bend block/chambers	7 days	Nov 12 '22	Nov 19 '22		729	731
731	Hard material excavation and disposal (CH750 - CH800)	3 days	Nov 19 '22	Nov 22 '22		730	732
732	Soil excavation , laying sheetpile and disposal (CH750 - CH800)	14 days	Nov 22 '22	Dec 6 '22		731	733
733	Treatment of bedding (CH750 - CH800)	3 days	Dec 6 '22	Dec 9 '22		732	734
734	Pipe laying D.I. (CH750 - CH800)	3 days	Dec 9 '22	Dec 12 '22		733	735
735	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Dec 12 '22	Dec 26 '22		734	736
736	Reinstatement	2 days	Dec 26 '22	Dec 28 '22		735	
737	**CH650 - CH750 (100m)**	**85 days**	**Dec 28 '22**	**Mar 23 '23**		**724**	**751**
738	TTA establishment	2 days	Dec 28 '22	Dec 30 '22			739
739	Hard material excavation and disposal (CH700 - CH750)	2 days	Dec 30 '22	Jan 1 '23		738	740
740	Soil excavation , laying sheetpile and disposal (CH700 - CH750)	14 days	Jan 1 '23	Jan 15 '23		739	741
741	Treatment of bedding (CH700 - CH750)	3 days	Jan 15 '23	Jan 18 '23		740	742
742	Pipe laying D.I. (CH700 - CH750)	7 days	Jan 18 '23	Jan 25 '23		741	743
743	Backfilling sand/aggregate, concurrent bend block/chambers (CH700 - CH750)	14 days	Jan 25 '23	Feb 8 '23		742	744
744	Reinstatement (CH700 - CH750)	1 day	Feb 8 '23	Feb 9 '23		743	745
745	Hard material excavation and disposal (CH650 - CH700)	2 days	Feb 9 '23	Feb 11 '23		744	746
746	Soil excavation , laying sheetpile and disposal (CH650 - CH700)	14 days	Feb 11 '23	Feb 25 '23		745	747
747	Treatment of bedding (CH650 - CH700)	3 days	Feb 25 '23	Feb 28 '23		746	748
748	Pipe laying D.I. (CH650 - CH700)	7 days	Feb 28 '23	Mar 7 '23		747	749
749	Backfilling sand/aggregate, concurrent bend block/chambers (CH650 - CH700)	14 days	Mar 7 '23	Mar 21 '23		748	750
750	Reinstatement	2 days	Mar 21 '23	Mar 23 '23		749	
751	**CH550 - CH650 (100m)**	**89 days**	**Mar 23 '23**	**Jun 20 '23**		**737**	**765**
752	TTA establishment	2 days	Mar 23 '23	Mar 25 '23			753
753	Hard material excavation and disposal (CH600 - CH650)	7 days	Mar 25 '23	Apr 1 '23		752	754
754	Soil excavation , laying sheetpile and disposal (CH600 - CH650)	3 days	Apr 1 '23	Apr 4 '23		753	755
755	Treatment of bedding (CH600 - CH650)	7 days	Apr 4 '23	Apr 11 '23		754	756
756	Pipe laying D.I. (CH600 - CH650)	2 days	Apr 11 '23	Apr 13 '23		755	757
757	Backfilling sand/aggregate, concurrent bend block/chambers (CH600 - CH650)	14 days	Apr 13 '23	Apr 27 '23		756	758
758	Reinstatement (CH600 - CH650)	1 day	Apr 27 '23	Apr 28 '23		757	759
759	Hard material excavation and disposal (CH550 - CH600)	2 days	Apr 28 '23	Apr 30 '23		758	760
760	Soil excavation , laying sheetpile and disposal (CH550 - CH600)	14 days	Apr 30 '23	May 14 '23		759	761
761	Treatment of bedding (CH550 - CH600)	7 days	May 14 '23	May 21 '23		760	762
762	Pipe laying D.I. (CH550 - CH600)	14 days	May 21 '23	Jun 4 '23		761	763
763	Backfilling sand/aggregate, concurrent bend block/chambers (CH550 - CH600)	14 days	Jun 4 '23	Jun 18 '23		762	764
764	Reinstatement	2 days	Jun 18 '23	Jun 20 '23		763	
765	**CH1010 - CH1040 (30m)**	**35 days**	**Jun 20 '23**	**Jul 25 '23**		**751**	**773**
766	TTA establishment	1 day	Jun 20 '23	Jun 21 '23			767
767	Hard material excavation and disposal	2 days	Jun 21 '23	Jun 23 '23		766	768



Project: 3WSD20 Programme
Date: Dec 14 '22

Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

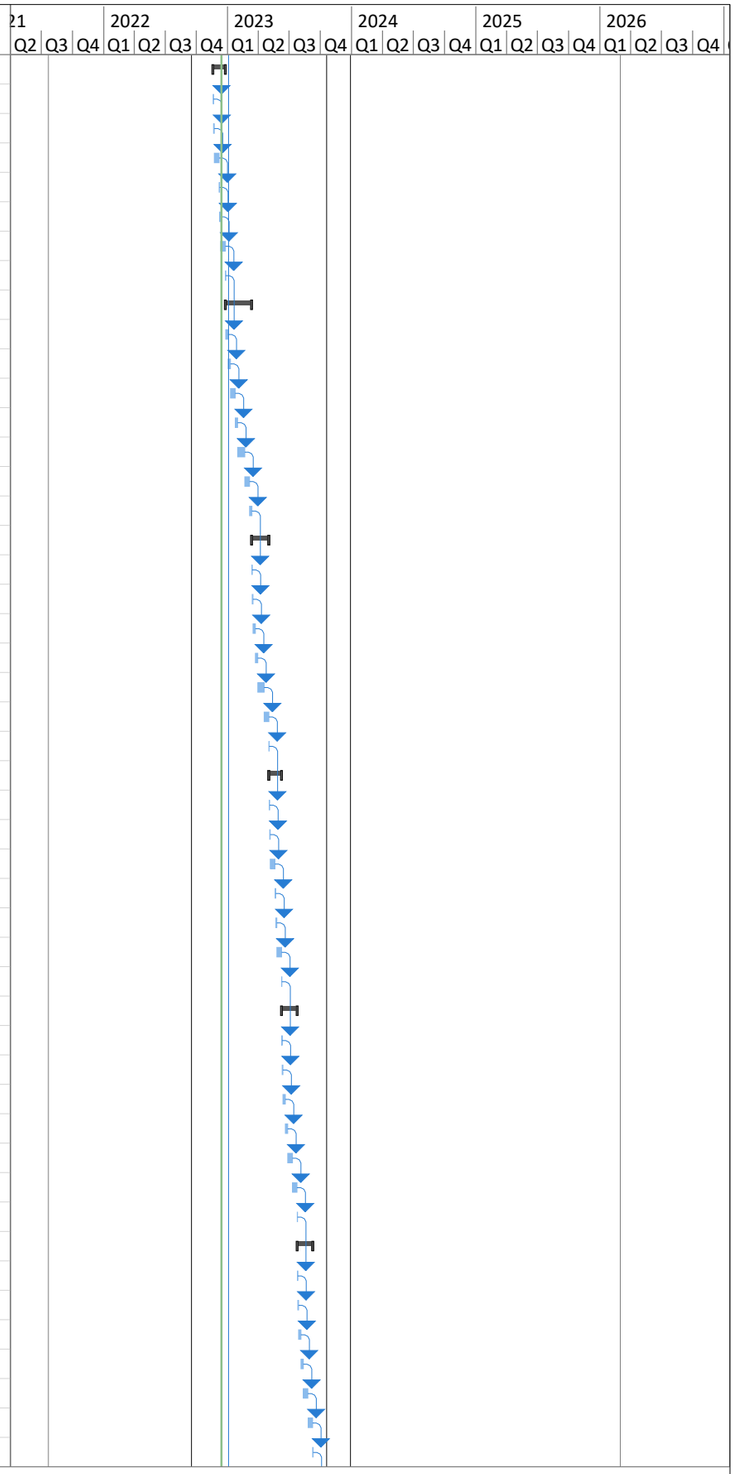
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
768	Soil excavation , laying sheetpile and disposal	7 days	Jun 23 '23	Jun 30 '23		767	769
769	Treatment of bedding	3 days	Jun 30 '23	Jul 3 '23		768	770
770	Pipe laying D.I.	7 days	Jul 3 '23	Jul 10 '23		769	771
771	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Jul 10 '23	Jul 24 '23		770	772
772	Reinstatement	1 day	Jul 24 '23	Jul 25 '23		771	
773	**CH1040 - CH1090 (50m)**	**47 days**	**Jul 25 '23**	**Sep 10 '23**		**765**	**781**
774	TTA establishment	1 day	Jul 25 '23	Jul 26 '23			775
775	Hard material excavation and disposal	2 days	Jul 26 '23	Jul 28 '23		774	776
776	Soil excavation , laying sheetpile and disposal	7 days	Jul 28 '23	Aug 4 '23		775	777
777	Treatment of bedding	7 days	Aug 4 '23	Aug 11 '23		776	778
778	Pipe laying D.I.	14 days	Aug 11 '23	Aug 25 '23		777	779
779	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Aug 25 '23	Sep 8 '23		778	780
780	Reinstatement	2 days	Sep 8 '23	Sep 10 '23		779	
781	Pressure test, swabbing and CCTV	15 days	Sep 10 '23	Sep 25 '23		773	
782	Overall pressure test	15 days	Sep 26 '23	Oct 10 '23		594,690	783
783	Pipe connection and completion	30 days	Oct 11 '23	Nov 9 '23		782	
784	**RW43 : DN150 DI pipe - 1144m**	**595.5 days**	**Feb 7 '22**	**Sep 25 '23**			
785	**Team A CH430 to CH710 & CH970 to CH1144 (454m)**	**591.5 days**	**Feb 10 '22**	**Sep 24 '23**			**948**
786	**Team A CH640 to CH710 (20m)**	**193.5 days**	**Feb 10 '22**	**Aug 22 '22**			**936**
787	Pending for IIB of pipe fittings	99 days	Feb 10 '22	May 19 '22			788
788	TTA establishment	2 days	May 20 '22	May 21 '22		787	789
789	Hard material excavation and disposal	7 days	May 22 '22	May 28 '22		788	790
790	CE-052 _ Inclement Weather in May 2022 (under assessment)	6 days	May 29 '22	Jun 3 '22		789	791
791	Soil excavation , laying sheetpile and disposal	14 days	Jun 4 '22	Jun 17 '22		790	792
792	Treatment of bedding	3 days	Jun 18 '22	Jun 20 '22		791	793
793	CE-053 _ Inclement Weather in June 2022 (under assessment)	6.5 days	Jun 21 '22	Jun 27 '22		792	794
794	Pipe laying D.I.	7 days	Jun 27 '22	Jul 4 '22		793	795
795	CE-054 _ Inclement Weather in July 2022 (under assessment)	4 days	Jul 4 '22	Jul 8 '22		794	796
796	Works suspended by Sheung Shui Heung	30 days	Jul 8 '22	Aug 7 '22		795	797
797	Backfilling general fill and compaction	14 days	Aug 7 '22	Aug 21 '22		796	798
798	Reinstatement	1 day	Aug 21 '22	Aug 22 '22		797	800
799	**Team A CH490 to CH520 (30m)**	**52 days**	**Aug 22 '22**	**Oct 13 '22**			
800	TTA establishment	1 day	Aug 22 '22	Aug 23 '22		798	801
801	Hard material excavation and disposal	2 days	Aug 23 '22	Aug 25 '22		800	802
802	CE-068 _ Inclement Weather in August 2022	15 days	Aug 25 '22	Sep 9 '22		801	803
803	Soil excavation , laying sheetpile and disposal	14 days	Sep 9 '22	Sep 23 '22		802	804
804	Treatment of bedding	2 days	Sep 23 '22	Sep 25 '22		803	805
805	Pipe laying D.I.	3 days	Sep 25 '22	Sep 28 '22		804	806
806	Backfilling general fill and compaction	14 days	Sep 28 '22	Oct 12 '22		805	807
807	Reinstatement	1 day	Oct 12 '22	Oct 13 '22		806	809
808	**Team A CH460 to CH490 (30m)**	**37 days**	**Oct 13 '22**	**Nov 19 '22**			
809	TTA establishment	1 day	Oct 13 '22	Oct 14 '22		807	810
810	Hard material excavation and disposal	2 days	Oct 14 '22	Oct 16 '22		809	811
811	Soil excavation , laying sheetpile and disposal	14 days	Oct 16 '22	Oct 30 '22		810	812
812	Treatment of bedding	2 days	Oct 30 '22	Nov 1 '22		811	813
813	Pipe laying D.I.	3 days	Nov 1 '22	Nov 4 '22		812	814
814	Backfilling general fill and compaction	14 days	Nov 4 '22	Nov 18 '22		813	815
815	Reinstatement	1 day	Nov 18 '22	Nov 19 '22		814	817



Project: 3WSD20 Programme
Date: Dec 14 '22

Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
816	**Team A CH430 to CH460 (30m)**	**37 days**	**Nov 19 '22**	**Dec 26 '22**			
817	TTA establishment	1 day	Nov 19 '22	Nov 20 '22		815	818
818	Hard material excavation and disposal	2 days	Nov 20 '22	Nov 22 '22		817	819
819	Soil excavation , laying sheetpile and disposal	14 days	Nov 22 '22	Dec 6 '22		818	820
820	Treatment of bedding	2 days	Dec 6 '22	Dec 8 '22		819	821
821	Pipe laying D.I.	3 days	Dec 8 '22	Dec 11 '22		820	822
822	Backfilling general fill and compaction	14 days	Dec 11 '22	Dec 25 '22		821	823
823	Reinstatement	1 day	Dec 25 '22	Dec 26 '22		822	825
824	**Team A CH520 to CH640 (120m) (crossing Po Wan Road)**	**77 days**	**Dec 26 '22**	**Mar 13 '23**			
825	TTA establishment	7 days	Dec 26 '22	Jan 2 '23		823	826
826	Hard material excavation and disposal	7 days	Jan 2 '23	Jan 9 '23		825	827
827	Soil excavation , laying sheetpile and disposal	14 days	Jan 9 '23	Jan 23 '23		826	828
828	Treatment of bedding	7 days	Jan 23 '23	Jan 30 '23		827	829
829	Pipe laying D.I.	21 days	Jan 30 '23	Feb 20 '23		828	830
830	Backfilling general fill and compaction	14 days	Feb 20 '23	Mar 6 '23		829	831
831	Reinstatement	7 days	Mar 6 '23	Mar 13 '23		830	833
832	**Team A CH970 to CH1025 (55m)**	**51 days**	**Mar 13 '23**	**May 3 '23**			
833	TTA establishment	1 day	Mar 13 '23	Mar 14 '23		831	834
834	Hard material excavation and disposal	2 days	Mar 14 '23	Mar 16 '23		833	835
835	Soil excavation , laying sheetpile and disposal	7 days	Mar 16 '23	Mar 23 '23		834	836
836	Treatment of bedding	7 days	Mar 23 '23	Mar 30 '23		835	837
837	Pipe laying D.I.	19 days	Mar 30 '23	Apr 18 '23		836	838
838	Backfilling general fill and compaction	14 days	Apr 18 '23	May 2 '23		837	839
839	Reinstatement	1 day	May 2 '23	May 3 '23		838	841
840	**Team A CH1025 to CH1065 (40m)**	**37 days**	**May 3 '23**	**Jun 9 '23**			
841	TTA establishment	1 day	May 3 '23	May 4 '23		839	842
842	Hard material excavation and disposal	2 days	May 4 '23	May 6 '23		841	843
843	Soil excavation , laying sheetpile and disposal	14 days	May 6 '23	May 20 '23		842	844
844	Treatment of bedding	2 days	May 20 '23	May 22 '23		843	845
845	Pipe laying D.I.	3 days	May 22 '23	May 25 '23		844	846
846	Backfilling general fill and compaction	14 days	May 25 '23	Jun 8 '23		845	847
847	Reinstatement	1 day	Jun 8 '23	Jun 9 '23		846	849
848	**Team A CH1065 to CH1125 (60m)**	**46 days**	**Jun 9 '23**	**Jul 25 '23**			
849	TTA establishment	1 day	Jun 9 '23	Jun 10 '23		847	850
850	Hard material excavation and disposal	2 days	Jun 10 '23	Jun 12 '23		849	851
851	Soil excavation , laying sheetpile and disposal	7 days	Jun 12 '23	Jun 19 '23		850	852
852	Treatment of bedding	7 days	Jun 19 '23	Jun 26 '23		851	853
853	Pipe laying D.I.	14 days	Jun 26 '23	Jul 10 '23		852	854
854	Backfilling general fill and compaction	14 days	Jul 10 '23	Jul 24 '23		853	855
855	Reinstatement	1 day	Jul 24 '23	Jul 25 '23		854	857
856	**Team A CH1125 to CH1144 (19m)**	**46 days**	**Jul 25 '23**	**Sep 9 '23**			
857	TTA establishment	1 day	Jul 25 '23	Jul 26 '23		855	858
858	Hard material excavation and disposal	2 days	Jul 26 '23	Jul 28 '23		857	859
859	Soil excavation , laying sheetpile and disposal	7 days	Jul 28 '23	Aug 4 '23		858	860
860	Treatment of bedding	7 days	Aug 4 '23	Aug 11 '23		859	861
861	Pipe laying D.I.	14 days	Aug 11 '23	Aug 25 '23		860	862
862	Backfilling general fill and compaction	14 days	Aug 25 '23	Sep 8 '23		861	863
863	Reinstatement	1 day	Sep 8 '23	Sep 9 '23		862	864



Project: 3WSD20 Programme
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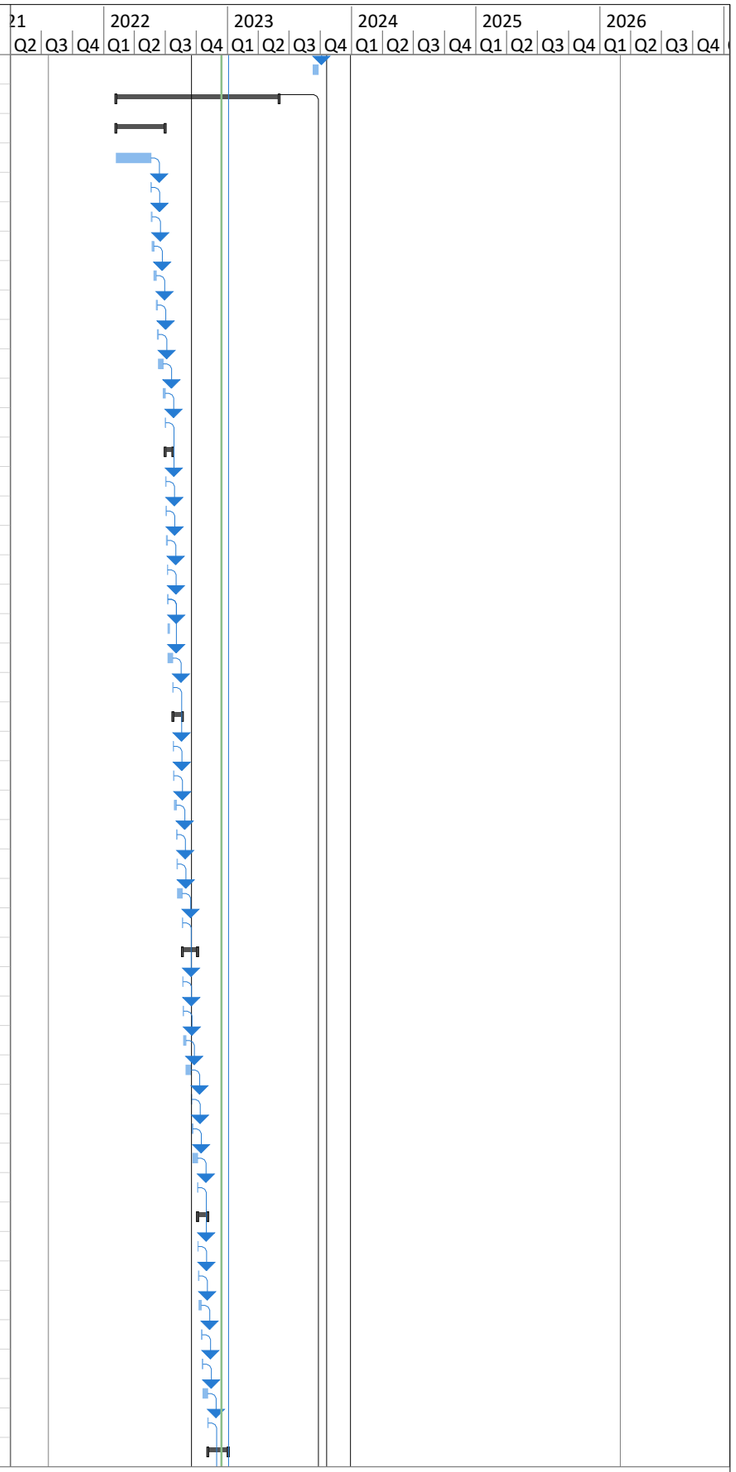
Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
864	Pressure test, swabbing and CCTV	15 days	Sep 9 '23	Sep 24 '23		863	
865	**Team B CH000 to CH430 (430m)**	**480.5 days**	**Feb 7 '22**	**Jun 2 '23**			**948**
866	**Team B CH210 to CH235 (25m)**	**145.5 days**	**Feb 7 '22**	**Jul 2 '22**			
867	Pending for release of TTA from other Contractor	102 days	Feb 7 '22	May 19 '22			868
868	TTA establishment	1 day	May 20 '22	May 20 '22		867	869
869	Hard material excavation and disposal	2 days	May 21 '22	May 22 '22		868	870
870	CE-052 _ Inclement Weather in May 2022 (under assessment)	6 days	May 23 '22	May 28 '22		869	871
871	Soil excavation , laying sheetpile and disposal	7 days	May 29 '22	Jun 4 '22		870	872
872	Treatment of bedding	3 days	Jun 5 '22	Jun 7 '22		871	873
873	Pipe laying D.I.	3 days	Jun 8 '22	Jun 10 '22		872	874
874	Backfilling general fill and compaction	14 days	Jun 11 '22	Jun 24 '22		873	875
875	CE-053 _ Inclement Weather in June 2022 (under assessment)	6.5 days	Jun 25 '22	Jul 1 '22		874	876
876	Reinstatement	1 day	Jul 1 '22	Jul 2 '22		875	878
877	**Team B CH180 to CH210 (30m)**	**22 days**	**Jul 2 '22**	**Jul 24 '22**			
878	TTA establishment	1 day	Jul 2 '22	Jul 3 '22		876	879
879	Hard material excavation and disposal	1 day	Jul 3 '22	Jul 4 '22		878	880
880	Soil excavation , laying sheetpile and disposal	3 days	Jul 4 '22	Jul 7 '22		879	881
881	Treatment of bedding	1 day	Jul 7 '22	Jul 8 '22		880	882
882	Pipe laying D.I.	1 day	Jul 8 '22	Jul 9 '22		881	884,883
883	CE-054 _ Inclement Weather in July 2022 (under assessment)	4 days	Jul 9 '22	Jul 13 '22		882	
884	Backfilling general fill and compaction	14 days	Jul 9 '22	Jul 23 '22		882	885
885	Reinstatement	1 day	Jul 23 '22	Jul 24 '22		884	887
886	**Team B CH235 to CH270 (35m)**	**28 days**	**Jul 24 '22**	**Aug 21 '22**			
887	TTA establishment	1 day	Jul 24 '22	Jul 25 '22		885	888
888	Hard material excavation and disposal	2 days	Jul 25 '22	Jul 27 '22		887	889
889	Soil excavation , laying sheetpile and disposal	7 days	Jul 27 '22	Aug 3 '22		888	890
890	Treatment of bedding	1 day	Aug 3 '22	Aug 4 '22		889	891
891	Pipe laying D.I.	2 days	Aug 4 '22	Aug 6 '22		890	892
892	Backfilling general fill and compaction	14 days	Aug 6 '22	Aug 20 '22		891	893
893	Reinstatement	1 day	Aug 20 '22	Aug 21 '22		892	895
894	**Team B CH270 to CH310 (40m)**	**45 days**	**Aug 21 '22**	**Oct 5 '22**			
895	TTA establishment	1 day	Aug 21 '22	Aug 22 '22		893	896
896	Hard material excavation and disposal	2 days	Aug 22 '22	Aug 24 '22		895	897
897	Soil excavation , laying sheetpile and disposal	7 days	Aug 24 '22	Aug 31 '22		896	898
898	CE-068 _ Inclement Weather in August 2022	15 days	Aug 31 '22	Sep 15 '22		897	899
899	Treatment of bedding	2 days	Sep 15 '22	Sep 17 '22		898	900
900	Pipe laying D.I.	3 days	Sep 17 '22	Sep 20 '22		899	901
901	Backfilling general fill and compaction	14 days	Sep 20 '22	Oct 4 '22		900	902
902	Reinstatement	1 day	Oct 4 '22	Oct 5 '22		901	904
903	**Team B CH310 to CH340 (30m)**	**30 days**	**Oct 5 '22**	**Nov 4 '22**			
904	TTA establishment	1 day	Oct 5 '22	Oct 6 '22		902	905
905	Hard material excavation and disposal	2 days	Oct 6 '22	Oct 8 '22		904	906
906	Soil excavation , laying sheetpile and disposal	7 days	Oct 8 '22	Oct 15 '22		905	907
907	Treatment of bedding	2 days	Oct 15 '22	Oct 17 '22		906	908
908	Pipe laying D.I.	3 days	Oct 17 '22	Oct 20 '22		907	909
909	Backfilling general fill and compaction	14 days	Oct 20 '22	Nov 3 '22		908	910
910	Reinstatement	1 day	Nov 3 '22	Nov 4 '22		909	912
911	**Team B CH0 to CH150 (150m)**	**60 days**	**Nov 4 '22**	**Jan 3 '23**			



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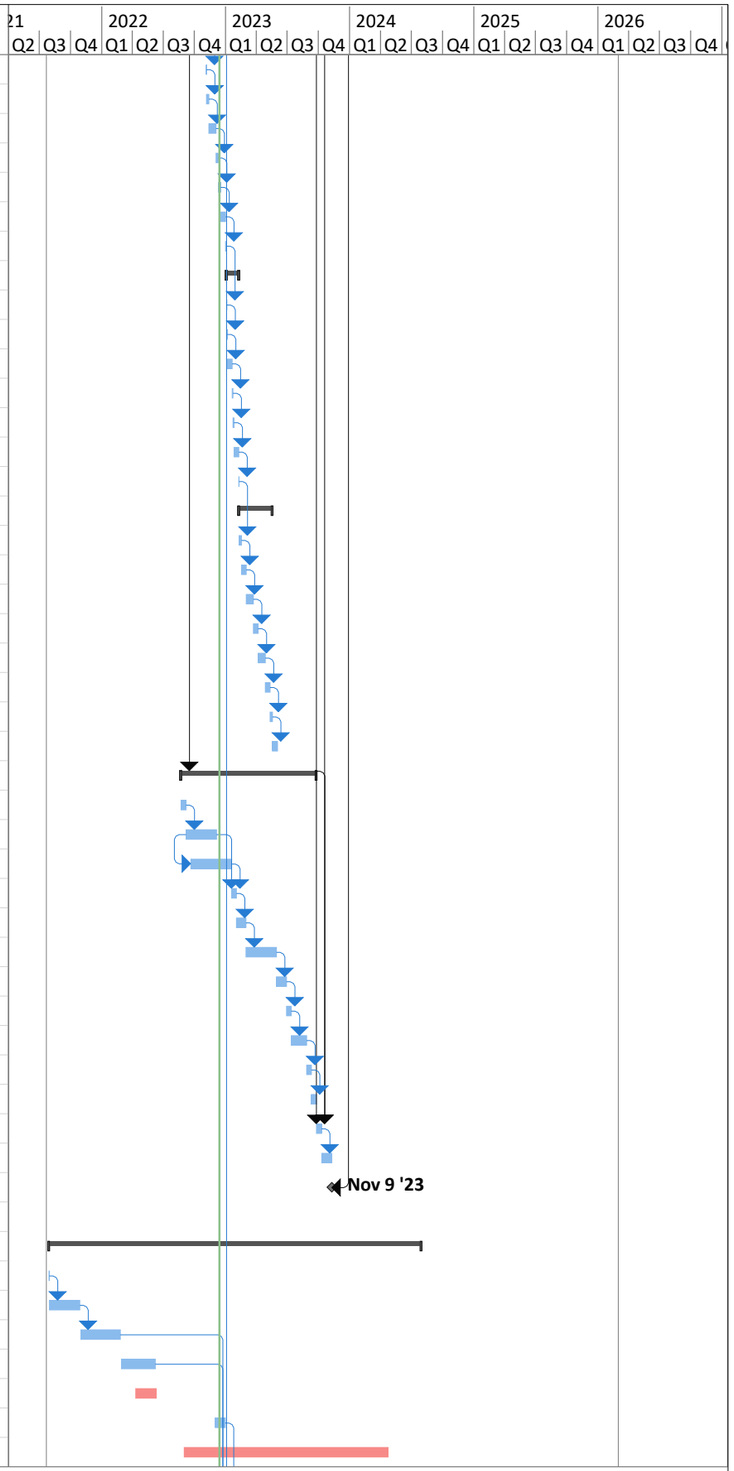
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

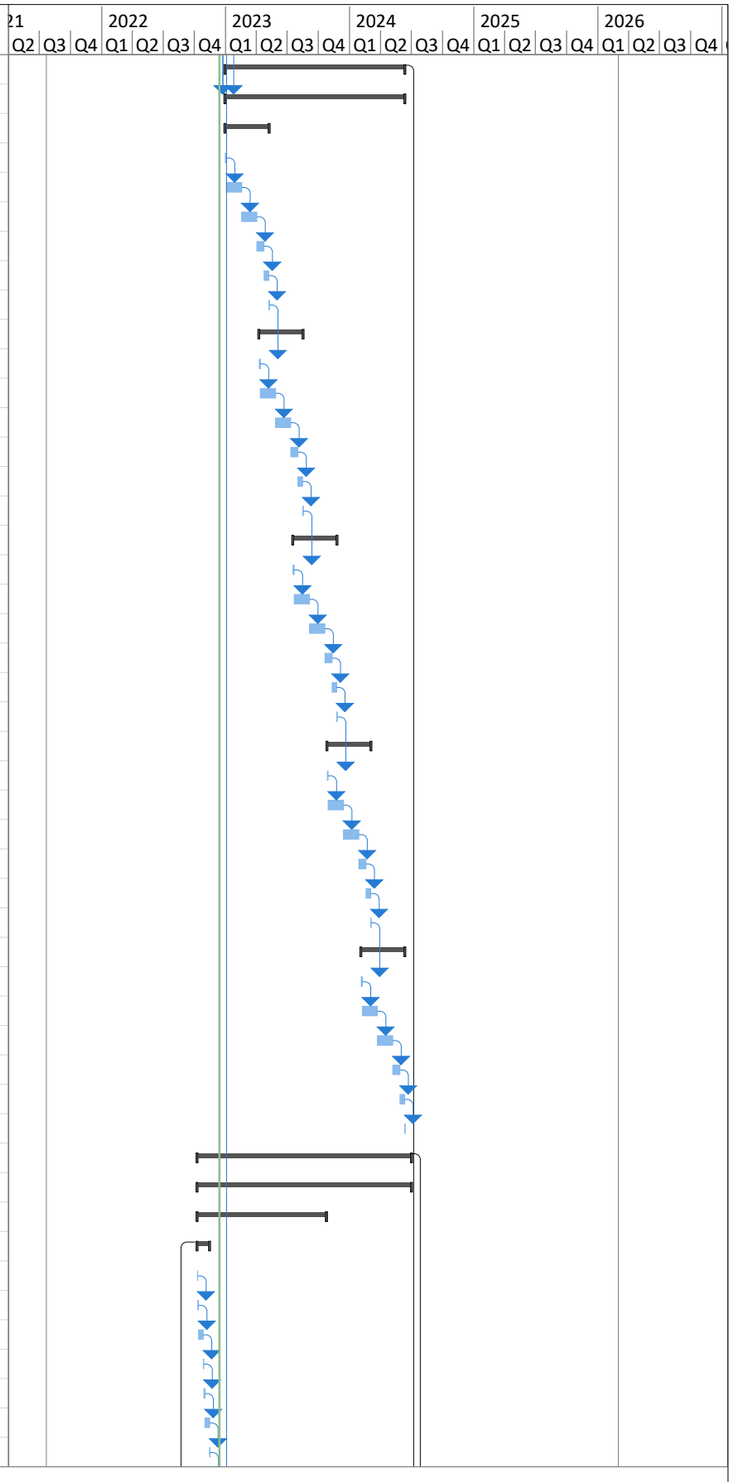
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
912	TTA establishment	1 day	Nov 4 '22	Nov 5 '22		910	913
913	Hard material excavation and disposal	7 days	Nov 5 '22	Nov 12 '22		912	914
914	Soil excavation , laying sheetpile and disposal	21 days	Nov 12 '22	Dec 3 '22		913	915
915	Treatment of bedding	7 days	Dec 3 '22	Dec 10 '22		914	916
916	Pipe laying D.I.	7 days	Dec 10 '22	Dec 17 '22		915	917
917	Backfilling gerneral fill and compaction	14 days	Dec 17 '22	Dec 31 '22		916	918
918	Reinstatement	3 days	Dec 31 '22	Jan 3 '23		917	920
919	**Team B CH150 to CH180 (30m)**	**37 days**	**Jan 3 '23**	**Feb 9 '23**			
920	TTA establishment	1 day	Jan 3 '23	Jan 4 '23		918	921
921	Hard material excavation and disposal	2 days	Jan 4 '23	Jan 6 '23		920	922
922	Soil excavation , laying sheetpile and disposal	14 days	Jan 6 '23	Jan 20 '23		921	923
923	Treatment of bedding	2 days	Jan 20 '23	Jan 22 '23		922	924
924	Pipe laying D.I.	3 days	Jan 22 '23	Jan 25 '23		923	925
925	Backfilling general fill and compaction	14 days	Jan 25 '23	Feb 8 '23		924	926
926	Reinstatement	1 day	Feb 8 '23	Feb 9 '23		925	928
927	**Team B CH340 to CH430 (90m) (Shek Shueng River)**	**98 days**	**Feb 9 '23**	**May 18 '23**			
928	TTA establishment	7 days	Feb 9 '23	Feb 16 '23		926	929
929	Hard material excavation and disposal	14 days	Feb 16 '23	Mar 2 '23		928	930
930	Soil excavation , laying sheetpile and disposal	21 days	Mar 2 '23	Mar 23 '23		929	931
931	Treatment of bedding	14 days	Mar 23 '23	Apr 6 '23		930	932
932	Pipe laying D.I.	21 days	Apr 6 '23	Apr 27 '23		931	933
933	Backfilling general fill and compaction	14 days	Apr 27 '23	May 11 '23		932	934
934	Reinstatement	7 days	May 11 '23	May 18 '23		933	935
935	Pressure test, swabbing and CCTV	15 days	May 18 '23	Jun 2 '23		934	
936	**Team C CH710 to CH970 (260m) -within the scope of Shueng Shui Hueng**	**399 days**	**Aug 22 '22**	**Sep 25 '23**		**786**	**948**
937	CE-068 _ Inclement Weather in August 2022	15 days	Aug 22 '22	Sep 6 '22			938
938	Pending agreement of Shueng Shui Hueng villagers	90 days	Sep 6 '22	Dec 5 '22		937	940,939SS+14 days
939	XP application for alternative alignment of watermain	120 days	Sep 20 '22	Jan 18 '23		938SS+14 days	940
940	TTA establishment	14 days	Jan 18 '23	Feb 1 '23		938,939	941
941	Hard material excavation and disposal	28 days	Feb 1 '23	Mar 1 '23		940	942
942	Soil excavation , laying sheetpile and disposal	90 days	Mar 1 '23	May 30 '23		941	943
943	Treatment of bedding	30 days	May 30 '23	Jun 29 '23		942	944
944	Pipe laying D.I.	14 days	Jun 29 '23	Jul 13 '23		943	945
945	Backfilling general fill and compaction	45 days	Jul 13 '23	Aug 27 '23		944	946
946	Reinstatement	14 days	Aug 27 '23	Sep 10 '23		945	947
947	Pressure test, swabbing and CCTV	15 days	Sep 10 '23	Sep 25 '23		946	
948	Overall pressure testing	15 days	Sep 25 '23	Oct 10 '23		785,865,936	949
949	Pipe connection and completion	30 days	Oct 10 '23	Nov 9 '23		948	
950	Planned completion for section 4	0 days	Nov 9 '23	Nov 9 '23		592FF	
951							
952	**Section 5 - Water main laying works in part 4 of the Site**	**1096 days**	**Jul 30 '21**	**Jul 29 '24**			
953	Access Date (part 4 of the Site)	1 day	Jul 30 '21	Jul 30 '21			954
954	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		953	955
955	Application and approval of XP and TTA	116 days	Nov 1 '21	Feb 24 '22		954	961
956	Procurement and Delivery of pipes, fittings and related materials	100 days	Feb 28 '22	Jun 7 '22			961
957	Submission and acceptance of method statement and material	60 days	Apr 11 '22	Jun 9 '22			
958	Submission and acceptance of method statement and temp work design for trenchless works	30 days	Dec 1 '22	Dec 30 '22			961
959	Excavation of Inspection Pit	600 days	Sep 1 '22	Apr 22 '24			



Project: 3WSD20 Programme
Date: Dec 14 '22

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

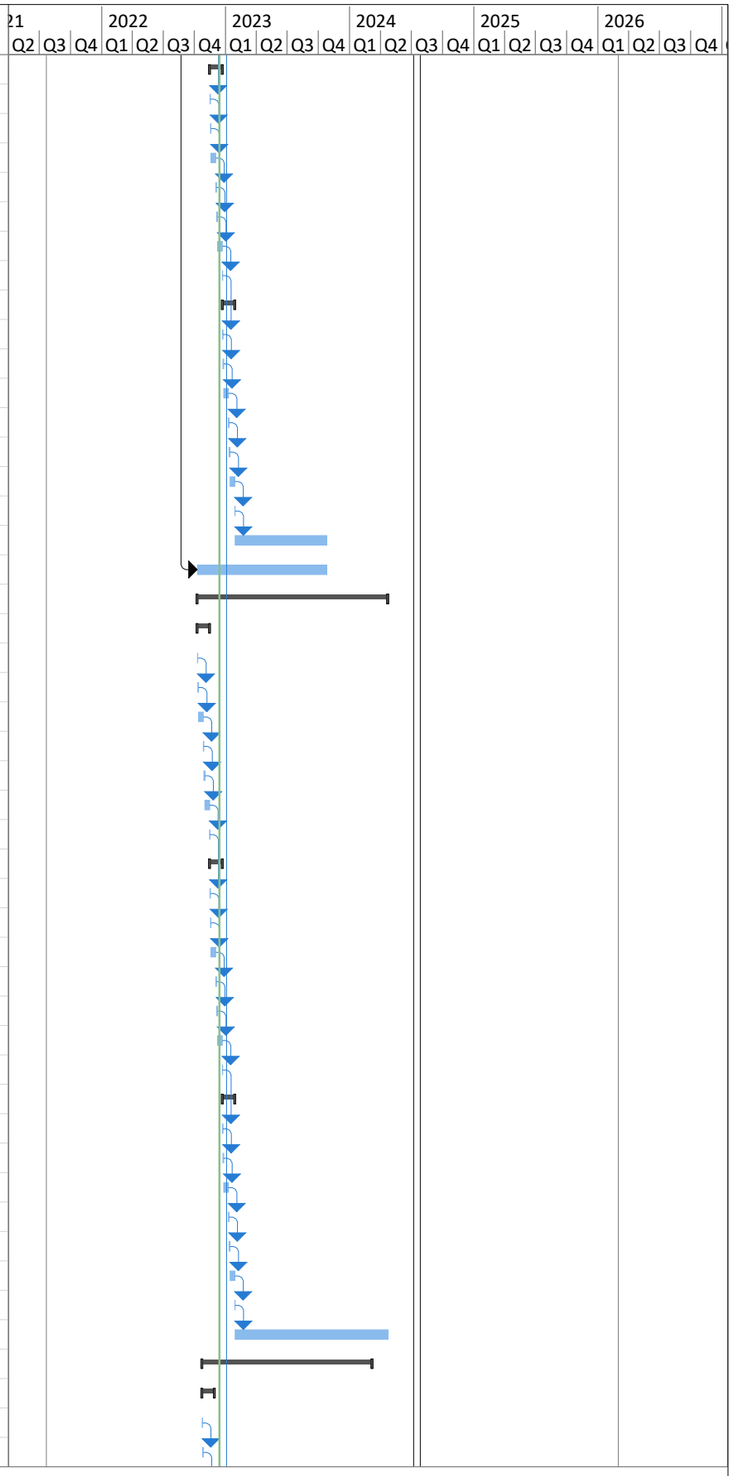
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
960	**Mainlaying by trenchless method (RW04)**	**530 days**	**Dec 31 '22**	**Jun 12 '24**			**1180**
961	**RW04 : DN450 DI pipe (trenchless)**	**530 days**	**Dec 31 '22**	**Jun 12 '24**	**60**	**955,956,958**	
962	**Wo Tai Street (70m) - TBM Method**	**130 days**	**Dec 31 '22**	**May 9 '23**			
963	TTA implementation	3 days	Dec 31 '22	Jan 2 '23			964
964	Contruction of jacking pit and receiving pit	45 days	Jan 3 '23	Feb 16 '23		963	965
965	Trenchless works and pipe laying	45 days	Feb 17 '23	Apr 2 '23		964	966
966	Manhole / Chamber construction	21 days	Apr 3 '23	Apr 23 '23		965	967
967	Backfilling and compaction	14 days	Apr 24 '23	May 7 '23		966	968
968	Reinstatement	2 days	May 8 '23	May 9 '23		967	970FS-30 days
969	**Ma Sik Road (70m) - TBM Method**	**130 days**	**Apr 10 '23**	**Aug 17 '23**			
970	TTA implementation	3 days	Apr 10 '23	Apr 12 '23		968FS-30 days	971
971	Contruction of jacking pit and receiving pit	45 days	Apr 13 '23	May 27 '23		970	972
972	Trenchless works and pipe laying	45 days	May 28 '23	Jul 11 '23		971	973
973	Manhole / Chamber construction	21 days	Jul 12 '23	Aug 1 '23		972	974
974	Backfilling and compaction	14 days	Aug 2 '23	Aug 15 '23		973	975
975	Reinstatement	2 days	Aug 16 '23	Aug 17 '23		974	977FS-30 days
976	**Luen Chit Street (70m) - TBM Method**	**130 days**	**Jul 19 '23**	**Nov 25 '23**			
977	TTA implementation	3 days	Jul 19 '23	Jul 21 '23		975FS-30 days	978
978	Contruction of jacking pit and receiving pit	45 days	Jul 22 '23	Sep 4 '23		977	979
979	Trenchless works and pipe laying	45 days	Sep 5 '23	Oct 19 '23		978	980
980	Manhole / Chamber construction	21 days	Oct 20 '23	Nov 9 '23		979	981
981	Backfilling and compaction	14 days	Nov 10 '23	Nov 23 '23		980	982
982	Reinstatement	2 days	Nov 24 '23	Nov 25 '23		981	984FS-30 days
983	**Luen Sum Road (70m) - TBM Method**	**130 days**	**Oct 27 '23**	**Mar 4 '24**			
984	TTA implementation	3 days	Oct 27 '23	Oct 29 '23		982FS-30 days	985
985	Contruction of jacking pit and receiving pit	45 days	Oct 30 '23	Dec 13 '23		984	986
986	Trenchless works and pipe laying	45 days	Dec 14 '23	Jan 27 '24		985	987
987	Manhole / Chamber construction	21 days	Jan 28 '24	Feb 17 '24		986	988
988	Backfilling and compaction	14 days	Feb 18 '24	Mar 2 '24		987	989
989	Reinstatement	2 days	Mar 3 '24	Mar 4 '24		988	991FS-30 days
990	**Fanling Lau Road (70m) - TBM Method**	**130 days**	**Feb 4 '24**	**Jun 12 '24**			
991	TTA implementation	3 days	Feb 4 '24	Feb 6 '24		989FS-30 days	992
992	Contruction of jacking pit and receiving pit	45 days	Feb 7 '24	Mar 22 '24		991	993
993	Trenchless works and pipe laying	45 days	Mar 23 '24	May 6 '24		992	994
994	Manhole / Chamber construction	21 days	May 7 '24	May 27 '24		993	995
995	Backfilling and compaction	14 days	May 28 '24	Jun 10 '24		994	996
996	Reinstatement	2 days	Jun 11 '24	Jun 12 '24		995	
997	**Mainlaying by open trench method (RW04)**	**631 days**	**Oct 10 '22**	**Jul 1 '24**			**1180**
998	**RW04 : DN450 DI Pipe**	**631 days**	**Oct 10 '22**	**Jul 1 '24**			
999	Ma Sik Road CH1400 to CH1700 (300m)	381 days	Oct 10 '22	Oct 25 '23			
1000	CH1400 to CH1430 (30m)	37 days	Oct 10 '22	Nov 15 '22			1025SS
1001	TTA establishment	1 day	Oct 10 '22	Oct 10 '22			1002
1002	Hard material excavation and disposal	2 days	Oct 11 '22	Oct 12 '22		1001	1003
1003	Soil excavation , laying sheetpile and disposal	14 days	Oct 13 '22	Oct 26 '22		1002	1004
1004	Treatment of bedding	2 days	Oct 27 '22	Oct 28 '22		1003	1005
1005	Pipe laying D.I.	3 days	Oct 29 '22	Oct 31 '22		1004	1006
1006	Backfilling general fill and compaction	14 days	Nov 1 '22	Nov 14 '22		1005	1007
1007	Reinstatement	1 day	Nov 15 '22	Nov 15 '22		1006	1009



Project: 3WSD20 Programme
Date: Dec 14 '22

Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1008	CH1430 to CH1460 (30m)	37 days	Nov 16 '22	Dec 22 '22			
1009	TTA establishment	1 day	Nov 16 '22	Nov 16 '22		1007	1010
1010	Hard material excavation and disposal	2 days	Nov 17 '22	Nov 18 '22		1009	1011
1011	Soil excavation , laying sheetpile and disposal	14 days	Nov 19 '22	Dec 2 '22		1010	1012
1012	Treatment of bedding	2 days	Dec 3 '22	Dec 4 '22		1011	1013
1013	Pipe laying D.I.	3 days	Dec 5 '22	Dec 7 '22		1012	1014
1014	Backfilling general fill and compaction	14 days	Dec 8 '22	Dec 21 '22		1013	1015
1015	Reinstatement	1 day	Dec 22 '22	Dec 22 '22		1014	1017
1016	CH1460 to CH1490 (30m)	37 days	Dec 23 '22	Jan 28 '23			
1017	TTA establishment	1 day	Dec 23 '22	Dec 23 '22		1015	1018
1018	Hard material excavation and disposal	2 days	Dec 24 '22	Dec 25 '22		1017	1019
1019	Soil excavation , laying sheetpile and disposal	14 days	Dec 26 '22	Jan 8 '23		1018	1020
1020	Treatment of bedding	2 days	Jan 9 '23	Jan 10 '23		1019	1021
1021	Pipe laying D.I.	3 days	Jan 11 '23	Jan 13 '23		1020	1022
1022	Backfilling general fill and compaction	14 days	Jan 14 '23	Jan 27 '23		1021	1023
1023	Reinstatement	1 day	Jan 28 '23	Jan 28 '23		1022	1024
1024	CH1490 to 1700 (210m)	270 days	Jan 29 '23	Oct 25 '23	60	1023	
1025	Construction of valve chambers	381 days	Oct 10 '22	Oct 25 '23		1000SS	
1026	Ma Sik Road CH1700 to CH2180 (480m)	561 days	Oct 10 '22	Apr 22 '24			
1027	CH1700 to CH1730 (30m)	37 days	Oct 10 '22	Nov 15 '22			
1028	TTA establishment	1 day	Oct 10 '22	Oct 10 '22			1029
1029	Hard material excavation and disposal	2 days	Oct 11 '22	Oct 12 '22		1028	1030
1030	Soil excavation , laying sheetpile and disposal	14 days	Oct 13 '22	Oct 26 '22		1029	1031
1031	Treatment of bedding	2 days	Oct 27 '22	Oct 28 '22		1030	1032
1032	Pipe laying D.I.	3 days	Oct 29 '22	Oct 31 '22		1031	1033
1033	Backfilling general fill and compaction	14 days	Nov 1 '22	Nov 14 '22		1032	1034
1034	Reinstatement	1 day	Nov 15 '22	Nov 15 '22		1033	1036
1035	CH1730 to CH1760 (30m)	37 days	Nov 16 '22	Dec 22 '22			
1036	TTA establishment	1 day	Nov 16 '22	Nov 16 '22		1034	1037
1037	Hard material excavation and disposal	2 days	Nov 17 '22	Nov 18 '22		1036	1038
1038	Soil excavation , laying sheetpile and disposal	14 days	Nov 19 '22	Dec 2 '22		1037	1039
1039	Treatment of bedding	2 days	Dec 3 '22	Dec 4 '22		1038	1040
1040	Pipe laying D.I.	3 days	Dec 5 '22	Dec 7 '22		1039	1041
1041	Backfilling general fill and compaction	14 days	Dec 8 '22	Dec 21 '22		1040	1042
1042	Reinstatement	1 day	Dec 22 '22	Dec 22 '22		1041	1044
1043	CH1760 to CH1790 (30m)	37 days	Dec 23 '22	Jan 28 '23			
1044	TTA establishment	1 day	Dec 23 '22	Dec 23 '22		1042	1045
1045	Hard material excavation and disposal	2 days	Dec 24 '22	Dec 25 '22		1044	1046
1046	Soil excavation , laying sheetpile and disposal	14 days	Dec 26 '22	Jan 8 '23		1045	1047
1047	Treatment of bedding	2 days	Jan 9 '23	Jan 10 '23		1046	1048
1048	Pipe laying D.I.	3 days	Jan 11 '23	Jan 13 '23		1047	1049
1049	Backfilling general fill and compaction	14 days	Jan 14 '23	Jan 27 '23		1048	1050
1050	Reinstatement	1 day	Jan 28 '23	Jan 28 '23		1049	1051
1051	CH1790 to 2180 (390m)	450 days	Jan 29 '23	Apr 22 '24	60	1050	
1052	Ma Sik Road CH2180 to CH2400 (220m)	501 days	Oct 24 '22	Mar 7 '24			
1053	CH2180 to CH2210 (30m)	37 days	Oct 24 '22	Nov 29 '22			
1054	TTA establishment	1 day	Oct 24 '22	Oct 24 '22			1055
1055	Hard material excavation and disposal	2 days	Oct 25 '22	Oct 26 '22		1054	1056



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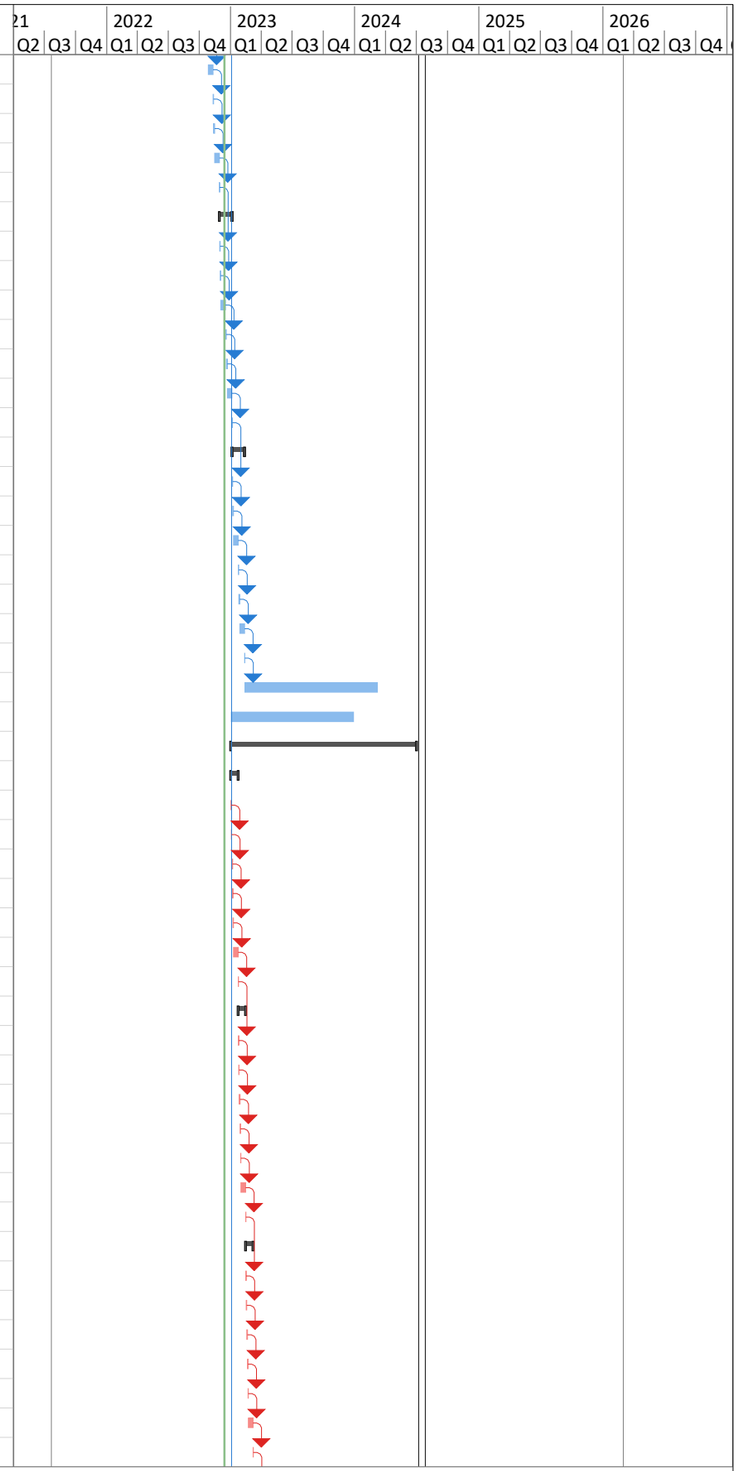
Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1056	Soil excavation , laying sheetpile and disposal	14 days	Oct 27 '22	Nov 9 '22		1055	1057
1057	Treatment of bedding	2 days	Nov 10 '22	Nov 11 '22		1056	1058
1058	Pipe laying D.I.	3 days	Nov 12 '22	Nov 14 '22		1057	1059
1059	Backfilling general fill and compaction	14 days	Nov 15 '22	Nov 28 '22		1058	1060
1060	Reinstatement	1 day	Nov 29 '22	Nov 29 '22		1059	1062
1061	CH2210 to CH2240 (30m)	37 days	Nov 30 '22	Jan 5 '23			
1062	TTA establishment	1 day	Nov 30 '22	Nov 30 '22		1060	1063
1063	Hard material excavation and disposal	2 days	Dec 1 '22	Dec 2 '22		1062	1064
1064	Soil excavation , laying sheetpile and disposal	14 days	Dec 3 '22	Dec 16 '22		1063	1065
1065	Treatment of bedding	2 days	Dec 17 '22	Dec 18 '22		1064	1066
1066	Pipe laying D.I.	3 days	Dec 19 '22	Dec 21 '22		1065	1067
1067	Backfilling general fill and compaction	14 days	Dec 22 '22	Jan 4 '23		1066	1068
1068	Reinstatement	1 day	Jan 5 '23	Jan 5 '23		1067	1070
1069	CH2240 to CH2270 (30m)	37 days	Jan 6 '23	Feb 11 '23			
1070	TTA establishment	1 day	Jan 6 '23	Jan 6 '23		1068	1071
1071	Hard material excavation and disposal	2 days	Jan 7 '23	Jan 8 '23		1070	1072
1072	Soil excavation , laying sheetpile and disposal	14 days	Jan 9 '23	Jan 22 '23		1071	1073
1073	Treatment of bedding	2 days	Jan 23 '23	Jan 24 '23		1072	1074
1074	Pipe laying D.I.	3 days	Jan 25 '23	Jan 27 '23		1073	1075
1075	Backfilling general fill and compaction	14 days	Jan 28 '23	Feb 10 '23		1074	1076
1076	Reinstatement	1 day	Feb 11 '23	Feb 11 '23		1075	1077
1077	CH2270 to CH2400 (130m)	390 days	Feb 12 '23	Mar 7 '24	60	1076	
1078	Ma Sik Road CH2400 to CH2600 (200m)	360 days	Jan 3 '23	Dec 28 '23			
1079	Tin Ping Road (1377m)	547 days	Jan 2 '23	Jul 1 '24			
1080	CH450 to CH480 (30m)	22 days	Jan 2 '23	Jan 23 '23			
1081	TTA establishment	1 day	Jan 2 '23	Jan 2 '23			1082
1082	Hard material excavation and disposal	1 day	Jan 3 '23	Jan 3 '23		1081	1083
1083	Soil excavation , laying sheetpile and disposal	3 days	Jan 4 '23	Jan 6 '23		1082	1084
1084	Treatment of bedding	1 day	Jan 7 '23	Jan 7 '23		1083	1085
1085	Pipe laying D.I.	1 day	Jan 8 '23	Jan 8 '23		1084	1086
1086	Backfilling general fill and compaction	14 days	Jan 9 '23	Jan 22 '23		1085	1087
1087	Reinstatement	1 day	Jan 23 '23	Jan 23 '23		1086	1089
1088	CH480 to CH510 (30m)	22 days	Jan 24 '23	Feb 14 '23			
1089	TTA establishment	1 day	Jan 24 '23	Jan 24 '23		1087	1090
1090	Hard material excavation and disposal	1 day	Jan 25 '23	Jan 25 '23		1089	1091
1091	Soil excavation , laying sheetpile and disposal	3 days	Jan 26 '23	Jan 28 '23		1090	1092
1092	Treatment of bedding	1 day	Jan 29 '23	Jan 29 '23		1091	1093
1093	Pipe laying D.I.	1 day	Jan 30 '23	Jan 30 '23		1092	1094
1094	Backfilling general fill and compaction	14 days	Jan 31 '23	Feb 13 '23		1093	1095
1095	Reinstatement	1 day	Feb 14 '23	Feb 14 '23		1094	1097
1096	CH510 to CH540 (30m)	22 days	Feb 15 '23	Mar 8 '23			
1097	TTA establishment	1 day	Feb 15 '23	Feb 15 '23		1095	1098
1098	Hard material excavation and disposal	1 day	Feb 16 '23	Feb 16 '23		1097	1099
1099	Soil excavation , laying sheetpile and disposal	3 days	Feb 17 '23	Feb 19 '23		1098	1100
1100	Treatment of bedding	1 day	Feb 20 '23	Feb 20 '23		1099	1101
1101	Pipe laying D.I.	1 day	Feb 21 '23	Feb 21 '23		1100	1102
1102	Backfilling general fill and compaction	14 days	Feb 22 '23	Mar 7 '23		1101	1103
1103	Reinstatement	1 day	Mar 8 '23	Mar 8 '23		1102	1105



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Task
Split
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External Milestone
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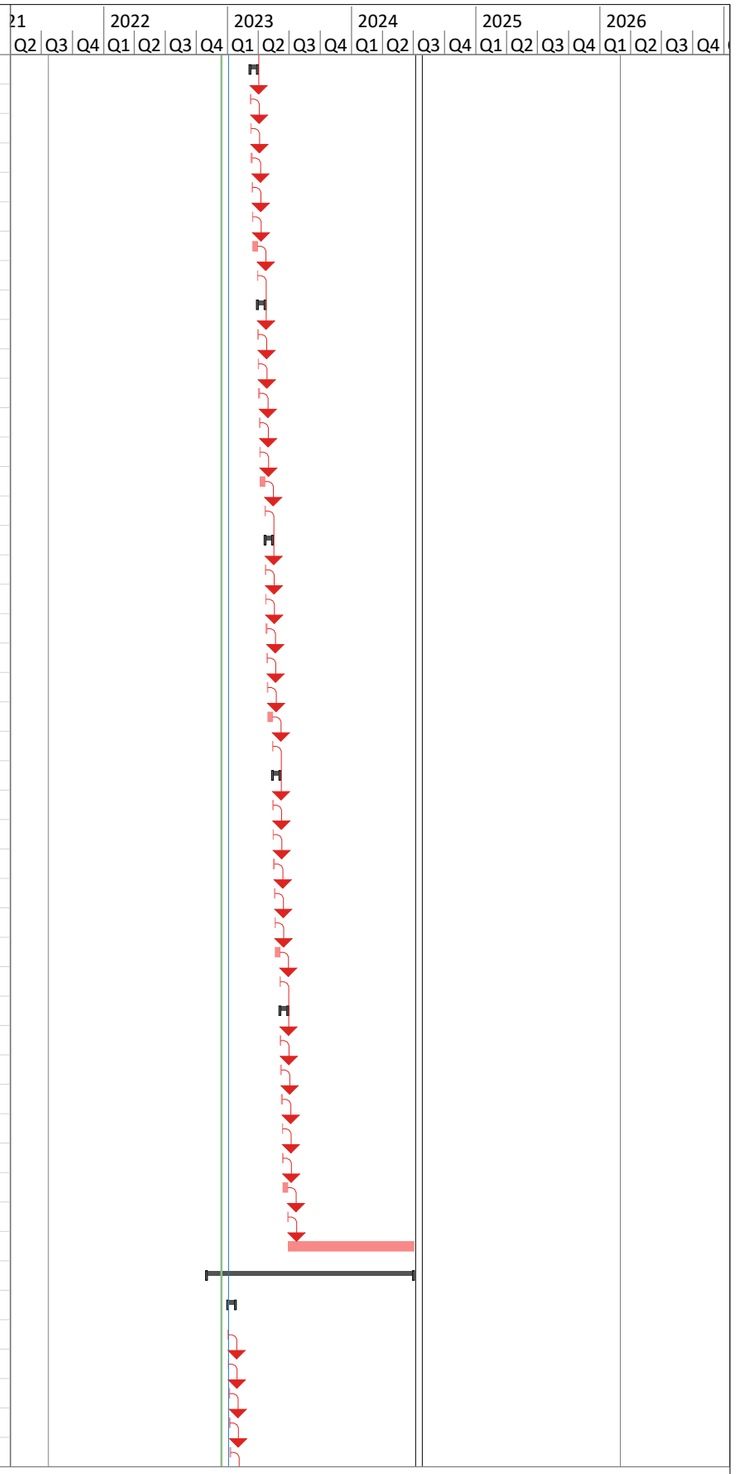
Critical
Critical Split
Progress
Manual Progress

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1104	CH540 to CH570 (30m)	22 days	Mar 9 '23	Mar 30 '23			
1105	TTA establishment	1 day	Mar 9 '23	Mar 9 '23		1103	1106
1106	Hard material excavation and disposal	1 day	Mar 10 '23	Mar 10 '23		1105	1107
1107	Soil excavation , laying sheetpile and disposal	3 days	Mar 11 '23	Mar 13 '23		1106	1108
1108	Treatment of bedding	1 day	Mar 14 '23	Mar 14 '23		1107	1109
1109	Pipe laying D.I.	1 day	Mar 15 '23	Mar 15 '23		1108	1110
1110	Backfilling general fill and compaction	14 days	Mar 16 '23	Mar 29 '23		1109	1111
1111	Reinstatement	1 day	Mar 30 '23	Mar 30 '23		1110	1113
1112	CH570 to CH610 (30m)	22 days	Mar 31 '23	Apr 21 '23			
1113	TTA establishment	1 day	Mar 31 '23	Mar 31 '23		1111	1114
1114	Hard material excavation and disposal	1 day	Apr 1 '23	Apr 1 '23		1113	1115
1115	Soil excavation , laying sheetpile and disposal	3 days	Apr 2 '23	Apr 4 '23		1114	1116
1116	Treatment of bedding	1 day	Apr 5 '23	Apr 5 '23		1115	1117
1117	Pipe laying D.I.	1 day	Apr 6 '23	Apr 6 '23		1116	1118
1118	Backfilling general fill and compaction	14 days	Apr 7 '23	Apr 20 '23		1117	1119
1119	Reinstatement	1 day	Apr 21 '23	Apr 21 '23		1118	1121
1120	CH610 to CH640 (30m)	22 days	Apr 22 '23	May 13 '23			
1121	TTA establishment	1 day	Apr 22 '23	Apr 22 '23		1119	1122
1122	Hard material excavation and disposal	1 day	Apr 23 '23	Apr 23 '23		1121	1123
1123	Soil excavation , laying sheetpile and disposal	3 days	Apr 24 '23	Apr 26 '23		1122	1124
1124	Treatment of bedding	1 day	Apr 27 '23	Apr 27 '23		1123	1125
1125	Pipe laying D.I.	1 day	Apr 28 '23	Apr 28 '23		1124	1126
1126	Backfilling general fill and compaction	14 days	Apr 29 '23	May 12 '23		1125	1127
1127	Reinstatement	1 day	May 13 '23	May 13 '23		1126	1129
1128	CH640 to CH670 (30m)	22 days	May 14 '23	Jun 4 '23			
1129	TTA establishment	1 day	May 14 '23	May 14 '23		1127	1130
1130	Hard material excavation and disposal	1 day	May 15 '23	May 15 '23		1129	1131
1131	Soil excavation , laying sheetpile and disposal	3 days	May 16 '23	May 18 '23		1130	1132
1132	Treatment of bedding	1 day	May 19 '23	May 19 '23		1131	1133
1133	Pipe laying D.I.	1 day	May 20 '23	May 20 '23		1132	1134
1134	Backfilling general fill and compaction	14 days	May 21 '23	Jun 3 '23		1133	1135
1135	Reinstatement	1 day	Jun 4 '23	Jun 4 '23		1134	1137
1136	CH670 to CH710 (30m)	23 days	Jun 5 '23	Jun 27 '23			
1137	TTA establishment	1 day	Jun 5 '23	Jun 5 '23		1135	1138
1138	Hard material excavation and disposal	2 days	Jun 6 '23	Jun 7 '23		1137	1139
1139	Soil excavation , laying sheetpile and disposal	3 days	Jun 8 '23	Jun 10 '23		1138	1140
1140	Treatment of bedding	1 day	Jun 11 '23	Jun 11 '23		1139	1141
1141	Pipe laying D.I.	1 day	Jun 12 '23	Jun 12 '23		1140	1142
1142	Backfilling general fill and compaction	14 days	Jun 13 '23	Jun 26 '23		1141	1143
1143	Reinstatement	1 day	Jun 27 '23	Jun 27 '23		1142	1144
1144	Remaining Section of Tin Ping Road (1287m)	370 days	Jun 28 '23	Jul 1 '24		1143	
1145	Sha Tau Kok Road (869m)	609 days	Nov 1 '22	Jul 1 '24			
1146	CH3580 to CH3550 (30m)	23 days	Jan 2 '23	Jan 24 '23			
1147	TTA establishment	1 day	Jan 2 '23	Jan 2 '23			1148
1148	Hard material excavation and disposal	1 day	Jan 3 '23	Jan 3 '23		1147	1149
1149	Soil excavation , laying sheetpile and disposal	3 days	Jan 4 '23	Jan 6 '23		1148	1150
1150	Treatment of bedding	1 day	Jan 7 '23	Jan 7 '23		1149	1151
1151	Pipe laying D.I.	2 days	Jan 8 '23	Jan 9 '23		1150	1152



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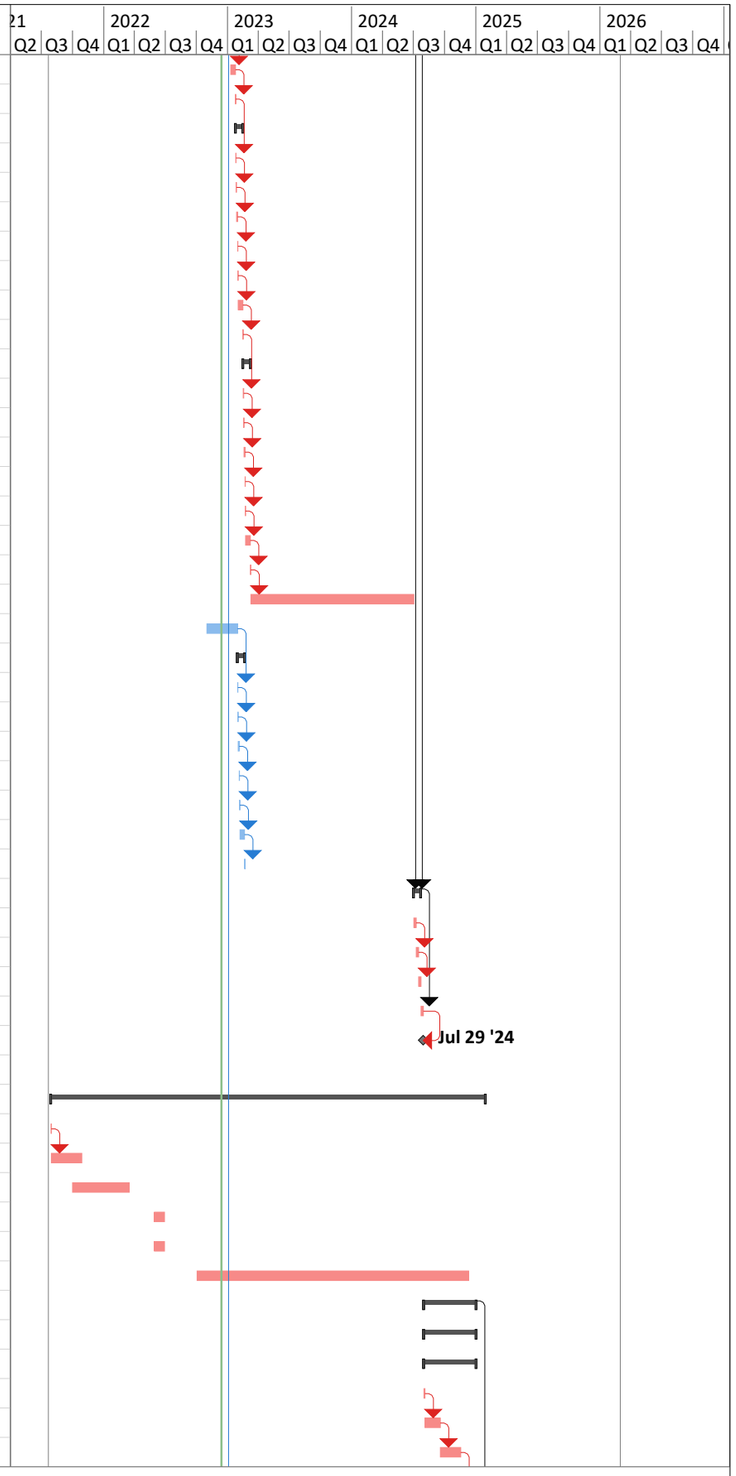
Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

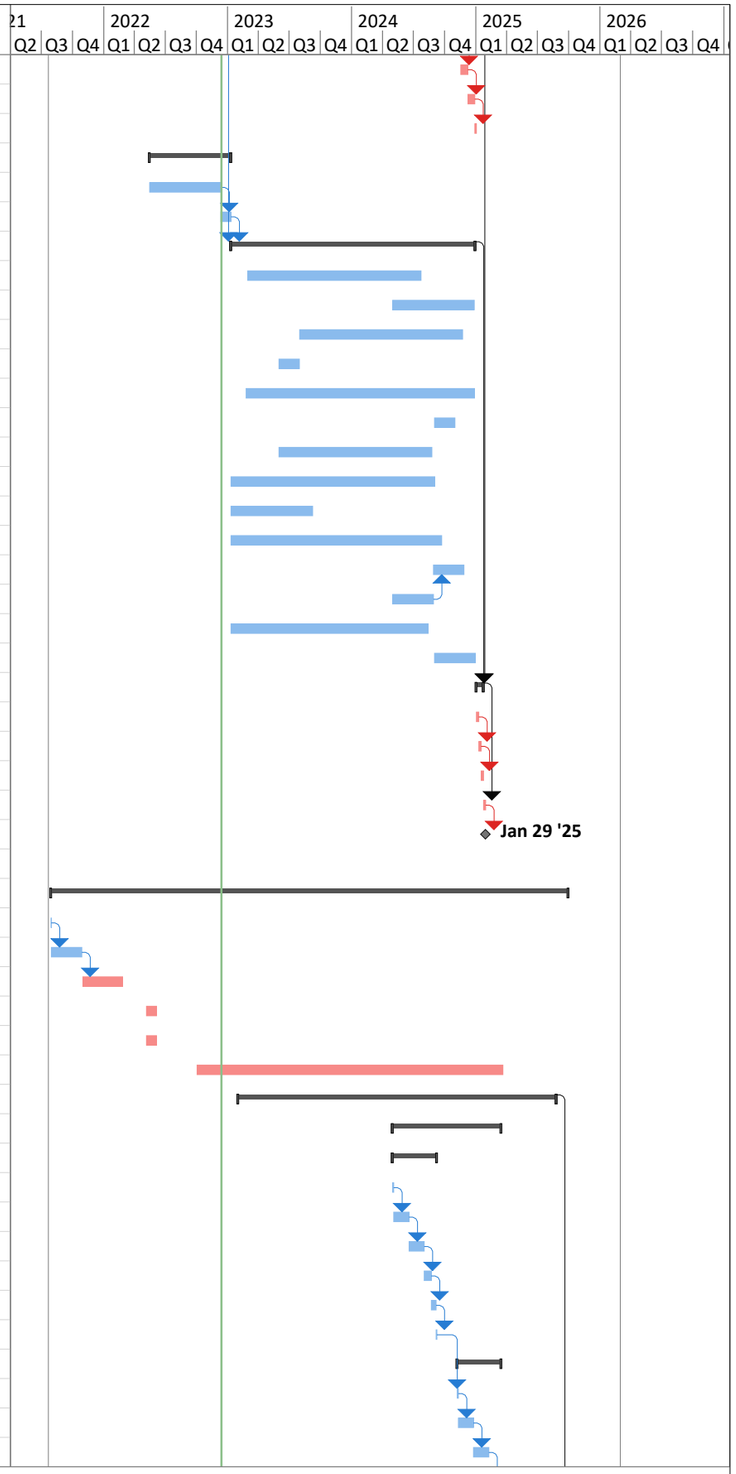
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1152	Backfilling general fill and compaction	14 days	Jan 10 '23	Jan 23 '23		1151	1153
1153	Reinstatement	1 day	Jan 24 '23	Jan 24 '23		1152	1155
1154	CH3550 to CH3520 (30m)	22 days	Jan 25 '23	Feb 15 '23			
1155	TTA establishment	1 day	Jan 25 '23	Jan 25 '23		1153	1156
1156	Hard material excavation and disposal	1 day	Jan 26 '23	Jan 26 '23		1155	1157
1157	Soil excavation , laying sheetpile and disposal	3 days	Jan 27 '23	Jan 29 '23		1156	1158
1158	Treatment of bedding	1 day	Jan 30 '23	Jan 30 '23		1157	1159
1159	Pipe laying D.I.	1 day	Jan 31 '23	Jan 31 '23		1158	1160
1160	Backfilling general fill and compaction	14 days	Feb 1 '23	Feb 14 '23		1159	1161
1161	Reinstatement	1 day	Feb 15 '23	Feb 15 '23		1160	1163
1162	CH3520 to CH3490 (30m)	22 days	Feb 16 '23	Mar 9 '23			
1163	TTA establishment	1 day	Feb 16 '23	Feb 16 '23		1161	1164
1164	Hard material excavation and disposal	1 day	Feb 17 '23	Feb 17 '23		1163	1165
1165	Soil excavation , laying sheetpile and disposal	3 days	Feb 18 '23	Feb 20 '23		1164	1166
1166	Treatment of bedding	1 day	Feb 21 '23	Feb 21 '23		1165	1167
1167	Pipe laying D.I.	1 day	Feb 22 '23	Feb 22 '23		1166	1168
1168	Backfilling general fill and compaction	14 days	Feb 23 '23	Mar 8 '23		1167	1169
1169	Reinstatement	1 day	Mar 9 '23	Mar 9 '23		1168	1170
1170	Remaining Section of Sha Tau Kok Road	480 days	Mar 10 '23	Jul 1 '24		1169	
1171	Interface coordination with Contract ND/2019/04	90 days	Nov 1 '22	Jan 29 '23			1173
1172	CH2600 to CH2800 (200m)	22 days	Jan 30 '23	Feb 20 '23			
1173	TTA establishment	1 day	Jan 30 '23	Jan 30 '23		1171	1174
1174	Hard material excavation and disposal	1 day	Jan 31 '23	Jan 31 '23		1173	1175
1175	Soil excavation , laying sheetpile and disposal	3 days	Feb 1 '23	Feb 3 '23		1174	1176
1176	Treatment of bedding	1 day	Feb 4 '23	Feb 4 '23		1175	1177
1177	Pipe laying D.I.	1 day	Feb 5 '23	Feb 5 '23		1176	1178
1178	Backfilling general fill and compaction	14 days	Feb 6 '23	Feb 19 '23		1177	1179
1179	Reinstatement	1 day	Feb 20 '23	Feb 20 '23		1178	
1180	**Overall testing**	**21 days**	**Jul 2 '24**	**Jul 22 '24**		**960,997**	**1184**
1181	Swabbing	7 days	Jul 2 '24	Jul 8 '24			1182
1182	CCTV	7 days	Jul 9 '24	Jul 15 '24		1181	1183
1183	Hydrostatic pressure test	7 days	Jul 16 '24	Jul 22 '24		1182	
1184	Pipe connection and completion	7 days	Jul 23 '24	Jul 29 '24		1180	1185FF
1185	Planned completion for section 5	0 days	Jul 29 '24	Jul 29 '24		1184FF	
1186							
1187	**Section 6 - Water main laying works in part 5 of the Site**	**1280 days**	**Jul 30 '21**	**Jan 29 '25**			
1188	Access Date (part 5 of the Site)	1 day	Jul 30 '21	Jul 30 '21			1189
1189	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		1188	
1190	Application and approval of XP and TTA	167 days	Oct 1 '21	Mar 16 '22			
1191	Procurement and Delivery of pipes, fittings and related materials	30 days	May 30 '22	Jun 28 '22			
1192	Submission and acceptance of method statement and material	30 days	May 30 '22	Jun 28 '22			
1193	Excavation of Inspection Pit	800 days	Oct 3 '22	Dec 10 '24			
1194	**Mainlaying by trenchless method**	**154 days**	**Aug 1 '24**	**Jan 1 '25**			**1221**
1195	**RW06 : DN300 DI pipe (trenchless)**	**154 days**	**Aug 1 '24**	**Jan 1 '25**			
1196	**Jocky Club Road (100m) - TBM Method**	**154 days**	**Aug 1 '24**	**Jan 1 '25**			
1197	TTA implementation	3 days	Aug 1 '24	Aug 3 '24			1198
1198	Contruction of jacking pit and receiving pit	45 days	Aug 4 '24	Sep 17 '24		1197	1199
1199	Trenchless works and pipe laying	60 days	Sep 18 '24	Nov 16 '24		1198	1200



Project: 3WSD20 Programme
Date: Dec 14 '22

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

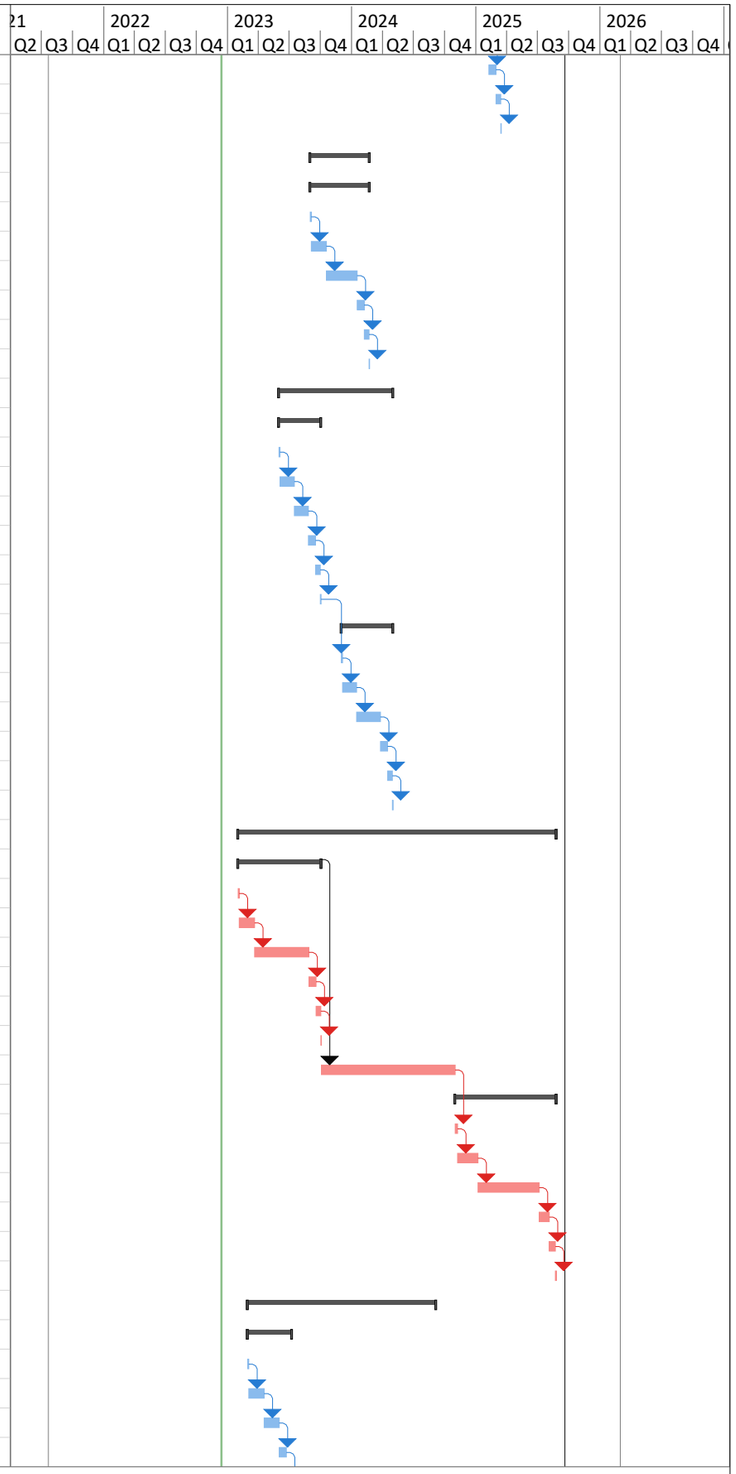
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1200	Manhole / Chamber construction	21 days	Nov 17 '24	Dec 7 '24		1199	1201
1201	Backfilling and compaction	21 days	Dec 8 '24	Dec 28 '24		1200	1202
1202	Reinstatement	4 days	Dec 29 '24	Jan 1 '25		1201	
1203	**Contractor's Design and Construction of distribution mains**	**240 days**	**May 16 '22**	**Jan 10 '23**			
1204	Submission and acceptance of detailed design proposal	210 days	May 16 '22	Dec 11 '22			1205
1205	Site investigation and liaison with relevant parties	30 days	Dec 12 '22	Jan 10 '23		1204	1206
1206	**Mainlaying by open trench method**	**719 days**	**Jan 11 '23**	**Dec 29 '24**		**1205,61**	**1221**
1207	RW41 (DN150) - Sheung Shui Tung Hing Road (288m)	510 days	Mar 1 '23	Jul 22 '24			
1208	RW42 (DN150) - No name road in Sheung Shui Heung (210m)	240 days	May 1 '24	Dec 26 '24			
1209	RW71 (DN150) - Jockey Club Road (308m)	480 days	Aug 1 '23	Nov 22 '24			
1210	RW44 (DN150) - Jockey Club Road (38m)	60 days	Jun 1 '23	Jul 30 '23			
1211	RW11 (DN150) - Fung Nam Road (480m)	673 days	Feb 24 '23	Dec 27 '24	30		
1212	RW46 (DN150) - Fung Nam Lane (38m)	60 days	Sep 1 '24	Oct 30 '24			
1213	RW06 (DN300) - Lung Sum Avenue (290m)	450 days	Jun 1 '23	Aug 23 '24			
1214	RW05 (DN400) - Jockey Club Road (377m)	600 days	Jan 11 '23	Sep 1 '24	15		
1215	RW15 (DN150) - Sun Fung Road / Sun Shing Road (390m)	240 days	Jan 11 '23	Sep 7 '23			
1216	RW18 (DN150) - San Hong Street (464m)	620 days	Jan 11 '23	Sep 21 '24			
1217	RW20 (DN150) - Sun Wing Street (52m)	90 days	Aug 29 '24	Nov 26 '24		1218	
1218	RW45 (DN150) - Tsun Fu Street (82m)	120 days	May 1 '24	Aug 28 '24			1217
1219	RW14 (DN150) - Fu Hing Street (372m)	580 days	Jan 11 '23	Aug 12 '24			
1220	RW21 (DN150) - Sun Fat Street (105m)	120 days	Sep 1 '24	Dec 29 '24			
1221	Overall testing	21 days	Jan 2 '25	Jan 22 '25		1194,1206	1225
1222	Swabbing	7 days	Jan 2 '25	Jan 8 '25			1223
1223	CCTV	7 days	Jan 9 '25	Jan 15 '25		1222	1224
1224	Hydrostatic pressure test	7 days	Jan 16 '25	Jan 22 '25		1223	
1225	Pipe connection and completion	7 days	Jan 23 '25	Jan 29 '25		1221	1226
1226	Planned completion for section 6	0 days	Jan 29 '25	Jan 29 '25		1225	
1227							
1228	**Section 7 - Water main laying works in part 6 of the Site**	**1523 days**	**Jul 30 '21**	**Sep 29 '25**			
1229	Access Date (part 6 of the Site)	1 day	Jul 30 '21	Jul 30 '21			1230
1230	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		1229	1231
1231	Application and approval of XP and TTA	117 days	Nov 1 '21	Feb 25 '22		1230	
1232	Procurement and Delivery of pipes, fittings and related materials	30 days	May 7 '22	Jun 5 '22			
1233	Submission and acceptance of method statement and material	30 days	May 7 '22	Jun 5 '22			
1234	Excavation of Inspection Pit	900 days	Oct 3 '22	Mar 20 '25			
1235	**Mainlaying by trenchless method**	**937 days**	**Feb 1 '23**	**Aug 25 '25**			**1357**
1236	**RW05 : DN400 DI pipe (trenchless)**	**320 days**	**May 1 '24**	**Mar 16 '25**			
1237	**Fu Hing Street (75m) - TBM Method**	**130 days**	**May 1 '24**	**Sep 7 '24**			
1238	TTA implementation	3 days	May 1 '24	May 3 '24			1239
1239	Contruction of jacking pit and receiving pit	45 days	May 4 '24	Jun 17 '24		1238	1240
1240	Trenchless works and pipe laying	45 days	Jun 18 '24	Aug 1 '24		1239	1241
1241	Manhole / Chamber construction	21 days	Aug 2 '24	Aug 22 '24		1240	1242
1242	Backfilling and compaction	14 days	Aug 23 '24	Sep 5 '24		1241	1243
1243	Reinstatement	2 days	Sep 6 '24	Sep 7 '24		1242	1245FS+60 days
1244	**Luen Sum Road (70m) - TBM Method**	**130 days**	**Nov 7 '24**	**Mar 16 '25**			
1245	TTA implementation	3 days	Nov 7 '24	Nov 9 '24		1243FS+60 days	1246
1246	Contruction of jacking pit and receiving pit	45 days	Nov 10 '24	Dec 24 '24		1245	1247
1247	Trenchless works and pipe laying	45 days	Dec 25 '24	Feb 7 '25		1246	1248



Project: 3WSD20 Programme
Date: Dec 14 '22

Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress	
Split	Inactive Milestone	Manual Summary	Deadline		
Milestone	Inactive Summary	Start-only	Critical		
Summary	Manual Task	Finish-only	Critical Split		
Project Summary	Duration-only	External Tasks	Progress		

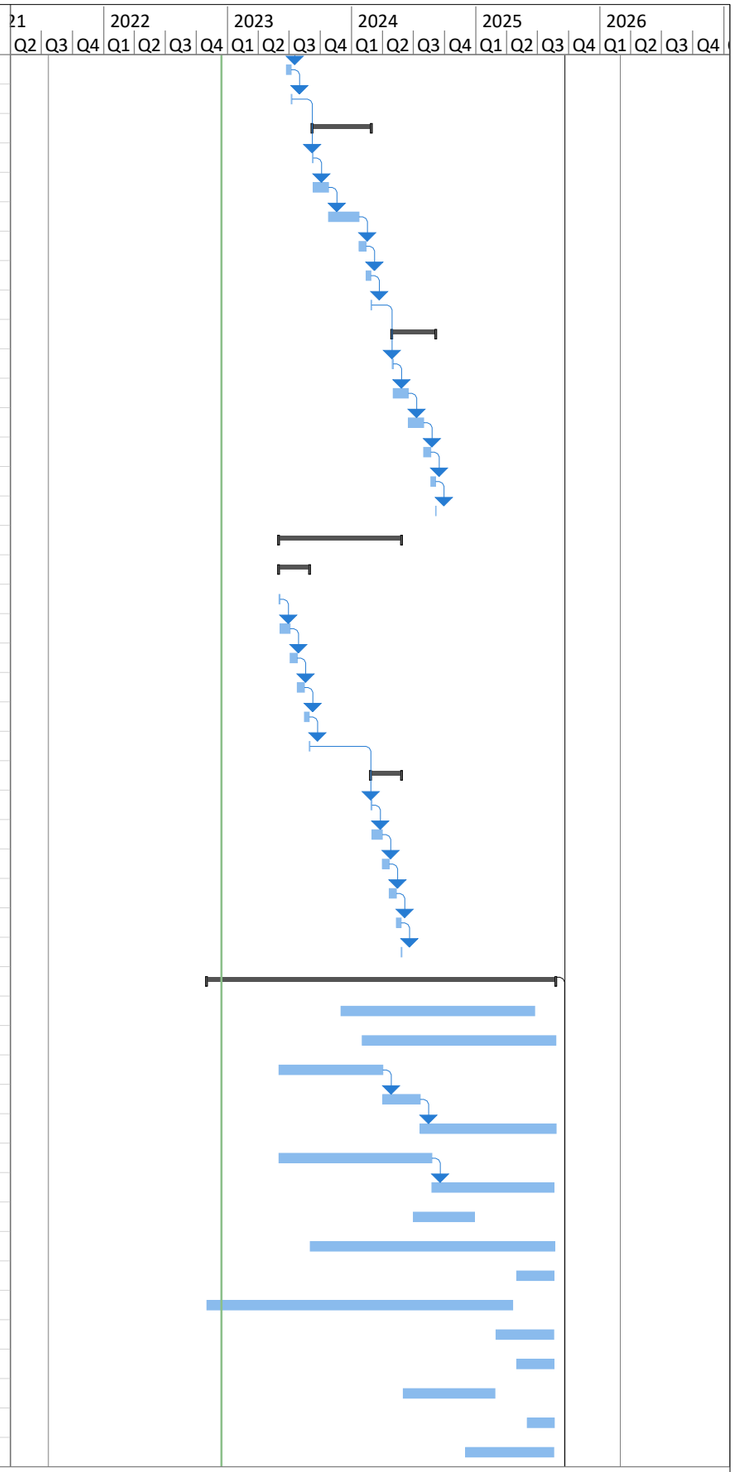
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1248	Manhole / Chamber construction	21 days	Feb 8 '25	Feb 28 '25		1247	1249
1249	Backfilling and compaction	14 days	Mar 1 '25	Mar 14 '25		1248	1250
1250	Reinstatement	2 days	Mar 15 '25	Mar 16 '25		1249	
1251	**RW05 : DN300 DI pipe (trenchless)**	**175 days**	**Sep 1 '23**	**Feb 22 '24**			
1252	**Ma Sik Road (180m) - TBM Method**	**175 days**	**Sep 1 '23**	**Feb 22 '24**			
1253	TTA implementation	3 days	Sep 1 '23	Sep 3 '23			1254
1254	Contruction of jacking pit and receiving pit	45 days	Sep 4 '23	Oct 18 '23		1253	1255
1255	Trenchless works and pipe laying	90 days	Oct 19 '23	Jan 16 '24		1254	1256
1256	Manhole / Chamber construction	21 days	Jan 17 '24	Feb 6 '24		1255	1257
1257	Backfilling and compaction	14 days	Feb 7 '24	Feb 20 '24		1256	1258
1258	Reinstatement	2 days	Feb 21 '24	Feb 22 '24		1257	
1259	**RW08 : DN400 DI pipe (trenchless)**	**336 days**	**Jun 1 '23**	**May 1 '24**			
1260	**Wo Muk Road (60m) - TBM Method**	**124 days**	**Jun 1 '23**	**Oct 2 '23**			
1261	TTA implementation	3 days	Jun 1 '23	Jun 3 '23			1262
1262	Contruction of jacking pit and receiving pit	42 days	Jun 4 '23	Jul 15 '23		1261	1263
1263	Trenchless works and pipe laying	42 days	Jul 16 '23	Aug 26 '23		1262	1264
1264	Manhole / Chamber construction	21 days	Aug 27 '23	Sep 16 '23		1263	1265
1265	Backfilling and compaction	14 days	Sep 17 '23	Sep 30 '23		1264	1266
1266	Reinstatement	2 days	Oct 1 '23	Oct 2 '23		1265	1268FS+60 days
1267	**Wo Tai Street (100m) - TBM Method**	**152 days**	**Dec 2 '23**	**May 1 '24**			
1268	TTA implementation	3 days	Dec 2 '23	Dec 4 '23		1266FS+60 days	1269
1269	Contruction of jacking pit and receiving pit	42 days	Dec 5 '23	Jan 15 '24		1268	1270
1270	Trenchless works and pipe laying	70 days	Jan 16 '24	Mar 25 '24		1269	1271
1271	Manhole / Chamber construction	21 days	Mar 26 '24	Apr 15 '24		1270	1272
1272	Backfilling and compaction	14 days	Apr 16 '24	Apr 29 '24		1271	1273
1273	Reinstatement	2 days	Apr 30 '24	May 1 '24		1272	
1274	**RW09 : DN450 DI pipe (trenchless)**	**937 days**	**Feb 1 '23**	**Aug 25 '25**			
1275	**San Wang Road (435m) - TBM Method**	**245 days**	**Feb 1 '23**	**Oct 3 '23**			**1282**
1276	TTA implementation	3 days	Feb 1 '23	Feb 3 '23			1277
1277	Contruction of jacking pit and receiving pit	45 days	Feb 4 '23	Mar 20 '23		1276	1278
1278	Trenchless works and pipe laying	160 days	Mar 21 '23	Aug 27 '23		1277	1279
1279	Manhole / Chamber construction	21 days	Aug 28 '23	Sep 17 '23		1278	1280
1280	Backfilling and compaction	14 days	Sep 18 '23	Oct 1 '23		1279	1281
1281	Reinstatement	2 days	Oct 2 '23	Oct 3 '23		1280	
1282	Submission and acceptance of method statement by MTRC	394 days	Oct 4 '23	Oct 31 '24		1275	1284
1283	**MTRC (315m) - TBM Method**	**298 days**	**Nov 1 '24**	**Aug 25 '25**			
1284	TTA implementation	7 days	Nov 1 '24	Nov 7 '24		1282	1285
1285	Contruction of jacking pit and receiving pit	60 days	Nov 8 '24	Jan 6 '25		1284	1286
1286	Trenchless works and pipe laying	180 days	Jan 7 '25	Jul 5 '25		1285	1287
1287	Manhole / Chamber construction	30 days	Jul 6 '25	Aug 4 '25		1286	1288
1288	Backfilling and compaction	18 days	Aug 5 '25	Aug 22 '25		1287	1289
1289	Reinstatement	3 days	Aug 23 '25	Aug 25 '25		1288	
1290	**RW05 : DN300 DI pipe (trenchless)**	**555 days**	**Mar 1 '23**	**Sep 5 '24**			
1291	**Ling Shan Road (60m) - HDD Method**	**130 days**	**Mar 1 '23**	**Jul 8 '23**			
1292	TTA implementation	3 days	Mar 1 '23	Mar 3 '23			1293
1293	Contruction of jacking pit and receiving pit	45 days	Mar 4 '23	Apr 17 '23		1292	1294
1294	Trenchless works and pipe laying	45 days	Apr 18 '23	Jun 1 '23		1293	1295
1295	Manhole / Chamber construction	21 days	Jun 2 '23	Jun 22 '23		1294	1296



Project: 3WSD20 Programme
Date: Dec 14 '22

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

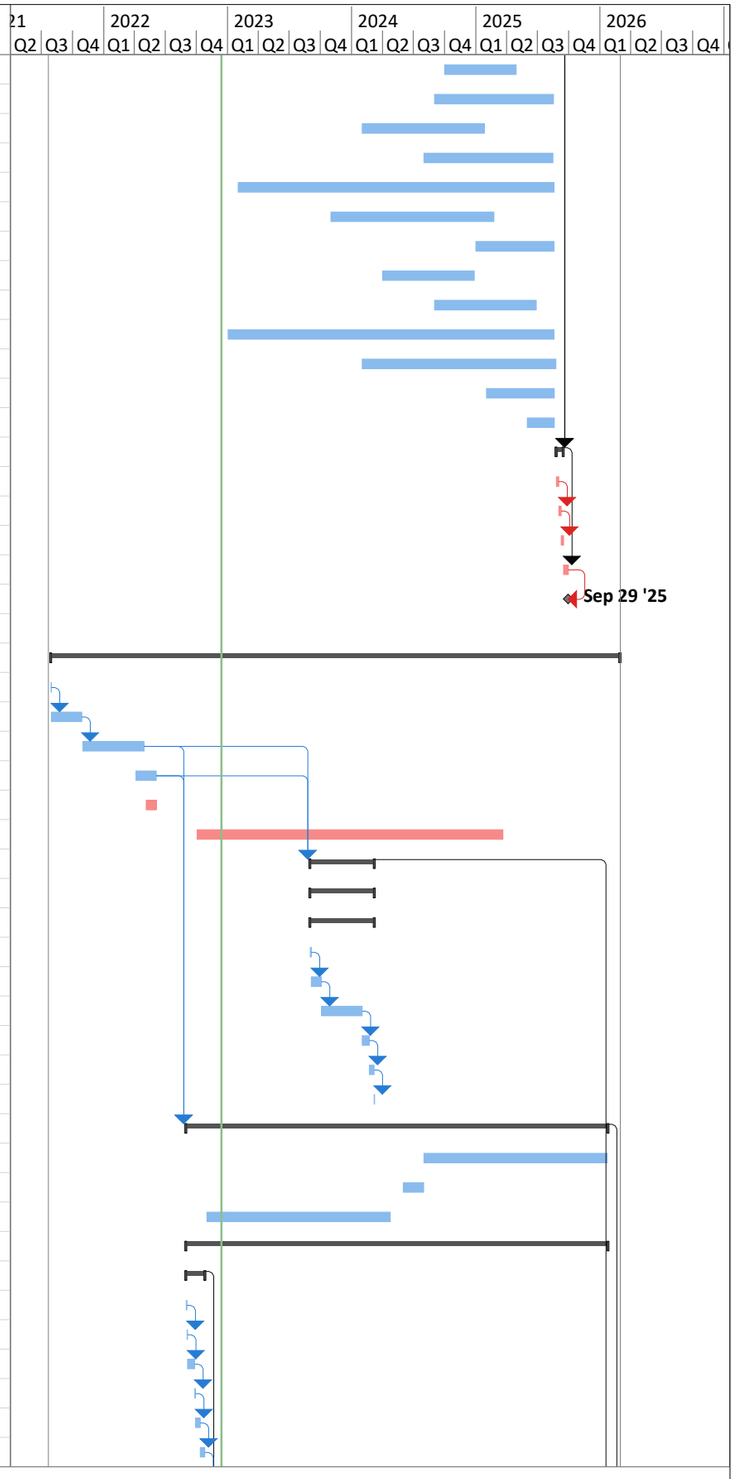
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1296	Backfilling and compaction	14 days	Jun 23 '23	Jul 6 '23		1295	1297
1297	Reinstatement	2 days	Jul 7 '23	Jul 8 '23		1296	1299FS+60 days
1298	**San Wan Road Roundabout (130m) - HDD Method**	**175 days**	**Sep 7 '23**	**Feb 28 '24**			
1299	TTA implementation	3 days	Sep 7 '23	Sep 9 '23		1297FS+60 days	1300
1300	Contruction of jacking pit and receiving pit	45 days	Sep 10 '23	Oct 24 '23		1299	1301
1301	Trenchless works and pipe laying	90 days	Oct 25 '23	Jan 22 '24		1300	1302
1302	Manhole / Chamber construction	21 days	Jan 23 '24	Feb 12 '24		1301	1303
1303	Backfilling and compaction	14 days	Feb 13 '24	Feb 26 '24		1302	1304
1304	Reinstatement	2 days	Feb 27 '24	Feb 28 '24		1303	1306FS+60 days
1305	**Pak Fung Road (70m) - HDD Method**	**130 days**	**Apr 29 '24**	**Sep 5 '24**			
1306	TTA implementation	3 days	Apr 29 '24	May 1 '24		1304FS+60 days	1307
1307	Contruction of jacking pit and receiving pit	45 days	May 2 '24	Jun 15 '24		1306	1308
1308	Trenchless works and pipe laying	45 days	Jun 16 '24	Jul 30 '24		1307	1309
1309	Manhole / Chamber construction	21 days	Jul 31 '24	Aug 20 '24		1308	1310
1310	Backfilling and compaction	14 days	Aug 21 '24	Sep 3 '24		1309	1311
1311	Reinstatement	2 days	Sep 4 '24	Sep 5 '24		1310	
1312	**RW05 : DN300 DI pipe (trenchless)**	**362 days**	**Jun 1 '23**	**May 27 '24**			
1313	**Fanling Way (35m) - Hand Shield Method**	**91 days**	**Jun 1 '23**	**Aug 30 '23**			
1314	TTA implementation	3 days	Jun 1 '23	Jun 3 '23			1315
1315	Contruction of jacking pit and receiving pit	30 days	Jun 4 '23	Jul 3 '23		1314	1316
1316	Trenchless works and pipe laying	21 days	Jul 4 '23	Jul 24 '23		1315	1317
1317	Manhole / Chamber construction	21 days	Jul 25 '23	Aug 14 '23		1316	1318
1318	Backfilling and compaction	14 days	Aug 15 '23	Aug 28 '23		1317	1319
1319	Reinstatement	2 days	Aug 29 '23	Aug 30 '23		1318	1321FS+180 days
1320	**CLP Station (35m) - Hand Shield Method**	**91 days**	**Feb 27 '24**	**May 27 '24**			
1321	TTA implementation	3 days	Feb 27 '24	Feb 29 '24		1319FS+180 days	1322
1322	Contruction of jacking pit and receiving pit	30 days	Mar 1 '24	Mar 30 '24		1321	1323
1323	Trenchless works and pipe laying	21 days	Mar 31 '24	Apr 20 '24		1322	1324
1324	Manhole / Chamber construction	21 days	Apr 21 '24	May 11 '24		1323	1325
1325	Backfilling and compaction	14 days	May 12 '24	May 25 '24		1324	1326
1326	Reinstatement	2 days	May 26 '24	May 27 '24		1325	
1327	**Mainlaying by open trench method**	**1028 days**	**Nov 1 '22**	**Aug 24 '25**			**1357**
1328	RW07 (DN300) - Ma Sik Road (360m)	570 days	Dec 1 '23	Jun 22 '25			
1329	RW05 (DN400) - Jockey Club Road (681m)	570 days	Feb 1 '24	Aug 23 '25			
1330	RW05 (DN300) - Jockey Club Road (720m)	306 days	Jun 1 '23	Apr 1 '24			1331
1331	RW05 (DN300) - Pik Fung Road (270m)	110 days	Apr 2 '24	Jul 20 '24		1330	1332
1332	RW05 (DN300) - Sun Wan Road (945m)	400 days	Jul 21 '24	Aug 24 '25	30	1331	
1333	RW08 (DN400) - Fanling Lau Road (750m)	450 days	Jun 1 '23	Aug 23 '24			1334
1334	RW08 (DN400) - Lok Yip Road (616m)	360 days	Aug 24 '24	Aug 18 '25		1333	
1335	RW17 (DN150) - Sun Shing Road (114m)	180 days	Jul 1 '24	Dec 27 '24			
1336	RW16 (DN250) - Sun Fung Road / Lung Sum Avenue (741m)	720 days	Sep 1 '23	Aug 20 '25			
1337	RW47 (DN100) - Ben Lun Building (82m)	110 days	May 1 '25	Aug 18 '25			
1338	RW22 (DN150) - Chi Cheong Street (877m)	900 days	Nov 1 '22	Apr 18 '25			
1339	RW24 (DN150) - Chi Ming Street (120m)	170 days	Mar 1 '25	Aug 17 '25			
1340	RW49 (DN150) - San Wan Road (75m)	110 days	May 1 '25	Aug 18 '25			
1341	RW23 (DN150) - Lung Wan Street (171m)	270 days	Jun 1 '24	Feb 25 '25			
1342	RW69 (DN150) - Lung Sum Lane (60m)	80 days	Jun 1 '25	Aug 19 '25			
1343	RW25 (DN150) - Road to Fanling Wai (330m)	260 days	Dec 1 '24	Aug 17 '25			



Project: 3WSD20 Programme
Date: Dec 14 '22

Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

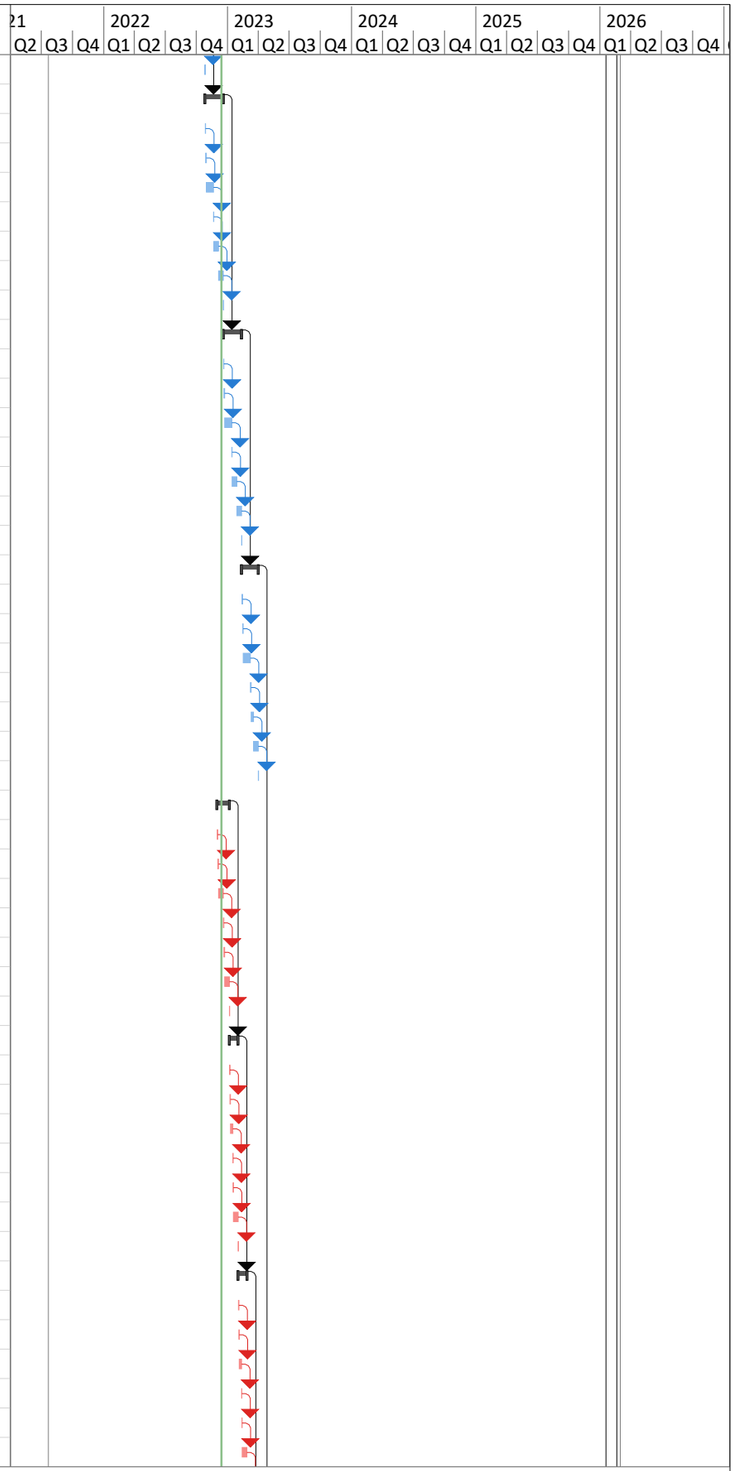
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1344	RW26 (DN150) - Ka Siu Road (133m)	210 days	Oct 1 '24	Apr 28 '25			
1345	RW27 (DN150) - Fanling Station Road (273m)	350 days	Sep 1 '24	Aug 16 '25			
1346	RW34 (DN150) - Fan Leng Lau (380m)	360 days	Feb 1 '24	Jan 25 '25			
1347	RW36 (DN150) - Lok Fung Street (495m)	380 days	Aug 1 '24	Aug 15 '25			
1348	RW13 (DN150) - Wo Tai Street (630m)	930 days	Feb 1 '23	Aug 18 '25			
1349	RW28 (DN150) - Wo Mun Street (312m)	480 days	Nov 1 '23	Feb 22 '25			
1350	RW31 (DN150) - Luen Cheong Street (185m)	230 days	Jan 1 '25	Aug 18 '25			
1351	RW32 (DN150) - Luen Shing Street (185m)	270 days	Apr 1 '24	Dec 26 '24			
1352	RW33 (DN150) - Luen Hing Street (199m)	300 days	Sep 1 '24	Jun 27 '25			
1353	RW30 (DN150) - Luen On Street / Luen Wo Road / Luen Fai Street (649m)	960 days	Jan 2 '23	Aug 18 '25			
1354	RW29 (DN150) - Wo Muk Street / Luen Hing Street (360m)	570 days	Feb 1 '24	Aug 23 '25			
1355	RW12 (DN150) - Luen Chit Street (120m)	200 days	Feb 1 '25	Aug 19 '25			
1356	RW55 (DN150) - Mount One (44m)	80 days	Jun 1 '25	Aug 19 '25			
1357	Overall testing	21 days	Aug 26 '25	Sep 15 '25		1235,1327	1361
1358	Swabbing	7 days	Aug 26 '25	Sep 1 '25			1359
1359	CCTV	7 days	Sep 2 '25	Sep 8 '25		1358	1360
1360	Hydrostatic pressure test	7 days	Sep 9 '25	Sep 15 '25		1359	
1361	Pipe connection and completion	14 days	Sep 16 '25	Sep 29 '25		1357	1362FF
1362	Planned completion for section 7	0 days	Sep 29 '25	Sep 29 '25		1361FF	
1363							
1364	**Section 8 - Water main laying works in part 7 of the Site**	**1676 days**	**Jul 30 '21**	**Mar 1 '26**			
1365	Access Date (part 7 of the Site)	1 day	Jul 30 '21	Jul 30 '21			1366
1366	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		1365	1367
1367	Application and approval of XP and TTA	180 days	Nov 1 '21	Apr 29 '22		1366	1371,1380
1368	Procurement and Delivery of pipes, fittings and related materials	60 days	Apr 6 '22	Jun 4 '22			1371,1380
1369	Submission and acceptance of method statement and material	30 days	May 6 '22	Jun 4 '22			
1370	Excavation of Inspection Pit	900 days	Oct 3 '22	Mar 20 '25			
1371	**Mainlaying by trenchless method**	**190 days**	**Sep 1 '23**	**Mar 8 '24**		**1368,1367**	**1520**
1372	**RW05 : DN300 DI pipe (trenchless)**	**190 days**	**Sep 1 '23**	**Mar 8 '24**			
1373	**Jocky Club Road (110m) - TBM Method**	**190 days**	**Sep 1 '23**	**Mar 8 '24**			
1374	TTA implementation	3 days	Sep 1 '23	Sep 3 '23			1375
1375	Contruction of jacking pit and receiving pit	30 days	Sep 4 '23	Oct 3 '23		1374	1376
1376	Trenchless works and pipe laying	120 days	Oct 4 '23	Jan 31 '24		1375	1377
1377	Manhole / Chamber construction	21 days	Feb 1 '24	Feb 21 '24		1376	1378
1378	Backfilling and compaction	14 days	Feb 22 '24	Mar 6 '24		1377	1379
1379	Reinstatement	2 days	Mar 7 '24	Mar 8 '24		1378	
1380	**Mainlaying by open trench method**	**1243 days**	**Sep 1 '22**	**Jan 25 '26**		**1368,1367**	**1520**
1381	RW38 (DN150) - Yip Cheong Street (351m)	540 days	Aug 1 '24	Jan 22 '26			
1382	RW39 (DN150) - Yip Cheong Street (14m)	60 days	Jun 1 '24	Jul 30 '24			
1383	RW37 (DN150) - Yip Wo Street (420m)	540 days	Nov 1 '22	Apr 23 '24			
1384	RW10 (DN300) - On Lok Mun Street (930m)	1243 days	Sep 1 '22	Jan 25 '26			
1385	CH550 to CH580 (30m)	56 days	Sep 1 '22	Oct 26 '22			1393
1386	TTA establishment	2 days	Sep 1 '22	Sep 2 '22			1387
1387	Hard material excavation and disposal	2 days	Sep 3 '22	Sep 4 '22		1386	1388
1388	Soil excavation , laying sheetpile and disposal	21 days	Sep 5 '22	Sep 25 '22		1387	1389
1389	Treatment of bedding	2 days	Sep 26 '22	Sep 27 '22		1388	1390
1390	Pipe laying D.I.	14 days	Sep 28 '22	Oct 11 '22		1389	1391
1391	Backfilling general fill and compaction	14 days	Oct 12 '22	Oct 25 '22		1390	1392



Project: 3WSD20 Programme
Date: Dec 14 '22

Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

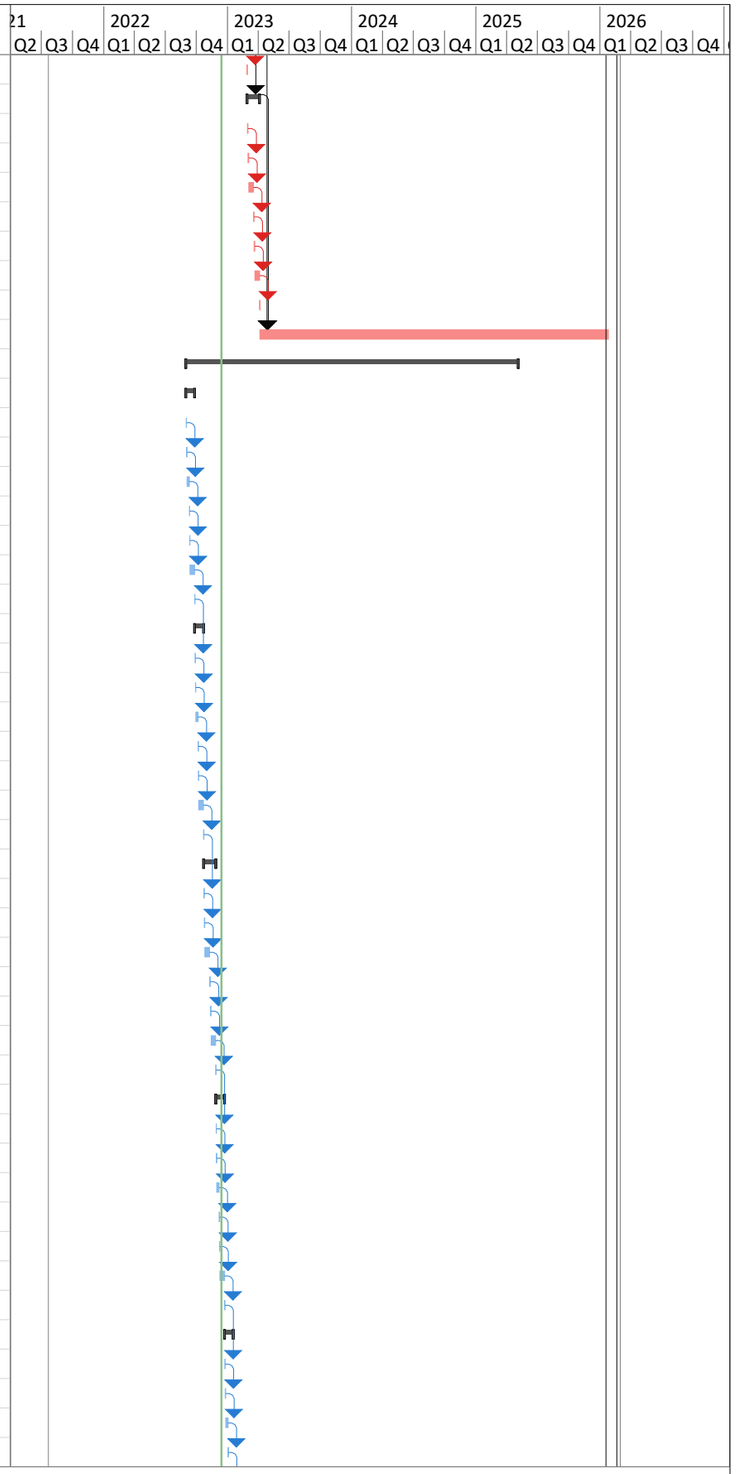
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1392	Reinstatement	1 day	Oct 26 '22	Oct 26 '22		1391	
1393	CH520 to CH550 (30m)	54 days	Oct 27 '22	Dec 19 '22		1385	1401
1394	TTA establishment	1 day	Oct 27 '22	Oct 27 '22			1395
1395	Hard material excavation and disposal	2 days	Oct 28 '22	Oct 29 '22		1394	1396
1396	Soil excavation , laying sheetpile and disposal	21 days	Oct 30 '22	Nov 19 '22		1395	1397
1397	Treatment of bedding	1 day	Nov 20 '22	Nov 20 '22		1396	1398
1398	Pipe laying D.I.	14 days	Nov 21 '22	Dec 4 '22		1397	1399
1399	Backfilling general fill and compaction	14 days	Dec 5 '22	Dec 18 '22		1398	1400
1400	Reinstatement	1 day	Dec 19 '22	Dec 19 '22		1399	
1401	CH490 to CH520 (30m)	54 days	Dec 20 '22	Feb 11 '23		1393	1409
1402	TTA establishment	1 day	Dec 20 '22	Dec 20 '22			1403
1403	Hard material excavation and disposal	2 days	Dec 21 '22	Dec 22 '22		1402	1404
1404	Soil excavation , laying sheetpile and disposal	21 days	Dec 23 '22	Jan 12 '23		1403	1405
1405	Treatment of bedding	1 day	Jan 13 '23	Jan 13 '23		1404	1406
1406	Pipe laying D.I.	14 days	Jan 14 '23	Jan 27 '23		1405	1407
1407	Backfilling general fill and compaction	14 days	Jan 28 '23	Feb 10 '23		1406	1408
1408	Reinstatement	1 day	Feb 11 '23	Feb 11 '23		1407	
1409	CH580 to CH610 (30m)	49 days	Feb 12 '23	Apr 1 '23		1401	1449
1410	TTA establishment	2 days	Feb 12 '23	Feb 13 '23			1411
1411	Hard material excavation and disposal	2 days	Feb 14 '23	Feb 15 '23		1410	1412
1412	Soil excavation , laying sheetpile and disposal	21 days	Feb 16 '23	Mar 8 '23		1411	1413
1413	Treatment of bedding	2 days	Mar 9 '23	Mar 10 '23		1412	1414
1414	Pipe laying D.I.	7 days	Mar 11 '23	Mar 17 '23		1413	1415
1415	Backfilling general fill and compaction	14 days	Mar 18 '23	Mar 31 '23		1414	1416
1416	Reinstatement	1 day	Apr 1 '23	Apr 1 '23		1415	
1417	CH170 to CH200 (30m)	37 days	Dec 1 '22	Jan 6 '23			1425
1418	TTA establishment	2 days	Dec 1 '22	Dec 2 '22			1419
1419	Hard material excavation and disposal	2 days	Dec 3 '22	Dec 4 '22		1418	1420
1420	Soil excavation , laying sheetpile and disposal	14 days	Dec 5 '22	Dec 18 '22		1419	1421
1421	Treatment of bedding	2 days	Dec 19 '22	Dec 20 '22		1420	1422
1422	Pipe laying D.I.	2 days	Dec 21 '22	Dec 22 '22		1421	1423
1423	Backfilling general fill and compaction	14 days	Dec 23 '22	Jan 5 '23		1422	1424
1424	Reinstatement	1 day	Jan 6 '23	Jan 6 '23		1423	
1425	CH140 to CH170 (30m)	26 days	Jan 7 '23	Feb 1 '23		1417	1433
1426	TTA establishment	1 day	Jan 7 '23	Jan 7 '23			1427
1427	Hard material excavation and disposal	1 day	Jan 8 '23	Jan 8 '23		1426	1428
1428	Soil excavation , laying sheetpile and disposal	7 days	Jan 9 '23	Jan 15 '23		1427	1429
1429	Treatment of bedding	1 day	Jan 16 '23	Jan 16 '23		1428	1430
1430	Pipe laying D.I.	1 day	Jan 17 '23	Jan 17 '23		1429	1431
1431	Backfilling general fill and compaction	14 days	Jan 18 '23	Jan 31 '23		1430	1432
1432	Reinstatement	1 day	Feb 1 '23	Feb 1 '23		1431	
1433	CH110 to CH140 (30m)	26 days	Feb 2 '23	Feb 27 '23		1425	1441
1434	TTA establishment	1 day	Feb 2 '23	Feb 2 '23			1435
1435	Hard material excavation and disposal	1 day	Feb 3 '23	Feb 3 '23		1434	1436
1436	Soil excavation , laying sheetpile and disposal	7 days	Feb 4 '23	Feb 10 '23		1435	1437
1437	Treatment of bedding	1 day	Feb 11 '23	Feb 11 '23		1436	1438
1438	Pipe laying D.I.	1 day	Feb 12 '23	Feb 12 '23		1437	1439
1439	Backfilling general fill and compaction	14 days	Feb 13 '23	Feb 26 '23		1438	1440



Project: 3WSD20 Programme
Date: Dec 14 '22

Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

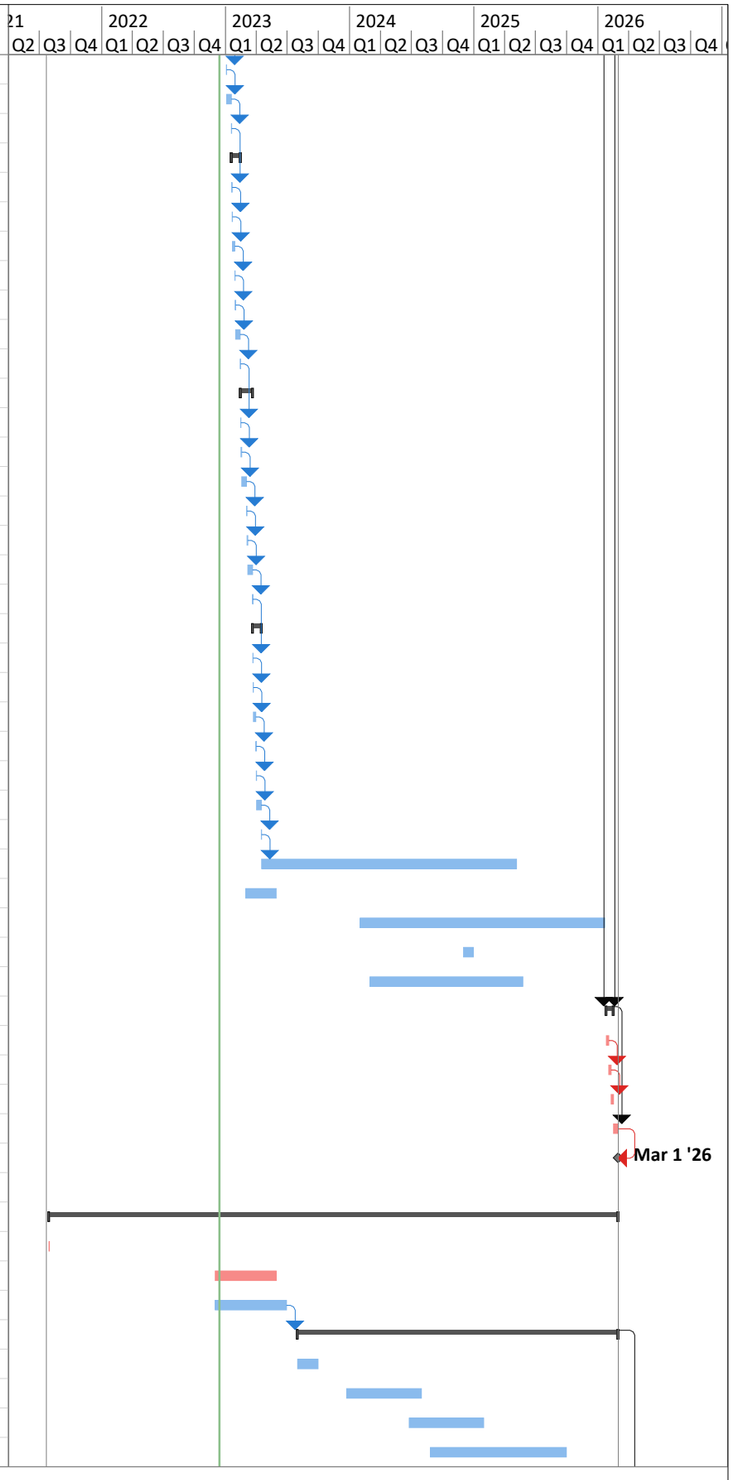
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1440	Reinstatement	1 day	Feb 27 '23	Feb 27 '23		1439	
1441	CH080 to CH110 (30m)	37 days	Feb 28 '23	Apr 5 '23		1433	1449
1442	TTA establishment	2 days	Feb 28 '23	Mar 1 '23			1443
1443	Hard material excavation and disposal	2 days	Mar 2 '23	Mar 3 '23		1442	1444
1444	Soil excavation , laying sheetpile and disposal	14 days	Mar 4 '23	Mar 17 '23		1443	1445
1445	Treatment of bedding	2 days	Mar 18 '23	Mar 19 '23		1444	1446
1446	Pipe laying D.I.	2 days	Mar 20 '23	Mar 21 '23		1445	1447
1447	Backfilling general fill and compaction	14 days	Mar 22 '23	Apr 4 '23		1446	1448
1448	Reinstatement	1 day	Apr 5 '23	Apr 5 '23		1447	
1449	Remaining Section of On Lok Mun Street (840m)	1026 days	Apr 6 '23	Jan 25 '26		1409,1441	
1450	RW35 (DN150) - On Chuen Street (720m)	978 days	Sep 1 '22	May 5 '25			
1451	CH000 to CH060 (60m)	26 days	Sep 1 '22	Sep 26 '22			
1452	TTA establishment	1 day	Sep 1 '22	Sep 1 '22			1453
1453	Hard material excavation and disposal	1 day	Sep 2 '22	Sep 2 '22		1452	1454
1454	Soil excavation , laying sheetpile and disposal	7 days	Sep 3 '22	Sep 9 '22		1453	1455
1455	Treatment of bedding	1 day	Sep 10 '22	Sep 10 '22		1454	1456
1456	Pipe laying D.I.	1 day	Sep 11 '22	Sep 11 '22		1455	1457
1457	Backfilling general fill and compaction	14 days	Sep 12 '22	Sep 25 '22		1456	1458
1458	Reinstatement	1 day	Sep 26 '22	Sep 26 '22		1457	1460
1459	CH230 to CH260 (30m)	26 days	Sep 27 '22	Oct 22 '22			
1460	TTA establishment	1 day	Sep 27 '22	Sep 27 '22		1458	1461
1461	Hard material excavation and disposal	1 day	Sep 28 '22	Sep 28 '22		1460	1462
1462	Soil excavation , laying sheetpile and disposal	7 days	Sep 29 '22	Oct 5 '22		1461	1463
1463	Treatment of bedding	1 day	Oct 6 '22	Oct 6 '22		1462	1464
1464	Pipe laying D.I.	1 day	Oct 7 '22	Oct 7 '22		1463	1465
1465	Backfilling general fill and compaction	14 days	Oct 8 '22	Oct 21 '22		1464	1466
1466	Reinstatement	1 day	Oct 22 '22	Oct 22 '22		1465	1468
1467	CH200 to CH230 (30m)	36 days	Oct 23 '22	Nov 27 '22			
1468	TTA establishment	1 day	Oct 23 '22	Oct 23 '22		1466	1469
1469	Hard material excavation and disposal	2 days	Oct 24 '22	Oct 25 '22		1468	1470
1470	Soil excavation , laying sheetpile and disposal	14 days	Oct 26 '22	Nov 8 '22		1469	1471
1471	Treatment of bedding	2 days	Nov 9 '22	Nov 10 '22		1470	1472
1472	Pipe laying D.I.	2 days	Nov 11 '22	Nov 12 '22		1471	1473
1473	Backfilling general fill and compaction	14 days	Nov 13 '22	Nov 26 '22		1472	1474
1474	Reinstatement	1 day	Nov 27 '22	Nov 27 '22		1473	1476
1475	CH170 to CH200 (30m)	26 days	Nov 28 '22	Dec 23 '22			
1476	TTA establishment	1 day	Nov 28 '22	Nov 28 '22		1474	1477
1477	Hard material excavation and disposal	1 day	Nov 29 '22	Nov 29 '22		1476	1478
1478	Soil excavation , laying sheetpile and disposal	7 days	Nov 30 '22	Dec 6 '22		1477	1479
1479	Treatment of bedding	1 day	Dec 7 '22	Dec 7 '22		1478	1480
1480	Pipe laying D.I.	1 day	Dec 8 '22	Dec 8 '22		1479	1481
1481	Backfilling general fill and compaction	14 days	Dec 9 '22	Dec 22 '22		1480	1482
1482	Reinstatement	1 day	Dec 23 '22	Dec 23 '22		1481	1484
1483	CH500 to CH530 (30m)	26 days	Dec 24 '22	Jan 18 '23			
1484	TTA establishment	1 day	Dec 24 '22	Dec 24 '22		1482	1485
1485	Hard material excavation and disposal	1 day	Dec 25 '22	Dec 25 '22		1484	1486
1486	Soil excavation , laying sheetpile and disposal	7 days	Dec 26 '22	Jan 1 '23		1485	1487
1487	Treatment of bedding	1 day	Jan 2 '23	Jan 2 '23		1486	1488



Project: 3WSD20 Programme
Date: Dec 14 '22

Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

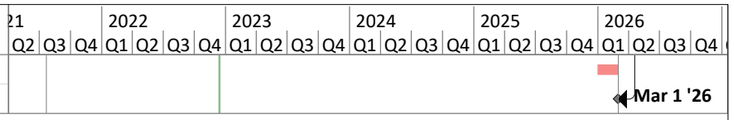
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1488	Pipe laying D.I.	1 day	Jan 3 '23	Jan 3 '23		1487	1489
1489	Backfilling general fill and compaction	14 days	Jan 4 '23	Jan 17 '23		1488	1490
1490	Reinstatement	1 day	Jan 18 '23	Jan 18 '23		1489	1492
1491	CH530 to CH560 (30m)	26 days	Jan 19 '23	Feb 13 '23			
1492	TTA establishment	1 day	Jan 19 '23	Jan 19 '23		1490	1493
1493	Hard material excavation and disposal	1 day	Jan 20 '23	Jan 20 '23		1492	1494
1494	Soil excavation , laying sheetpile and disposal	7 days	Jan 21 '23	Jan 27 '23		1493	1495
1495	Treatment of bedding	1 day	Jan 28 '23	Jan 28 '23		1494	1496
1496	Pipe laying D.I.	1 day	Jan 29 '23	Jan 29 '23		1495	1497
1497	Backfilling general fill and compaction	14 days	Jan 30 '23	Feb 12 '23		1496	1498
1498	Reinstatement	1 day	Feb 13 '23	Feb 13 '23		1497	1500
1499	CH560 to CH590 (30m)	36 days	Feb 14 '23	Mar 21 '23			
1500	TTA establishment	1 day	Feb 14 '23	Feb 14 '23		1498	1501
1501	Hard material excavation and disposal	2 days	Feb 15 '23	Feb 16 '23		1500	1502
1502	Soil excavation , laying sheetpile and disposal	14 days	Feb 17 '23	Mar 2 '23		1501	1503
1503	Treatment of bedding	2 days	Mar 3 '23	Mar 4 '23		1502	1504
1504	Pipe laying D.I.	2 days	Mar 5 '23	Mar 6 '23		1503	1505
1505	Backfilling general fill and compaction	14 days	Mar 7 '23	Mar 20 '23		1504	1506
1506	Reinstatement	1 day	Mar 21 '23	Mar 21 '23		1505	1508
1507	CH590 to CH610 (30m)	26 days	Mar 22 '23	Apr 16 '23			
1508	TTA establishment	1 day	Mar 22 '23	Mar 22 '23		1506	1509
1509	Hard material excavation and disposal	1 day	Mar 23 '23	Mar 23 '23		1508	1510
1510	Soil excavation , laying sheetpile and disposal	7 days	Mar 24 '23	Mar 30 '23		1509	1511
1511	Treatment of bedding	1 day	Mar 31 '23	Mar 31 '23		1510	1512
1512	Pipe laying D.I.	1 day	Apr 1 '23	Apr 1 '23		1511	1513
1513	Backfilling general fill and compaction	14 days	Apr 2 '23	Apr 15 '23		1512	1514
1514	Reinstatement	1 day	Apr 16 '23	Apr 16 '23		1513	1515
1515	Remaining Section of On Chuen Street (630m)	750 days	Apr 17 '23	May 5 '25	60	1514	
1516	Coordination with ND/2019/04	90 days	Mar 1 '23	May 29 '23			
1517	RW09 (DN450) - Wo Hing Road (436m)	720 days	Feb 1 '24	Jan 20 '26			
1518	RW60 (DN150) - Tee from RW09 (14m)	29 days	Dec 1 '24	Dec 29 '24	14		
1519	RW40 (DN200) - Tai Wo Service Road West (420m)	450 days	Mar 1 '24	May 24 '25	30		
1520	Overall testing	21 days	Jan 26 '26	Feb 15 '26		1380,1371	1524
1521	Swabbing	7 days	Jan 26 '26	Feb 1 '26			1522
1522	CCTV	7 days	Feb 2 '26	Feb 8 '26		1521	1523
1523	Hydrostatic pressure test	7 days	Feb 9 '26	Feb 15 '26		1522	
1524	Pipe connection and completion	14 days	Feb 16 '26	Mar 1 '26		1520	1525FF
1525	Planned completion for section 8	0 days	Mar 1 '26	Mar 1 '26		1524FF	
1526							
1527	**Section 9 - Conversion works to effect the supply of reclaimed water**	**1676 days**	**Jul 30 '21**	**Mar 1 '26**			
1528	Access Date	1 day	Jul 30 '21	Jul 30 '21			
1529	Initial survey by stages	180 days	Dec 1 '22	May 29 '23			
1530	Liaison, coordination and enabling work for conversion	210 days	Dec 1 '22	Jun 28 '23			1531
1531	**Conversion works**	**944 days**	**Aug 1 '23**	**Mar 1 '26**		**1530**	**1537FF**
1532	Section 4 (Part 3) - 3 nos.	60 days	Aug 1 '23	Sep 29 '23			
1533	Section 5 (Part 4) - 11 nos.	220 days	Dec 23 '23	Jul 29 '24			
1534	Section 6 (Part 5) - 11 nos.	220 days	Jun 24 '24	Jan 29 '25			
1535	Section 7 (Part 6) - 40 nos.	400 days	Aug 26 '24	Sep 29 '25			



Project: 3WSD20 Programme
Date: Dec 14 '22

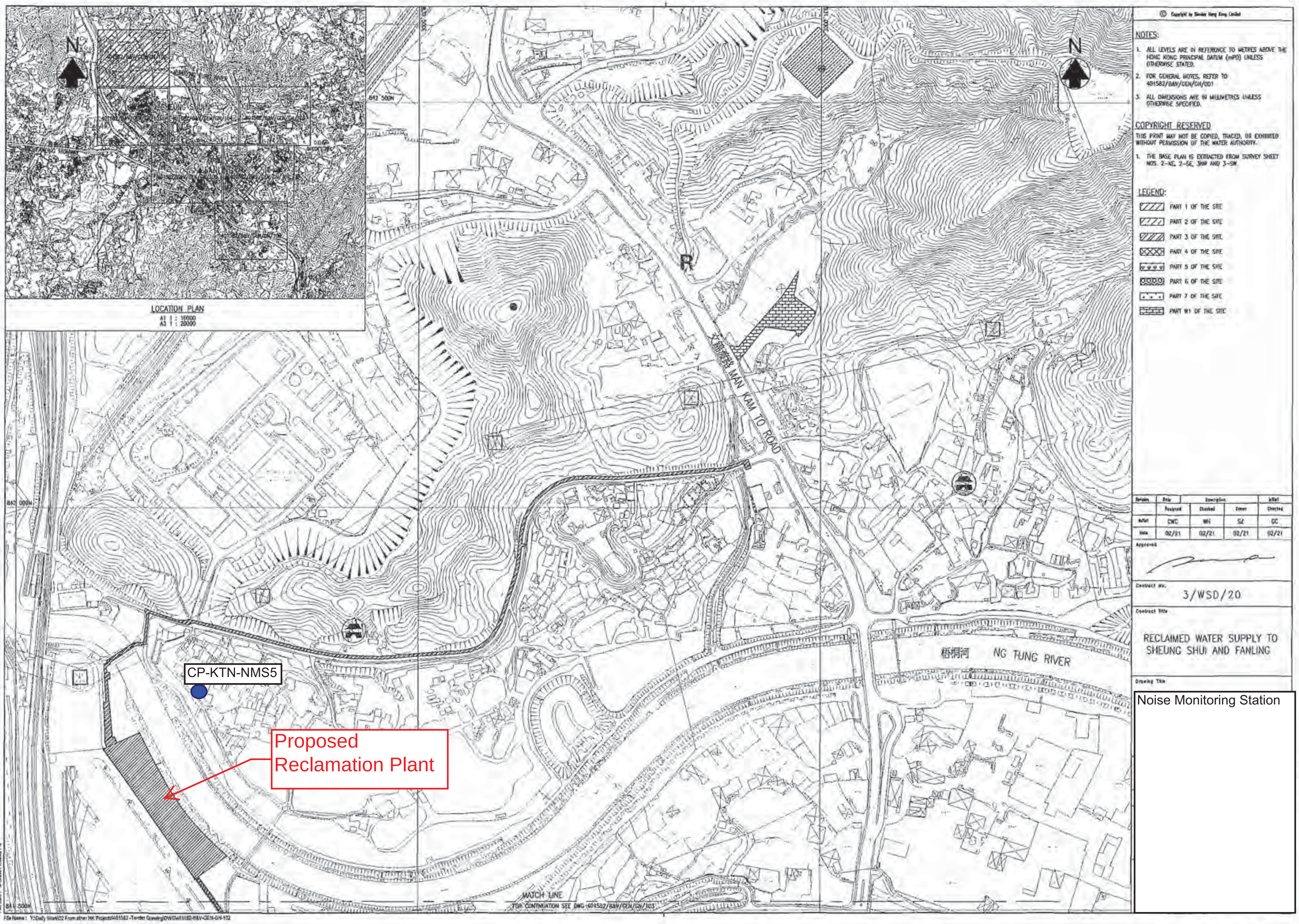
Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1536	Section 8 (Part 7) - 3 nos.	60 days	Jan 1 '26	Mar 1 '26			
1537	Planned completion for section 9	0 days	Mar 1 '26	Mar 1 '26		1531FF	



Appendix D

Location of Designated Noise Monitoring Station CP-KTN-NMS5


LOCATION PLAN
A1 1 : 10000
A3 1 : 20000
N
MAN KAM TO ROAD
NG TUNG RIVER
梧桐河
CP-KTN-NMS5
Proposed Reclamation Plant
MATCH LINE
NOTES:
1. ALL LEVELS ARE IN REFERENCE TO METRES ABOVE THE HONG KONG PRINCIPAL DATUM (mPD) UNLESS OTHERWISE STATED.
2. FOR GENERAL NOTES, REFER TO 401582/BAV/GEN/GN/001
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
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THIS PRINT MAY NOT BE COPIED, TRACED, OR EXHIBITED WITHOUT PERMISSION OF THE WATER AUTHORITY.
1. THE BASE PLAN IS EXTRACTED FROM SURVEY SHEET NOS. 2-NE, 2-SE, 3NW AND 3-SW.
LEGEND:
PART 1 OF THE SITE
PART 2 OF THE SITE
PART 3 OF THE SITE
PART 4 OF THE SITE
PART 5 OF THE SITE
PART 6 OF THE SITE
PART 7 OF THE SITE
PART W1 OF THE SITE
CWC
WH
SZ
CC
02/21
Contract No.
3/WSD/20
Contract Title
RECLAIMED WATER SUPPLY TO SHEUNG SHUI AND FANLING
Drawing Title
Noise Monitoring Station

Appendix E

Valid Calibration Certificates of Monitoring Equipment

輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C224779
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC22-1539) Date of Receipt / 收件日期 : 4 August 2022

Description / 儀器名稱 : Sound Level Calibrator (EQ085)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-73
Serial No. / 編號 : 10655561
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 20 August 2022

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification & user's specified acceptance criteria.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong
Assistant Engineer

Certified By 核證 : K C Lee
Engineer

Date of Issue 簽發日期 : 23 August 2022

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C224779
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C223647
CL281	Multifunction Acoustic Calibrator	AV210017
TST150A	Measuring Amplifier	C221750

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.5	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	User's Spec.	Uncertainty of Measured Value (Hz)
1	0.953	1 kHz ± 6 %	± 1

Remarks : - The user's specified acceptance criteria (user's spec.) is a customer pre-defined operating tolerance of the UUT, suitable for one's own intended use.

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

Sun Creation Engineering Limited - Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 - 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C221365
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC22-0258) Date of Receipt / 收件日期 : 14 February 2022

Description / 儀器名稱	:	Sound Level Meter (EQ018)
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NL-52
Serial No. / 編號	:	00809405
Supplied By / 委託者	:	Action-United Environmental Services and Consulting Unit A, 20/F., Gold King Industrial Building, 35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 12 March 2022

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Fluke Everett Service Center, USA
- Agilent Technologies / Keysight Technologies

Tested By 測試 : K C Lee, Engineer

Certified By 核證 : H C Chan, Engineer

Date of Issue 簽發日期 : 16 March 2022

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
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Certificate of Calibration
校正證書

Certificate No. : C221365
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C220381
CL281	Multifunction Acoustic Calibrator	AV210017

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	94.0	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 130	L_A	A	Fast	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

IEC 61672 Class 1 Spec. : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	94.0	Ref.
			Slow			94.0	± 0.3

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6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_A	A	Fast	94.00	63 Hz	67.8	-26.2 ± 1.5
					125 Hz	77.9	-16.1 ± 1.5
					250 Hz	85.4	-8.6 ± 1.4
					500 Hz	90.8	-3.2 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	95.0	+1.2 ± 1.6
					4 kHz	94.7	+1.0 ± 1.6
					8 kHz	92.9	-1.1 (+2.1 ; -3.1)
					16 kHz	85.5	-6.6 (+3.5 ; -17.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_C	C	Fast	94.00	63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.5
					250 Hz	94.0	0.0 ± 1.4
					500 Hz	94.1	0.0 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	93.6	-0.2 ± 1.6
					4 kHz	92.9	-0.8 ± 1.6
					8 kHz	91.0	-3.0 (+2.1 ; -3.1)
					16 kHz	83.5	-8.5 (+3.5 ; -17.0)

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Certificate of Calibration
校正證書

Certificate No. : C221365
證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 16463

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	: 63 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	16 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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Appendix F

Monitoring Schedule of the Reporting Month and Coming Month

The Reporting Monitoring Schedule (December 2022)

Date		Noise Monitoring (Leq30min)	Ecology Monitoring (Water Bird) *Note*
Thu	1-Dec-22		
Fri	2-Dec-22		
Sat	3-Dec-22		
Sun	4-Dec-22		
Mon	5-Dec-22		
Tue	6-Dec-22		✓ **(High Tide)**
Wed	7-Dec-22	✓	✓ **(Low Tide)**
Thu	8-Dec-22		
Fri	9-Dec-22		
Sat	10-Dec-22		
Sun	11-Dec-22		
Mon	12-Dec-22		✓ **(High Tide)**
Tue	13-Dec-22		✓ **(Low Tide)**
Wed	14-Dec-22		
Thu	15-Dec-22		
Fri	16-Dec-22	✓	
Sat	17-Dec-22		
Sun	18-Dec-22		
Mon	19-Dec-22		
Tue	20-Dec-22		
Wed	21-Dec-22		✓ **(High Tide)**
Thu	22-Dec-22	✓	✓ **(Low Tide)**
Fri	23-Dec-22		
Sat	24-Dec-22		
Sun	25-Dec-22		
Mon	26-Dec-22		
Tue	27-Dec-22		
Wed	28-Dec-22	✓	
Thu	29-Dec-22		✓ **(Low Tide)**
Fri	30-Dec-22		✓ **(High Tide)**
Sat	31-Dec-22		

✓	Monitoring Day
	Sunday or Public Holiday

The Coming Month Monitoring Schedule (January 2023)

Date		Noise Monitoring (Leq30min)	Ecology Monitoring (Water Bird) *Note*
Sun	1-Jan-23		
Mon	2-Jan-23		
Tue	3-Jan-23	✓	
Wed	4-Jan-23		✓
Thu	5-Jan-23		
Fri	6-Jan-23		
Sat	7-Jan-23		
Sun	8-Jan-23		
Mon	9-Jan-23		✓
Tue	10-Jan-23	✓	
Wed	11-Jan-23		
Thu	12-Jan-23		
Fri	13-Jan-23		
Sat	14-Jan-23		
Sun	15-Jan-23		
Mon	16-Jan-23		
Tue	17-Jan-23		
Wed	18-Jan-23		✓
Thu	19-Jan-23	✓	
Fri	20-Jan-23		
Sat	21-Jan-23		
Sun	22-Jan-23		
Mon	23-Jan-23		
Tue	24-Jan-23		
Wed	25-Jan-23		
Thu	26-Jan-23		
Fri	27-Jan-23		✓
Sat	28-Jan-23	✓	
Sun	29-Jan-23		
Mon	30-Jan-23	✓	
Tue	31-Jan-23		

Note:

Ecology monitoring dates are tentative and are subject to change

✓	Monitoring Day
	Sunday or Public Holiday

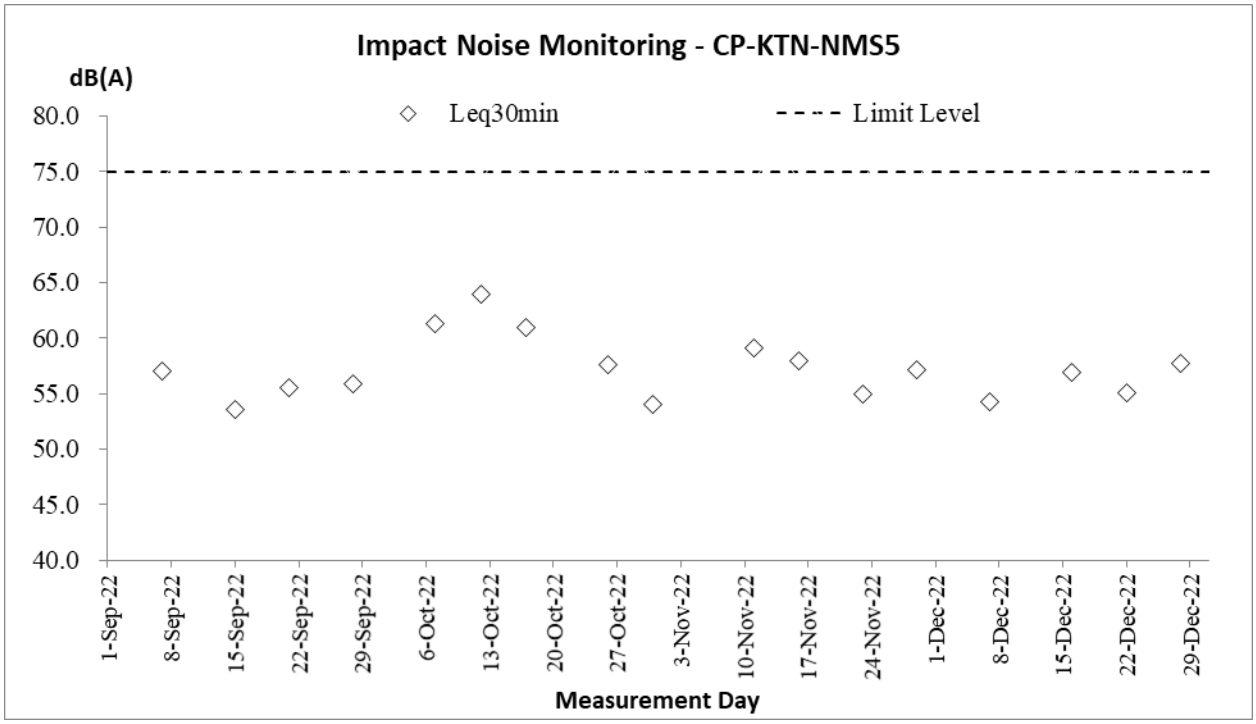
Appendix G

Database of Monitoring Result

Daytime Noise Measurement Results (dB) at CP-KTN-NMS5																				
Date	**Start Time**	**1st Leq (5min)**			**2nd Leq (5min)**			**3rd Leq (5min)**			**4th Leq (5min)**			**5th Leq (5min)**			**6th Leq (5min)**			**Leq30min, dB(A)**	**Corrected Leq30min dB(A)**
		Leq, dB(A)	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**		
7-Dec-22	9:21	54.4	54.7	51.1	53.3	53.2	50.1	54.3	56.6	50.8	52.8	55.1	50.7	54.3	55.5	50.9	55.7	58.0	50.8	54.2	57.2
16-Dec-22	15:24	56.4	60.2	51.6	55.8	59.4	51.3	57.9	61.6	52.1	57.1	61.2	52.0	55.6	58.2	52.1	58.3	61.5	52.3	57.0	60.0
22-Dec-22	9:12	54.2	56.1	51.2	54.8	56.2	51.7	55.9	59.7	52.0	56.2	58.8	53.3	54.5	54.9	51.2	54.7	55.6	52.0	55.1	58.1
28-Dec-22	13:02	57.1	60.3	52.1	56.8	59.8	51.8	59.3	62.1	55.8	58.2	61.1	53.2	58.5	61.3	52.5	55.4	58.1	51.3	57.7	60.7

Appendix H

Graphical Plots for Monitoring Result


Impact Noise Monitoring - CP-KTN-NMS5
dB(A)
Leq30min
Limit Level
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
1-Sep-22
8-Sep-22
15-Sep-22
22-Sep-22
29-Sep-22
6-Oct-22
13-Oct-22
20-Oct-22
27-Oct-22
3-Nov-22
10-Nov-22
17-Nov-22
24-Nov-22
1-Dec-22
8-Dec-22
15-Dec-22
22-Dec-22
29-Dec-22
Measurement Day

Appendix I

Monthly Summary Waste Flow Table

Contract No. : 3/WSD/20
Contact Name: Reclaimed Water Supply to Sheung Shui and Fanling

Monthly Summary Waste Flow Table for _2022___ (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	0.3031	0	0	0	0.3031	0	0	0	0	0	0.0016
Feb	0.5411	0	0	0	0.5411	0	0	0	0	0	0.0019
Mar	0.8459	0	0	0	0.8459	0	0	0	0	0	0.0014
Apr	3.2205	0	0	0	3.2205	0	0	0	0	0	0.0024
May	4.5178	0	0	0.39	4.1278	0	0	0	0	0	0.0057
June	6.3073	0	0	1.6148	4.6925	0	0	0	0	0	0.0017
July	0.8427	0	0	0	0.8427	0	0	0	0	0	0.0078
Aug	0.3786	0	0	0	0.3786	0	0	0	0	0	0.0071
Sept	0.1839	0	0	0	0.1839	0	0	0.0144	0	0	0.0154
Oct	0.1182	0	0	0	0.1182	0	0	0	0	0	0.0070
Nov	1.1067	0	0	0	1.1067	0	0	0	0	0	0.0206
Dec	0.1500	0	0	0	0.1500	0	0	0	0	0	0.0209
Total	18.5158	0	0	2.0048	16.5110	0	0	0.0144	0	0	0.0935

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
25.472	5.386	0	0	25.472	0	0	0	0	0	0.3885

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

(3) The quantities of C&D material indicated in the half-yearly status report should be in tonnes. If the project offices do not have information on the densities of the material for the time being, they could initially adopt the following conversion factors for reporting purpose: insitu densities of rock and soil to be 2.5 tonnes/m3 and 2.0 tonnes/m3 respectively; and densities of imported rock and soil to be 2.0 tonnes/m3 and 1.8 tonnes/m3 respectively.

(4) Boken concrete and bitumen = 2.4 tonnes/m3

(5) Conversion to 1000m3 for general refuse is weight in 1000kg multiply by 0.002

Appendix J

Implementation Schedule for Environmental Mitigation Measures (ISEMM)

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the Measures?	Location of the measures	When to implement the Measures?	What requirements or standards for the measures to achieve?
Common Mitigation Measures (Applicable to ALL Project Components, including DPs and Non-DPs)							
Construction Dust Impact							
S3.8	D1	Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul road is proposed to achieve dust removal efficiency of 92.1%. While the above watering frequencies are to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.7 L/m2 to achieve the respective dust removal efficiencies.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	APCO To control the dust impact to meet HKAQO and TM-EIAO
S3.8	D2	The Contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	APCO To control the dust impact to meet HKAQO and TM-EIAO
S3.8	D3	Following dust suppression measures should also be incorporated by the Contractor to control the dust nuisance throughout the construction phase: • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones; • The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hard cores; • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period;	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	APCO To control the dust impact to meet HKAQO and TM-EIAO

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the Measures?	Location of the measures	When to implement the Measures?	What requirements or standards for the measures to achieve?
		• The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; and • Every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.					
Noise Impact (Construction Phase)							
S4.9	N1	Implement the following good site management practices: • only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs; • silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; • mobile plant should be sited as far away from NSRs as possible and practicable; and • material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	Control construction airborne noise	Contractor	All construction sites	Construction phase	Annex 5, TM-EIAO
S4.9	N2	Install temporary site hoarding (approx. 2.4m high) located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level	Contractor	All construction sites	Construction phase	Annex 5, TM-EIAO

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the Measures?	Location of the measures	When to implement the Measures?	What requirements or standards for the measures to achieve?
			zone of NSRs through partial screening.				
S4.9	N3	Install movable noise barriers, full enclosure and acoustic mat, screen the noisy plants including air compressor and generator.	Screen the noisy plant items to be used at all construction sites	Contractor	All construction sites	Construction phase	Annex 5, TM-EIAO
S4.9	N4	Use of "Quiet" Plant and Working Methods	Reduce the noise levels of plant items	Contractor	All construction sites	Construction phase	Annex 5, TM-EIAO
S4.9	N5	Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction sites	Construction phase	Annex 5, TM-EIAO
Water Quality Impact (Construction Phase)							
S5.7	W1	Construction Runoff In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN 1/94), construction phase mitigation measures should be provided and the Storm Water Pollution Control Plan is given below. **Storm Water Pollution Control Plan** • At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the Contractor prior to the commencement of construction. • Diversion of natural stormwater should be provided as far as possible. The design of temporary on-site drainage should prevent runoff going through site surface, construction machinery and equipment in order to avoid or minimize polluted runoff. Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8m3 capacities, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity shall be flexible and able to handle multiple inputs from a variety of sources and suited to applications	Control construction runoff	Contractor	All construction sites	Construction phase	WPCO, EIAO, TM-EIAO

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the Measures?	Location of the measures	When to implement the Measures?	What requirements or standards for the measures to achieve?
		where the influent is pumped. • The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a silt/sediment trap. The silt/sediment traps should be incorporated in the permanent drainage channels to enhance deposition rates. • The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94. The detailed design of the sand/silt traps should be undertaken by the Contractor prior to the commencement of construction. • Construction works should be programmed to minimize surface excavation works during the rainy seasons (April to September). All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means. • All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas. • Measures should be taken to minimize the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, it should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. • All open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m3 should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. • Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. • Precautions be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff					

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the Measures?	Location of the measures	When to implement the Measures?	What requirements or standards for the measures to achieve?
		during storm events. • All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at every construction site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. • Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain. • Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. • All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby. • Regular environmental audit on the construction site should be carried out in order to prevent any malpractices. Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the meander, wetlands and fish ponds.					
S5.7	W2	**Sewage from Workforce** • Portable chemical toilets and sewage holding tanks should be provided for handling the construction sewage generated by the workforce. A licensed Contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance. • Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the Project would not cause water quality impact after undertaking all required measures.	Handling of site sewage	Contractor	All construction sites	Construction phase	WPCO, EIAO, TM-EIAO

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the Measures?	Location of the measures	When to implement the Measures?	What requirements or standards for the measures to achieve?
Waste Management (Construction Waste)							
S7.6	WM1	Waste Reduction Measures Waste reduction is best achieved at the planning and design phase, as well as by ensuring the implementation of good site practices. The following recommendations are proposed to achieve reduction: • segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal; • proper storage and site practices to minimize the potential for damage and contamination of construction materials; • plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste; • sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc.); and • provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.	Reduce waste generation	Contractor	All construction sites where practicable	Prior to the commencement of construction	Waste Disposal Ordinance
S7.6	WM2	Prepare Waste Management Plan and submit to the Engineer for approval	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	Waste Disposal Ordinance
S7.6	WM3	**Good Site Practice** The following good site practices are recommended throughout the construction activities: • nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; • training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling; • provision of sufficient waste disposal points and regular collection for disposal; • appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; • regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	Waste Disposal Ordinance
S7.6	WM4	**Storage of Waste** The following recommendation should be implemented to minimize the impacts:	Minimize waste from storage impacts	Contractor	All construction	Construction phase	Waste Disposal Ordinance

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the Measures?	Location of the measures	When to implement the Measures?	What requirements or standards for the measures to achieve?
		• waste such as soil should be handled and stored well to ensure secure containment; • stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; • different locations should be designated to stockpile each material to enhance reuse;			sites		
S7.6	WM5	**Collection and Transportation of Waste** The following recommendation should minimize the impacts: • remove waste in timely manner; • employ the trucks with cover or enclosed containers for waste transportation; • obtain relevant waste disposal permits from the appropriate authorities; and • disposal of waste should be done at licensed waste disposal facilities.	Minimize waste from storage impacts	Contractor	All construction sites	Construction phase	Waste Disposal Ordinance
S7.6	WM6	**Excavated and C&D Material** Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and ensure acceptability at public filling areas or reclamation sites. The following mitigation measures should be implemented in handling the excavated and C&D materials: • maintain temporary stockpiles and reuse excavated fill material for backfilling; • carry out on-site sorting; • deliver surplus artificial hard materials to Tuen Mun Area 38 recycling plant or its successor for recycling into subsequent useful products; • make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; • implement a recording system for the amount of waste generated, recycled and disposed of for checking; Standard formwork should be used as far as practicable in order to minimize the arising of C&D waste. The use of more durable formwork (e.g. metal hoarding) or plastic facing should be encouraged in order to enhance the possibility of recycling. The purchasing of construction materials should be carefully planned in order to avoid over ordering and wastage. Wheel wash facilities have to be provided at the site entrance before the trucks leaving the works area.	Minimize waste impacts from excavated and C&D materials	Contractor	All construction sites	Construction phase	• Land (Miscellaneous Provisions) Ordinance • Waste Disposal Ordinance • ETWB TCW No. 19/2005
S7.6	WM8	**Chemical Waste** • If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producers. Chemical wastes should be stored in appropriate containers and collected by a licensed chemical waste Contractor. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	Construction phase	• Waste Disposal (Chemical Waste) General) Regulation • Code of Practice on the Packaging, Labelling and

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the Measures?	Location of the measures	When to implement the Measures?	What requirements or standards for the measures to achieve?
		waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.					Storage of Chemical Waste
S7.6	WM9	**General Waste** • General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling. • Preferably enclosed and covered areas should be provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean. • A reputable waste collector should be employed to remove general refuse on a daily basis.	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction phase	• Waste Disposal Ordinance
S7.6	WM10	**Sewage** • The WMP should document the locations and number of portable chemical toilets depending on the number of workers, land availability, site condition and activities. • Regularly collection by licensed collectors should be arranged to minimize potential environmental impacts.	Minimize production of sewage impacts	Contractor	All construction sites	Construction phase	• Waste Disposal Ordinance
S7.6	WM11	**Topsoil reuse** – Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical. This is considered a general measure for good site practice.	Good site practice	Contractor / Project Proponent	Onsite	Construction Phase	• ETWB Technical Circular (Works) No.29/2004
Landscape and Visual (Construction)							
S.12.9 MM3	LV5	Open Space Provision - the principles adopted in the RODP planning ensure that public open space systems are incorporated. All requirements for open space areas stipulated in the planning documents for the formulation of the Preliminary Layout Plan should be adhered to.	Reprovision of open space. Enhance visual amenity of the area and improve the overall landscape character	Government Developer / Detailed Design Consultant / Contractor	Onsite as stipulated in the planning documents for the formulation of the Preliminary Layout Plan	Prior to Construction and Construction Phase	Hong Kong Planning Standards and Guidelines (HKPSG) issued by the Planning Department (As at Aug 2011); Sustainable Building Design Guidelines
S.12.9 MM4	LV6	Tree Protection & Preservation – Exiting trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to	Protect and Preserve Trees	Government Developer / Detailed Design Consultant / Contractor	Onsite as stipulated in the planning documents for the formulation of	Prior to Construction and Construction Phase	ETWB Technical Circular Works (TCW) No. 29/2004 and 3/2006

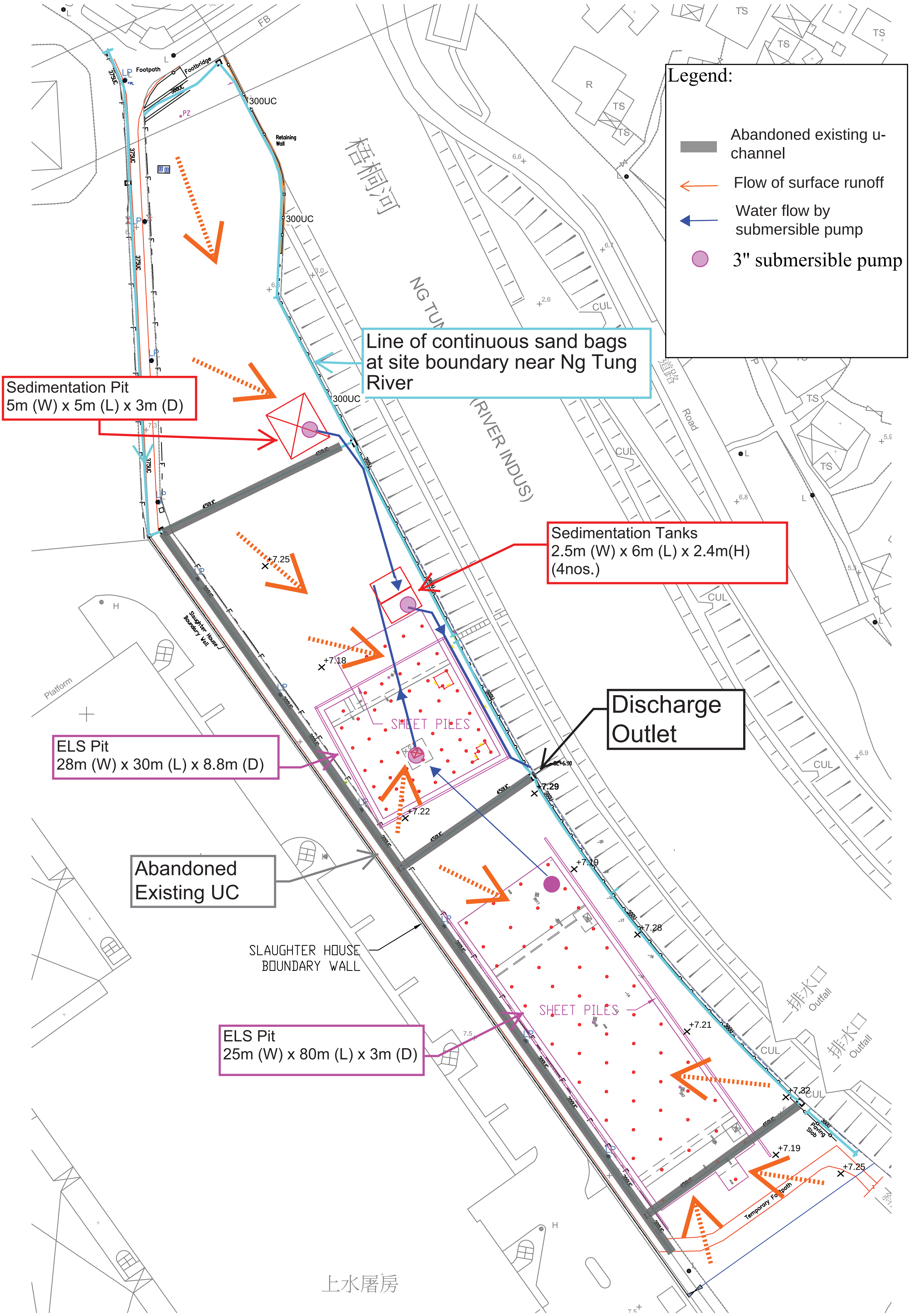
EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the Measures?	Location of the measures	When to implement the Measures?	What requirements or standards for the measures to achieve?
		undertaking any works adjacent to all retained trees, including trees in Contractor's works areas. A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.			the Preliminary Layout Plan		
S.12.9 MM5	LV7	Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme. A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work. For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 'Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit' should be referred to.	Transplant Trees where suitable for transplantation	Government Developer / Detailed Design Consultant / Contractor	Onsite where possible. Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	ETWB TCW 3/2006 and 2/2004 HyD HQ/GN/13 Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit
S.12.9 MM7	LV9	Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006. Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots. Compensatory planting for shrubs should be considered in suitable locations. Native species such as *Melastoma malabathricum, Diospyros vaccinioides, Gardenia jasminoides, Ixora chinensis, Ligustrum sinense, Litsea rotundifolia, Melastoma dodecandrum, Atalantia buxifolia, Rhodomyrtus tomentosa, Rhaphiolepis indica,* and *Rhododendron simsii* are suggested.	Compensate for trees and shrubs lost due to the Project.	Government Developer / Detailed Design Consultant / Contractor	Onsite where possible. Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	ETWB TCW 3/2006 and 2/2004
S.12.9 MM9	LV11	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. building edges, piers).	Soften hard surfaces and	Project Proponent /	On appropriate	Prior to Construction,	ETWB TCW No. 11/2004 – Cyber

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the Measures?	Location of the measures	When to implement the Measures?	What requirements or standards for the measures to achieve?
			facilities	Detailed Design Consultant / Contractor / Maintenance Authority	structures	Construction Phase & Maintenance in Operation Phase	Manual for Greening
S.12.9 MM10	LV12	Green Roof – Roof greening where appropriate should be established on proposed buildings as per the guidelines stated. These guidelines provide further details including information regarding structural loading, design, maintenance, etc. considerations as well as providing information on what types of plants might be suitable.	Reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to VSRs at high levels. Provide greening.	Project Proponent / Detailed Design Consultant / Contractor / Maintenance Authority	On appropriate buildings	Prior to Construction, Construction Phase & Maintenance in Operation Phase	CIBSE HK Branch, Technical Guidelines for Green Roof Systems in Hong Kong (2011); ArchSD/Urbis Study on Green Roof Application in HK (2007)
S.12.9 MM11	LV13	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government / Developer / Detailed Design Consultant / Contractor	Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA Maintenance and create a pleasant Contractor structures	Prior to Construction, Construction Phase & Maintenance in Operation Phase	ETWBTC 3/2006
S12.9 MM14.5	LV20	Screen Hoarding – Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, nonreflective, recessive colours be used. Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).	To screen undesirable views of the works site.	Contractor	Throughout NDAs	Construction Phase	
S12.9	LV21	Light Control – Construction day and night time lighting should be controlled to	To minimize glare	Government /	Throughout	Construction	

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the Measures?	Location of the measures	When to implement the Measures?	What requirements or standards for the measures to achieve?
MM14.6		minimize glare impact to adjacent VSRs during the Construction phase. Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.	impact to adjacent VSRs	Developer / Contractor	NDAs	and Operation Phases	
Ecology (Construction Phase)							
S.13.9	E13	Review design and construction methods for bridges, especially those on the Sheung Yue and tidal Ng Tung Rivers, and adopt measures which minimize impacts on rivers and disturbance and fragmentation impacts on fauna. No construction during ardeid breeding season (1 March to 31 July) along Sheung Yue River north and east of KTN area D1-5 and east of D1-9 and C2-3 and restriction of working hours on new pedestrian bridges over the Sheung Yue River and tidal Ng Tung River to 09.00 to 17.30 during the ardeid breeding season (1 March to 31 July). Provision of alternative foraging habitat along main river channels for large waterbirds.	Minimize impacts on rivers and disturbance and fragmentation impacts on fauna.	Project Proponent / Detailed Design Consultant / Contractor	Along and within the Sheung Yue, Ng Tung and Shek Sheung Rivers	Detailed design and construction phases.	TM-EIAO.
S.13.9	E16	Creation of Green Corridors along the Sheung Yue, Ng Tung and Shek Sheung Rivers, retention and provision of screen plantings where feasible; provision of Open Space areas and development areas along river corridors; Design and erection of 2m high solid dull green site barrier fence between river channel and any active works area along or adjacent to Ng Tung, Sheung Yue and Shek Sheung Rivers. Ng Tung, Sheung Yue and Shek Sheung Rivers screen planting.	Minimize disturbance to waterbirds using Ng Tung, Sheung Yue and Shek Sheung River channels.	Detailed Design Consultant / Contractor	Ng Tung, Sheung Yue and Shek Sheung Rivers	Detailed design and construction phases.	TM-EIAO.
S.13.9	E19	Use opaque, non-transparent, non-reflective noise barriers for all construction sites. Unnecessary lighting should be avoided.	Minimize mortality impacts on birds.	Contractor	All construction sites	Construction phase.	TM-EIAO.

Appendix K

As-built Drawing of Site Temporary Drainage


Legend:
Abandoned existing u-channel
Flow of surface runoff
Water flow by submersible pump
3" submersible pump
Line of continuous sand bags at site boundary near Ng Tung River
Sedimentation Pit
5m (W) x 5m (L) x 3m (D)
Sedimentation Tanks
2.5m (W) x 6m (L) x 2.4m(H)
(4nos.)
Discharge Outlet
ELS Pit
28m (W) x 30m (L) x 8.8m (D)
Abandoned Existing UC
ELS Pit
25m (W) x 80m (L) x 3m (D)
SHEET PILES
SLAUGHTER HOUSE BOUNDARY WALL
NG TUNG (RIVER INDUS)
梧桐河
上水屠房
Road
Footpath
Footbridge
Retaining Wall
Platform
300UC
375UC
450UC
+7.25
+7.18
+7.22
+7.29
+7.19
+7.28
+7.21
+7.32
+7.25
排水口 Outfall
Temporary Footpath

Appendix L

Waterbirds Survey Report for the Reporting Month

WSD Contract No. 3/WSD/20 - Reclaimed Water Supply to Sheung Shui and Fanling - Provision of EM&A (Ecological) Monitoring

Monthly Report for December 2022
(Issue 1)

Job Ref.: 21/2063/582 AUES-SWHTSE
Date: 5th January 2023

www.aechk.hk

WSD Contract No. 3/WSD/20 - Reclaimed Water Supply to Sheung Shui and Fanling - Provision of EM&A (Ecological) Monitoring

Monthly Report for December 2022

(Issue 1)

January 2023

	Name	Signature
Prepared by:	**Nicholas Tam**	
Reviewed by:	**Ida Yu**	
Date:	**5th January 2023**	

Job Ref.: 21/2063/582 AUES-SWHTSE

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CONTENTS

LIST OF TABLES

LIST OF APPENDICES

LIST OF FIGURES

1 INTRODUCTION

1.1 According to Section 12.3.2.5 of "Updated EM&A Manual for Advance And First Stage Works of Kwu Tung North and Fanling North New Development Areas", monitor of measures to minimise disturbance to waterbirds on Ng Tung, Sheung Tue and Shek Sheung Rivers is required.

1.2 aec Ltd. has been appointed by Action-United Environmental Services & Consulting (AUES) to conduct weekly transect bird surveys at high and low tides along Ng Tung River, Sheung Yue River and Shek Sheung River; and identify sources of actual and potential disturbances to birds due to construction activities of WSD Contract No. 3/WSD/20 – Reclaimed Water Supply to Sheung Shui and Fanling. As instructed by the Contractor, the commencement date of the survey was in the week of 10th January 2022. This monthly report summarises the monitoring findings in December 2022.

2 MONITORING METHODOLOGY

2.1 The survey methodology references the methodology stated in approved Baseline Monitoring Report (Ecology) (Version 1) (prepared by Cinotech Consultants Limited (2019)) under "*Contract No. SPW 08/2019 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1*". Three transects and seven point count locations were selected within the 500m boundary of Ng Tung, Sheung Yue and Shek Sheung River. These locations are shown in **Figure 1** and summarized in **Table 1**.

Table 1 Ecological Monitoring Stations

Monitoring Stations	Descriptions	Influenced by Tidal Action
Transect T1	Along Ng Tung River	No
Transect T2		
Point Count Location P1		
Point Count Location P2		
Point Count Location P3		
Point Count Location P4		
Point Count Location P5	At Shek Sheung River (Low-flow Channel)	No
Transect T3	Along Shek Sheung River & Sheung Yue River	Yes
Point Count Location P6	At Shek Sheung River	Yes
Point Count Location P7	At Intersection between Sheung Yue and Shek Sheung River	Yes

2.2 Surveys were conducted on a weekly basis at both high and low tides (it is considered high tide when tidal levels are above 1.5m and low tide when tidal level are below 1.5m at Tsim Bei Tsui Station).

2.3 All avifauna species that were seen or heard were identified and quantified along transects and at point count locations. Survey data would be recorded continuously by the surveyor as they walk along the transects, while survey data of each point count location would be collected for 5-minutes after surveyor reaches the designated point count location. During the surveys, the utilisation of Ng Tung River, Sheung Yue River and Shek Shui River and their immediate environs/habitats by waterbirds will be focused. For comparison and data analysis, the transect routes and point count locations followed Figure 1 of the approved Baseline Monitoring Report (Ecology) (Version 1). Locations of T1, T2, and P1 to P4 were adjusted to the opposite side of Ng Tung River as the original transects were inaccessible due to various construction projects.

2.4 Noticeable behaviours such as breeding, nesting, roosting, feeding and presence of recently fledged juveniles were recorded and reported. In the case which such behaviours were observed for species of conservation importance, the Resident Engineer (RE), the Contractor and the Independent Environmental Checker (IEC) would be immediately notified after the survey such that the Contractor could review the current construction programme and minimize disturbances due to construction activities.

2.5 Weather conditions, tidal information, time of the survey and other noticeable activities occurring within the vicinity of the survey area were recorded.

3 ANALYTICAL METHODOLOGY

3.1 Total number of waterbirds and six representative waterbird species (listed in **Table 2**) are used as an indicator of the level disturbance to waterbirds at each of the survey location. Species listed as wetland-dependant according to Carey *et al*. (2001) are defined as waterbirds. A significant decline in the abundance of all or representative waterbirds would indicate a high level of disturbance.

Table 2 Representative Waterbirds

Common Name	Species Name	Chinese Name
Chinese Pond Heron	*Ardeola bacchus*	池鷺
Eastern Cattle Egret	*Bubulcus coromandus*	牛背鷺
Grey Heron	*Ardea cinerea*	蒼鷺
Great Egret	*Ardea alba*	大白鷺
Little Egret	*Egretta garzetta*	小白鷺
Great Cormorant	*Phalacrocorax carbo*	普通鸕鷀

3.2 Survey data from each month is compared to the baseline monitoring data. When a decline in the total number of Waterbirds or the number of the representative Waterbird species is recorded the survey data would be compared to the baseline data (from Shek Wu Hui Effluent Polishing Plant Baseline Monitoring Report (Ecology) by Cinotech Consultants Limited, 2019) using a two-sample one-tailed Student's t-test assuming unequal variance to analyse whether the decline is significant.

3.3 If the collected data for the reporting month shows a significant difference at the 95% confidence level, the action level will be triggered. If the collected data for the reporting month shows a significant difference at the 99% confidence level, the limit level is triggered and corresponding suggestions would be given to minimize the disturbances according to **Table 3**.

Table 3 Action and Limit Levels and Responses to Evidence of Disturbance to Waterbirds using Ng Tung, Sheung Yue and Shek Sheung Rivers during Construction Phase

Action Level	Response	Limit Level	Response
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause(s) and if cause(s) identified as related to NDAs project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause(s) and if cause(s) identified as related to the NDAs project instigate remedial action. Review and adjust project's Long Valley Nature Park (LVNP) management measures

Action Level	Response	Limit Level	Response
			to improve conditions for affected species.
Decline in numbers of any one Waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause(s) and if cause(s) identified as related to NDAs project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of any one Waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause(s) and if cause(s) identified as related to the NDAs project instigate remedial action. Review and adjust project's LVNP management measures to improve conditions for affected species.

Note: Whether numbers are significant depend on species and season after collection and evaluation of baseline survey data.

3.4 In order to increase the sample size and reduce the random error on each survey day, survey data would be collectively analysed on a monthly basis. The collective data of each month is also compared to the baseline data of the respective month and season instead of the entire data set, to account for the seasonal variation in the abundance of waterbirds. In this study, the Winter season is defined as October to March, while the Summer season is defined as April to September.

4 RESULTS

4.1 The weather conditions and tide levels on the survey dates are listed in the table below.

Table 4 Weather Conditions and Tidal Information of Survey Dates in the Reporting Month

High Tide				Low Tide			
Date	**Time**	**Tide (m)**	**Weather**	**Date**	**Time**	**Tide (m)**	**Weather**
6-Dec-22	9:30	1.76	Sunny	7-Dec-22	15:00	1.18	Sunny
12-Dec-22	13:00	1.56	Sunny	13-Dec-22	7:00	0.79	Cloudy
21-Dec-22	9:00	1.64	Cloudy	22-Dec-22	7:30	1.07	Sunny
30-Dec-23	16:00	1.71	Sunny	29-Dec-22	9:30	0.3	Cloudy

4.2 Abundance and diversity of total bird species and key species are summarized in **Tables 5** and **6** respectively**.** Detailed list of avifauna recorded is provided in **Appendix A**.

Table 5 Total Bird Species and Abundance at Point Count Locations in the Reporting Month

Category	Number of Species	Abundance
All Avifauna	36	328
Waterbirds	15	177

Table 6 Abundance of Representative Waterbirds at Point Count Locations in the Reporting Month

Common Name	Species Name	Chinese Name	Abundance
Chinese Pond Heron	*Ardeola bacchus*	池鷺	17
Eastern Cattle Egret	*Bubulcus coromandus*	牛背鷺	7
Grey Heron	*Ardea cinerea*	蒼鷺	22
Great Egret	*Ardea alba*	大白鷺	8
Little Egret	*Egretta garzetta*	小白鷺	31
Great Cormorant	*Phalacrocorax carbo*	普通鸕鷀	28

5 ANALYSIS

5.1 The results of Student's t-test for all waterbirds and representative waterbirds are compiled in **Table 7** respectively. Further details are provided in **Appendices B** and **C**.

Table 7 T-test Result for Waterbirds in the Reporting Month

Category	Monthly					Seasonal				
	T-value	*df*	*p*	Action Level	Limit Level	T-value	*df*	*p*	Action Level	Limit Level
All Waterbirds	-2.429	8	0.021	*		-2.511	6	0.023	*	
Chinese Pond Heron	-3.276	8	0.006	*		-4.375	9	0.001	*	*
Eastern Cattle Egret	-1.335	6	0.115			-1.598	19	0.063		
Grey Heron	-4.191	7	0.002	*	*	-3.900	11	0.001	*	*
Great Egret	-3.737	8	0.003	*	*	-3.729	6	0.005		
Little Egret	-2.235	7	0.030	*		-4.554	14	0.000	*	*
Great Cormorant	-0.979	7	0.180			-0.027	4	0.490		

* = level triggered

5.2 Declines in all waterbirds, Chinese Pond Heron, and Little Egret have triggered the action level compared to the December, while decline in all waterbirds have triggered the action level of the Winter average. Declines in Grey Heron and Great Egret have triggered the Limit Level compared to the December average while Chinese Pond Heron, Grey Heron and Little Egret also triggered the Limit Level when compared to the Winter average.

5.3 The abundance of the representative waterbirds recorded from the transect count in addition to the point count are shown in **Table 8**. In general, the number of birds recorded in December have been lower than in November.

Table 8 Transect Count Abundance of Waterbirds in November and December 2022

Common Name	Chinese Name	Point Count Abundance Nov	Transect Count Abundance Nov	Point Count Abundance Dec	Transect Count Abundance Dec
Chinese Pond Heron	池鷺	26	34	17	9
Eastern Cattle Egret	牛背鷺	59	13	7	2
Grey Heron	蒼鷺	35	69	22	34
Great Egret	大白鷺	11	60	8	4
Little Egret	小白鷺	31	51	31	17
Great Cormorant	普通鸕鷀	81	138	28	25

5.4 A number of observations have been made at the survey site this month that might explain the drop in abundance, which is explained below.

5.5 Since the survey dated on 4th November, surveyors have recorded works involving laying concrete blocks using cranes across Ng Tung River at P2 and P3, these works were determined to be a part of the North East New Territories Sewerage System Upgrade led by Drainage Services Department. Although the laying have been completed in November, the presence of the concrete blocks throughout the entire reporting month (as seen in Photo 2 of **Appendix D**), and intentional damming of Ng Tung River have also caused the water level at the entire Ng Tung River covering T1, T2, P1, P2, P3 and P4 to be visibly higher when compared to previous months. This may result in a loss of foraging grounds for waterbirds in the river, leading to the general reduction in abundance of waterbirds and the representative waterbird species.

5.6 Furthermore, construction involving excavation and sheet piling (as shown in Photo 3 of **Appendix D**) right next to P3 by DSD near the Sheung Shui Slaughter house was recorded throughout the entire month. The noise level of the construction was noted to be particularly high during the survey on the 9th December, which is a potential cause to discourage birds from foraging in P3.

5.7 A new construction by Civil Engineering and Development Department (Photo 5 of **Appendix D**) was also recorded during the survey on 29th December near P7, which seemed to involve piling and pavement reconstruction. The surveyor described the construction to be very noisy on 29th December and might discourage birds from foraging near P7 and T3.

5.8 During all surveys, a number of representative waterbirds were recorded in a pond on T1 (indicated in Photos 4 and 6 of **Appendix D**) instead of its nearby point count location of P2, this is likely due to the pond providing a habitat with more shallow water and thus is more suitable for foraging, and is less disturbed by anthropogenic activities.

5.9 A combination of these factors may lead to the overall decrease in number of waterbirds recorded in the point count and transect count, although the observations from the surveys could not discount the possibility that the reduction in waterbird numbers is simply a result of natural fluctuation or other external factors (e.g. active management in providing more favourable habitats in Long Valley Nature Reserve).

5.10 However, as construction activities of the current project and disturbances caused by the current project have not changed significantly in the reporting months, it is suggested that the decline in the number of multiple species of waterbirds is not related to the construction works.

5.11 Monitoring work will be continued next month to evaluate any construction impact on waterbirds. The construction site should continue keeping the best site practice in noise control to minimize disturbance caused to waterbirds. No further action is advised at the moment.

6 OBSERVATIONS

6.1 The types of Waterbird behavior observed during ecological monitoring are listed below:

- Flying
- Resting
- Foraging

6.2 The anthropogenic activities observed during ecological monitoring are listed in **Table 9.**

Table 9 Observations of the anthropogenic activities during the Ecological Monitoring in the Reporting Month

Location	Observations	
	Project Related	**Non-project Related**
T1 (PC1, PC2)	/	Fishing, laying of concrete and damming blocks at P2 (DSD)
T2 (PC3, PC4)	Use of crane, scaffolding	Fishing, laying of concrete blocks at P3 Excavation work and sheet piling next to P3 (DSD)
T3 (PC6, PC7)	/	Fishing, piling works at P7 (CEDD)

7 REFERENCES

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Appendix A Recorded Bird Species and their Abundance in the Reporting Month

Common Name	Chinese Name	Scientific Name	Waterbird	Point Count Abundance	Transect Abundance
Chinese Pond Heron	池鷺	*Ardeola bacchus*	Y	17	+
Eastern Cattle Egret	牛背鷺	*Bubulcus coromandus*	Y	7	+
Grey Heron	蒼鷺	*Ardea cinerea*	Y	22	++++
Great Egret	大白鷺	*Ardea alba*	Y	8	+
Intermediate Egret	中白鷺	*Ardea intermedia*	Y	1	
Little Egret	小白鷺	*Egretta garzetta*	Y	31	++
Great Cormorant	普通鸕鷀	*Phalacrocorax carbo*	Y	28	+++
Black Kite	黑鳶	*Milvus migrans*	N	1	+
White-breasted Waterhen	白胸苦惡鳥	*Amaurornis phoenicurus*	Y	1	
Black-winged Stilt	黑翅長腳鷸	*Himantopus himantopus*	Y	42	++++
Temminck's Stint	青腳濱鷸	*Calidris temminckii*	Y		+
Common Snipe	扇尾沙錐	*Gallinago gallinago*	Y		+
Common Sandpiper	磯鷸	*Actitis hypoleucos*	Y	5	+
Green Sandpiper	白腰草鷸	*Tringa ochropus*	Y	3	
Common Greenshank	青腳鷸	*Tringa nebularia*	Y	6	+
Spotted Dove	珠頸斑鳩	*Spilopelia chinensis*	N	15	+++
White-throated Kingfisher	白胸翡翠	*Halcyon smyrnensis*	Y	3	+
Pied Kingfisher	斑魚狗	*Ceryle rudis*	Y	1	+
Alexandrine Parakeet	亞歷山大鸚鵡	*Psittacula eupatria*	N		+
Long-tailed Shrike	棕背伯勞	*Lanius schach*	N		+
Red-billed Blue Magpie	紅嘴藍鵲	*Urocissa erythroryncha*	N		+
Collared Crow	白頸鴉	*Corvus torquatus*	Y	2	+
Large-billed Crow	大嘴烏鴉	*Corvus macrorhynchos*	N		+
Cinereous Tit	蒼背山雀	*Parus cinereus*	N		+
Red-whiskered Bulbul	紅耳鵯	*Pycnonotus jocosus*	N	16	++++
Chinese Bulbul	白頭鵯	*Pycnonotus sinensis*	N		+++
Yellow-browed Warbler	黃眉柳鶯	*Phylloscopus inornatus*	N	14	+++
Pallas's leaf Warbler	黃腰柳鶯	*Phylloscopus proregulus*	N	1	
Dusky Warbler	褐柳鶯	*Phylloscopus fuscatus*	N	8	++
Yellow-bellied Prinia	黃腹鷦鶯	*Prinia flaviventris*	N	5	
Common Tailorbird	長尾縫葉鶯	*Orthotomus sutorius*	N	7	+
Masked Laughingthrush	黑臉噪鶥	*Pterorhinus perspicillatus*	N	9	++++
Swinhoe's white-eye	暗綠繡眼鳥	*Zosterops simplex*	N	17	+++++
Crested Myna	八哥	*Acridotheres cristatellus*	N	5	+++++
Black-collared Starling	黑領椋鳥	*Gracupica nigricollis*	N	3	+
Oriental Magpie Robin	鵲鴝	*Copsychus saularis*	N	7	+
Asian Brown Flycatcher	北灰鶲	*Muscicapa dauurica*	N	1	+
Blue Whistling Thrush	紫嘯鶇	*Myophonus caeruleus*	N	3	
Daurian Redstart	北紅尾鴝	*Phoenicurus auroreus*	N	9	+++
Stejneger's Stonechat	黑喉石(即鳥)	*Saxicola stejnegeri*	N	2	+
Fork-tailed Sunbird	叉尾太陽鳥	*Aethopyga christinae*	N		+

Common Name	Chinese Name	Scientific Name	Waterbird	Point Count Abundance	Transect Abundance
Scaly-Breasted Munia	斑文鳥	*Lonchura punctulata*	N		+
Eastern Yellow Wagtail	東黃鶺鴒	*Motacilla tschutschensis*	N	2	+
Grey Wagtail	灰鶺鴒	*Motacilla cinerea*	N	4	
White Wagtail	白鶺鴒	*Motacilla alba*	N	21	+++
Black-faced Bunting	灰頭鵐	*Emberiza spodocephala*	N	1	
		Total Point Count Abundance		328	
		Total Waterbirds		177	

For transect abundance, +: 1-10, ++: 11-20, +++: 21-30, ++++: 31-40, +++++: >40

Appendix B Total Waterbird Abundance from Point Count

Survey Information				Number of Waterbirds	
Week	**Date**	**Time**	**Tide Level**	**Individuals Recorded**	**Total**
1	6/12/2022	9:00	High	12	35
	7/12/2022	10:50	Low	23	
2	12/12/2022	15:00	High	24	60
	13/12/2022	10:10	Low	36	
3	21/12/2022	15:30	High	7	38
	22/12/2022	9:55	Low	31	
4	29/12/2022	14:10	Low	40	44
	30/12/2022	10:00	High	4	
			Survey Average		44.25
			Baseline	December Average	68.83
				Winter Average	60.77

Appendix C Abundance of Representative Waterbirds from Point Count

Representative Species		Recorded Abundance (Dec 2022)						Baseline	
Common Name	**Species Name**	**Week 1**	**Week 2**	**Week 3**	**Week 4**		**Average**	**Dec Average**	**Winter Average**
Chinese Pond Heron	*Ardeola bacchus*	6	5	2	4		4.25	8.83	9.21
Eastern Cattle Egret	*Bubulcus coromandus*	3	1	3	0		1.75	5.33	3.77
Grey Heron	*Ardea cinerea*	6	9	4	3		5.5	16.83	12.82
Great Egret	*Ardea alba*	0	3	2	3		2	6.33	5.15
Little Egret	*Egretta garzetta*	5	9	9	8		7.75	12.33	14.36
Great Cormorant	*Phalacrocorax carbo*	7	14	5	2		7	12	7.08

Appendix D Survey Photos

Photo 1 Works on current project at P4 (13/12)	**Photo 2** Concrete Blocks laid by DSD at P2 (9/12)

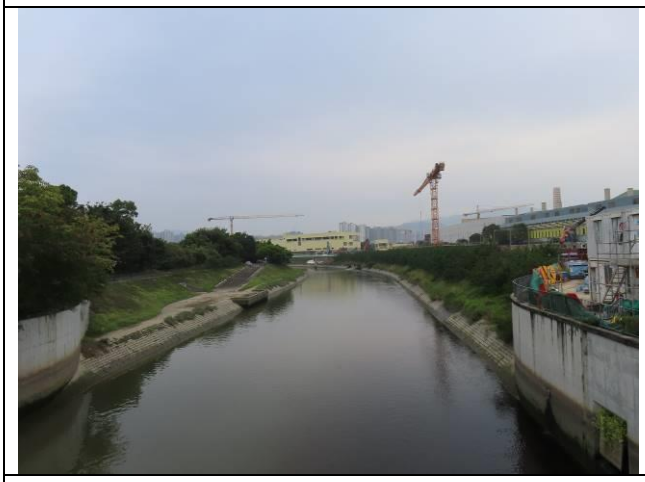
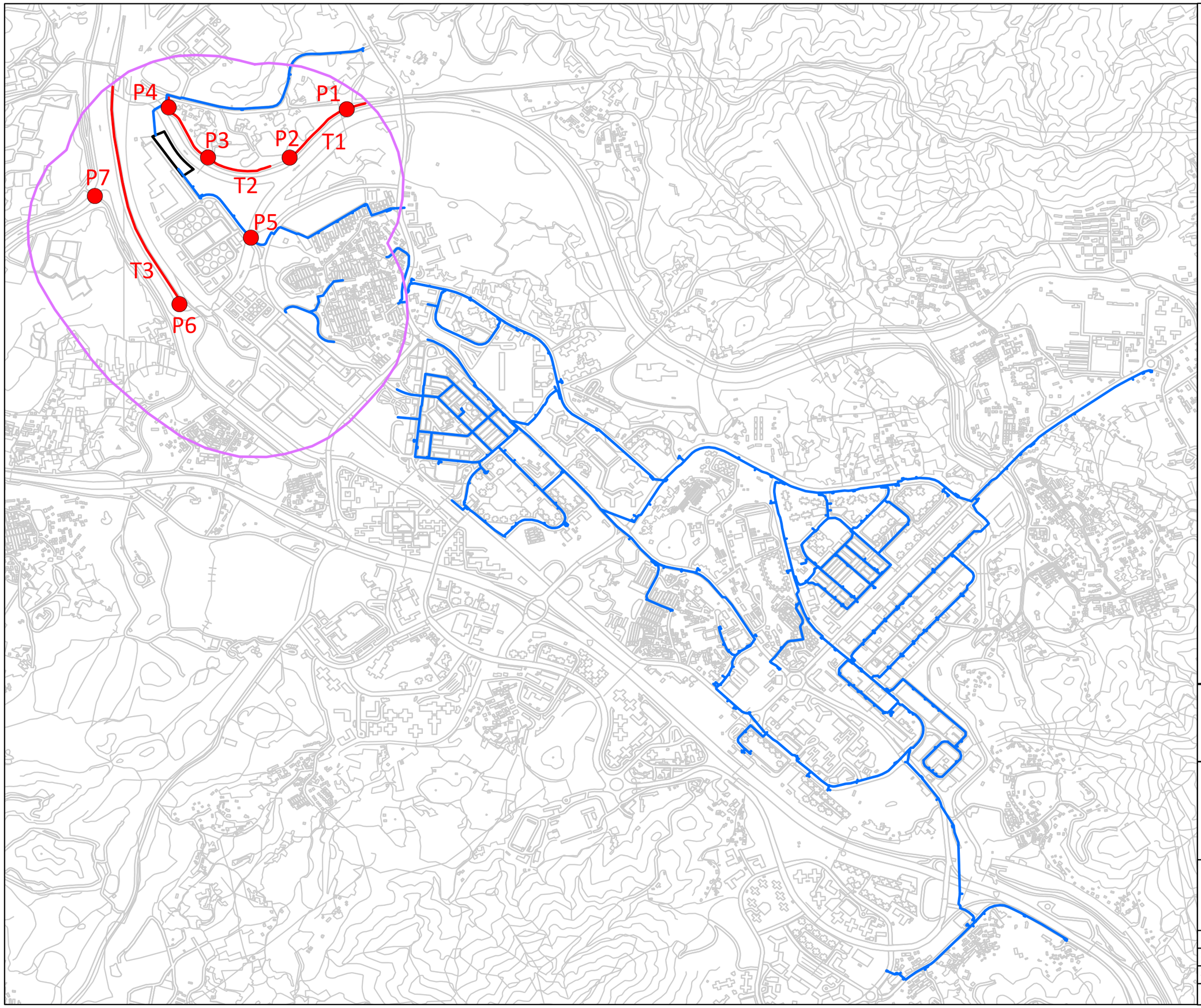



Photo 3 Excavation and sheet piling by DSD at P3 (13/12)	**Photo 4** Pond at T1
	
Photo 5 Piling at P7 by CEDD (29/12)	**Photo 6** Eastern Cattle Egret at T1
	

Figure 1

Transect and Point Count Location



Proposed Shek Wu Hui Water Reclamation Plant

500m Survey Boundary

Proposed Retained Water Mains

Walk Transects

Point Count Locations

ecology
biodiversity
landscape
aec

Project Title:

WSD Contract No. 3/WSD/20 -
Reclaimed Water Supply to Sheung Shui and Fanling -
Provision of EM&A (Ecological) Monitoring

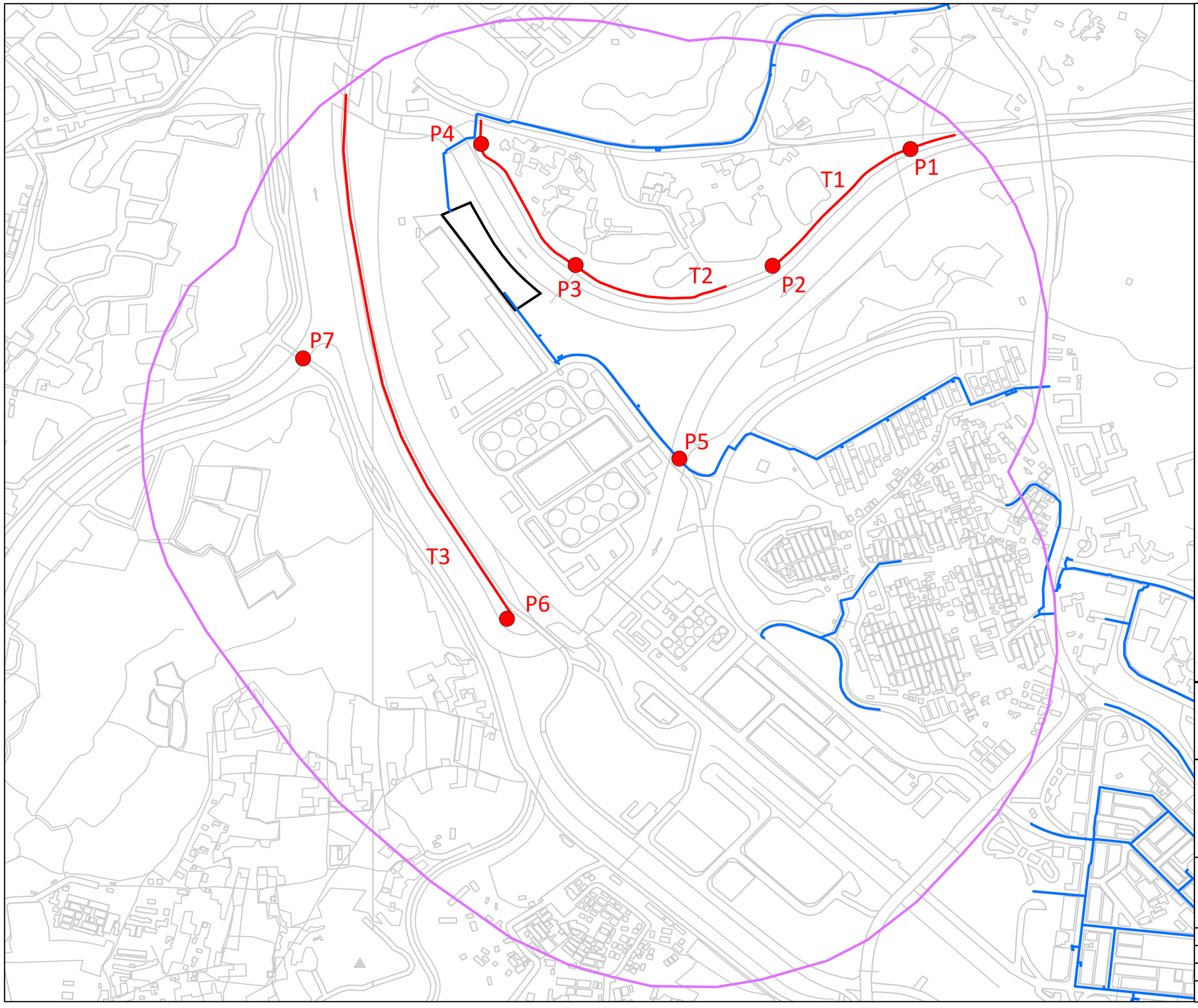
Figure Title:

Transect and Point Count Locations

Drawn by:	NT	Scale:	1:14,500 on A3
Checked By:	NT	Date:	5 July 2022
Approved by:	IY		
Figure Number:	Figure 1	Revision:	2

Figure 1a

Transect and Point Count Location (Zoomed In)



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Provision of EM&A (Ecological) Monitoring

Figure Title:

Transect and Point Count Locations (zoomed in)

Drawn by:	NT	Scale: 1:6,000	on A3
Checked By:	NT	Date: 5 July 2022	
Approved by:	IY		
Figure Number:	Figure 1a	Revision: 2	