JOB NO.: TCS01216/21

WSD Contract No.: 3/WSD/20 -

Reclaimed Water Supply to Sheung Shui and Fanling

MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT (NO.16) – MARCH 2023

PREPARED FOR

WATER SUPPLIES DEPARTMENT

Quality Index

Date	Reference No.	Prepared By	Approved By
12 April 2023	TCS01216/21/600/R0071v1	Martin Li Environmental Consultant	TW Tam Environmental Team Leader

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Date: 14th April 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 March 2023

We refer to the monthly EM&A Report for March 2023 for WSD Contract No.: 3/WSD/20 – Reclaimed Water Supply to Sheung Shui and Fanling certified by the Environmental Team Leader on 12th April 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 **16th** monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from **1** to **31 March 2023** (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	**5**
Site Inspection / Audit	ET, the Contractor and RE joint site Environmental Inspection	**4**

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 March 2023	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 March 2023	0	0	NA

Table ES-5 Environmental Prosecution Summaries in the Reporting Month

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 31 March 2023	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 ***9, 16, 21*** and ***29 March 2023***. No non-compliance was noted during the site inspection.

ES.13 IEC inspection was conducted on 29 March 2023.

FUTURE KEY ISSUES

ES.14 ABWF work at HCF and construction of reinforced concrete structure of ReWPS will be the major construction work in the coming month. Noise mitigation measures such as erect barrier for steel bar cutting machines were recommended to reduce noise impact generated from rebar fixing work. In addition, the Contractor should pay attention to potential water quality impact from concreting works and waste impact from ABWF Work, and implement mitigation measures according to the ISEMM.

ES.15 As the coming month will be wet season, the Contractor was general reminded to paid attention to water quality mitigation measures such as ensure sufficient wastewater treatment facilities capacity is provided on site and keep review on the temporary drainage system to avoid water quality impact arise from the Project.

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

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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 **16th** monthly EM&A report to presenting the monitoring results and inspection findings from ***1*** to ***31 March 2023*** 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 major 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 R.C. Structure of HCF – Concreting for Parapet Wall & Indoor Mass Concrete; Watertightness Test for Contact Tank
- Construction of R.C. Structure of ReWPS – Concreting for Wall & Column up to Corbel (Grid 2-4); Concreting for Wall, Beam & Column (Grid 4-6)

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-RN1226-22	27 Jan 2023	26 April 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))
10-Mar-23	9:15	61
15-Mar-23	10:24	63
21-Mar-23	13:16	61
27-Mar-23	11:01	58
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 ***Five (5)*** 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	45	695
Waterbirds	16	252

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	24
Eastern Cattle Egret	Bubulcus coromandus	牛背鷺	36
Grey Heron	Ardea cinerea	蒼鷺	18
Great Egret	Ardea alba	大白鷺	15
Little Egret	Egretta garzetta	小白鷺	86
Great Cormorant	Phalacrocorax carbo	普通鸕鷀	14

5.2.3 The result was compared with the baseline data (both March average and Winter average) and decline in abundance of Chinese Pond Heron, Grey Heron, Great Egret and Great Cormorant 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 The decline of individual waterbird species should not be the result of increased disturbances from the Project or its surrounding on-going projects, as increased disturbance would discourage multiple waterbird species from foraging near the transect and point count locations instead. Thus it is concluded that the decline in Chinese Pond Heron, Grey Heron, Great Egret and Great Cormorant is not related to the construction works of the Project.

5.2.5 According to surveyors, the construction works by other Projects around the survey transects observed in previous month are still active during the reporting month.

5.2.6 Concrete blocks laying work was observed across Ng Tung River at P2 and P3 by other Project since November 2022. It was observed during the survey in the reporting period that these works are part of the process of inspection and maintenance works of the inflatable dam at P2. Still, the water level of Ng Tung River along T1 (P1 and P2 included) is higher than the baseline survey due to the concrete blocks damming the flow of water, and may reduce the foraging area at P1 and/or P2 and attract less waterbirds to forage at these two points.

5.2.7 Construction involving excavators by an unknown party were observed to be operating near P6 since the survey in Mid-February 2023. At the same time, sediments piles were observed in the river in T3 close to P6, and thus the sediment piles are believed to be related to the construction by the unknown party. The increased water level as a result of accumulation of sediments would decrease area available for foraging waterbirds and activities of excavators are believed to be a source of disturbance that may discourage waterbirds from foraging near P6. This operation was observed to have been finished in the end of March 2023.

5.2.8 The construction involving excavation and sheet piling work right next to P3 by other Project was observed completed in early March 2023 while the construction work near P7 by other Project was observed active throughout the entire reporting month.

5.2.9 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)	0.1300	-
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)	0.1300	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)	0.0300	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 ***9, 16, 21*** and ***29 March 2023*** 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
9 March 2023	• The Contractor was reminded to dispose cumulated construction waste regularly near site entrance.	Reminder Only
16 March 2023	• The Contractor was advised to place chemical containers inside drip tray. • The Contractor was reminded to spray water regularly at exposed work area.	Chemical containers were removed. Reminder Only
21 March 2023	• The Contractor was reminded to spray water at haul road regularly. • The Contractor was reminded to check any blockage of drainage channel on site.	Reminder Only Reminder Only
29 March 2023	• No adverse environmental issue was observed.	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 March 2023	0	0	NA

Table 8-1-2 Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 31 March 2023	0	0	NA

Table 8-1-3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 31 March 2023	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:

- ABWF Works at HCF – Erection of bamboo scaffolding, plastering works, application of waterproofing material on green roof and external underground surface.
- Construction of R.C. Structure of ReWPS – Rebar Fixing and Concreting Work at Grid 2 - 4 ; Concreting Work at Grid 4 - 6

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:

ABWF Work at HCF

- Proper management and storage of chemicals used for the ABWF Work to avoid land contamination.
- Chemical label for chemical container should be regularly checked and provided.
- Sufficient secondary containment for chemical containers should be provided at work area.

R.C. Structure of ReWPS (Rebar fixing and concreting work)

- Collect spilt cement/concrete washings during concreting works to avoid water quality impact
- Erect barrier for steel bar cutting machine to reduce noise impact;
- Restrict operation time of PME from 07:00 to 19:00 on any working day;

General

- 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.
- 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;
- Use Quiet powered mechanical equipment (QPME) whenever applicable;
- Minimize the number of plants used at the same time to reduce cumulative noise impact;
- Proper management of general refuse and chemical waste generated on site.
- Keep review the temporary drainage system on site during rainy reason

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS

10.1.1 This is **16th** monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from **1** to **31 March 2023**.

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 Five (5) 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 ***9, 16, 21*** and ***29 March 2023***. The mitigation measures implemented was considered satisfactory. No non-compliance observed during the site inspection.

10.2 RECOMMENDATIONS

10.2.1 ABWF work at HCF and construction of reinforced concrete structure of ReWPS will be the major construction work in the coming month. Noise mitigation measures such as erect barrier for steel bar cutting machines were recommended to reduce noise impact generated from rebar fixing work. In addition, the Contractor should pay attention to potential water quality impact from concreting works and waste impact from ABWF Work, and implement mitigation measures according to the ISEMM.

10.2.2 As the coming month will be wet season, the Contractor was general reminded to paid attention to water quality mitigation measures such as ensure sufficient wastewater treatment facilities capacity is provided on site and keep review on the temporary drainage system to avoid water quality impact arise from the Project.

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

N

830100 E

841700 N

841600 N

SURGE VESSEL

UNDERGROUND FLOWMETER CHAMBER

ANCILLARY ROOMS

MOTOR HALL

RECLAIMED WATER REFILLING STATION WITH UNDERGEOUND WATER TANK

ANCILLARY ROOMS

BUFFER TANK

HYPO-CHLORINATION CONTACT TANK

INLET CHAMBER

SHEUNG SHUI SLAUGHTER HOUSE

TO BE CONNECTED WITH PROPOSED PEOMENADE TO BE CONSTRUCTED BY OTHERS

NG TUNG RIVER (RIVER INDUS)

Ramp

Platform

Outfall

CUL

FP

TS

Road

Sheung Shui Slaughter House

PLAN
SCALE 1 : 400

N

830300 E

SHEUNG YUE RIVER 石上河

FU TEI AU ROAD 導管

CHUK WAN STREET

污水處理廠
Sewage Treatment Works

SHEK SHEUNG

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

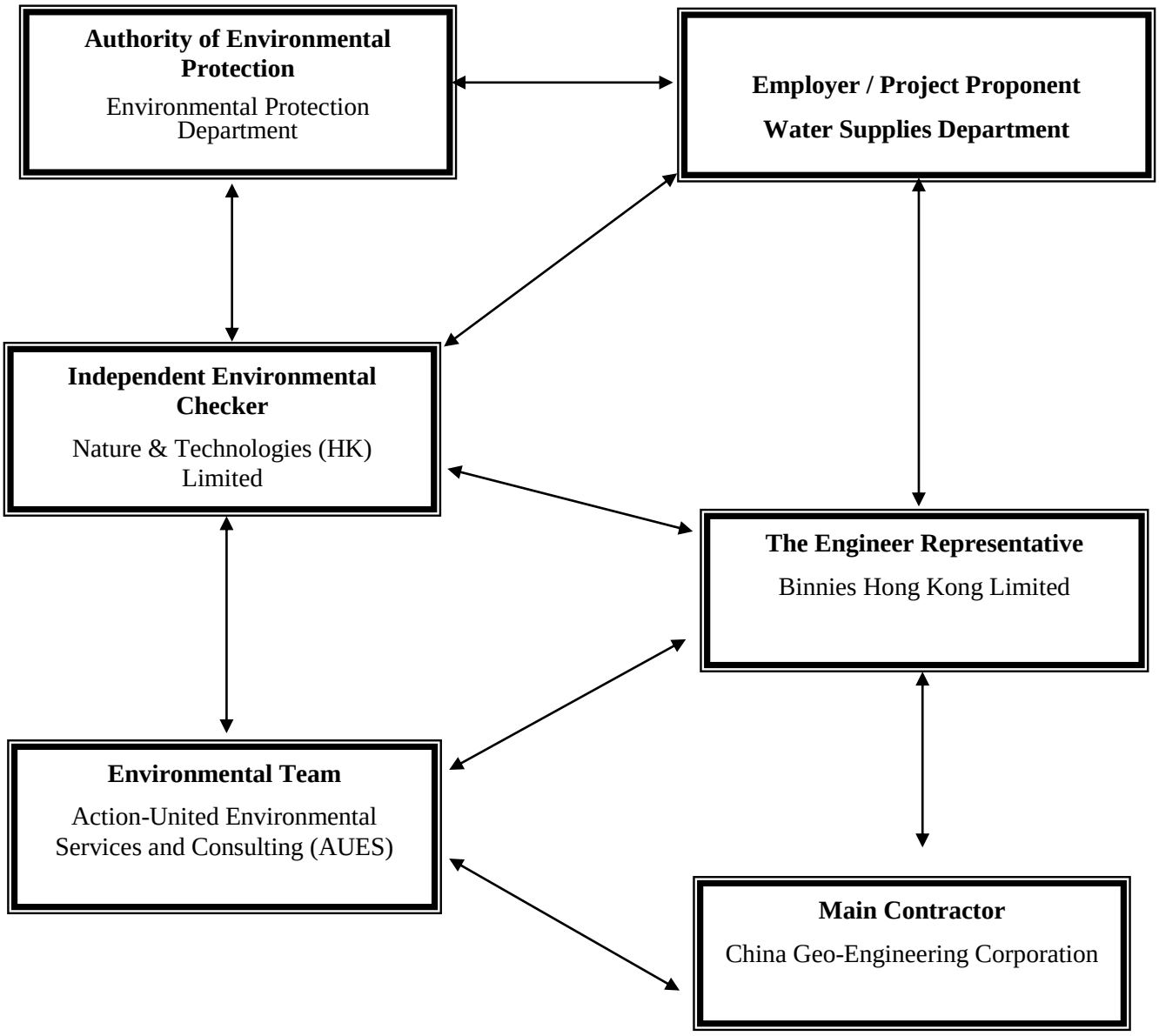
Plot Date: 3/15/2021 11:20:19 AM

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:

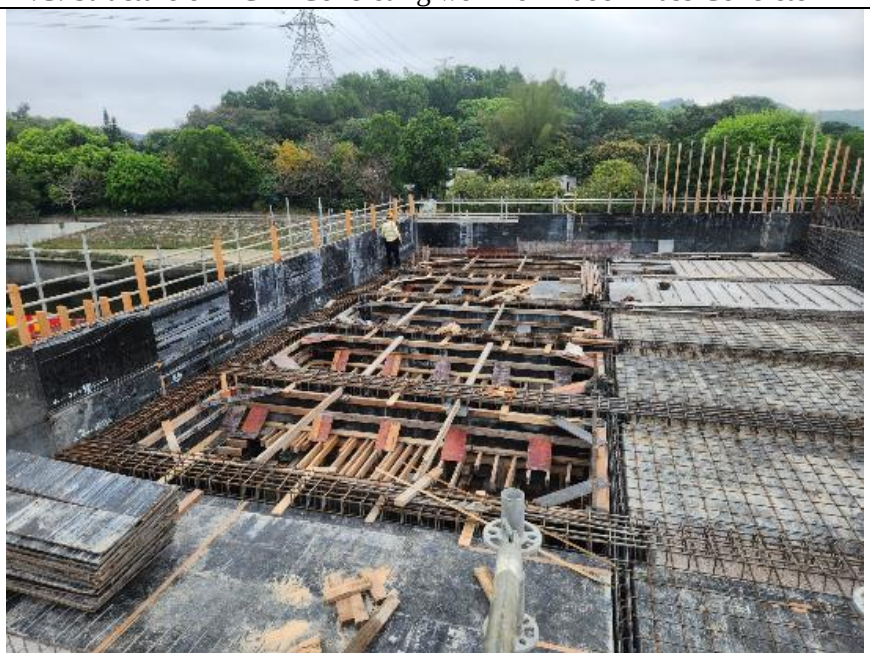
WSD (Employer) – Water Supplies Department
Binnies (Engineer Representative) – Binnies Hong Kong Limited
CGC (Main Contractor) –China Geo-Engineering Corporation
N&T (IEC) –Nature & Technologies (HK) Limited
AUES (ET) – Action-United Environmental Services and Consulting (AUES)

Appendix C

Master Construction Program and Site Overview Photo in the Reporting Period

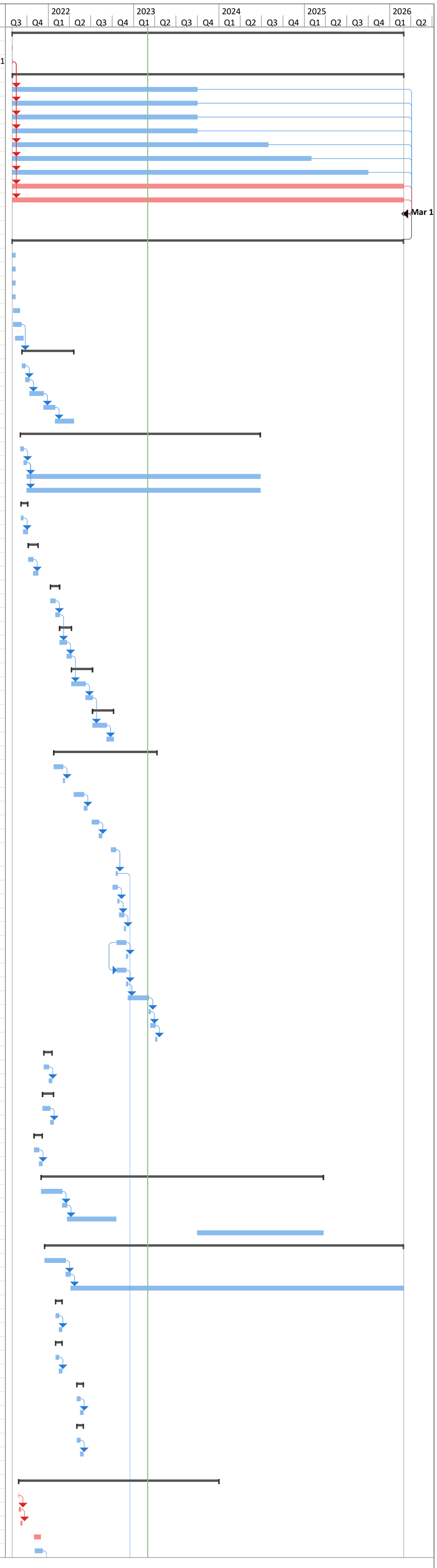
SITE OVERVIEW PHOTO IN THE REPORTING PERIOD

R.C. Structure of HCF - Concreting work for Indoor Mass Concrete



R.C. Structure of ReWPS - Concreting work for Wall & Column

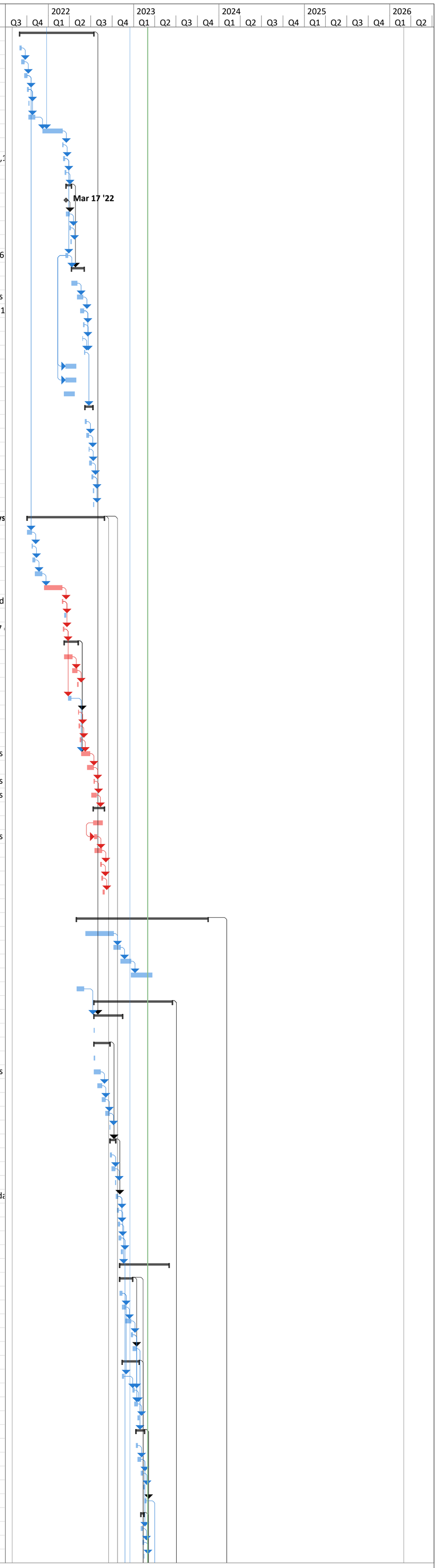
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1	**Key Dates**	**1676 days**	**Jul 30 '21**	**Mar 1 '26**			
2	Contract Date	1 day	Jul 30 '21	Jul 30 '21			
3	Starting Date	1 day	Jul 30 '21	Jul 30 '21			5,6,7,8,9,10,11
4	**Contract Period**	**1675 days**	**Jul 31 '21**	**Mar 1 '26**			
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**	
15							
16	**Preliminary & General**	**1675 days**	**Jul 30 '21**	**Feb 28 '26**			**14FF**
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
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**	**442 days**	**Jan 24 '22**	**Apr 10 '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	1275
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)	90 days	Dec 7 '22	Mar 6 '23		69	71
71	Selection of subcontractor - trenchless (SC-051)	7 days	Mar 7 '23	Mar 13 '23		70	72
72	Submission and acceptance of subletting package - trenchless (SC-052)	21 days	Mar 14 '23	Apr 3 '23		71	73
73	Selection of subcontractor - trenchless (SC-052)	7 days	Apr 4 '23	Apr 10 '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**	**1536 days**	**Dec 16 '21**	**Feb 28 '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)	1425 days	Apr 6 '22	Feb 28 '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
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**	**857 days**	**Aug 27 '21**	**Dec 31 '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



Project: 3WSD20 Programme
Date: Mar 2 '23

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		

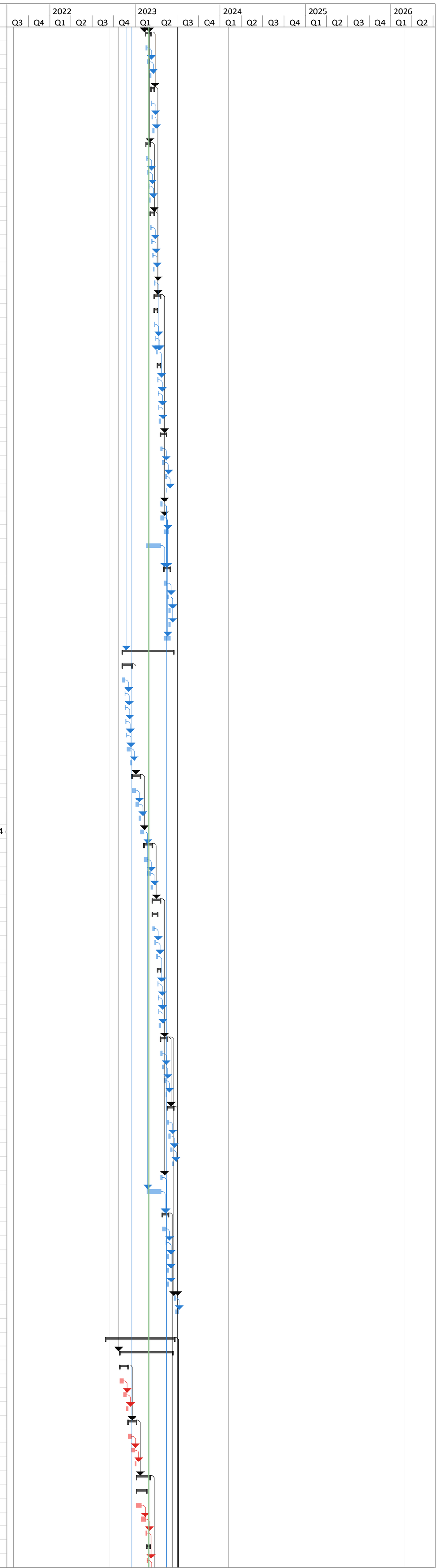
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
111	**Foundation Works - ReWPS**	**318 days**	**Aug 31 '21**	**Jul 14 '22**			**182**
112	Submission and approval of subletting package for pre-drilling works	7 days	Aug 31 '21	Sep 6 '21			113
113	Selection of pre-drilling subcontractor	13 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,1
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,136
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,1
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	
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**			**316FS+60 days**
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 d
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
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**	**564 days**	**May 1 '22**	**Nov 15 '23**			**578FF**
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**	**336 days**	**Jul 15 '22**	**Jun 15 '23**			**438,449**
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
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 da
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	266,199
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**	**212 days**	**Nov 2 '22**	**Jun 1 '23**		**197**	
201	Construction of Beams and Slabs at +7.2mPD	56 days	Nov 2 '22	Dec 27 '22			206,222
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	24 days	Nov 27 '22	Dec 20 '22		203	205
205	Concreting (+5.7mPD to +7.2mPD)	7 days	Dec 21 '22	Dec 27 '22		204	210,209
206	Partial Removal of formwork and falsework below +7.2mPD	14 days	Dec 28 '22	Jan 10 '23		201	212
207	Construction of Beams and Slabs at +9.1mPD	73 days	Nov 13 '22	Jan 24 '23			222
208	Falsework erection	7 days	Nov 13 '22	Nov 19 '22		202	209
209	Formwork erection	7 days	Dec 28 '22	Jan 3 '23		208,205	210
210	Rebar fixing	14 days	Jan 4 '23	Jan 17 '23		205,209	211
211	Concreting (+7.2mPD to +9.1mPD)	7 days	Jan 18 '23	Jan 24 '23		210	
212	Construction of Beams and Slabs at +3.6mPD and ST6	37 days	Jan 11 '23	Feb 16 '23		206	217,230
213	Scaffolding and falsework erection	7 days	Jan 11 '23	Jan 17 '23			214
214	Formwork erection	14 days	Jan 18 '23	Jan 31 '23		213	215,219
215	Rebar fixing	9 days	Feb 1 '23	Feb 9 '23		214	216
216	Concreting (+3.6mPD)	7 days	Feb 10 '23	Feb 16 '23		215	
217	Re-instatement of falsework below +7.2mPD	7 days	Feb 17 '23	Feb 23 '23		212	245
218	Construction of Staircase ST4 & ST5 (+7.2mPD to +8.85mPD)	14 days	Feb 1 '23	Feb 14 '23			222
219	Formwork erection	7 days	Feb 1 '23	Feb 7 '23		214	220
220	Rebar fixing	6 days	Feb 8 '23	Feb 13 '23		219	221
221	Concreting	1 day	Feb 14 '23	Feb 14 '23		220	



Project: 3WSD20 Programme
Date: Mar 2 '23

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		

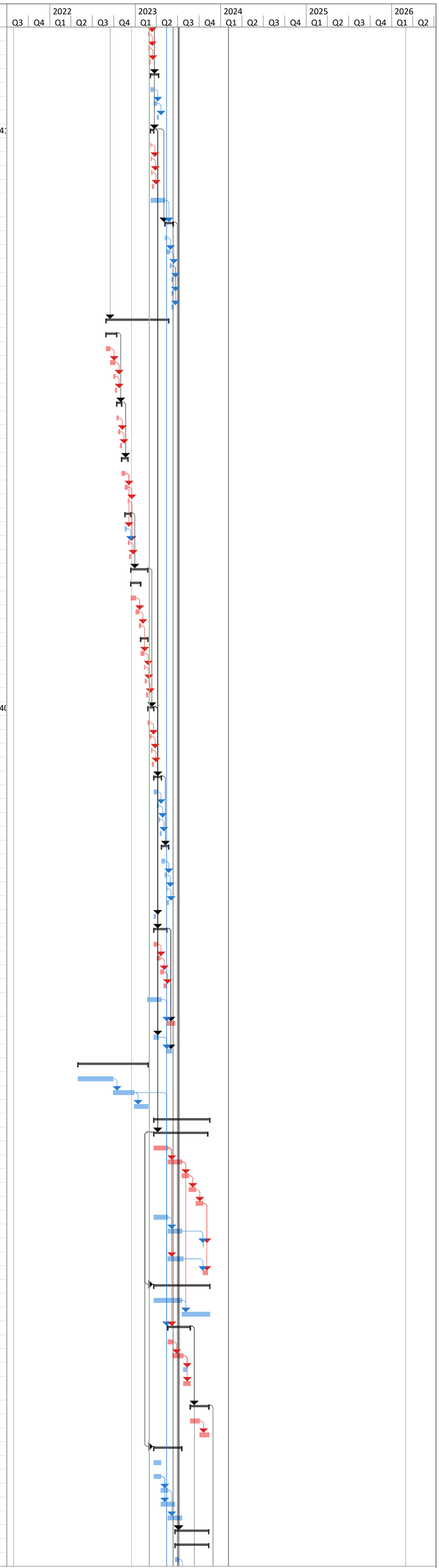
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
222	Construction of Walls and Columns (+7.2mPD/+9.1mPD to +12.2mPD)	24 days	Feb 15 '23	Mar 10 '23		207,218,201	226
223	Scaffolding erection and Formwork erection	8 days	Feb 15 '23	Feb 22 '23			224
224	Rebar fixing and Formwork erection	9 days	Feb 23 '23	Mar 3 '23		223	225
225	Concreting	7 days	Mar 4 '23	Mar 10 '23		224	
226	Construction of Walls and Columns (+12.2mPD to +15.2mPD)	13 days	Mar 11 '23	Mar 23 '23		222	241
227	Scaffolding erection and Formwork erection	3 days	Mar 11 '23	Mar 13 '23			228
228	Rebar fixing and Formwork erection	3 days	Mar 14 '23	Mar 16 '23		227	229
229	Concreting	7 days	Mar 17 '23	Mar 23 '23		228	
230	Construction of Staircase ST1, ST2 (+0mPD to +3.6mPD)	19 days	Feb 17 '23	Mar 7 '23		212	235
231	Scaffolding and falsework erection	7 days	Feb 17 '23	Feb 23 '23			232
232	Formwork erection	4 days	Feb 24 '23	Feb 27 '23		231	233
233	Rebar fixing	4 days	Feb 28 '23	Mar 3 '23		232	234
234	Concreting	4 days	Mar 4 '23	Mar 7 '23		233	
235	Construction of Staircase ST1, ST2 (+3.6mPD to +7.2mPD)	16 days	Mar 8 '23	Mar 23 '23		230	240
236	Scaffolding and falsework erection	4 days	Mar 8 '23	Mar 11 '23			237
237	Formwork erection	4 days	Mar 12 '23	Mar 15 '23		236	238
238	Rebar fixing	4 days	Mar 16 '23	Mar 19 '23		237	239
239	Concreting	4 days	Mar 20 '23	Mar 23 '23		238	
240	Re-instatement of falsework at Staircase below +7.2mPD	4 days	Mar 24 '23	Mar 27 '23		235	245
241	Construction of Beams and Slabs at +15.2mPD	28 days	Mar 24 '23	Apr 20 '23		226	251,256,257
242	Construction of Beams	15 days	Mar 24 '23	Apr 7 '23			
243	Falsework and formwork erection for beam	3 days	Mar 24 '23	Mar 26 '23			244
244	Rebar fixing for beam	5 days	Mar 27 '23	Mar 31 '23		243	245
245	Concreting and curing of concrete for beam	7 days	Apr 1 '23	Apr 7 '23		244,240,217	247
246	Construction of Slabs	13 days	Apr 8 '23	Apr 20 '23			
247	Installation of precast segments (65 nos.)	3 days	Apr 8 '23	Apr 10 '23		245	248
248	Formwork erection for half slab	1 day	Apr 11 '23	Apr 11 '23		247	249
249	Rebar fixing for half slab	2 days	Apr 12 '23	Apr 13 '23		248	250
250	Concreting for half slab and curing of concrete	7 days	Apr 14 '23	Apr 20 '23		249	
251	Construction of Parapet Walls (+15.2mPD to +16.6mPD)	26 days	Apr 21 '23	May 16 '23		241	
252	Scaffolding erection	7 days	Apr 21 '23	Apr 27 '23			253
253	Rebar fixing	10 days	Apr 28 '23	May 7 '23		252	254
254	Formwork erection	7 days	May 8 '23	May 14 '23		253	255
255	Concreting	2 days	May 15 '23	May 16 '23		254	
256	Removal of formwork and falsework below +15.2mPD	7 days	Apr 21 '23	Apr 27 '23		241	260,529
257	Installation of water proofing system below ground (below +7.2mPD & +9.1mPD)	14 days	Apr 21 '23	May 4 '23		241	258,265,260
258	Watertightness test (G.L. 2-3, below +9.1mPD)	21 days	May 5 '23	May 25 '23		257	
259	Detailed Design for Internal Façade Treatment for Assess Road and Interior Fitting for Internal Rooms	60 days	Feb 20 '23	Apr 20 '23			260
260	Installation of internal finishing works above ground (above +7.2mPD & 9.1mPD)	28 days	May 5 '23	Jun 1 '23		256,259,257	
261	Plaster and paint at wall and soffit	14 days	May 5 '23	May 18 '23			262
262	Epoxy painting on floor finish	7 days	May 19 '23	May 25 '23		261	263,264
263	Chequer plate system at cable trench	7 days	May 26 '23	Jun 1 '23		262	
264	SS door and aluminum louver	7 days	May 26 '23	Jun 1 '23		262	
265	Installation of internal finishing works (G.L. 3-4, below +7.2mPD)	28 days	May 5 '23	Jun 1 '23		257	
266	**Construction of Superstructure (above ground) - Grid Line 4-6**	**220 days**	**Nov 8 '22**	**Jun 15 '23**		**198**	
267	Construction of base slab (+4.45mPD to +5.95mPD & +5.6mPD to +7.1mPD)	41 days	Nov 8 '22	Dec 18 '22			275
268	Open-cut excavation to formation level	10 days	Nov 8 '22	Nov 17 '22			269
269	Welding of pile head capping plate (11 nos.)	3 days	Nov 18 '22	Nov 20 '22		268	270
270	Laying of blinding layer	2 days	Nov 21 '22	Nov 22 '22		269	271
271	Installation of water proofing system and testing	2 days	Nov 23 '22	Nov 24 '22		270	272
272	Formwork erection	3 days	Nov 25 '22	Nov 27 '22		271	273
273	Rebar fixing	14 days	Nov 28 '22	Dec 11 '22		272	274
274	Concreting	7 days	Dec 12 '22	Dec 18 '22		273	
275	Construction of Bearing walls and Slabs (+5.95mPD to +7.2mPD)	37 days	Dec 19 '22	Jan 24 '23		267	279
276	Formwork erection and Rebar fixing	15 days	Dec 19 '22	Jan 2 '23			277
277	Formwork erection	15 days	Jan 3 '23	Jan 17 '23		276	278
278	Concreting	7 days	Jan 18 '23	Jan 24 '23		277	
279	Backfilling of pile cap edge	14 days	Jan 25 '23	Feb 7 '23		275	280,305FS+14
280	Construction of Columns, Walls, Beams & Slabs (+7.2mPD to +11.8mPD)	37 days	Feb 8 '23	Mar 16 '23		279	284
281	Scaffolding erection and formwork erection	15 days	Feb 8 '23	Feb 22 '23			282
282	Rebar fixing and formwork erection	15 days	Feb 23 '23	Mar 9 '23		281	283
283	Concreting	7 days	Mar 10 '23	Mar 16 '23		282	
284	Construction of Columns, Walls, Beams & Slabs (+11.8mPD to +13.25mPD)	35 days	Mar 17 '23	Apr 20 '23		280	294,304
285	Construction of Columns, Walls and Beams (+11.8mPD to +13.05mPD)	23 days	Mar 17 '23	Apr 8 '23			
286	Falsework and formwork erection	8 days	Mar 17 '23	Mar 24 '23			287
287	Rebar fixing	8 days	Mar 25 '23	Apr 1 '23		286	288
288	Concreting and curing of concrete	7 days	Apr 2 '23	Apr 8 '23		287	290
289	Construction of Slabs at +13.25mPD	12 days	Apr 9 '23	Apr 20 '23			
290	Installation of precast segments (22 nos.)	2 days	Apr 9 '23	Apr 10 '23		288	291
291	Formwork erection for half slab	1 day	Apr 11 '23	Apr 11 '23		290	292
292	Rebar fixing for half slab	2 days	Apr 12 '23	Apr 13 '23		291	293
293	Concreting for half slab	7 days	Apr 14 '23	Apr 20 '23		292	
294	Construction of Parapet Walls (+13.25mPD to +14.65mPD)	28 days	Apr 21 '23	May 18 '23		284	312,299
295	Scaffolding erection	7 days	Apr 21 '23	Apr 27 '23			296
296	Rebar fixing	7 days	Apr 28 '23	May 4 '23		295	297
297	Formwork erection	7 days	May 5 '23	May 11 '23		296	298
298	Concreting	7 days	May 12 '23	May 18 '23		297	
299	Construction of Staircase ST3 (+7.1mPD to +15.45mPD)	28 days	May 19 '23	Jun 15 '23		294	312
300	Scaffolding and falsework erection	7 days	May 19 '23	May 25 '23			301
301	Formwork erection	7 days	May 26 '23	Jun 1 '23		300	302
302	Rebar fixing	7 days	Jun 2 '23	Jun 8 '23		301	303
303	Concreting	7 days	Jun 9 '23	Jun 15 '23		302	
304	Removal of formwork and falsework below +11.8mPD & +13.25mPD	7 days	Apr 21 '23	Apr 27 '23		284	306,529
305	Detailed Design for Internal Façade Treatment for Assess Road and Interior Fitting for Internal Rooms	60 days	Feb 22 '23	Apr 22 '23		279FS+14 days	306
306	Installation of internal finishing works for Grid Line 4-6	28 days	Apr 28 '23	May 25 '23		304,305	548
307	Plaster and paint at wall and soffit	14 days	Apr 28 '23	May 11 '23			308
308	Epoxy painting on floor finish	7 days	May 12 '23	May 18 '23		307	309,310,311
309	Chequer plate system at cable trench and aerator room	7 days	May 19 '23	May 25 '23		308	
310	Steel grating floor system	7 days	May 19 '23	May 25 '23		308	
311	SS door and aluminum louver	7 days	May 19 '23	May 25 '23		308	
312	Construction of water proofing system at roof slab of ReWPS	7 days	Jun 16 '23	Jun 22 '23		294,299	313
313	Water tightness test for roof slab of ReWPS	15 days	Jun 23 '23	Jul 7 '23		312	
314							
315	**Construction of RC structure of HCF**	**295 days**	**Aug 29 '22**	**Jun 19 '23**			**438,449**
316	**Construction of Superstructure (above ground) - Grid Line 1-3**	**227 days**	**Oct 28 '22**	**Jun 11 '23**		**146FS+60 days**	
317	Construction of Columns and Walls (+5.55mPD to +10.2mPD)	36 days	Oct 28 '22	Dec 2 '22			321
318	Scaffolding erection and formwork erection	15 days	Oct 28 '22	Nov 11 '22			319
319	Rebar fixing and formwork erection	14 days	Nov 12 '22	Nov 25 '22		318	320
320	Concreting	7 days	Nov 26 '22	Dec 2 '22		319	
321	Construction of Columns and Walls (+10.2mPD to +13.00mPD)	35 days	Dec 3 '22	Jan 6 '23		317	325
322	Scaffolding erection and formwork erection	14 days	Dec 3 '22	Dec 16 '22			323
323	Rebar fixing and formwork erection	14 days	Dec 17 '22	Dec 30 '22		322	324
324	Concreting	7 days	Dec 31 '22	Jan 6 '23		323	
325	Construction of Beams and Slabs at +13.00mPD	59 days	Jan 7 '23	Mar 6 '23		321	335,339
326	Construction of Beams	46 days	Jan 7 '23	Feb 21 '23			
327	Falsework and formwork erection for beam	21 days	Jan 7 '23	Jan 27 '23			328
328	Rebar fixing for beam	18 days	Jan 28 '23	Feb 14 '23		327	329
329	Concreting and curing of concrete for beam	7 days	Feb 15 '23	Feb 21 '23		328	331
330	Construction of Slabs	13 days	Feb 22 '23	Mar 6 '23			
331	Installation of precast segments (32 nos.)	3 days	Feb 22 '23	Feb 24 '23		329	332



Project: 3WSD20 Programme
Date: Mar 2 '23

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	

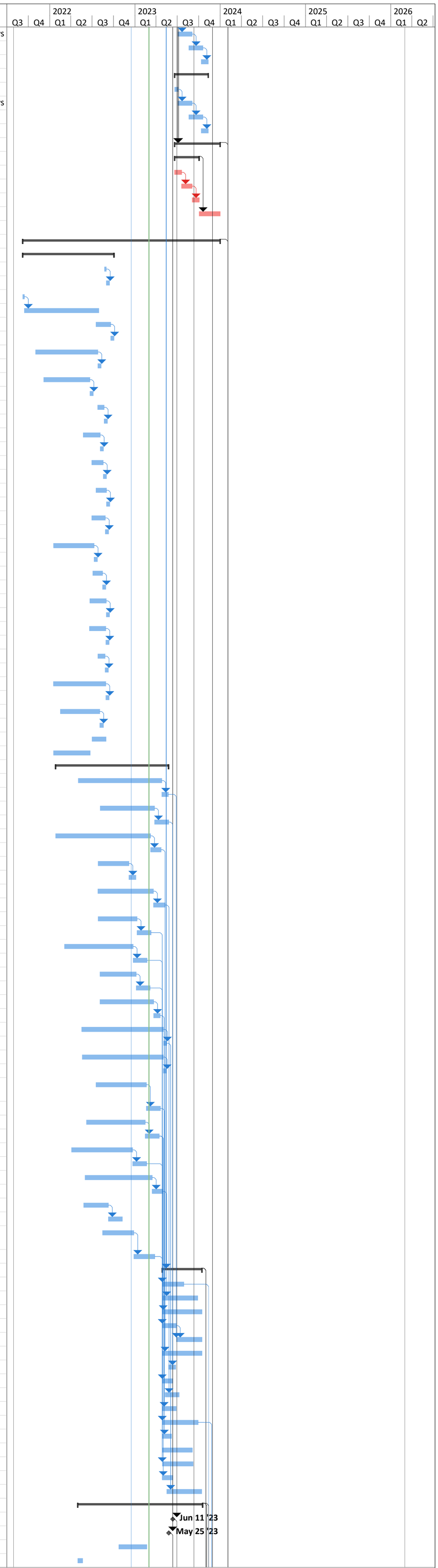
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
332	Formwork erection for half slab	1 day	Feb 25 '23	Feb 25 '23		331	333
333	Rebar fixing for half slab	2 days	Feb 26 '23	Feb 27 '23		332	334
334	Concreting for half slab	7 days	Feb 28 '23	Mar 6 '23		333	
335	Construction of Bearing walls and Slabs (+5.55mPD to +7.1mPD)	35 days	Mar 7 '23	Apr 10 '23		325	
336	Formwork erection	14 days	Mar 7 '23	Mar 20 '23			337
337	Rebar fixing and formwork erection	14 days	Mar 21 '23	Apr 3 '23		336	338
338	Concreting	7 days	Apr 4 '23	Apr 10 '23		337	
339	Construction of Parapet Walls (+13.00mPD to +15.1mPD)	14 days	Mar 7 '23	Mar 20 '23		325	395,403,345,4
340	Scaffolding erection	2 days	Mar 7 '23	Mar 8 '23			341
341	Rebar fixing	2 days	Mar 9 '23	Mar 10 '23		340	342
342	Formwork erection	3 days	Mar 11 '23	Mar 13 '23		341	343
343	Concreting	7 days	Mar 14 '23	Mar 20 '23		342	
344	Detailed Design for Internal Façade Treatment for Assess Road and Interior Fitting for Internal Rooms	60 days	Mar 9 '23	May 7 '23			345
345	Installation of internal finishing works for Grid Line 1-3	35 days	May 8 '23	Jun 11 '23		344,339	547
346	Waterproofing system at slabs	7 days	May 8 '23	May 14 '23			347
347	Plaster and paint at wall and soffit	14 days	May 15 '23	May 28 '23		346	348
348	Epoxy painting on floor finish	7 days	May 29 '23	Jun 4 '23		347	349,350,351
349	Chequer plate system at cable trench and aerator room	7 days	Jun 5 '23	Jun 11 '23		348	
350	Steel grating floor system at chemical storage rooms	7 days	Jun 5 '23	Jun 11 '23		348	
351	SS door and aluminum louver	7 days	Jun 5 '23	Jun 11 '23		348	
352	**Construction of Superstructure (above ground) - Grid Line 3-7**	**268 days**	**Aug 29 '22**	**May 23 '23**		**146**	
353	Construction of Walls W2, W3, W5, W6 and columns within G.L. 3-5	46 days	Aug 29 '22	Oct 13 '22			358
354	Scaffolding erection and Formwork erection	18 days	Aug 29 '22	Sep 15 '22			355
355	Rebar fixing and Formwork erection	21 days	Sep 16 '22	Oct 6 '22		354	356FS-7 days
356	Concreting of walls W2, W3 and Columns	7 days	Sep 30 '22	Oct 6 '22		355FS-7 days	357
357	Concreting of walls W5, W6 and Columns	7 days	Oct 7 '22	Oct 13 '22		356	
358	Construction of remaining walls and columns within G.L. 3-5	21 days	Oct 14 '22	Nov 3 '22		353	362
359	Scaffolding erection and Formwork erection	7 days	Oct 14 '22	Oct 20 '22			360
360	Rebar fixing and Formwork erection	7 days	Oct 21 '22	Oct 27 '22		359	361
361	Concreting	7 days	Oct 28 '22	Nov 3 '22		360	
362	Construction of walls and columns within G.L. 5-7 (+4.55mPD to +9.2mPD)	27 days	Nov 4 '22	Nov 30 '22		358	
363	Scaffolding erection and Formwork erection	14 days	Nov 4 '22	Nov 17 '22			364,367
364	Rebar fixing and Formwork erection	12 days	Nov 18 '22	Nov 29 '22		363	365
365	Concreting	1 day	Nov 30 '22	Nov 30 '22		364	368
366	Construction of walls and columns within G.L. 5-7 (+9.2mPD to +10.8mPD)	**25 days**	**Nov 18 '22**	**Dec 12 '22**			**370**
367	Scaffolding erection and Formwork erection	7 days	Nov 18 '22	Nov 24 '22		363	368
368	Rebar fixing and Formwork erection	5 days	Dec 1 '22	Dec 5 '22		365,367	369
369	Concreting	7 days	Dec 6 '22	Dec 12 '22		368	
370	Construction of Beams and Slabs at +10.4mPD and +10.8mPD	73 days	Dec 13 '22	Feb 23 '23		366	380
371	Construction of Beams	42 days	Dec 13 '22	Jan 23 '23			
372	Falsework and formwork erection for beam	21 days	Dec 13 '22	Jan 2 '23			373
373	Rebar fixing for beam	14 days	Jan 3 '23	Jan 16 '23		372	374
374	Concreting and curing of concrete	7 days	Jan 17 '23	Jan 23 '23		373	376
375	Construction of Slabs	31 days	Jan 24 '23	Feb 23 '23			
376	Installation of precast segments (156 nos.)	15 days	Jan 24 '23	Feb 7 '23		374	377
377	Formwork erection for half slab	3 days	Feb 8 '23	Feb 10 '23		376	378
378	Rebar fixing for half slab	6 days	Feb 11 '23	Feb 16 '23		377	379
379	Concreting for half slab	7 days	Feb 17 '23	Feb 23 '23		378	
380	Construction of Parapet Walls (+10.4mPD/+10.8mPD to +12.5mPD)	25 days	Feb 24 '23	Mar 20 '23		370	395,410,385,4
381	Scaffolding erection	7 days	Feb 24 '23	Mar 2 '23			382
382	Rebar fixing	7 days	Mar 3 '23	Mar 9 '23		381	383
383	Formwork erection	4 days	Mar 10 '23	Mar 13 '23		382	384
384	Concreting	7 days	Mar 14 '23	Mar 20 '23		383	
385	Construction of Staircase ST01 (+7.1mPD to +11.35mPD)	33 days	Mar 21 '23	Apr 22 '23		380	390
386	Scaffolding and falsework erection	14 days	Mar 21 '23	Apr 3 '23			387
387	Rebar fixing	7 days	Apr 4 '23	Apr 10 '23		386	388
388	Formwork erection	5 days	Apr 11 '23	Apr 15 '23		387	389
389	Concreting	7 days	Apr 16 '23	Apr 22 '23		388	
390	Construction of Staircase ST02 (+10.4mPD to +13.95mPD)	31 days	Apr 23 '23	May 23 '23		385	
391	Scaffolding and falsework erection	14 days	Apr 23 '23	May 6 '23			392
392	Rebar fixing	7 days	May 7 '23	May 13 '23		391	393
393	Formwork erection	3 days	May 14 '23	May 16 '23		392	394
394	Concreting	7 days	May 17 '23	May 23 '23		393	
395	Backfilling of general fill material up to +7.2mPD, and removal of ELS	8 days	Mar 21 '23	Mar 28 '23		380,339	
396	**Watertightness test in stages**	**56 days**	**Mar 21 '23**	**May 15 '23**		**380**	**402,404**
397	Inlet Channel and Outlet Channel	14 days	Mar 21 '23	Apr 3 '23			398
398	On duty contact tank	14 days	Apr 4 '23	Apr 17 '23		397	399
399	Standby contact tank	14 days	Apr 18 '23	May 1 '23		398	400
400	Overall water retaining structure at HCF	14 days	May 2 '23	May 15 '23		399	
401	Detailed Design for Internal Façade Treatment for Assess Road and Interior Fitting for Internal Rooms	60 days	Feb 21 '23	Apr 21 '23			402
402	Installation of internal finishing works for Grid Line 3-7	35 days	May 16 '23	Jun 19 '23		401,396	
403	Construction of water proofing system at roof slab of HCF	21 days	Mar 21 '23	Apr 10 '23		339,380	404
404	Water tightness test for roof slab of HCF	21 days	May 16 '23	Jun 5 '23		403,396	
405	**Provisional of Fire Service, Flushing and Fresh Water Supply by WSD**	**300 days**	**May 1 '22**	**Feb 24 '23**			
406	WWO542 design submission for Fire Service, Flushing and Fresh Water Supply	150 days	May 1 '22	Sep 27 '22			407
407	Acceptance of WWO542 submission by WSD	90 days	Sep 28 '22	Dec 26 '22		406	408,424
408	Provision of water supply to Part 1 by WSD	60 days	Dec 27 '22	Feb 24 '23		407	
409	**Construction of roadworks**	**240 days**	**Mar 21 '23**	**Nov 15 '23**			
410	**Construction of fence wall**	**231 days**	**Mar 21 '23**	**Nov 6 '23**		**380,339**	**432SS,421SS**
411	Type-2 & Type-3 fence wall at West side (198m)	60 days	Mar 21 '23	May 19 '23			412,424,419
412	Type-1 fence wall at East side (189m)	60 days	May 20 '23	Jul 18 '23		411	413,423
413	Type-3 fence wall at North side (44m)	30 days	Jul 19 '23	Aug 17 '23		412	414
414	Type-4 fence wall at middle (28m)	30 days	Aug 18 '23	Sep 16 '23		413	415
415	Type-2 & Type-3 fence wall at South side (37m)	30 days	Sep 17 '23	Oct 16 '23		414	418,420
416	Detailed design of Entrance Logo Feature	60 days	Mar 21 '23	May 19 '23			417
417	Fabrication of Entrance Gates and Logo Feature	60 days	May 20 '23	Jul 18 '23		416	418
418	Installation of Gate 1 and Gate 2	3 days	Oct 17 '23	Oct 19 '23		415,417	
419	Fabrication of steelworks	66 days	May 20 '23	Jul 24 '23		411	420
420	Installation of wall finishes and steelworks	21 days	Oct 17 '23	Nov 6 '23		419,415	
421	**Construction of River Promenade**	**240 days**	**Mar 21 '23**	**Nov 15 '23**		**410SS**	
422	Detailed design of River Promenade	120 days	Mar 21 '23	Jul 18 '23			423
423	Construction of River Promenade	120 days	Jul 19 '23	Nov 15 '23		412,422	
424	**Construction of underground utilities**	**96 days**	**May 20 '23**	**Aug 23 '23**		**407,411**	**429,554**
425	Laying of pipe work system outside ReWPS and HCF	21 days	May 20 '23	Jun 9 '23			426
426	Construction of chambers and water refilling station	45 days	Jun 10 '23	Jul 24 '23		425	427,428
427	Installation of surge vessels	15 days	Jul 25 '23	Aug 8 '23		426	
428	Construction of underground utilities (Drainage, Telecom ducts, CLP cable ducts & drawpits, Fire Service, Flushing & Fresh Watermain, etc.)	30 days	Jul 25 '23	Aug 23 '23		426	
429	**Construction of EVA road pavement**	**80 days**	**Aug 24 '23**	**Nov 11 '23**		**424**	**561**
430	Construction of road pavement near ReWPS	40 days	Aug 24 '23	Oct 2 '23			431
431	Construction of road pavement near HCF	40 days	Oct 3 '23	Nov 11 '23		430	
432	**Design submission and fabrication of steelwork system for the aluminum fin**	**120 days**	**Mar 21 '23**	**Jul 18 '23**		**410SS**	
433	Detailed Design for External Façade Treatment and Vertical Green Wall	30 days	Mar 21 '23	Apr 19 '23			
434	Design submission of steelwork system for vertical aluminum fin at ReWPS	30 days	Mar 21 '23	Apr 19 '23			435,436
435	Design submission of steelwork system for horizontal aluminum fin at HCF	30 days	Apr 20 '23	May 19 '23		434	437
436	Fabrication of vertical aluminum fin for ReWPS	60 days	Apr 20 '23	Jun 18 '23		434	
437	Fabrication of horizontal aluminum fin for HCF	60 days	May 20 '23	Jul 18 '23		435	
438	**Installation of architectural works**	**144 days**	**Jun 20 '23**	**Nov 10 '23**		**181,315**	
439	**Installation of architectural works near ReWPS**	**144 days**	**Jun 20 '23**	**Nov 10 '23**			
440	Erection of working platform	15 days	Jun 20 '23	Jul 4 '23			441



Project: 3WSD20 Programme
Date: Mar 2 '23

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
441	Laying of artificial granite tile at external wall	60 days	Jul 5 '23	Sep 2 '23		440	442FS-14 days
442	Installation of steelworks	60 days	Aug 20 '23	Oct 18 '23		441FS-14 days	443FS-7 days
443	Installation of cladding	30 days	Oct 12 '23	Nov 10 '23		442FS-7 days	
444	**Installation of architectural works near HCF**	**144 days**	**Jun 20 '23**	**Nov 10 '23**			
445	Erection of working platform	15 days	Jun 20 '23	Jul 4 '23			446
446	Laying of artificial granite tile at external wall	60 days	Jul 5 '23	Sep 2 '23		445	447FS-14 days
447	Installation of steelworks	60 days	Aug 20 '23	Oct 18 '23		446FS-14 days	448FS-7 days
448	Installation of cladding	30 days	Oct 12 '23	Nov 10 '23		447FS-7 days	
449	**Landscape works**	**195 days**	**Jun 20 '23**	**Dec 31 '23**		**181,315**	**579FF**
450	**Landscape works at roof top**	**105 days**	**Jun 20 '23**	**Oct 2 '23**			**454**
451	Installation of composite timber decking with pedestal	30 days	Jun 20 '23	Jul 19 '23			452
452	Laying of artificial granite floor tile / paver block	45 days	Jul 20 '23	Sep 2 '23		451	453
453	Construciton of roof drainage system	30 days	Sep 3 '23	Oct 2 '23		452	
454	Landscape works within SWHWRP	90 days	Oct 3 '23	Dec 31 '23		450	
455							
456	**E&M Works of SWHWRP**	**846 days**	**Sep 7 '21**	**Dec 31 '23**			**578FF**
457	**Design and Submission Stage**	**391 days**	**Sep 7 '21**	**Oct 2 '22**			
458	Submission of Surge Analysis Report	7 days	Aug 24 '22	Aug 30 '22			459
459	Acceptance of Surge Analysis Report	14 days	Aug 31 '22	Sep 13 '22		458	
460	Submission and review of Reclaimed Water Main Pumps	7 days	Sep 7 '21	Sep 13 '21			461
461	Acceptance of Reclaimed Water Main Pumps	319 days	Sep 14 '21	Jul 29 '22		460	
462	Submission and review of Surge Vessels and Air Compressors	63 days	Jul 18 '22	Sep 18 '22			463
463	Acceptance of Surge Vessels and Air Compressors	14 days	Sep 19 '22	Oct 2 '22		462	
464	Submission and review of Penstock & Stoplog	267 days	Nov 1 '21	Jul 25 '22			465
465	Acceptance of Penstock & Stoplog	14 days	Jul 26 '22	Aug 8 '22		464	
466	Submission and review of Chemical Dosing System & Static In-line Mixer	198 days	Dec 6 '21	Jun 21 '22			467
467	Acceptance of Chemical Dosing System & Static In-line Mixer	14 days	Jun 22 '22	Jul 5 '22		466	
468	Submission and review of Air Blower and Air Diffuser	28 days	Jul 25 '22	Aug 21 '22			469
469	Acceptance of Air Blower and Air Diffuser	14 days	Aug 22 '22	Sep 4 '22		468	
470	Submission and review of Lifting Appliances	73 days	May 24 '22	Aug 4 '22			471
471	Acceptance of Lifting Appliances	14 days	Aug 5 '22	Aug 18 '22		470	
472	Submission and review of Minor Mechanical Equipment	49 days	Jun 30 '22	Aug 17 '22			473
473	Acceptance of Minor Mechanical Equipment	14 days	Aug 18 '22	Aug 31 '22		472	
474	Submission and review of LV switchboard	45 days	Jul 18 '22	Aug 31 '22			475
475	Acceptance of LV switchboard	14 days	Sep 1 '22	Sep 14 '22		474	
476	Submission and review of DCS	58 days	Jun 30 '22	Aug 26 '22			477
477	Acceptance of DCS	14 days	Aug 27 '22	Sep 9 '22		476	
478	Submission and review of Instrumenation & Water Monitoring Equipment	174 days	Jan 17 '22	Jul 9 '22			479
479	Acceptance of Instrumenation & Water Monitoring Equipment	14 days	Jul 10 '22	Jul 23 '22		478	
480	Submission and review of Misc. Electrical Items	42 days	Jul 4 '22	Aug 14 '22			481
481	Acceptance of Misc. Electrical Items	14 days	Aug 15 '22	Aug 28 '22		480	
482	Submission and review of Fire Services Equipment	70 days	Jun 22 '22	Aug 30 '22			483
483	Acceptance of Fire Services Equipment	14 days	Aug 31 '22	Sep 13 '22		482	
484	Submission and review of MVAC Equipment	70 days	Jun 20 '22	Aug 28 '22			485
485	Acceptance of MVAC Equipment	14 days	Aug 29 '22	Sep 11 '22		484	
486	Submission and review of Plumbing & Drainage Equipment	31 days	Jul 26 '22	Aug 25 '22			487
487	Acceptance of Plumbing & Drainage Equipment	14 days	Aug 26 '22	Sep 8 '22		486	
488	Submission and review of General Arrangement Drawing	224 days	Jan 17 '22	Aug 28 '22			489
489	Acceptance of General Arrangement Drawing	14 days	Aug 29 '22	Sep 11 '22		488	
490	Submission and review of Civil Requirement Drawing	169 days	Feb 15 '22	Aug 2 '22			491
491	Acceptance of Civil Requirement Drawing	16 days	Aug 3 '22	Aug 18 '22		490	
492	Submission and acceptance of method statement for E&M installation works	60 days	Jul 1 '22	Aug 29 '22			
493	CSD, CBWD coordination	157 days	Jan 17 '22	Jun 22 '22			
494	**Procurement and Delivery of Equipment**	**484 days**	**Jan 26 '22**	**May 24 '23**			
495	Procerement and manufacturing of Reclaimed Water Main Pumps (6 nos.)	358 days	May 3 '22	Apr 25 '23			496
496	Delivery of Reclaimed Water Main Pumps (6 nos.)	28 days	Apr 26 '23	May 23 '23		495	534
497	Procerement and manufacturing of Surge Vessels and Air Compressors	233 days	Aug 5 '22	Mar 25 '23			498
498	Delivery of Surge Vessels and Air Compressors	60 days	Mar 26 '23	May 24 '23		497	536
499	Procerement and manufacturing of Penstock & Stoplog	407 days	Jan 26 '22	Mar 8 '23			500
500	Delivery of Penstock & Stoplog	45 days	Mar 9 '23	Apr 22 '23		499	535
501	Procerement and manufacturing of Chemical Dosing System	132 days	Jul 27 '22	Dec 5 '22			502
502	Delivery of Chemical Dosing System	30 days	Dec 6 '22	Jan 4 '23		501	
503	Procerement and manufacturing of Static In-line Mixer	238 days	Jul 26 '22	Mar 20 '23			504
504	Delivery of Static In-line Mixer	50 days	Mar 21 '23	May 9 '23		503	538
505	Procerement and manufacturing of Air Blower and Air Diffuser	167 days	Jul 27 '22	Jan 9 '23			506
506	Delivery of Air Blower and Air Diffuser	60 days	Jan 10 '23	Mar 10 '23		505	537
507	Procerement and manufacturing of Lifting Appliances	294 days	Mar 5 '22	Dec 23 '22			508
508	Delivery of Lifting Appliances	60 days	Dec 24 '22	Feb 21 '23		507	533
509	Procerement and manufacturing of Sump Pumps	155 days	Aug 4 '22	Jan 5 '23			510
510	Delivery of Sump Pumps	60 days	Jan 6 '23	Mar 6 '23		509	543
511	Procerement and manufacturing of Pipework and Valves	230 days	Aug 4 '22	Mar 21 '23			512
512	Delivery of Pipework and Valves	28 days	Mar 22 '23	Apr 18 '23		511	539
513	Procerement and manufacturing of LV switchboard	350 days	May 18 '22	May 2 '23			514
514	Delivery of LV switchboard	14 days	May 3 '23	May 16 '23		513	545
515	Procerement and manufacturing of DCS	347 days	May 20 '22	May 1 '23			516
516	Delivery of DCS	14 days	May 2 '23	May 15 '23		515	
517	Procerement and manufacturing of Instrumenation and Water Monitoring Equipment	216 days	Jul 18 '22	Feb 18 '23			518
518	Delivery of Instrumenation and Water Monitoring Equipment	60 days	Feb 19 '23	Apr 19 '23		517	541
519	Procerement and manufacturing of Misc. Electrical Items (PV Panel, Earthing, etc)	252 days	Jun 7 '22	Feb 13 '23			520
520	Delivery of Misc. Electrical Items (PV Panel, Earthing, etc)	60 days	Feb 14 '23	Apr 14 '23		519	532,544
521	Procerement and manufacturing of Fire Services Equipment	262 days	Apr 4 '22	Dec 21 '22			522
522	Delivery of Fire Services Equipment	60 days	Dec 22 '22	Feb 19 '23		521	530
523	Procerement and manufacturing of MVAC Equipment	288 days	Jun 1 '22	Mar 15 '23			524
524	Delivery of MVAC Equipment	45 days	Mar 16 '23	Apr 29 '23		523	531
525	Procerement and manufacturing of Plumbing & Drainage Equipment	106 days	May 26 '22	Sep 8 '22			526
526	Delivery of Plumbing & Drainage Equipment	60 days	Sep 9 '22	Nov 7 '22		525	
527	Procerement and manufacturing of Misc. Electrical Items (Cables, Cable Containment, Lightings)	134 days	Aug 15 '22	Dec 26 '22			528
528	Delivery of Misc. Electrical Items (Cables, Cable Containment, Lightings)	90 days	Dec 27 '22	Mar 26 '23		527	540
529	**Installation Works**	**170 days**	**Apr 28 '23**	**Oct 14 '23**		**256,304**	**568,574**
530	Installation FS Equipment	92 days	Apr 28 '23	Jul 28 '23		522	561
531	Installation of MVAC Equipment	150 days	Apr 30 '23	Sep 26 '23		524	
532	Installation of BS/lighting Equipment	170 days	Apr 28 '23	Oct 14 '23		520	
533	Installation of Lifting Appliance (12 nos.)	60 days	Apr 28 '23	Jun 26 '23		508	534
534	Installation of Reclaimed Water Pumps (6 Nos.)	110 days	Jun 27 '23	Oct 14 '23		496,533	
535	Installation of penstocks (10 nos.) & Stoplogs (2 nos.)	170 days	Apr 28 '23	Oct 14 '23		500	
536	Installation of Surge Vessel (4 Nos.) & Air Compressor (4 Nos.)	30 days	May 25 '23	Jun 23 '23		498	
537	Installation of Air Blower (2 Nos.) & Air Diffuser (1 set)	45 days	Apr 28 '23	Jun 11 '23		506	
538	Installation of tanks (14 nos.) & Chemical Pumps (12 nos.)	60 days	May 10 '23	Jul 8 '23		504	
539	Installation of Pipeworks (DI, Chemical pipe, Air pipe)	60 days	Apr 28 '23	Jun 26 '23		512	
540	Installation of Cabling, MCC & DCS	153 days	Apr 28 '23	Sep 27 '23		528	566
541	Installation of Instrumentation and Monitoring Stations	40 days	Apr 28 '23	Jun 6 '23		518	
542	Installation of ELV System (CCTV & Access Control)	129 days	Apr 28 '23	Sep 3 '23			
543	Installation of Plumbing & Drainage Equipment	132 days	Apr 28 '23	Sep 6 '23		510	
544	Installation of PV Panels	45 days	Apr 28 '23	Jun 11 '23		520	
545	Installation of LV Switchborad / MCC	150 days	May 17 '23	Oct 13 '23		514	
546	**Power Energization Related Items**	**535 days**	**May 1 '22**	**Oct 17 '23**			**568,561**
547	CLP Room Ready for BS installation (HCF)	0 days	Jun 11 '23	Jun 11 '23		345	551
548	CLP Room Ready for BS installation (ReWPS)	0 days	May 25 '23	May 25 '23		306	551
549	CLP meter application	120 days	Oct 24 '22	Feb 20 '23			
550	Cable laying by CLP in DSD's EVA	21 days	May 1 '22	May 21 '22			



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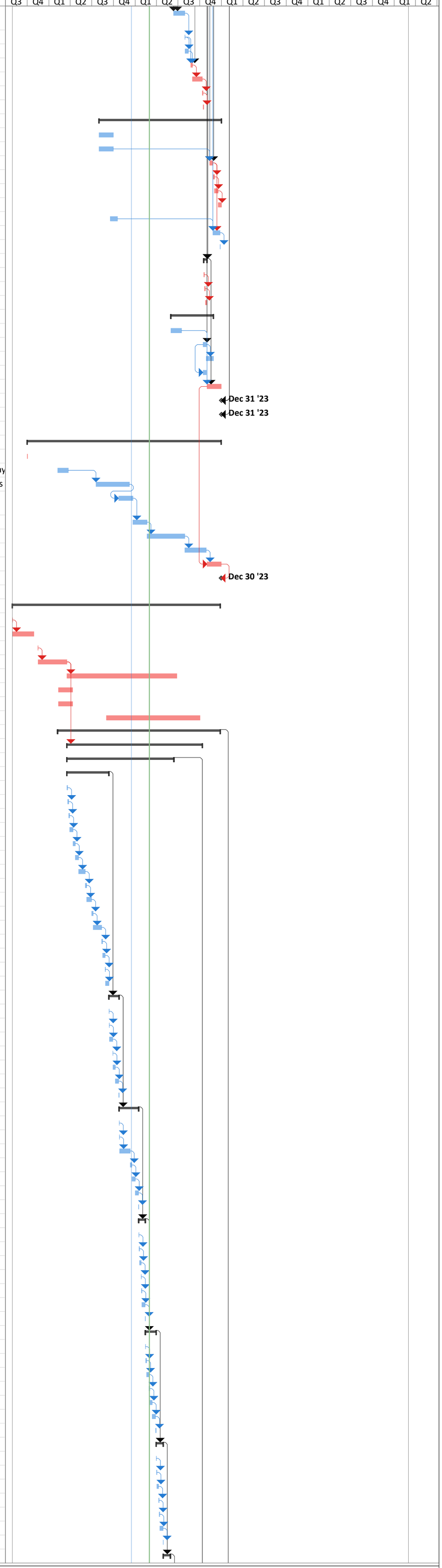
Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

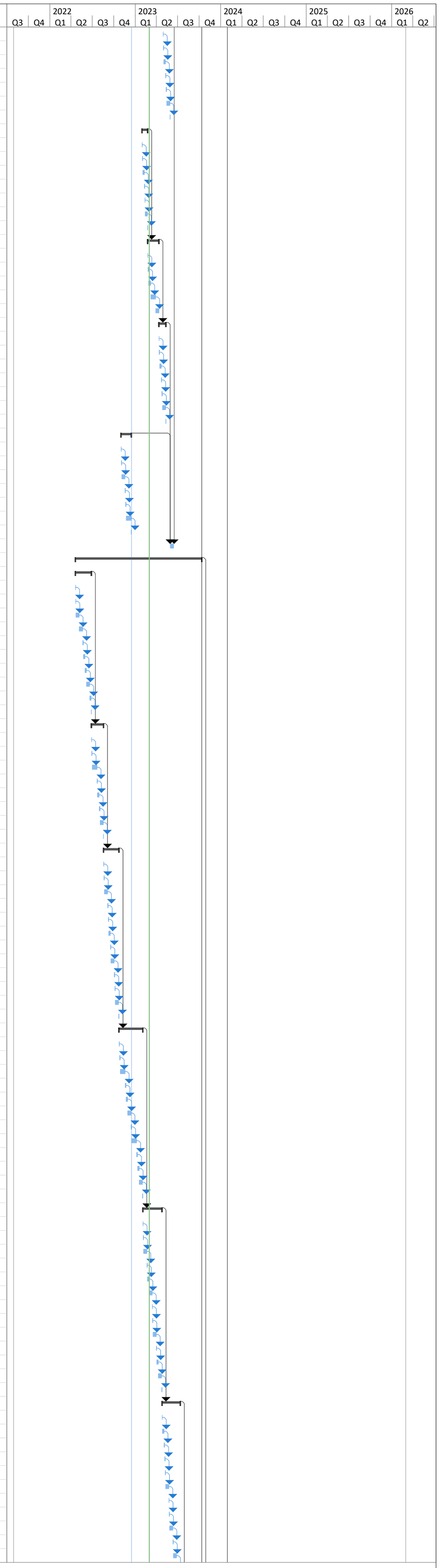
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
551	CLP's Inspection and Acceptance for Transformer Room(ReWPS), CLP Room(HCF), draw pit and accsociated cable ducts	48 days	Jun 12 '23	Jul 29 '23		547,548	552
552	Handover of Transformer Room to CLP	1 day	Jul 30 '23	Jul 30 '23		551	554,553
553	Lead time for CLP installation works	14 days	Jul 31 '23	Aug 13 '23		552	554
554	CLP to install Transformers and Cabling	7 days	Aug 24 '23	Aug 30 '23		552,553,424	555
555	Lead time for power energization	42 days	Aug 31 '23	Oct 11 '23		554	556
556	Power Energization from CLP Transformer to LVSB	3 days	Oct 12 '23	Oct 14 '23		555	557
557	Power Energization from LVSB to All Equipment	3 days	Oct 15 '23	Oct 17 '23		556	
558	**FS / DG Inspection Related Items**	**518 days**	**Aug 1 '22**	**Dec 31 '23**			
559	VAC Desgin Submission to FSD	60 days	Aug 1 '22	Sep 29 '22			
560	FS related statutory submission to FSD	60 days	Aug 1 '22	Sep 29 '22			561
561	T&C of FS Related Installation (Integrated Test & Rehearsal)	14 days	Nov 12 '23	Nov 25 '23		429,530,546,56(	562,566
562	Submission of FSI 314 & 501	7 days	Nov 26 '23	Dec 2 '23		561	563
563	Target FS Inpsection	15 days	Dec 3 '23	Dec 17 '23		562	564
564	Obtain FSD approval letter (Form FS172 Fire Certificate)	14 days	Dec 18 '23	Dec 31 '23		563	
565	DG Design Submission to FSD	30 days	Sep 18 '22	Oct 17 '22			566
566	DG Inspection	30 days	Nov 26 '23	Dec 25 '23		540,561,565	567
567	Obtain DG License	1 day	Dec 26 '23	Dec 26 '23		566	
568	**Preliminary Test of Equipment**	**14 days**	**Oct 18 '23**	**Oct 31 '23**		**529,546**	**577**
569	Inspection of Equipment/System with SOR	3 days	Oct 18 '23	Oct 20 '23			570
570	Trial Run of Equipment/System	4 days	Oct 21 '23	Oct 24 '23		569	571
571	Site Acceptance Test (SAT) of Equipment/Systems with SOR	7 days	Oct 25 '23	Oct 31 '23		570	
572	**Submission**	**180 days**	**Jun 1 '23**	**Nov 27 '23**			
573	Submission of Testing Procedures & Commissioning Plan	45 days	Jun 1 '23	Jul 15 '23			577
574	Submission of As Fitted Drawings	14 days	Oct 15 '23	Oct 28 '23		529	575,576SS
575	Submission of Manual	30 days	Oct 29 '23	Nov 27 '23		574	
576	Submission of Training Material	14 days	Oct 15 '23	Oct 28 '23		574SS	
577	**System Commissioning Test**	**60 days**	**Nov 1 '23**	**Dec 30 '23**		**568,573**	**589SS**
578	Planned completion for section 1	0 days	Dec 31 '23	Dec 31 '23		175FF,456FF	
579	Planned completion for section 2	0 days	Dec 31 '23	Dec 31 '23		449FF	
580							
581	**Section 3 - Modification of Table Hill Reclaimed Water Service Reservoir**	**821 days**	**Oct 1 '21**	**Dec 30 '23**			
582	Access Date (part 2 of the Site)	1 day	Oct 1 '21	Oct 1 '21			
583	Initial survey and condition survey	45 days	Feb 7 '22	Mar 23 '22			584FS+117 day
584	Design submission and acceptance of the supplementary dosing and dyeing system (E&M)	141 days	Jul 19 '22	Dec 6 '22		583FS+117 days	585FS-45 days
585	Submission and acceptance of method statement for supplementary dosing and dyeing system	60 days	Oct 23 '22	Dec 21 '22		584FS-45 days	586
586	Selection of sub-contractor	60 days	Dec 22 '22	Feb 19 '23		585	587
587	Construction of chemical room	160 days	Feb 20 '23	Jul 29 '23		586	588
588	Installation of supplementary dosing and dyeing system	90 days	Jul 30 '23	Oct 27 '23		587	589
589	T&C of E&M equipment	60 days	Nov 1 '23	Dec 30 '23		588,577SS	590FF
590	Planned completion for section 3	0 days	Dec 30 '23	Dec 30 '23		589FF	
591							
592	**Section 4 - Water main laying works in part 3 of the Site**	**880 days**	**Jul 30 '21**	**Dec 26 '23**			
593	Access Date (part 3 of the Site)	1 day	Jul 30 '21	Jul 30 '21			594
594	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		593	
595	1st TMLG meeting	1 day	Nov 15 '21	Nov 15 '21			596
596	Application and approval of XP and TTA, including local consultation	122 days	Nov 16 '21	Mar 17 '22		595	597,602
597	Implementation of TTA by stages	465 days	Mar 18 '22	Jun 25 '23		596	
598	Procurement and Delivery of pipes, fittings and related materials	60 days	Feb 10 '22	Apr 10 '22			
599	Submission and acceptance of method statement and material	60 days	Feb 10 '22	Apr 10 '22			
600	Excavation of Inspection Pit	396 days	Sep 1 '22	Oct 1 '23			
601	**Mainlaying by open trench method (RW03 & RW43)**	**688 days**	**Feb 7 '22**	**Dec 26 '23**			**1027FF**
602	**RW03 : DN600 DI pipe - 1092m (XP ID: 1301128, 1301129)**	**573.5 days**	**Mar 18 '22**	**Oct 12 '23**		**596**	
603	**Team A : CH000 - CH550**	**453 days**	**Mar 18 '22**	**Jun 13 '23**			**791**
604	**CH450 - CH550 (100m)**	**178 days**	**Mar 18 '22**	**Sep 11 '22**			**620**
605	TTA establishment	3 days	Mar 18 '22	Mar 20 '22			606
606	CE-041 _ Inclement Weather in March 2022	4.5 days	Mar 21 '22	Mar 25 '22		605	607
607	Hard material excavation and disposal	4 days	Mar 25 '22	Mar 29 '22		606	608
608	Soil excavation , laying sheetpile and disposal	14 days	Mar 29 '22	Apr 12 '22		607	609
609	Obstruction of unchart 900mm pipe	10 days	Apr 12 '22	Apr 22 '22		608	610
610	Pending for setting out of DSD	14 days	Apr 22 '22	May 6 '22		609	611
611	Amendment of ELS	28 days	May 6 '22	Jun 3 '22		610	612
612	CE-052 _ Inclement Weather in May 2022 (under assessment)	6 days	Jun 3 '22	Jun 9 '22		611	613
613	Treatment of bedding	21 days	Jun 9 '22	Jun 30 '22		612	614
614	CE-053 _ Inclement Weather in June 2022 (under assessment)	6.5 days	Jun 30 '22	Jul 6 '22		613	615
615	Pipe laying D.I. & PE (DSD's pipe)	36 days	Jul 7 '22	Aug 11 '22		614	616
616	CE-054 _ Inclement Weather in July 2022 (under assessment)	4 days	Aug 12 '22	Aug 15 '22		615	617
617	Backfilling sand/aggregate, concurrent bend block/chambers	11 days	Aug 16 '22	Aug 26 '22		616	618
618	Reinstatement	1 day	Aug 27 '22	Aug 27 '22		617	619
619	CE-068 _ Inclement Weather in August 2022	15 days	Aug 28 '22	Sep 11 '22		618	
620	**CH420 - CH450 (30m)**	**43 days**	**Sep 12 '22**	**Oct 24 '22**		**604**	**628**
621	TTA establishment	1 day	Sep 12 '22	Sep 12 '22			622
622	Hard material excavation and disposal	1 day	Sep 13 '22	Sep 13 '22		621	623
623	Soil excavation , laying sheetpile and disposal	14 days	Sep 14 '22	Sep 27 '22		622	624
624	Treatment of bedding	1 day	Sep 28 '22	Sep 28 '22		623	625
625	Pipe laying D.I.	10 days	Sep 29 '22	Oct 8 '22		624	626
626	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Oct 9 '22	Oct 22 '22		625	627
627	Reinstatement	2 days	Oct 23 '22	Oct 24 '22		626	
628	**CH390 - CH420 (30m)**	**83 days**	**Oct 25 '22**	**Jan 15 '23**		**620**	**636**
629	TTA establishment	1 day	Oct 25 '22	Oct 25 '22			630
630	Hard material excavation and disposal	1 day	Oct 26 '22	Oct 26 '22		629	631
631	Soil excavation , laying sheetpile and disposal	45 days	Oct 27 '22	Dec 10 '22		630	632
632	Treatment of bedding	7 days	Dec 11 '22	Dec 17 '22		631	633
633	Pipe laying D.I.	14 days	Dec 18 '22	Dec 31 '22		632	634
634	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Jan 1 '23	Jan 14 '23		633	635
635	Reinstatement	1 day	Jan 15 '23	Jan 15 '23		634	
636	**CH360 - CH390 (30m)**	**28 days**	**Jan 16 '23**	**Feb 12 '23**		**628**	**644**
637	TTA establishment	1 day	Jan 16 '23	Jan 16 '23			638
638	Hard material excavation and disposal	2 days	Jan 17 '23	Jan 18 '23		637	639
639	Soil excavation , laying sheetpile and disposal	7 days	Jan 19 '23	Jan 25 '23		638	640
640	Treatment of bedding	1 day	Jan 26 '23	Jan 26 '23		639	641
641	Pipe laying D.I.	2 days	Jan 27 '23	Jan 28 '23		640	642
642	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Jan 29 '23	Feb 11 '23		641	643
643	Reinstatement	1 day	Feb 12 '23	Feb 12 '23		642	
644	**CH290 - CH360 (70m)**	**46 days**	**Feb 13 '23**	**Mar 30 '23**		**636**	**652**
645	TTA establishment	1 day	Feb 13 '23	Feb 13 '23			646
646	Hard material excavation and disposal	4 days	Feb 14 '23	Feb 17 '23		645	647
647	Soil excavation , laying sheetpile and disposal	10 days	Feb 18 '23	Feb 27 '23		646	648
648	Treatment of bedding	4 days	Feb 28 '23	Mar 3 '23		647	649
649	Pipe laying D.I.	10 days	Mar 4 '23	Mar 13 '23		648	650
650	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Mar 14 '23	Mar 27 '23		649	651
651	Reinstatement	3 days	Mar 28 '23	Mar 30 '23		650	
652	**CH240 - CH290 (50m)**	**30 days**	**Mar 31 '23**	**Apr 29 '23**		**644**	**660**
653	TTA establishment	1 day	Mar 31 '23	Mar 31 '23			654
654	Hard material excavation and disposal	2 days	Apr 1 '23	Apr 2 '23		653	655
655	Soil excavation , laying sheetpile and disposal	7 days	Apr 3 '23	Apr 9 '23		654	656
656	Treatment of bedding	2 days	Apr 10 '23	Apr 11 '23		655	657
657	Pipe laying D.I.	3 days	Apr 12 '23	Apr 14 '23		656	658
658	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Apr 15 '23	Apr 28 '23		657	659
659	Reinstatement	1 day	Apr 29 '23	Apr 29 '23		658	
660	**CH190 - CH240 (50m)**	**30 days**	**Apr 30 '23**	**May 29 '23**		**652**	**698**



Project: 3WSD20 Programme
Date: Mar 2 '23

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
661	TTA establishment	1 day	Apr 30 '23	Apr 30 '23			662
662	Hard material excavation and disposal	2 days	May 1 '23	May 2 '23		661	663
663	Soil excavation , laying sheetpile and disposal	7 days	May 3 '23	May 9 '23		662	664
664	Treatment of bedding	2 days	May 10 '23	May 11 '23		663	665
665	Pipe laying D.I.	3 days	May 12 '23	May 14 '23		664	666
666	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	May 15 '23	May 28 '23		665	667
667	Reinstatement	1 day	May 29 '23	May 29 '23		666	
668	**CH170 - CH190 (20m)**	**24 days**	**Jan 30 '23**	**Feb 22 '23**			**676**
669	TTA establishment	1 day	Jan 30 '23	Jan 30 '23			670
670	Hard material excavation and disposal	2 days	Jan 31 '23	Feb 1 '23		669	671
671	Soil excavation , laying sheetpile and disposal	7 days	Feb 2 '23	Feb 8 '23		670	672
672	Treatment of bedding	2 days	Feb 9 '23	Feb 10 '23		671	673
673	Pipe laying D.I.	1 day	Feb 11 '23	Feb 11 '23		672	674
674	Backfilling sand/aggregate, concurrent bend block/chambers	10 days	Feb 12 '23	Feb 21 '23		673	675
675	Reinstatement	1 day	Feb 22 '23	Feb 22 '23		674	
676	**CH120 - CH170 (50m)**	**48 days**	**Feb 23 '23**	**Apr 11 '23**		**668**	**682**
677	TTA establishment	1 day	Feb 23 '23	Feb 23 '23			678
678	Removal of existing railing	3 days	Feb 24 '23	Feb 26 '23		677	679
679	Installation of mild steel pipe	9 days	Feb 27 '23	Mar 7 '23		678	680
680	Construction of thrust block	21 days	Mar 8 '23	Mar 28 '23		679	681
681	Reinstatement of railing	14 days	Mar 29 '23	Apr 11 '23		680	
682	**CH080 - CH120 (40m)**	**30 days**	**Apr 12 '23**	**May 11 '23**		**676**	**698**
683	TTA establishment	1 day	Apr 12 '23	Apr 12 '23			684
684	Hard material excavation and disposal	2 days	Apr 13 '23	Apr 14 '23		683	685
685	Soil excavation , laying sheetpile and disposal	7 days	Apr 15 '23	Apr 21 '23		684	686
686	Treatment of bedding	2 days	Apr 22 '23	Apr 23 '23		685	687
687	Pipe laying D.I.	3 days	Apr 24 '23	Apr 26 '23		686	688
688	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Apr 27 '23	May 10 '23		687	689
689	Reinstatement	1 day	May 11 '23	May 11 '23		688	
690	**CH020 - CH080 (60m)**	**44 days**	**Nov 1 '22**	**Dec 14 '22**			**698**
691	TTA establishment	1 day	Nov 1 '22	Nov 1 '22			692
692	Hard material excavation and disposal	2 days	Nov 2 '22	Nov 3 '22		691	693
693	Soil excavation , laying sheetpile and disposal	14 days	Nov 4 '22	Nov 17 '22		692	694
694	Treatment of bedding	2 days	Nov 18 '22	Nov 19 '22		693	695
695	Pipe laying D.I.	3 days	Nov 20 '22	Nov 22 '22		694	696
696	Backfilling sand/aggregate, concurrent bend block/chambers	21 days	Nov 23 '22	Dec 13 '22		695	697
697	Reinstatement	1 day	Dec 14 '22	Dec 14 '22		696	
698	Pressure test, swabbing and CCTV	15 days	May 30 '23	Jun 13 '23		682,660,690	
699	**Team B : CH550 - CH1090 (540m)**	**540.5 days**	**Apr 20 '22**	**Oct 12 '23**			**791**
700	**CH970 - CH1010 (40m)**	**68.5 days**	**Apr 20 '22**	**Jun 27 '22**			**711**
701	TTA establishment	1 day	Apr 20 '22	Apr 20 '22			702
702	Hard material excavation and disposal	1 day	Apr 21 '22	Apr 21 '22		701	703
703	Soil excavation , laying sheetpile and disposal	14 days	Apr 22 '22	May 5 '22		702	704
704	CE-068 _ Inclement Weather in August 2022	15 days	May 6 '22	May 20 '22		703	705
705	Treatment of bedding	3 days	May 21 '22	May 23 '22		704	706
706	Pipe laying D.I.	7 days	May 24 '22	May 30 '22		705	707
707	CE-052 _ Inclement Weather in May 2022 (under assessment)	6 days	May 31 '22	Jun 5 '22		706	708
708	Backfilling sand/aggregate	14 days	Jun 6 '22	Jun 19 '22		707	709
709	CE-053 _ Inclement Weather in June 2022 (under assessment)	6.5 days	Jun 20 '22	Jun 26 '22		708	710
710	Reinstatement	1 day	Jun 26 '22	Jun 27 '22		709	
711	**CH930 - CH970 (40m)**	**52 days**	**Jun 27 '22**	**Aug 18 '22**		**700**	**720**
712	TTA establishment	1 day	Jun 27 '22	Jun 28 '22			713
713	Hard material excavation and disposal	2 days	Jun 28 '22	Jun 30 '22		712	714
714	Soil excavation , laying sheetpile and disposal	21 days	Jun 30 '22	Jul 21 '22		713	715
715	Treatment of bedding	2 days	Jul 21 '22	Jul 23 '22		714	716
716	Pipe laying D.I.	7 days	Jul 23 '22	Jul 30 '22		715	717
717	CE-054 _ Inclement Weather in July 2022 (under assessment)	4 days	Jul 30 '22	Aug 3 '22		716	718
718	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Aug 3 '22	Aug 17 '22		717	719
719	Reinstatement	1 day	Aug 17 '22	Aug 18 '22		718	
720	**CH880 - CH930 (50m)**	**66 days**	**Aug 18 '22**	**Oct 23 '22**		**711**	**733**
721	TTA establishment	1 day	Aug 18 '22	Aug 19 '22			722
722	Hard material excavation and disposal (CH880 - CH910)	2 days	Aug 19 '22	Aug 21 '22		721	723
723	Soil excavation, laying sheetpile and disposal (CH880 - CH910)	14 days	Aug 21 '22	Sep 4 '22		722	724
724	Treatment of bedding (CH880 - CH910)	3 days	Sep 4 '22	Sep 7 '22		723	725
725	Pipe laying D.I. (CH880 - CH910)	2 days	Sep 7 '22	Sep 9 '22		724	726
726	Backfilling sand/aggregate, concurrent bend block/chambers (CH880 - CH910)	7 days	Sep 9 '22	Sep 16 '22		725	727
727	Hard material excavation and disposal (CH850 - CH880)	2 days	Sep 16 '22	Sep 18 '22		726	728
728	Soil excavation, laying sheetpile and disposal (CH850 - CH880)	14 days	Sep 18 '22	Oct 2 '22		727	729
729	Treatment of bedding (CH850 - CH880)	3 days	Oct 2 '22	Oct 5 '22		728	730
730	Pipe laying D.I. (CH850 - CH880)	2 days	Oct 5 '22	Oct 7 '22		729	731
731	Backfilling sand/aggregate, concurrent bend block/chambers (CH850 - CH880)	14 days	Oct 7 '22	Oct 21 '22		730	732
732	Reinstatement	2 days	Oct 21 '22	Oct 23 '22		731	
733	**CH780 - CH880 (100m)**	**102 days**	**Oct 23 '22**	**Feb 2 '23**		**720**	**746**
734	TTA establishment	2 days	Oct 23 '22	Oct 25 '22			735
735	Hard material excavation and disposal (CH800 - CH850)	3 days	Oct 25 '22	Oct 28 '22		734	736
736	Soil excavation , laying sheetpile and disposal (CH800 - CH850)	21 days	Oct 28 '22	Nov 18 '22		735	737
737	Treatment of bedding (CH800 - CH850)	4 days	Nov 18 '22	Nov 22 '22		736	738
738	Pipe laying D.I. (CH800 - CH850)	7 days	Nov 22 '22	Nov 29 '22		737	739
739	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Nov 29 '22	Dec 13 '22		738	740
740	Hard material excavation and disposal (CH750 - CH800)	3 days	Dec 13 '22	Dec 16 '22		739	741
741	Soil excavation , laying sheetpile and disposal (CH750 - CH800)	21 days	Dec 16 '22	Jan 6 '23		740	742
742	Treatment of bedding (CH750 - CH800)	4 days	Jan 6 '23	Jan 10 '23		741	743
743	Pipe laying D.I. (CH750 - CH800)	7 days	Jan 10 '23	Jan 17 '23		742	744
744	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Jan 17 '23	Jan 31 '23		743	745
745	Reinstatement	2 days	Jan 31 '23	Feb 2 '23		744	
746	**CH680 - CH780 (100m)**	**82 days**	**Feb 2 '23**	**Apr 25 '23**		**733**	**760**
747	TTA establishment	1 day	Feb 2 '23	Feb 3 '23			748
748	Hard material excavation and disposal (CH700 - CH750)	2 days	Feb 3 '23	Feb 5 '23		747	749
749	Soil excavation , laying sheetpile and disposal (CH700 - CH750)	14 days	Feb 5 '23	Feb 19 '23		748	750
750	Treatment of bedding (CH700 - CH750)	2 days	Feb 19 '23	Feb 21 '23		749	751
751	Pipe laying D.I. (CH700 - CH750)	7 days	Feb 21 '23	Feb 28 '23		750	752
752	Backfilling sand/aggregate, concurrent bend block/chambers (CH700 - CH750)	14 days	Feb 28 '23	Mar 14 '23		751	753
753	Reinstatement (CH700 - CH750)	1 day	Mar 14 '23	Mar 15 '23		752	754
754	Hard material excavation and disposal (CH650 - CH700)	2 days	Mar 15 '23	Mar 17 '23		753	755
755	Soil excavation , laying sheetpile and disposal (CH650 - CH700)	14 days	Mar 17 '23	Mar 31 '23		754	756
756	Treatment of bedding (CH650 - CH700)	2 days	Mar 31 '23	Apr 2 '23		755	757
757	Pipe laying D.I. (CH650 - CH700)	7 days	Apr 2 '23	Apr 9 '23		756	758
758	Backfilling sand/aggregate, concurrent bend block/chambers (CH650 - CH700)	14 days	Apr 9 '23	Apr 23 '23		757	759
759	Reinstatement	2 days	Apr 23 '23	Apr 25 '23		758	
760	**CH580 - CH680 (100m)**	**78 days**	**Apr 25 '23**	**Jul 12 '23**		**746**	**774**
761	TTA establishment	1 day	Apr 25 '23	Apr 26 '23			762
762	Hard material excavation and disposal (CH600 - CH650)	7 days	Apr 26 '23	May 3 '23		761	763
763	Soil excavation , laying sheetpile and disposal (CH600 - CH650)	3 days	May 3 '23	May 6 '23		762	764
764	Treatment of bedding (CH600 - CH650)	2 days	May 6 '23	May 8 '23		763	765
765	Pipe laying D.I. (CH600 - CH650)	2 days	May 8 '23	May 10 '23		764	766
766	Backfilling sand/aggregate, concurrent bend block/chambers (CH600 - CH650)	14 days	May 10 '23	May 24 '23		765	767
767	Reinstatement (CH600 - CH650)	1 day	May 24 '23	May 25 '23		766	768
768	Hard material excavation and disposal (CH550 - CH600)	2 days	May 25 '23	May 27 '23		767	769
769	Soil excavation , laying sheetpile and disposal (CH550 - CH600)	14 days	May 27 '23	Jun 10 '23		768	770
770	Treatment of bedding (CH550 - CH600)	2 days	Jun 10 '23	Jun 12 '23		769	771
771	Pipe laying D.I. (CH550 - CH600)	14 days	Jun 12 '23	Jun 26 '23		770	772



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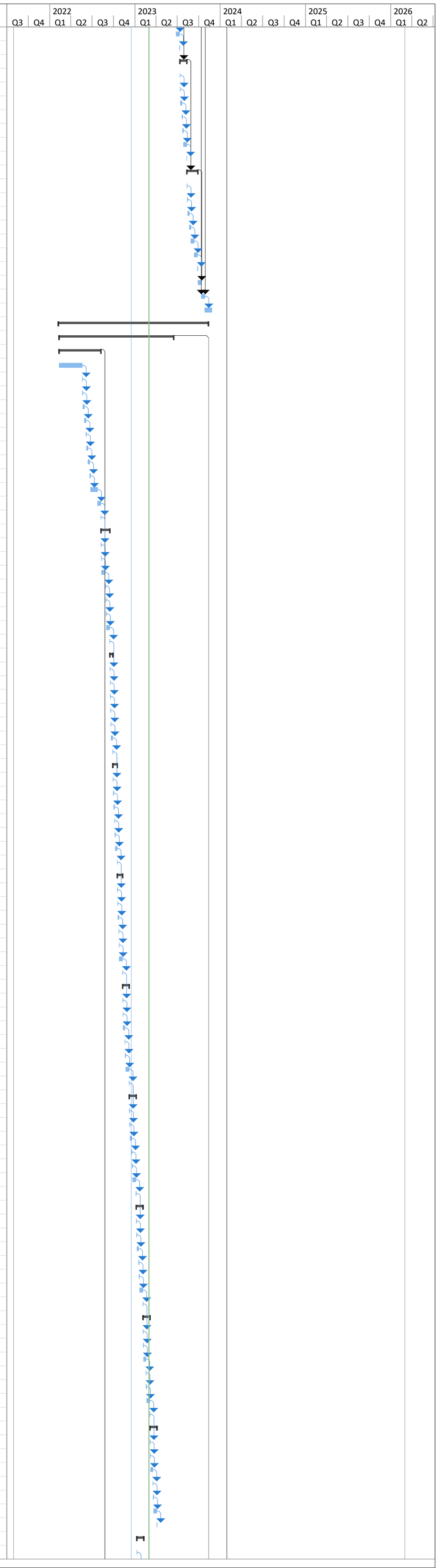
Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress	
Split	Inactive Milestone	Manual Summary	Deadline		
Milestone	Inactive Summary	Start-only	Critical		
Summary	Manual Task	Finish-only	Critical Split		
Project Summary	Duration-only	External Tasks	Progress		

ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
772	Backfilling sand/aggregate, concurrent bend block/chambers (CH550 - CH600)	14 days	Jun 26 '23	Jul 10 '23		771	773
773	Reinstatement	2 days	Jul 10 '23	Jul 12 '23		772	
774	**CH1010 - CH1040 (30m)**	**30 days**	**Jul 12 '23**	**Aug 11 '23**		**760**	**782**
775	TTA establishment	1 day	Jul 12 '23	Jul 13 '23			776
776	Hard material excavation and disposal	1 day	Jul 13 '23	Jul 14 '23		775	777
777	Soil excavation , laying sheetpile and disposal	7 days	Jul 14 '23	Jul 21 '23		776	778
778	Treatment of bedding	2 days	Jul 21 '23	Jul 23 '23		777	779
779	Pipe laying D.I.	4 days	Jul 23 '23	Jul 27 '23		778	780
780	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Jul 27 '23	Aug 10 '23		779	781
781	Reinstatement	1 day	Aug 10 '23	Aug 11 '23		780	
782	**CH1040 - CH1090 (50m)**	**47 days**	**Aug 11 '23**	**Sep 27 '23**		**774**	**790**
783	TTA establishment	1 day	Aug 11 '23	Aug 12 '23			784
784	Hard material excavation and disposal	2 days	Aug 12 '23	Aug 14 '23		783	785
785	Soil excavation , laying sheetpile and disposal	7 days	Aug 14 '23	Aug 21 '23		784	786
786	Treatment of bedding	7 days	Aug 21 '23	Aug 28 '23		785	787
787	Pipe laying D.I.	14 days	Aug 28 '23	Sep 11 '23		786	788
788	Backfilling sand/aggregate, concurrent bend block/chambers	14 days	Sep 11 '23	Sep 25 '23		787	789
789	Reinstatement	2 days	Sep 25 '23	Sep 27 '23		788	
790	Pressure test, swabbing and CCTV	15 days	Sep 27 '23	Oct 12 '23		782	
791	Overall pressure test	15 days	Oct 12 '23	Oct 27 '23		603,699	792
792	Pipe connection and completion	30 days	Oct 27 '23	Nov 26 '23		791	
793	**RW43 : DN150 DI pipe - 1144m (XP ID: 1301130, 1301131)**	**643 days**	**Feb 7 '22**	**Nov 11 '23**			
794	**CH370 to CH850 (480m)**	**491 days**	**Feb 10 '22**	**Jun 15 '23**			**1025**
795	**Team A CH640 to CH680 (40m)**	**179.5 days**	**Feb 10 '22**	**Aug 8 '22**			**1013**
796	Pending for IIB of pipe fittings	99 days	Feb 10 '22	May 19 '22			797
797	TTA establishment	1 day	May 20 '22	May 20 '22		796	798
798	Hard material excavation and disposal	2 days	May 21 '22	May 22 '22		797	799
799	CE-052 _ Inclement Weather in May 2022 (under assessment)	6 days	May 23 '22	May 28 '22		798	800
800	Soil excavation , laying sheetpile and disposal	7 days	May 29 '22	Jun 4 '22		799	801
801	Treatment of bedding	2 days	Jun 5 '22	Jun 6 '22		800	802
802	CE-053 _ Inclement Weather in June 2022 (under assessment)	6.5 days	Jun 7 '22	Jun 13 '22		801	803
803	Pipe laying D.I.	7 days	Jun 13 '22	Jun 20 '22		802	804
804	CE-054 _ Inclement Weather in July 2022 (under assessment)	4 days	Jun 20 '22	Jun 24 '22		803	805
805	Works suspended by Sheung Shui Heung	30 days	Jun 24 '22	Jul 24 '22		804	806
806	Backfilling general fill and compaction	14 days	Jul 24 '22	Aug 7 '22		805	807
807	Reinstatement	1 day	Aug 7 '22	Aug 8 '22		806	809
808	**Team A CH420 to CH450 (35m)**	**38 days**	**Aug 8 '22**	**Sep 15 '22**			
809	TTA establishment	1 day	Aug 8 '22	Aug 9 '22		807	810
810	Hard material excavation and disposal	1 day	Aug 9 '22	Aug 10 '22		809	811
811	CE-068 _ Inclement Weather in August 2022	15 days	Aug 10 '22	Aug 25 '22		810	812
812	Soil excavation , laying sheetpile and disposal	3 days	Aug 25 '22	Aug 28 '22		811	813
813	Treatment of bedding	1 day	Aug 28 '22	Aug 29 '22		812	814
814	Pipe laying D.I.	2 days	Aug 29 '22	Aug 31 '22		813	815
815	Backfilling general fill and compaction	14 days	Aug 31 '22	Sep 14 '22		814	816
816	Reinstatement	1 day	Sep 14 '22	Sep 15 '22		815	818
817	**Team A CH410 to CH420 (10m)**	**13 days**	**Sep 15 '22**	**Sep 28 '22**			
818	TTA establishment	1 day	Sep 15 '22	Sep 16 '22		816	819
819	Hard material excavation and disposal	1 day	Sep 16 '22	Sep 17 '22		818	820
820	Soil excavation , laying sheetpile and disposal	1 day	Sep 17 '22	Sep 18 '22		819	821
821	Treatment of bedding	1 day	Sep 18 '22	Sep 19 '22		820	822
822	Pipe laying D.I.	1 day	Sep 19 '22	Sep 20 '22		821	823
823	Backfilling general fill and compaction	7 days	Sep 20 '22	Sep 27 '22		822	824
824	Reinstatement	1 day	Sep 27 '22	Sep 28 '22		823	826
825	**Team A CH450 to CH500 (50m)**	**19 days**	**Sep 28 '22**	**Oct 17 '22**			
826	TTA establishment	1 day	Sep 28 '22	Sep 29 '22		824	827
827	Hard material excavation and disposal	2 days	Sep 29 '22	Oct 1 '22		826	828
828	Soil excavation , laying sheetpile and disposal	4 days	Oct 1 '22	Oct 5 '22		827	829
829	Treatment of bedding	1 day	Oct 5 '22	Oct 6 '22		828	830
830	Pipe laying D.I.	3 days	Oct 6 '22	Oct 9 '22		829	831
831	Backfilling general fill and compaction	7 days	Oct 9 '22	Oct 16 '22		830	832
832	Reinstatement	1 day	Oct 16 '22	Oct 17 '22		831	834
833	**Team A CH400 to CH410 (10m)**	**23 days**	**Oct 17 '22**	**Nov 9 '22**			
834	TTA establishment	1 day	Oct 17 '22	Oct 18 '22		832	835
835	Hard material excavation and disposal	1 day	Oct 18 '22	Oct 19 '22		834	836
836	Soil excavation , laying sheetpile and disposal	4 days	Oct 19 '22	Oct 23 '22		835	837
837	Treatment of bedding	1 day	Oct 23 '22	Oct 24 '22		836	838
838	Pipe laying D.I.	1 day	Oct 24 '22	Oct 25 '22		837	839
839	Backfilling general fill and compaction	14 days	Oct 25 '22	Nov 8 '22		838	840
840	Reinstatement	1 day	Nov 8 '22	Nov 9 '22		839	842
841	**Team A CH370 to CH400 (30m)**	**28 days**	**Nov 9 '22**	**Dec 7 '22**			
842	TTA establishment	1 day	Nov 9 '22	Nov 10 '22		840	843
843	Hard material excavation and disposal	1 day	Nov 10 '22	Nov 11 '22		842	844
844	Soil excavation , laying sheetpile and disposal	7 days	Nov 11 '22	Nov 18 '22		843	845
845	Treatment of bedding	1 day	Nov 18 '22	Nov 19 '22		844	846
846	Pipe laying D.I.	3 days	Nov 19 '22	Nov 22 '22		845	847
847	Backfilling general fill and compaction	14 days	Nov 22 '22	Dec 6 '22		846	848
848	Reinstatement	1 day	Dec 6 '22	Dec 7 '22		847	850
849	**Team A CH500 to CH550 (50m)**	**30 days**	**Dec 7 '22**	**Jan 6 '23**			
850	TTA establishment	1 day	Dec 7 '22	Dec 8 '22		848	851
851	Hard material excavation and disposal	2 days	Dec 8 '22	Dec 10 '22		850	852
852	Soil excavation , laying sheetpile and disposal	7 days	Dec 10 '22	Dec 17 '22		851	853
853	Treatment of bedding	2 days	Dec 17 '22	Dec 19 '22		852	854
854	Pipe laying D.I.	2 days	Dec 19 '22	Dec 21 '22		853	855
855	Backfilling general fill and compaction	14 days	Dec 21 '22	Jan 4 '23		854	856
856	Reinstatement	2 days	Jan 4 '23	Jan 6 '23		855	858
857	**Team A CH550 to CH580 (30m)**	**29 days**	**Jan 6 '23**	**Feb 4 '23**			
858	TTA establishment	1 day	Jan 6 '23	Jan 7 '23		856	859
859	Hard material excavation and disposal	2 days	Jan 7 '23	Jan 9 '23		858	860
860	Soil excavation , laying sheetpile and disposal	7 days	Jan 9 '23	Jan 16 '23		859	861
861	Treatment of bedding	2 days	Jan 16 '23	Jan 18 '23		860	862
862	Pipe laying D.I.	2 days	Jan 18 '23	Jan 20 '23		861	863
863	Backfilling general fill and compaction	14 days	Jan 20 '23	Feb 3 '23		862	864
864	Reinstatement	1 day	Feb 3 '23	Feb 4 '23		863	866
865	**Team A CH580 to CH610 (30m)**	**30 days**	**Feb 4 '23**	**Mar 6 '23**			
866	TTA establishment	1 day	Feb 4 '23	Feb 5 '23		864	867
867	Hard material excavation and disposal	1 day	Feb 5 '23	Feb 6 '23		866	868
868	Soil excavation , laying sheetpile and disposal	10 days	Feb 6 '23	Feb 16 '23		867	869
869	Treatment of bedding	1 day	Feb 16 '23	Feb 17 '23		868	870
870	Pipe laying D.I.	2 days	Feb 17 '23	Feb 19 '23		869	871
871	Backfilling general fill and compaction	14 days	Feb 19 '23	Mar 5 '23		870	872
872	Reinstatement	1 day	Mar 5 '23	Mar 6 '23		871	874
873	**Team A CH610 to CH640 (30m)**	**30 days**	**Mar 6 '23**	**Apr 5 '23**			
874	TTA establishment	1 day	Mar 6 '23	Mar 7 '23		872	875
875	Hard material excavation and disposal	1 day	Mar 7 '23	Mar 8 '23		874	876
876	Soil excavation , laying sheetpile and disposal	10 days	Mar 8 '23	Mar 18 '23		875	877
877	Treatment of bedding	1 day	Mar 18 '23	Mar 19 '23		876	878
878	Pipe laying D.I.	2 days	Mar 19 '23	Mar 21 '23		877	879
879	Backfilling general fill and compaction	14 days	Mar 21 '23	Apr 4 '23		878	880
880	Reinstatement	1 day	Apr 4 '23	Apr 5 '23		879	
881	**Team A CH640 to CH680 (40m) _ re-alignmet**	**30 days**	**Jan 9 '23**	**Feb 7 '23**			
882	TTA establishment	1 day	Jan 9 '23	Jan 9 '23			883



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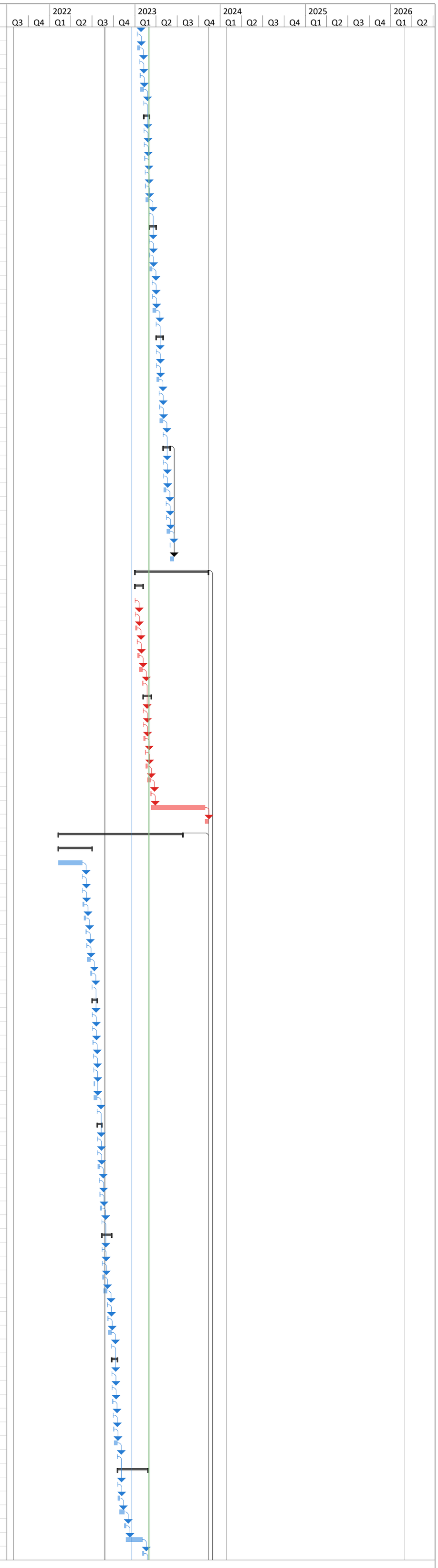
Date: Mar 2 '23

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

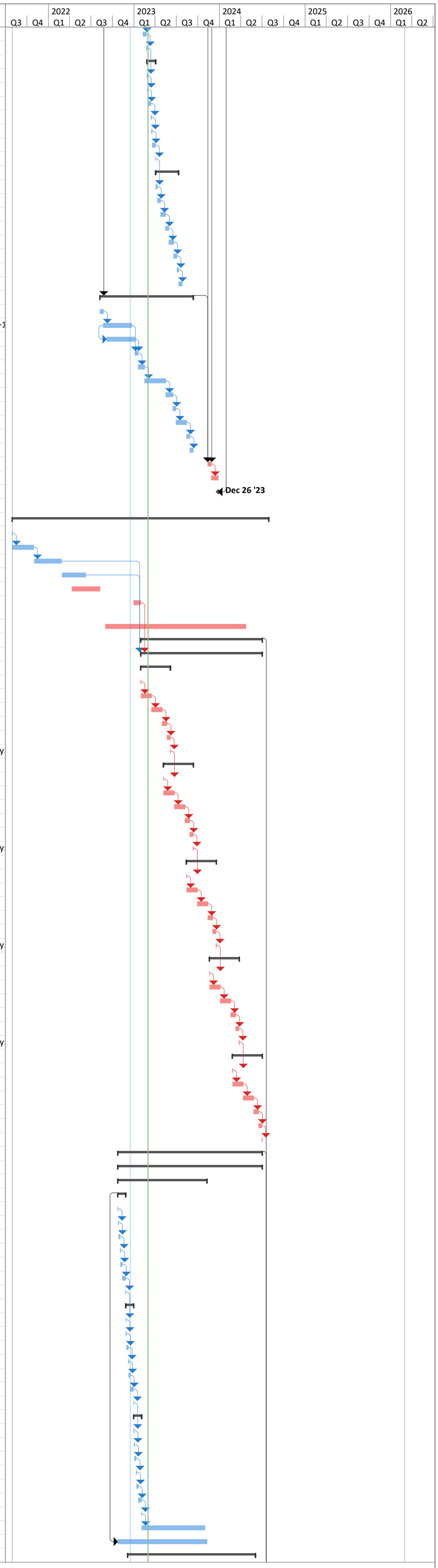
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
883	Hard material excavation and disposal	1 day	Jan 10 '23	Jan 10 '23		882	884
884	Soil excavation , laying sheetpile and disposal	10 days	Jan 11 '23	Jan 20 '23		883	885
885	Treatment of bedding	1 day	Jan 21 '23	Jan 21 '23		884	886
886	Pipe laying D.I.	2 days	Jan 22 '23	Jan 23 '23		885	887
887	Backfilling general fill and compaction	14 days	Jan 24 '23	Feb 6 '23		886	888
888	Reinstatement	1 day	Feb 7 '23	Feb 7 '23		887	890
889	**Team A CH680 to CH740 (60m) _ re-alignmet**	**23 days**	**Feb 8 '23**	**Mar 2 '23**			
890	TTA establishment	1 day	Feb 8 '23	Feb 8 '23		888	891
891	Hard material excavation and disposal	1 day	Feb 9 '23	Feb 9 '23		890	892
892	Soil excavation , laying sheetpile and disposal	3 days	Feb 10 '23	Feb 12 '23		891	893
893	Treatment of bedding	1 day	Feb 13 '23	Feb 13 '23		892	894
894	Pipe laying D.I.	2 days	Feb 14 '23	Feb 15 '23		893	895
895	Backfilling general fill and compaction	14 days	Feb 16 '23	Mar 1 '23		894	896
896	Reinstatement	1 day	Mar 2 '23	Mar 2 '23		895	898
897	**Team A CH740 to CH770 (30m) _ re-alignmet**	**30 days**	**Mar 3 '23**	**Apr 1 '23**			
898	TTA establishment	1 day	Mar 3 '23	Mar 3 '23		896	899
899	Hard material excavation and disposal	1 day	Mar 4 '23	Mar 4 '23		898	900
900	Soil excavation , laying sheetpile and disposal	10 days	Mar 5 '23	Mar 14 '23		899	901
901	Treatment of bedding	1 day	Mar 15 '23	Mar 15 '23		900	902
902	Pipe laying D.I.	2 days	Mar 16 '23	Mar 17 '23		901	903
903	Backfilling general fill and compaction	14 days	Mar 18 '23	Mar 31 '23		902	904
904	Reinstatement	1 day	Apr 1 '23	Apr 1 '23		903	906
905	**Team A CH770 to CH810 (30m) _ re-alignmet**	**30 days**	**Apr 2 '23**	**May 1 '23**			
906	TTA establishment	1 day	Apr 2 '23	Apr 2 '23		904	907
907	Hard material excavation and disposal	1 day	Apr 3 '23	Apr 3 '23		906	908
908	Soil excavation , laying sheetpile and disposal	10 days	Apr 4 '23	Apr 13 '23		907	909
909	Treatment of bedding	1 day	Apr 14 '23	Apr 14 '23		908	910
910	Pipe laying D.I.	2 days	Apr 15 '23	Apr 16 '23		909	911
911	Backfilling general fill and compaction	14 days	Apr 17 '23	Apr 30 '23		910	912
912	Reinstatement	1 day	May 1 '23	May 1 '23		911	914
913	**Team A CH810 to CH850 (30m) _ re-alignmet**	**30 days**	**May 2 '23**	**May 31 '23**			**921**
914	TTA establishment	1 day	May 2 '23	May 2 '23		912	915
915	Hard material excavation and disposal	1 day	May 3 '23	May 3 '23		914	916
916	Soil excavation , laying sheetpile and disposal	10 days	May 4 '23	May 13 '23		915	917
917	Treatment of bedding	1 day	May 14 '23	May 14 '23		916	918
918	Pipe laying D.I.	2 days	May 15 '23	May 16 '23		917	919
919	Backfilling general fill and compaction	14 days	May 17 '23	May 30 '23		918	920
920	Reinstatement	1 day	May 31 '23	May 31 '23		919	
921	Pressure test, swabbing and CCTV	15 days	Jun 1 '23	Jun 15 '23		913	
922	**CH850 to CH1130 (280m)**	**315 days**	**Jan 1 '23**	**Nov 11 '23**			**1025**
923	**Team A1 CH1115 to CH1130 (15m)**	**35 days**	**Jan 1 '23**	**Feb 4 '23**			
924	TTA establishment	1 day	Jan 1 '23	Jan 1 '23			925
925	Hard material excavation and disposal	1 day	Jan 2 '23	Jan 2 '23		924	926
926	Soil excavation , laying sheetpile and disposal	7 days	Jan 3 '23	Jan 9 '23		925	927
927	Treatment of bedding	2 days	Jan 10 '23	Jan 11 '23		926	928
928	Pipe laying D.I.	7 days	Jan 12 '23	Jan 18 '23		927	929
929	Backfilling general fill and compaction	14 days	Jan 19 '23	Feb 1 '23		928	930
930	Reinstatement	3 days	Feb 2 '23	Feb 4 '23		929	932
931	**Team A1 CH1130 to CH1145 (15m)**	**35 days**	**Feb 5 '23**	**Mar 11 '23**			
932	TTA establishment	1 day	Feb 5 '23	Feb 5 '23		930	933
933	Hard material excavation and disposal	1 day	Feb 6 '23	Feb 6 '23		932	934
934	Soil excavation , laying sheetpile and disposal	7 days	Feb 7 '23	Feb 13 '23		933	935
935	Treatment of bedding	2 days	Feb 14 '23	Feb 15 '23		934	936
936	Pipe laying D.I.	7 days	Feb 16 '23	Feb 22 '23		935	937
937	Backfilling general fill and compaction	14 days	Feb 23 '23	Mar 8 '23		936	938
938	Reinstatement	3 days	Mar 9 '23	Mar 11 '23		937	939
939	Team A1 CH850 to CH1115 (265m)	230 days	Mar 12 '23	Oct 27 '23		938	940
940	Pressure test, swabbing and CCTV	15 days	Oct 28 '23	Nov 11 '23		939	
941	**CH000 to CH370 (370m)**	**533.5 days**	**Feb 7 '22**	**Jul 25 '23**			**1025**
942	**Team B CH220 to CH245 (25m)**	**144.5 days**	**Feb 7 '22**	**Jul 1 '22**			
943	Pending for release of TTA from other Contractor	102 days	Feb 7 '22	May 19 '22			944
944	TTA establishment	1 day	May 20 '22	May 20 '22		943	945
945	Hard material excavation and disposal	1 day	May 21 '22	May 21 '22		944	946
946	CE-052 _ Inclement Weather in May 2022 (under assessment)	6 days	May 22 '22	May 27 '22		945	947
947	Soil excavation , laying sheetpile and disposal	7 days	May 28 '22	Jun 3 '22		946	948
948	Treatment of bedding	3 days	Jun 4 '22	Jun 6 '22		947	949
949	Pipe laying D.I.	3 days	Jun 7 '22	Jun 9 '22		948	950
950	Backfilling general fill and compaction	14 days	Jun 10 '22	Jun 23 '22		949	951
951	CE-053 _ Inclement Weather in June 2022 (under assessment)	6.5 days	Jun 24 '22	Jun 30 '22		950	952
952	Reinstatement	1 day	Jun 30 '22	Jul 1 '22		951	954
953	**Team B CH190 to CH220 (30m)**	**22 days**	**Jul 1 '22**	**Jul 23 '22**			
954	TTA establishment	1 day	Jul 1 '22	Jul 2 '22		952	955
955	Hard material excavation and disposal	1 day	Jul 2 '22	Jul 3 '22		954	956
956	Soil excavation , laying sheetpile and disposal	3 days	Jul 3 '22	Jul 6 '22		955	957
957	Treatment of bedding	1 day	Jul 6 '22	Jul 7 '22		956	958
958	Pipe laying D.I.	1 day	Jul 7 '22	Jul 8 '22		957	960,959
959	CE-054 _ Inclement Weather in July 2022 (under assessment)	4 days	Jul 8 '22	Jul 12 '22		958	
960	Backfilling general fill and compaction	14 days	Jul 8 '22	Jul 22 '22		958	961
961	Reinstatement	1 day	Jul 22 '22	Jul 23 '22		960	963
962	**Team B CH245 to CH285 (40m)**	**20 days**	**Jul 23 '22**	**Aug 12 '22**			
963	TTA establishment	1 day	Jul 23 '22	Jul 24 '22		961	964
964	Hard material excavation and disposal	1 day	Jul 24 '22	Jul 25 '22		963	965
965	Soil excavation , laying sheetpile and disposal	7 days	Jul 25 '22	Aug 1 '22		964	966
966	Treatment of bedding	1 day	Aug 1 '22	Aug 2 '22		965	967
967	Pipe laying D.I.	2 days	Aug 2 '22	Aug 4 '22		966	968
968	Backfilling general fill and compaction	7 days	Aug 4 '22	Aug 11 '22		967	969
969	Reinstatement	1 day	Aug 11 '22	Aug 12 '22		968	971
970	**Team B CH285 to CH315 (30m)**	**42 days**	**Aug 12 '22**	**Sep 23 '22**			
971	TTA establishment	1 day	Aug 12 '22	Aug 13 '22		969	972
972	Hard material excavation and disposal	1 day	Aug 13 '22	Aug 14 '22		971	973
973	Soil excavation , laying sheetpile and disposal	5 days	Aug 14 '22	Aug 19 '22		972	974
974	CE-068 _ Inclement Weather in August 2022	15 days	Aug 19 '22	Sep 3 '22		973	975
975	Treatment of bedding	2 days	Sep 3 '22	Sep 5 '22		974	976
976	Pipe laying D.I.	3 days	Sep 5 '22	Sep 8 '22		975	977
977	Backfilling general fill and compaction	14 days	Sep 8 '22	Sep 22 '22		976	978
978	Reinstatement	1 day	Sep 22 '22	Sep 23 '22		977	980
979	**Team B CH315 to CH340 (25m)**	**25 days**	**Sep 23 '22**	**Oct 18 '22**			
980	TTA establishment	1 day	Sep 23 '22	Sep 24 '22		978	981
981	Hard material excavation and disposal	1 day	Sep 24 '22	Sep 25 '22		980	982
982	Soil excavation , laying sheetpile and disposal	4 days	Sep 25 '22	Sep 29 '22		981	983
983	Treatment of bedding	1 day	Sep 29 '22	Sep 30 '22		982	984
984	Pipe laying D.I.	3 days	Sep 30 '22	Oct 3 '22		983	985
985	Backfilling general fill and compaction	14 days	Oct 3 '22	Oct 17 '22		984	986
986	Reinstatement	1 day	Oct 17 '22	Oct 18 '22		985	988
987	**Team B CH0 to CH150 (150m)**	**130 days**	**Oct 18 '22**	**Feb 25 '23**			
988	TTA establishment	1 day	Oct 18 '22	Oct 19 '22		986	989
989	Hard material excavation and disposal	7 days	Oct 19 '22	Oct 26 '22		988	990
990	Soil excavation , laying sheetpile and disposal	21 days	Oct 26 '22	Nov 16 '22		989	991
991	Treatment of bedding	7 days	Nov 16 '22	Nov 23 '22		990	992
992	Pending for confirmation of design alignment	70 days	Nov 23 '22	Feb 1 '23		991	993
993	Pipe laying D.I.	7 days	Feb 1 '23	Feb 8 '23		992	994



Project: 3WSD20 Programme
Date: Mar 2 '23

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	

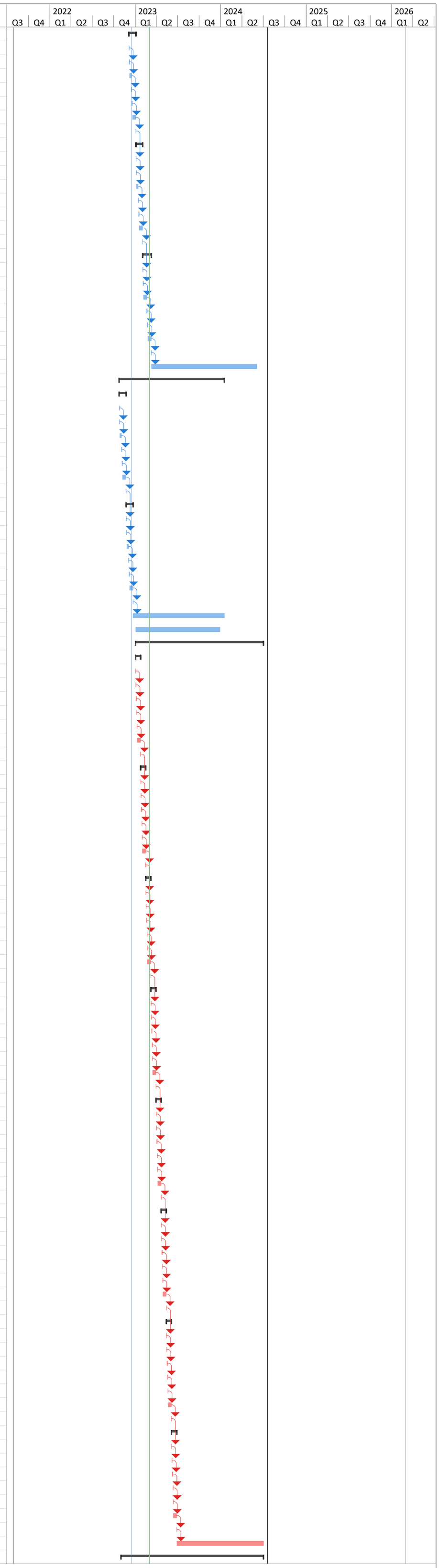
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
994	Backfilling gerneral fill and compaction	14 days	Feb 8 '23	Feb 22 '23		993	995
995	Reinstatement	3 days	Feb 22 '23	Feb 25 '23		994	997
996	**Team B CH150 to CH190 (40m)**	**37 days**	**Feb 25 '23**	**Apr 3 '23**			
997	TTA establishment	1 day	Feb 25 '23	Feb 26 '23		995	998
998	Hard material excavation and disposal	2 days	Feb 26 '23	Feb 28 '23		997	999
999	Soil excavation , laying sheetpile and disposal	14 days	Feb 28 '23	Mar 14 '23		998	1000
1000	Treatment of bedding	2 days	Mar 14 '23	Mar 16 '23		999	1001
1001	Pipe laying D.I.	3 days	Mar 16 '23	Mar 19 '23		1000	1002
1002	Backfilling general fill and compaction	14 days	Mar 19 '23	Apr 2 '23		1001	1003
1003	Reinstatement	1 day	Apr 2 '23	Apr 3 '23		1002	1005
1004	**Team B CH340 to CH370 (30m)**	**98 days**	**Apr 3 '23**	**Jul 10 '23**			
1005	TTA establishment	7 days	Apr 3 '23	Apr 10 '23		1003	1006
1006	Hard material excavation and disposal	14 days	Apr 10 '23	Apr 24 '23		1005	1007
1007	Soil excavation , laying sheetpile and disposal	21 days	Apr 24 '23	May 15 '23		1006	1008
1008	Treatment of bedding	14 days	May 15 '23	May 29 '23		1007	1009
1009	Pipe laying D.I.	21 days	May 29 '23	Jun 19 '23		1008	1010
1010	Backfilling general fill and compaction	14 days	Jun 19 '23	Jul 3 '23		1009	1011
1011	Reinstatement	7 days	Jul 3 '23	Jul 10 '23		1010	1012
1012	Pressure test, swabbing and CCTV	15 days	Jul 10 '23	Jul 25 '23		1011	
1013	**CH710 to CH970 (260m) -within the scope of Shueng Shui Hueng**	**399 days**	**Aug 8 '22**	**Sep 11 '23**		**795**	**1025**
1014	CE-068 _ Inclement Weather in August 2022	15 days	Aug 8 '22	Aug 23 '22			1015
1015	Pending agreement of Shueng Shui Hueng villagers	120 days	Aug 23 '22	Dec 21 '22		1014	1017,1016SS+1
1016	XP application for alternative alignment of watermain	120 days	Sep 6 '22	Jan 4 '23		1015SS+14 days	1017
1017	TTA establishment	14 days	Jan 4 '23	Jan 18 '23		1015,1016	1018
1018	Hard material excavation and disposal	28 days	Jan 18 '23	Feb 15 '23		1017	1019
1019	Soil excavation , laying sheetpile and disposal	90 days	Feb 15 '23	May 16 '23		1018	1020
1020	Treatment of bedding	30 days	May 16 '23	Jun 15 '23		1019	1021
1021	Pipe laying D.I.	14 days	Jun 15 '23	Jun 29 '23		1020	1022
1022	Backfilling general fill and compaction	45 days	Jun 29 '23	Aug 13 '23		1021	1023
1023	Reinstatement	14 days	Aug 13 '23	Aug 27 '23		1022	1024
1024	Pressure test, swabbing and CCTV	15 days	Aug 27 '23	Sep 11 '23		1023	
1025	Overall pressure testing	15 days	Nov 12 '23	Nov 26 '23		794,941,1013,97	1026
1026	Pipe connection and completion	30 days	Nov 27 '23	Dec 26 '23		1025	
1027	Planned completion for section 4	0 days	Dec 26 '23	Dec 26 '23		601FF	
1028							
1029	**Section 5 - Water main laying works in part 4 of the Site**	**1096 days**	**Jul 30 '21**	**Jul 29 '24**			
1030	Access Date (part 4 of the Site)	1 day	Jul 30 '21	Jul 30 '21			1031
1031	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		1030	1032
1032	Application and approval of XP and TTA	116 days	Nov 1 '21	Feb 24 '22		1031	1038
1033	Procurement and Delivery of pipes, fittings and related materials	100 days	Feb 28 '22	Jun 7 '22			1038
1034	Submission and acceptance of method statement and material	120 days	Apr 11 '22	Aug 8 '22			
1035	Submission and acceptance of method statement and temp work design for trenchless works	30 days	Dec 31 '22	Jan 29 '23			1038
1036	Excavation of Inspection Pit	600 days	Sep 1 '22	Apr 22 '24			
1037	**Mainlaying by trenchless method (RW04)**	**519 days**	**Jan 30 '23**	**Jul 1 '24**			**1249**
1038	**RW04 : DN450 DI pipe (trenchless)**	**519 days**	**Jan 30 '23**	**Jul 1 '24**	**60**	**1032,1033,1035**	
1039	**Wo Tai Street (70m) - TBM Method**	**127 days**	**Jan 30 '23**	**Jun 5 '23**			
1040	TTA implementation	1 day	Jan 30 '23	Jan 30 '23			1041
1041	Contruction of jacking pit and receiving pit	45 days	Jan 31 '23	Mar 16 '23		1040	1042
1042	Trenchless works and pipe laying	45 days	Mar 17 '23	Apr 30 '23		1041	1043
1043	Manhole / Chamber construction	21 days	May 1 '23	May 21 '23		1042	1044
1044	Backfilling and compaction	14 days	May 22 '23	Jun 4 '23		1043	1045
1045	Reinstatement	1 day	Jun 5 '23	Jun 5 '23		1044	1047FS-30 day
1046	**Ma Sik Road (70m) - TBM Method**	**128 days**	**May 7 '23**	**Sep 11 '23**			
1047	TTA implementation	1 day	May 7 '23	May 7 '23		1045FS-30 days	1048
1048	Contruction of jacking pit and receiving pit	45 days	May 8 '23	Jun 21 '23		1047	1049
1049	Trenchless works and pipe laying	45 days	Jun 22 '23	Aug 5 '23		1048	1050
1050	Manhole / Chamber construction	21 days	Aug 6 '23	Aug 26 '23		1049	1051
1051	Backfilling and compaction	14 days	Aug 27 '23	Sep 9 '23		1050	1052
1052	Reinstatement	2 days	Sep 10 '23	Sep 11 '23		1051	1054FS-30 day
1053	**Luen Chit Street (70m) - TBM Method**	**128 days**	**Aug 13 '23**	**Dec 18 '23**			
1054	TTA implementation	1 day	Aug 13 '23	Aug 13 '23		1052FS-30 days	1055
1055	Contruction of jacking pit and receiving pit	45 days	Aug 14 '23	Sep 27 '23		1054	1056
1056	Trenchless works and pipe laying	45 days	Sep 28 '23	Nov 11 '23		1055	1057
1057	Manhole / Chamber construction	21 days	Nov 12 '23	Dec 2 '23		1056	1058
1058	Backfilling and compaction	14 days	Dec 3 '23	Dec 16 '23		1057	1059
1059	Reinstatement	2 days	Dec 17 '23	Dec 18 '23		1058	1061FS-30 day
1060	**Luen Sum Road (70m) - TBM Method**	**128 days**	**Nov 19 '23**	**Mar 25 '24**			
1061	TTA implementation	1 day	Nov 19 '23	Nov 19 '23		1059FS-30 days	1062
1062	Contruction of jacking pit and receiving pit	45 days	Nov 20 '23	Jan 3 '24		1061	1063
1063	Trenchless works and pipe laying	45 days	Jan 4 '24	Feb 17 '24		1062	1064
1064	Manhole / Chamber construction	21 days	Feb 18 '24	Mar 9 '24		1063	1065
1065	Backfilling and compaction	14 days	Mar 10 '24	Mar 23 '24		1064	1066
1066	Reinstatement	2 days	Mar 24 '24	Mar 25 '24		1065	1068FS-30 day
1067	**Fanling Lau Road (70m) - TBM Method**	**128 days**	**Feb 25 '24**	**Jul 1 '24**			
1068	TTA implementation	1 day	Feb 25 '24	Feb 25 '24		1066FS-30 days	1069
1069	Contruction of jacking pit and receiving pit	45 days	Feb 26 '24	Apr 10 '24		1068	1070
1070	Trenchless works and pipe laying	45 days	Apr 11 '24	May 25 '24		1069	1071
1071	Manhole / Chamber construction	21 days	May 26 '24	Jun 15 '24		1070	1072
1072	Backfilling and compaction	14 days	Jun 16 '24	Jun 29 '24		1071	1073
1073	Reinstatement	2 days	Jun 30 '24	Jul 1 '24		1072	
1074	**Mainlaying by open trench method (RW04)**	**617 days**	**Oct 24 '22**	**Jul 1 '24**			**1249**
1075	**RW04 : DN450 DI Pipe**	**617 days**	**Oct 24 '22**	**Jul 1 '24**			
1076	Ma Sik Road CH1400 to CH1700 (300m) (XP ID: 1301142, 1301146, 1301149)	381 days	Oct 24 '22	Nov 8 '23			
1077	CH1420 to CH1450 (30m)	34 days	Oct 24 '22	Nov 26 '22			1102SS
1078	TTA establishment	1 day	Oct 24 '22	Oct 24 '22			1079
1079	Hard material excavation and disposal	2 days	Oct 25 '22	Oct 26 '22		1078	1080
1080	Soil excavation , laying sheetpile and disposal	7 days	Oct 27 '22	Nov 2 '22		1079	1081
1081	Treatment of bedding	2 days	Nov 3 '22	Nov 4 '22		1080	1082
1082	Pipe laying D.I.	7 days	Nov 5 '22	Nov 11 '22		1081	1083
1083	Backfilling general fill and compaction	14 days	Nov 12 '22	Nov 25 '22		1082	1084
1084	Reinstatement	1 day	Nov 26 '22	Nov 26 '22		1083	1086
1085	CH1450 to CH1480 (30m)	34 days	Nov 27 '22	Dec 30 '22			
1086	TTA establishment	1 day	Nov 27 '22	Nov 27 '22		1084	1087
1087	Hard material excavation and disposal	2 days	Nov 28 '22	Nov 29 '22		1086	1088
1088	Soil excavation , laying sheetpile and disposal	7 days	Nov 30 '22	Dec 6 '22		1087	1089
1089	Treatment of bedding	2 days	Dec 7 '22	Dec 8 '22		1088	1090
1090	Pipe laying D.I.	7 days	Dec 9 '22	Dec 15 '22		1089	1091
1091	Backfilling general fill and compaction	14 days	Dec 16 '22	Dec 29 '22		1090	1092
1092	Reinstatement	1 day	Dec 30 '22	Dec 30 '22		1091	1094
1093	CH910 to CH960 (50m)	34 days	Dec 31 '22	Feb 2 '23			
1094	TTA establishment	1 day	Dec 31 '22	Dec 31 '22		1092	1095
1095	Hard material excavation and disposal	2 days	Jan 1 '23	Jan 2 '23		1094	1096
1096	Soil excavation , laying sheetpile and disposal	7 days	Jan 3 '23	Jan 9 '23		1095	1097
1097	Treatment of bedding	2 days	Jan 10 '23	Jan 11 '23		1096	1098
1098	Pipe laying D.I.	7 days	Jan 12 '23	Jan 18 '23		1097	1099
1099	Backfilling general fill and compaction	14 days	Jan 19 '23	Feb 1 '23		1098	1100
1100	Reinstatement	1 day	Feb 2 '23	Feb 2 '23		1099	1101
1101	CH1490 to 1700 (210m)	270 days	Feb 3 '23	Oct 30 '23	60	1100	
1102	Construction of valve chambers	381 days	Oct 24 '22	Nov 8 '23		1077SS	
1103	Ma Sik Road CH1700 to CH2180 (480m) (XP ID: 1301142, 1301146, 1301149)	546 days	Dec 5 '22	Jun 2 '24			



Project: 3WSD20 Programme
Date: Mar 2 '23

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

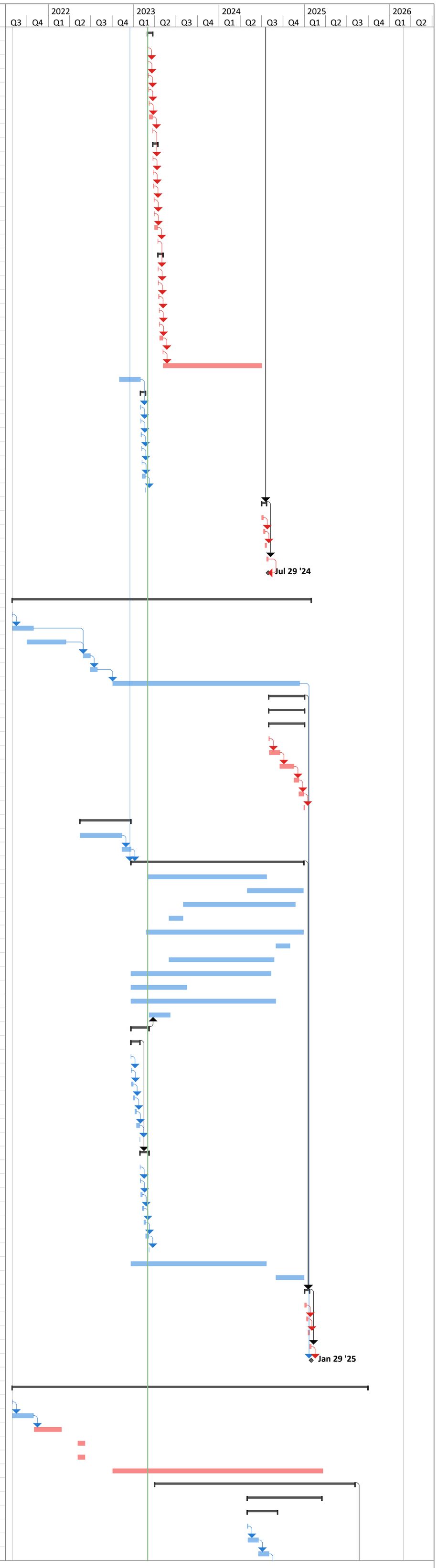
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1104	CH1920 to CH1950 (30m)	30 days	Dec 5 '22	Jan 3 '23			
1105	TTA establishment	1 day	Dec 5 '22	Dec 5 '22			1106
1106	Hard material excavation and disposal	2 days	Dec 6 '22	Dec 7 '22		1105	1107
1107	Soil excavation , laying sheetpile and disposal	7 days	Dec 8 '22	Dec 14 '22		1106	1108
1108	Treatment of bedding	2 days	Dec 15 '22	Dec 16 '22		1107	1109
1109	Pipe laying D.I.	3 days	Dec 17 '22	Dec 19 '22		1108	1110
1110	Backfilling general fill and compaction	14 days	Dec 20 '22	Jan 2 '23		1109	1111
1111	Reinstatement	1 day	Jan 3 '23	Jan 3 '23		1110	1113
1112	CH1950 to CH1990 (40m)	29 days	Jan 4 '23	Feb 1 '23			
1113	TTA establishment	1 day	Jan 4 '23	Jan 4 '23		1111	1114
1114	Hard material excavation and disposal	1 day	Jan 5 '23	Jan 5 '23		1113	1115
1115	Soil excavation , laying sheetpile and disposal	7 days	Jan 6 '23	Jan 12 '23		1114	1116
1116	Treatment of bedding	2 days	Jan 13 '23	Jan 14 '23		1115	1117
1117	Pipe laying D.I.	3 days	Jan 15 '23	Jan 17 '23		1116	1118
1118	Backfilling general fill and compaction	14 days	Jan 18 '23	Jan 31 '23		1117	1119
1119	Reinstatement	1 day	Feb 1 '23	Feb 1 '23		1118	1121
1120	CH1990 to CH2020 (30m)	37 days	Feb 2 '23	Mar 10 '23			
1121	TTA establishment	1 day	Feb 2 '23	Feb 2 '23		1119	1122
1122	Hard material excavation and disposal	2 days	Feb 3 '23	Feb 4 '23		1121	1123
1123	Soil excavation , laying sheetpile and disposal	14 days	Feb 5 '23	Feb 18 '23		1122	1124
1124	Treatment of bedding	2 days	Feb 19 '23	Feb 20 '23		1123	1125
1125	Pipe laying D.I.	3 days	Feb 21 '23	Feb 23 '23		1124	1126
1126	Backfilling general fill and compaction	14 days	Feb 24 '23	Mar 9 '23		1125	1127
1127	Reinstatement	1 day	Mar 10 '23	Mar 10 '23		1126	1128
1128	CH1790 to 2180 (390m)	450 days	Mar 11 '23	Jun 2 '24	60	1127	
1129	Ma Sik Road CH2180 to CH2400 (220m) (XP ID: 1301142, 1301146, 1301149)	450 days	Oct 24 '22	Jan 16 '24			
1130	CH2210 to CH2240 (30m)	30 days	Oct 24 '22	Nov 22 '22			
1131	TTA establishment	1 day	Oct 24 '22	Oct 24 '22			1132
1132	Hard material excavation and disposal	2 days	Oct 25 '22	Oct 26 '22		1131	1133
1133	Soil excavation , laying sheetpile and disposal	7 days	Oct 27 '22	Nov 2 '22		1132	1134
1134	Treatment of bedding	2 days	Nov 3 '22	Nov 4 '22		1133	1135
1135	Pipe laying D.I.	3 days	Nov 5 '22	Nov 7 '22		1134	1136
1136	Backfilling general fill and compaction	14 days	Nov 8 '22	Nov 21 '22		1135	1137
1137	Reinstatement	1 day	Nov 22 '22	Nov 22 '22		1136	1139
1138	CH2240 to CH2270 (30m)	30 days	Nov 23 '22	Dec 22 '22			
1139	TTA establishment	1 day	Nov 23 '22	Nov 23 '22		1137	1140
1140	Hard material excavation and disposal	2 days	Nov 24 '22	Nov 25 '22		1139	1141
1141	Soil excavation , laying sheetpile and disposal	7 days	Nov 26 '22	Dec 2 '22		1140	1142
1142	Treatment of bedding	2 days	Dec 3 '22	Dec 4 '22		1141	1143
1143	Pipe laying D.I.	3 days	Dec 5 '22	Dec 7 '22		1142	1144
1144	Backfilling general fill and compaction	14 days	Dec 8 '22	Dec 21 '22		1143	1145
1145	Reinstatement	1 day	Dec 22 '22	Dec 22 '22		1144	1146
1146	CH2270 to CH2400 (130m)	390 days	Dec 23 '22	Jan 16 '24	60	1145	
1147	Ma Sik Road CH2400 to CH2600 (200m) (XP ID: 1301142, 1301146, 1301149)	360 days	Jan 3 '23	Dec 28 '23			
1148	Tin Ping Road (1377m) (XP ID: 1309070, 1310475)	547 days	Jan 2 '23	Jul 1 '24			
1149	CH450 to CH480 (30m)	22 days	Jan 2 '23	Jan 23 '23			
1150	TTA establishment	1 day	Jan 2 '23	Jan 2 '23			1151
1151	Hard material excavation and disposal	1 day	Jan 3 '23	Jan 3 '23		1150	1152
1152	Soil excavation , laying sheetpile and disposal	3 days	Jan 4 '23	Jan 6 '23		1151	1153
1153	Treatment of bedding	1 day	Jan 7 '23	Jan 7 '23		1152	1154
1154	Pipe laying D.I.	1 day	Jan 8 '23	Jan 8 '23		1153	1155
1155	Backfilling general fill and compaction	14 days	Jan 9 '23	Jan 22 '23		1154	1156
1156	Reinstatement	1 day	Jan 23 '23	Jan 23 '23		1155	1158
1157	CH480 to CH510 (30m)	22 days	Jan 24 '23	Feb 14 '23			
1158	TTA establishment	1 day	Jan 24 '23	Jan 24 '23		1156	1159
1159	Hard material excavation and disposal	1 day	Jan 25 '23	Jan 25 '23		1158	1160
1160	Soil excavation , laying sheetpile and disposal	3 days	Jan 26 '23	Jan 28 '23		1159	1161
1161	Treatment of bedding	1 day	Jan 29 '23	Jan 29 '23		1160	1162
1162	Pipe laying D.I.	1 day	Jan 30 '23	Jan 30 '23		1161	1163
1163	Backfilling general fill and compaction	14 days	Jan 31 '23	Feb 13 '23		1162	1164
1164	Reinstatement	1 day	Feb 14 '23	Feb 14 '23		1163	1166
1165	CH510 to CH540 (30m)	22 days	Feb 15 '23	Mar 8 '23			
1166	TTA establishment	1 day	Feb 15 '23	Feb 15 '23		1164	1167
1167	Hard material excavation and disposal	1 day	Feb 16 '23	Feb 16 '23		1166	1168
1168	Soil excavation , laying sheetpile and disposal	3 days	Feb 17 '23	Feb 19 '23		1167	1169
1169	Treatment of bedding	1 day	Feb 20 '23	Feb 20 '23		1168	1170
1170	Pipe laying D.I.	1 day	Feb 21 '23	Feb 21 '23		1169	1171
1171	Backfilling general fill and compaction	14 days	Feb 22 '23	Mar 7 '23		1170	1172
1172	Reinstatement	1 day	Mar 8 '23	Mar 8 '23		1171	1174
1173	CH540 to CH570 (30m)	22 days	Mar 9 '23	Mar 30 '23			
1174	TTA establishment	1 day	Mar 9 '23	Mar 9 '23		1172	1175
1175	Hard material excavation and disposal	1 day	Mar 10 '23	Mar 10 '23		1174	1176
1176	Soil excavation , laying sheetpile and disposal	3 days	Mar 11 '23	Mar 13 '23		1175	1177
1177	Treatment of bedding	1 day	Mar 14 '23	Mar 14 '23		1176	1178
1178	Pipe laying D.I.	1 day	Mar 15 '23	Mar 15 '23		1177	1179
1179	Backfilling general fill and compaction	14 days	Mar 16 '23	Mar 29 '23		1178	1180
1180	Reinstatement	1 day	Mar 30 '23	Mar 30 '23		1179	1182
1181	CH570 to CH610 (30m)	22 days	Mar 31 '23	Apr 21 '23			
1182	TTA establishment	1 day	Mar 31 '23	Mar 31 '23		1180	1183
1183	Hard material excavation and disposal	1 day	Apr 1 '23	Apr 1 '23		1182	1184
1184	Soil excavation , laying sheetpile and disposal	3 days	Apr 2 '23	Apr 4 '23		1183	1185
1185	Treatment of bedding	1 day	Apr 5 '23	Apr 5 '23		1184	1186
1186	Pipe laying D.I.	1 day	Apr 6 '23	Apr 6 '23		1185	1187
1187	Backfilling general fill and compaction	14 days	Apr 7 '23	Apr 20 '23		1186	1188
1188	Reinstatement	1 day	Apr 21 '23	Apr 21 '23		1187	1190
1189	CH610 to CH640 (30m)	22 days	Apr 22 '23	May 13 '23			
1190	TTA establishment	1 day	Apr 22 '23	Apr 22 '23		1188	1191
1191	Hard material excavation and disposal	1 day	Apr 23 '23	Apr 23 '23		1190	1192
1192	Soil excavation , laying sheetpile and disposal	3 days	Apr 24 '23	Apr 26 '23		1191	1193
1193	Treatment of bedding	1 day	Apr 27 '23	Apr 27 '23		1192	1194
1194	Pipe laying D.I.	1 day	Apr 28 '23	Apr 28 '23		1193	1195
1195	Backfilling general fill and compaction	14 days	Apr 29 '23	May 12 '23		1194	1196
1196	Reinstatement	1 day	May 13 '23	May 13 '23		1195	1198
1197	CH640 to CH670 (30m)	22 days	May 14 '23	Jun 4 '23			
1198	TTA establishment	1 day	May 14 '23	May 14 '23		1196	1199
1199	Hard material excavation and disposal	1 day	May 15 '23	May 15 '23		1198	1200
1200	Soil excavation , laying sheetpile and disposal	3 days	May 16 '23	May 18 '23		1199	1201
1201	Treatment of bedding	1 day	May 19 '23	May 19 '23		1200	1202
1202	Pipe laying D.I.	1 day	May 20 '23	May 20 '23		1201	1203
1203	Backfilling general fill and compaction	14 days	May 21 '23	Jun 3 '23		1202	1204
1204	Reinstatement	1 day	Jun 4 '23	Jun 4 '23		1203	1206
1205	CH670 to CH710 (30m)	23 days	Jun 5 '23	Jun 27 '23			
1206	TTA establishment	1 day	Jun 5 '23	Jun 5 '23		1204	1207
1207	Hard material excavation and disposal	2 days	Jun 6 '23	Jun 7 '23		1206	1208
1208	Soil excavation , laying sheetpile and disposal	3 days	Jun 8 '23	Jun 10 '23		1207	1209
1209	Treatment of bedding	1 day	Jun 11 '23	Jun 11 '23		1208	1210
1210	Pipe laying D.I.	1 day	Jun 12 '23	Jun 12 '23		1209	1211
1211	Backfilling general fill and compaction	14 days	Jun 13 '23	Jun 26 '23		1210	1212
1212	Reinstatement	1 day	Jun 27 '23	Jun 27 '23		1211	1213
1213	Remaining Section of Tin Ping Road (1287m)	370 days	Jun 28 '23	Jul 1 '24		1212	
1214	Sha Tau Kok Road (869m)	609 days	Nov 1 '22	Jul 1 '24			



Project: 3WSD20 Programme
Date: Mar 2 '23

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		

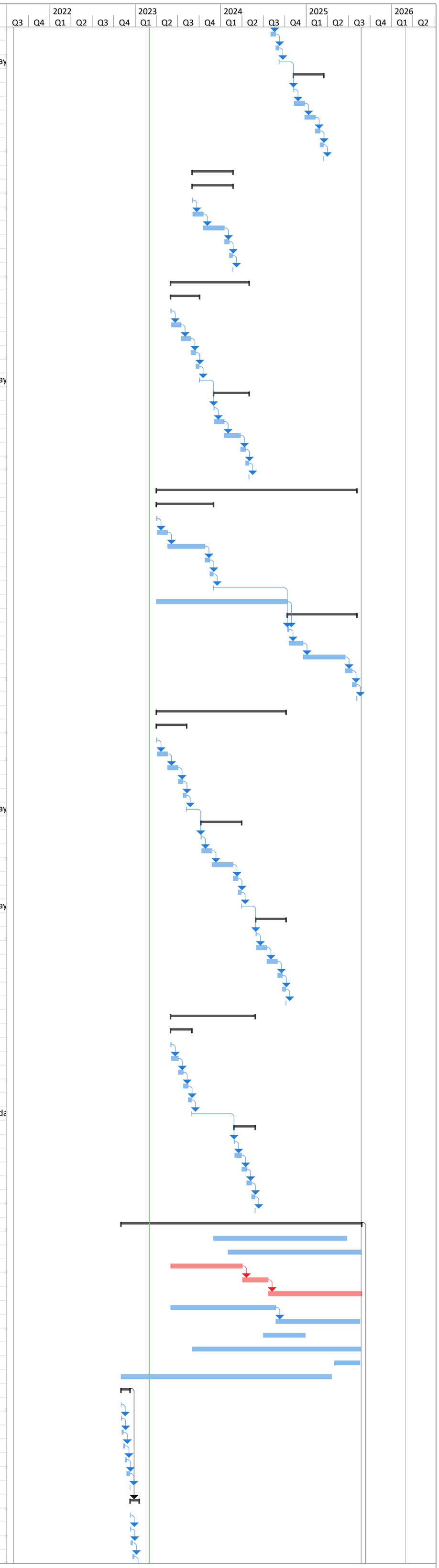
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1215	CH3580 to CH3550 (30m)	23 days	Mar 1 '23	Mar 23 '23			
1216	TTA establishment	1 day	Mar 1 '23	Mar 1 '23			1217
1217	Hard material excavation and disposal	1 day	Mar 2 '23	Mar 2 '23		1216	1218
1218	Soil excavation , laying sheetpile and disposal	3 days	Mar 3 '23	Mar 5 '23		1217	1219
1219	Treatment of bedding	1 day	Mar 6 '23	Mar 6 '23		1218	1220
1220	Pipe laying D.I.	2 days	Mar 7 '23	Mar 8 '23		1219	1221
1221	Backfilling general fill and compaction	14 days	Mar 9 '23	Mar 22 '23		1220	1222
1222	Reinstatement	1 day	Mar 23 '23	Mar 23 '23		1221	1224
1223	CH3550 to CH3520 (30m)	22 days	Mar 24 '23	Apr 14 '23			
1224	TTA establishment	1 day	Mar 24 '23	Mar 24 '23		1222	1225
1225	Hard material excavation and disposal	1 day	Mar 25 '23	Mar 25 '23		1224	1226
1226	Soil excavation , laying sheetpile and disposal	3 days	Mar 26 '23	Mar 28 '23		1225	1227
1227	Treatment of bedding	1 day	Mar 29 '23	Mar 29 '23		1226	1228
1228	Pipe laying D.I.	1 day	Mar 30 '23	Mar 30 '23		1227	1229
1229	Backfilling general fill and compaction	14 days	Mar 31 '23	Apr 13 '23		1228	1230
1230	Reinstatement	1 day	Apr 14 '23	Apr 14 '23		1229	1232
1231	CH3520 to CH3490 (30m)	22 days	Apr 15 '23	May 6 '23			
1232	TTA establishment	1 day	Apr 15 '23	Apr 15 '23		1230	1233
1233	Hard material excavation and disposal	1 day	Apr 16 '23	Apr 16 '23		1232	1234
1234	Soil excavation , laying sheetpile and disposal	3 days	Apr 17 '23	Apr 19 '23		1233	1235
1235	Treatment of bedding	1 day	Apr 20 '23	Apr 20 '23		1234	1236
1236	Pipe laying D.I.	1 day	Apr 21 '23	Apr 21 '23		1235	1237
1237	Backfilling general fill and compaction	14 days	Apr 22 '23	May 5 '23		1236	1238
1238	Reinstatement	1 day	May 6 '23	May 6 '23		1237	1239
1239	Remaining Section of Sha Tau Kok Road	422 days	May 7 '23	Jul 1 '24		1238	
1240	Interface coordination with Contract ND/2019/04	90 days	Nov 1 '22	Jan 29 '23			1242
1241	CH2600 to CH2800 (200m)	22 days	Jan 30 '23	Feb 20 '23			
1242	TTA establishment	1 day	Jan 30 '23	Jan 30 '23		1240	1243
1243	Hard material excavation and disposal	1 day	Jan 31 '23	Jan 31 '23		1242	1244
1244	Soil excavation , laying sheetpile and disposal	3 days	Feb 1 '23	Feb 3 '23		1243	1245
1245	Treatment of bedding	1 day	Feb 4 '23	Feb 4 '23		1244	1246
1246	Pipe laying D.I.	1 day	Feb 5 '23	Feb 5 '23		1245	1247
1247	Backfilling general fill and compaction	14 days	Feb 6 '23	Feb 19 '23		1246	1248
1248	Reinstatement	1 day	Feb 20 '23	Feb 20 '23		1247	
1249	**Overall testing**	**21 days**	**Jul 2 '24**	**Jul 22 '24**		**1037,1074**	**1253**
1250	Swabbing	7 days	Jul 2 '24	Jul 8 '24			1251
1251	CCTV	7 days	Jul 9 '24	Jul 15 '24		1250	1252
1252	Hydrostatic pressure test	7 days	Jul 16 '24	Jul 22 '24		1251	
1253	Pipe connection and completion	7 days	Jul 23 '24	Jul 29 '24		1249	1254FF
1254	Planned completion for section 5	0 days	Jul 29 '24	Jul 29 '24		1253FF	
1255							
1256	**Section 6 - Water main laying works in part 5 of the Site**	**1280 days**	**Jul 30 '21**	**Jan 29 '25**			
1257	Access Date (part 5 of the Site)	1 day	Jul 30 '21	Jul 30 '21			1258
1258	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		1257	1260
1259	Application and approval of XP and TTA	167 days	Oct 1 '21	Mar 16 '22			1260
1260	Procurement and Delivery of pipes, fittings and related materials	30 days	May 30 '22	Jun 28 '22		1258,1259	1261
1261	Submission and acceptance of method statement and material	30 days	Jun 29 '22	Jul 28 '22		1260	1262
1262	Excavation of Inspection Pit	800 days	Oct 3 '22	Dec 10 '24		1261	1311
1263	**Mainlaying by trenchless method**	**154 days**	**Aug 1 '24**	**Jan 1 '25**			**1306**
1264	**RW06 : DN300 DI pipe (trenchless)**	**154 days**	**Aug 1 '24**	**Jan 1 '25**			
1265	**Jocky Club Road (100m) - TBM Method**	**154 days**	**Aug 1 '24**	**Jan 1 '25**			
1266	TTA implementation	3 days	Aug 1 '24	Aug 3 '24			1267
1267	Contruction of jacking pit and receiving pit	45 days	Aug 4 '24	Sep 17 '24		1266	1268
1268	Trenchless works and pipe laying	60 days	Sep 18 '24	Nov 16 '24		1267	1269
1269	Manhole / Chamber construction	21 days	Nov 17 '24	Dec 7 '24		1268	1270
1270	Backfilling and compaction	21 days	Dec 8 '24	Dec 28 '24		1269	1271
1271	Reinstatement	4 days	Dec 29 '24	Jan 1 '25		1270	
1272	**Contractor's Design and Construction of distribution mains**	**218 days**	**May 16 '22**	**Dec 19 '22**			
1273	Submission and acceptance of detailed design proposal	180 days	May 16 '22	Nov 11 '22			1274
1274	Site investigation and liaison with relevant parties	38 days	Nov 12 '22	Dec 19 '22		1273	1275
1275	**Mainlaying by open trench method (XP ID: 1301135, 1301136)**	**741 days**	**Dec 20 '22**	**Dec 29 '24**		**1274,61**	**1306**
1276	RW41 (DN150) - Sheung Shui Tung Hing Road (288m)	510 days	Mar 1 '23	Jul 22 '24			
1277	RW42 (DN150) - No name road in Sheung Shui Heung (210m)	240 days	May 1 '24	Dec 26 '24			
1278	RW71 (DN150) - Jockey Club Road (308m)	480 days	Aug 1 '23	Nov 22 '24			
1279	RW44 (DN150) - Jockey Club Road (38m)	60 days	Jun 1 '23	Jul 30 '23			
1280	RW11 (DN150) - Fung Nam Road (480m)	673 days	Feb 24 '23	Dec 27 '24	30		
1281	RW46 (DN150) - Fung Nam Lane (38m)	60 days	Sep 1 '24	Oct 30 '24			
1282	RW06 (DN300) - Lung Sum Avenue (290m)	450 days	Jun 1 '23	Aug 23 '24			
1283	RW05 (DN400) - Jockey Club Road (377m)	600 days	Dec 20 '22	Aug 10 '24	15		
1284	RW15 (DN150) - Sun Fung Road / Sun Shing Road (390m)	240 days	Dec 20 '22	Aug 16 '23			
1285	RW18 (DN150) - San Hong Street (464m)	620 days	Dec 20 '22	Aug 30 '24			
1286	RW20 (DN150) - Sun Wing Street (52m)	90 days	Mar 8 '23	Jun 5 '23		1287	
1287	**RW45 (DN150) - Tsun Fu Street (82m)**	**78 days**	**Dec 20 '22**	**Mar 7 '23**			**1286**
1288	**CH000 - CH040**	**39 days**	**Dec 20 '22**	**Jan 27 '23**			**1296**
1289	TTA establishment	1 day	Dec 20 '22	Dec 20 '22			1290
1290	Hard material excavation and disposal	2 days	Dec 21 '22	Dec 22 '22		1289	1291
1291	Soil excavation , laying sheetpile and disposal	7 days	Dec 23 '22	Dec 29 '22		1290	1292
1292	Treatment of bedding	7 days	Dec 30 '22	Jan 5 '23		1291	1293
1293	Pipe laying D.I.	7 days	Jan 6 '23	Jan 12 '23		1292	1294
1294	Backfilling general fill and compaction	14 days	Jan 13 '23	Jan 26 '23		1293	1295
1295	Reinstatement	1 day	Jan 27 '23	Jan 27 '23		1294	
1296	**CH040 - CH082**	**39 days**	**Jan 28 '23**	**Mar 7 '23**		**1288**	
1297	TTA establishment	1 day	Jan 28 '23	Jan 28 '23			1298
1298	Hard material excavation and disposal	2 days	Jan 29 '23	Jan 30 '23		1297	1299
1299	Soil excavation , laying sheetpile and disposal	7 days	Jan 31 '23	Feb 6 '23		1298	1300
1300	Treatment of bedding	7 days	Feb 7 '23	Feb 13 '23		1299	1301
1301	Pipe laying D.I.	7 days	Feb 14 '23	Feb 20 '23		1300	1302
1302	Backfilling general fill and compaction	14 days	Feb 21 '23	Mar 6 '23		1301	1303
1303	Reinstatement	1 day	Mar 7 '23	Mar 7 '23		1302	
1304	RW14 (DN150) - Fu Hing Street (372m)	580 days	Dec 20 '22	Jul 21 '24			
1305	RW21 (DN150) - Sun Fat Street (105m)	120 days	Sep 1 '24	Dec 29 '24			
1306	Overall testing	21 days	Jan 2 '25	Jan 22 '25		1263,1275	1310
1307	Swabbing	7 days	Jan 2 '25	Jan 8 '25			1308
1308	CCTV	7 days	Jan 9 '25	Jan 15 '25		1307	1309
1309	Hydrostatic pressure test	7 days	Jan 16 '25	Jan 22 '25		1308	
1310	Pipe connection and completion	7 days	Jan 23 '25	Jan 29 '25		1306	1311
1311	Planned completion for section 6	0 days	Jan 29 '25	Jan 29 '25		1310,1262	
1312							
1313	**Section 7 - Water main laying works in part 6 of the Site**	**1523 days**	**Jul 30 '21**	**Sep 29 '25**			
1314	Access Date (part 6 of the Site)	1 day	Jul 30 '21	Jul 30 '21			1315
1315	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		1314	1316
1316	Application and approval of XP and TTA	117 days	Nov 1 '21	Feb 25 '22		1315	
1317	Procurement and Delivery of pipes, fittings and related materials	30 days	May 7 '22	Jun 5 '22			
1318	Submission and acceptance of method statement and material	30 days	May 7 '22	Jun 5 '22			
1319	Excavation of Inspection Pit	900 days	Oct 3 '22	Mar 20 '25			
1320	**Mainlaying by trenchless method**	**858 days**	**Apr 1 '23**	**Aug 5 '25**			**1458**
1321	**RW05 : DN400 DI pipe (trenchless)**	**320 days**	**May 1 '24**	**Mar 16 '25**			
1322	**Fu Hing Street (75m) - TBM Method**	**130 days**	**May 1 '24**	**Sep 7 '24**			
1323	TTA implementation	3 days	May 1 '24	May 3 '24			1324
1324	Contruction of jacking pit and receiving pit	45 days	May 4 '24	Jun 17 '24		1323	1325
1325	Trenchless works and pipe laying	45 days	Jun 18 '24	Aug 1 '24		1324	1326



Project: 3WSD20 Programme
Date: Mar 2 '23

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
1326	Manhole / Chamber construction	21 days	Aug 2 '24	Aug 22 '24		1325	1327
1327	Backfilling and compaction	14 days	Aug 23 '24	Sep 5 '24		1326	1328
1328	Reinstatement	2 days	Sep 6 '24	Sep 7 '24		1327	1330FS+60 day
1329	**Luen Sum Road (70m) - TBM Method**	**130 days**	**Nov 7 '24**	**Mar 16 '25**			
1330	TTA implementation	3 days	Nov 7 '24	Nov 9 '24		1328FS+60 days	1331
1331	Contruction of jacking pit and receiving pit	45 days	Nov 10 '24	Dec 24 '24		1330	1332
1332	Trenchless works and pipe laying	45 days	Dec 25 '24	Feb 7 '25		1331	1333
1333	Manhole / Chamber construction	21 days	Feb 8 '25	Feb 28 '25		1332	1334
1334	Backfilling and compaction	14 days	Mar 1 '25	Mar 14 '25		1333	1335
1335	Reinstatement	2 days	Mar 15 '25	Mar 16 '25		1334	
1336	**RW05 : DN300 DI pipe (trenchless)**	**175 days**	**Sep 1 '23**	**Feb 22 '24**			
1337	**Ma Sik Road (180m) - TBM Method**	**175 days**	**Sep 1 '23**	**Feb 22 '24**			
1338	TTA implementation	3 days	Sep 1 '23	Sep 3 '23			1339
1339	Contruction of jacking pit and receiving pit	45 days	Sep 4 '23	Oct 18 '23		1338	1340
1340	Trenchless works and pipe laying	90 days	Oct 19 '23	Jan 16 '24		1339	1341
1341	Manhole / Chamber construction	21 days	Jan 17 '24	Feb 6 '24		1340	1342
1342	Backfilling and compaction	14 days	Feb 7 '24	Feb 20 '24		1341	1343
1343	Reinstatement	2 days	Feb 21 '24	Feb 22 '24		1342	
1344	**RW08 : DN400 DI pipe (trenchless)**	**336 days**	**Jun 1 '23**	**May 1 '24**			
1345	**Wo Muk Road (60m) - TBM Method**	**124 days**	**Jun 1 '23**	**Oct 2 '23**			
1346	TTA implementation	3 days	Jun 1 '23	Jun 3 '23			1347
1347	Contruction of jacking pit and receiving pit	42 days	Jun 4 '23	Jul 15 '23		1346	1348
1348	Trenchless works and pipe laying	42 days	Jul 16 '23	Aug 26 '23		1347	1349
1349	Manhole / Chamber construction	21 days	Aug 27 '23	Sep 16 '23		1348	1350
1350	Backfilling and compaction	14 days	Sep 17 '23	Sep 30 '23		1349	1351
1351	Reinstatement	2 days	Oct 1 '23	Oct 2 '23		1350	1353FS+60 day
1352	**Wo Tai Street (100m) - TBM Method**	**152 days**	**Dec 2 '23**	**May 1 '24**			
1353	TTA implementation	3 days	Dec 2 '23	Dec 4 '23		1351FS+60 days	1354
1354	Contruction of jacking pit and receiving pit	42 days	Dec 5 '23	Jan 15 '24		1353	1355
1355	Trenchless works and pipe laying	70 days	Jan 16 '24	Mar 25 '24		1354	1356
1356	Manhole / Chamber construction	21 days	Mar 26 '24	Apr 15 '24		1355	1357
1357	Backfilling and compaction	14 days	Apr 16 '24	Apr 29 '24		1356	1358
1358	Reinstatement	2 days	Apr 30 '24	May 1 '24		1357	
1359	**RW09 : DN450 DI pipe (trenchless)**	**858 days**	**Apr 1 '23**	**Aug 5 '25**			
1360	**San Wang Road (435m) - TBM Method**	**245 days**	**Apr 1 '23**	**Dec 1 '23**			
1361	TTA implementation	3 days	Apr 1 '23	Apr 3 '23			1362
1362	Contruction of jacking pit and receiving pit	45 days	Apr 4 '23	May 18 '23		1361	1363
1363	Trenchless works and pipe laying	160 days	May 19 '23	Oct 25 '23		1362	1364
1364	Manhole / Chamber construction	21 days	Oct 26 '23	Nov 15 '23		1363	1365
1365	Backfilling and compaction	14 days	Nov 16 '23	Nov 29 '23		1364	1366
1366	Reinstatement	2 days	Nov 30 '23	Dec 1 '23		1365	1369
1367	Submission and acceptance of method statement by MTRC	560 days	Apr 1 '23	Oct 11 '24			1369
1368	**MTRC (315m) - TBM Method**	**298 days**	**Oct 12 '24**	**Aug 5 '25**			
1369	TTA implementation	7 days	Oct 12 '24	Oct 18 '24		1367,1366	1370
1370	Contruction of jacking pit and receiving pit	60 days	Oct 19 '24	Dec 17 '24		1369	1371
1371	Trenchless works and pipe laying	180 days	Dec 18 '24	Jun 15 '25		1370	1372
1372	Manhole / Chamber construction	30 days	Jun 16 '25	Jul 15 '25		1371	1373
1373	Backfilling and compaction	18 days	Jul 16 '25	Aug 2 '25		1372	1374
1374	Reinstatement	3 days	Aug 3 '25	Aug 5 '25		1373	
1375	**RW05 : DN300 DI pipe (trenchless)**	**555 days**	**Apr 1 '23**	**Oct 6 '24**			
1376	**Ling Shan Road (60m) - HDD Method**	**130 days**	**Apr 1 '23**	**Aug 8 '23**			
1377	TTA implementation	3 days	Apr 1 '23	Apr 3 '23			1378
1378	Contruction of jacking pit and receiving pit	45 days	Apr 4 '23	May 18 '23		1377	1379
1379	Trenchless works and pipe laying	45 days	May 19 '23	Jul 2 '23		1378	1380
1380	Manhole / Chamber construction	21 days	Jul 3 '23	Jul 23 '23		1379	1381
1381	Backfilling and compaction	14 days	Jul 24 '23	Aug 6 '23		1380	1382
1382	Reinstatement	2 days	Aug 7 '23	Aug 8 '23		1381	1384FS+60 day
1383	**San Wan Road Roundabout (130m) - HDD Method**	**175 days**	**Oct 8 '23**	**Mar 30 '24**			
1384	TTA implementation	3 days	Oct 8 '23	Oct 10 '23		1382FS+60 days	1385
1385	Contruction of jacking pit and receiving pit	45 days	Oct 11 '23	Nov 24 '23		1384	1386
1386	Trenchless works and pipe laying	90 days	Nov 25 '23	Feb 22 '24		1385	1387
1387	Manhole / Chamber construction	21 days	Feb 23 '24	Mar 14 '24		1386	1388
1388	Backfilling and compaction	14 days	Mar 15 '24	Mar 28 '24		1387	1389
1389	Reinstatement	2 days	Mar 29 '24	Mar 30 '24		1388	1391FS+60 day
1390	**Pak Fung Road (70m) - HDD Method**	**130 days**	**May 30 '24**	**Oct 6 '24**			
1391	TTA implementation	3 days	May 30 '24	Jun 1 '24		1389FS+60 days	1392
1392	Contruction of jacking pit and receiving pit	45 days	Jun 2 '24	Jul 16 '24		1391	1393
1393	Trenchless works and pipe laying	45 days	Jul 17 '24	Aug 30 '24		1392	1394
1394	Manhole / Chamber construction	21 days	Aug 31 '24	Sep 20 '24		1393	1395
1395	Backfilling and compaction	14 days	Sep 21 '24	Oct 4 '24		1394	1396
1396	Reinstatement	2 days	Oct 5 '24	Oct 6 '24		1395	
1397	**RW05 : DN300 DI pipe (trenchless)**	**362 days**	**Jun 1 '23**	**May 27 '24**			
1398	**Fanling Way (35m) - Hand Shield Method**	**91 days**	**Jun 1 '23**	**Aug 30 '23**			
1399	TTA implementation	3 days	Jun 1 '23	Jun 3 '23			1400
1400	Contruction of jacking pit and receiving pit	30 days	Jun 4 '23	Jul 3 '23		1399	1401
1401	Trenchless works and pipe laying	21 days	Jul 4 '23	Jul 24 '23		1400	1402
1402	Manhole / Chamber construction	21 days	Jul 25 '23	Aug 14 '23		1401	1403
1403	Backfilling and compaction	14 days	Aug 15 '23	Aug 28 '23		1402	1404
1404	Reinstatement	2 days	Aug 29 '23	Aug 30 '23		1403	1406FS+180 da
1405	**CLP Station (35m) - Hand Shield Method**	**91 days**	**Feb 27 '24**	**May 27 '24**			
1406	TTA implementation	3 days	Feb 27 '24	Feb 29 '24		1404FS+180 day	1407
1407	Contruction of jacking pit and receiving pit	30 days	Mar 1 '24	Mar 30 '24		1406	1408
1408	Trenchless works and pipe laying	21 days	Mar 31 '24	Apr 20 '24		1407	1409
1409	Manhole / Chamber construction	21 days	Apr 21 '24	May 11 '24		1408	1410
1410	Backfilling and compaction	14 days	May 12 '24	May 25 '24		1409	1411
1411	Reinstatement	2 days	May 26 '24	May 27 '24		1410	
1412	**Mainlaying by open trench method**	**1029 days**	**Nov 1 '22**	**Aug 25 '25**			**1458**
1413	RW07 (DN300) - Ma Sik Road (360m)	570 days	Dec 1 '23	Jun 22 '25			
1414	RW05 (DN400) - Jockey Club Road (681m) (XP ID: 1316661, 1301141)	570 days	Feb 1 '24	Aug 23 '25			
1415	RW05 (DN300) - Jockey Club Road (720m) (XP ID: 1316661, 1301141)	307 days	Jun 1 '23	Apr 2 '24			1416
1416	RW05 (DN300) - Pik Fung Road (270m)	110 days	Apr 3 '24	Jul 21 '24		1415	1417
1417	RW05 (DN300) - Sun Wan Road (945m)	400 days	Jul 22 '24	Aug 25 '25	30	1416	
1418	RW08 (DN400) - Fanling Lau Road (750m) (XP ID: 1310580, 1310468)	450 days	Jun 1 '23	Aug 23 '24			1419
1419	RW08 (DN400) - Lok Yip Road (616m)	360 days	Aug 24 '24	Aug 18 '25		1418	
1420	RW17 (DN150) - Sun Shing Road (114m)	180 days	Jul 1 '24	Dec 27 '24			
1421	RW16 (DN250) - Sun Fung Road / Lung Sum Avenue (741m)	720 days	Sep 1 '23	Aug 20 '25			
1422	RW47 (DN100) - Ben Lun Building (82m)	110 days	May 1 '25	Aug 18 '25			
1423	RW22 (DN150) - Chi Cheong Street (877m) (XP ID: 1310864)	900 days	Nov 1 '22	Apr 18 '25			
1424	**CH630 - CH700**	**39 days**	**Nov 1 '22**	**Dec 9 '22**			**1432**
1425	TTA establishment	1 day	Nov 1 '22	Nov 1 '22			1426
1426	Hard material excavation and disposal	2 days	Nov 2 '22	Nov 3 '22		1425	1427
1427	Soil excavation , laying sheetpile and disposal	7 days	Nov 4 '22	Nov 10 '22		1426	1428
1428	Treatment of bedding	7 days	Nov 11 '22	Nov 17 '22		1427	1429
1429	Pipe laying D.I.	7 days	Nov 18 '22	Nov 24 '22		1428	1430
1430	Backfilling general fill and compaction	14 days	Nov 25 '22	Dec 8 '22		1429	1431
1431	Reinstatement	1 day	Dec 9 '22	Dec 9 '22		1430	
1432	**CH040 - CH082**	**39 days**	**Dec 10 '22**	**Jan 17 '23**		**1424**	
1433	TTA establishment	1 day	Dec 10 '22	Dec 10 '22			1434
1434	Hard material excavation and disposal	2 days	Dec 11 '22	Dec 12 '22		1433	1435
1435	Soil excavation , laying sheetpile and disposal	7 days	Dec 13 '22	Dec 19 '22		1434	1436
1436	Treatment of bedding	7 days	Dec 20 '22	Dec 26 '22		1435	1437



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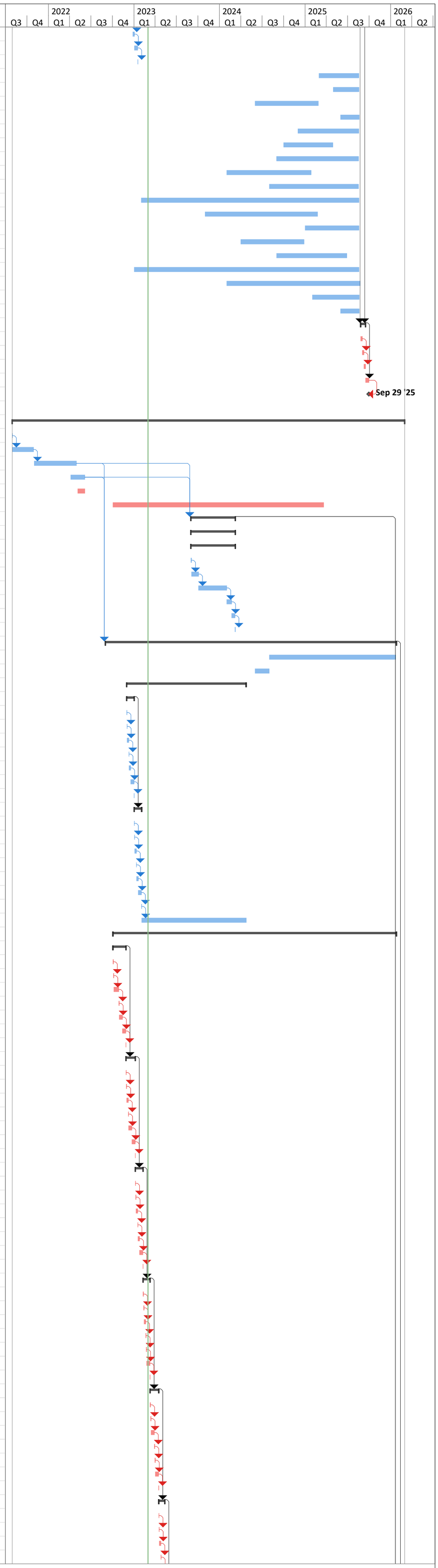
Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress	
Split	Inactive Milestone	Manual Summary	Deadline		
Milestone	Inactive Summary	Start-only	Critical		
Summary	Manual Task	Finish-only	Critical Split		
Project Summary	Duration-only	External Tasks	Progress		

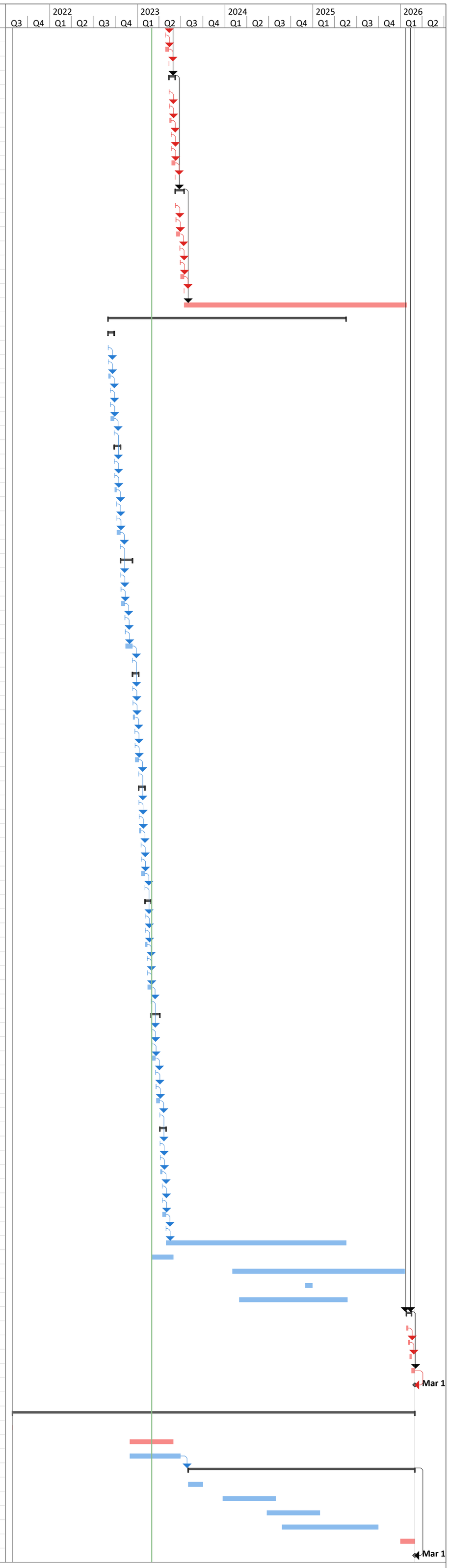
ID	Task Name	Duration	Start	Finish	TRA	Predecessors	Successors
1437	Pipe laying D.I.	7 days	Dec 27 '22	Jan 2 '23		1436	1438
1438	Backfilling general fill and compaction	14 days	Jan 3 '23	Jan 16 '23		1437	1439
1439	Reinstatement	1 day	Jan 17 '23	Jan 17 '23		1438	
1440	RW24 (DN150) - Chi Ming Street (120m)	170 days	Mar 1 '25	Aug 17 '25			
1441	RW49 (DN150) - San Wan Road (75m)	110 days	May 1 '25	Aug 18 '25			
1442	RW23 (DN150) - Lung Wan Street (171m)	270 days	Jun 1 '24	Feb 25 '25			
1443	RW69 (DN150) - Lung Sum Lane (60m)	80 days	Jun 1 '25	Aug 19 '25			
1444	RW25 (DN150) - Road to Fanling Wai (330m)	260 days	Dec 1 '24	Aug 17 '25			
1445	RW26 (DN150) - Ka Siu Road (133m)	210 days	Oct 1 '24	Apr 28 '25			
1446	RW27 (DN150) - Fanling Station Road (273m)	350 days	Sep 1 '24	Aug 16 '25			
1447	RW34 (DN150) - Fan Leng Lau (380m) (XP ID: 1310580, 1310468)	360 days	Feb 1 '24	Jan 25 '25			
1448	RW36 (DN150) - Lok Fung Street (495m)	380 days	Aug 1 '24	Aug 15 '25			
1449	RW13 (DN150) - Wo Tai Street (630m)	930 days	Feb 1 '23	Aug 18 '25			
1450	RW28 (DN150) - Wo Mun Street (312m)	480 days	Nov 1 '23	Feb 22 '25			
1451	RW31 (DN150) - Luen Cheong Street (185m)	230 days	Jan 1 '25	Aug 18 '25			
1452	RW32 (DN150) - Luen Shing Street (185m)	270 days	Apr 1 '24	Dec 26 '24			
1453	RW33 (DN150) - Luen Hing Street (199m)	300 days	Sep 1 '24	Jun 27 '25			
1454	RW30 (DN150) - Luen On Street / Luen Wo Road / Luen Fai Street (649m)	960 days	Jan 2 '23	Aug 18 '25			
1455	RW29 (DN150) - Wo Muk Street / Luen Hing Street (360m)	570 days	Feb 1 '24	Aug 23 '25			
1456	RW12 (DN150) - Luen Chit Street (120m)	200 days	Feb 1 '25	Aug 19 '25			
1457	RW55 (DN150) - Mount One (44m)	80 days	Jun 1 '25	Aug 19 '25			
1458	Overall testing	21 days	Aug 26 '25	Sep 15 '25		1320,1412	1462
1459	Swabbing	7 days	Aug 26 '25	Sep 1 '25			1460
1460	CCTV	7 days	Sep 2 '25	Sep 8 '25		1459	1461
1461	Hydrostatic pressure test	7 days	Sep 9 '25	Sep 15 '25		1460	
1462	Pipe connection and completion	14 days	Sep 16 '25	Sep 29 '25		1458	1463FF
1463	Planned completion for section 7	0 days	Sep 29 '25	Sep 29 '25		1462FF	
1464							
1465	**Section 8 - Water main laying works in part 7 of the Site**	**1676 days**	**Jul 30 '21**	**Mar 1 '26**			
1466	Access Date (part 7 of the Site)	1 day	Jul 30 '21	Jul 30 '21			1467
1467	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		1466	1468
1468	Application and approval of XP and TTA	180 days	Nov 1 '21	Apr 29 '22		1467	1472,1481
1469	Procurement and Delivery of pipes, fittings and related materials	60 days	Apr 6 '22	Jun 4 '22			1472,1481
1470	Submission and acceptance of method statement and material	30 days	May 6 '22	Jun 4 '22			
1471	Excavation of Inspection Pit	900 days	Oct 3 '22	Mar 20 '25			
1472	**Mainlaying by trenchless method**	**190 days**	**Sep 1 '23**	**Mar 8 '24**		**1469,1468**	**1638**
1473	**RW05 : DN300 DI pipe (trenchless)**	**190 days**	**Sep 1 '23**	**Mar 8 '24**			
1474	**Jocky Club Road (110m) - TBM Method**	**190 days**	**Sep 1 '23**	**Mar 8 '24**			
1475	TTA implementation	3 days	Sep 1 '23	Sep 3 '23			1476
1476	Contruction of jacking pit and receiving pit	30 days	Sep 4 '23	Oct 3 '23		1475	1477
1477	Trenchless works and pipe laying	120 days	Oct 4 '23	Jan 31 '24		1476	1478
1478	Manhole / Chamber construction	21 days	Feb 1 '24	Feb 21 '24		1477	1479
1479	Backfilling and compaction	14 days	Feb 22 '24	Mar 6 '24		1478	1480
1480	Reinstatement	2 days	Mar 7 '24	Mar 8 '24		1479	
1481	**Mainlaying by open trench method**	**1243 days**	**Sep 1 '22**	**Jan 25 '26**		**1469,1468**	**1638**
1482	RW38 (DN150) - Yip Cheong Street (351m)	540 days	Aug 1 '24	Jan 22 '26			
1483	RW39 (DN150) - Yip Cheong Street (14m)	60 days	Jun 1 '24	Jul 30 '24			
1484	**RW37 (DN150) - Yip Wo Street (420m) (XP ID: 1309054)**	**510 days**	**Dec 1 '22**	**Apr 23 '24**			
1485	CH210 to CH300 (90m)	32 days	Dec 1 '22	Jan 1 '23			1493
1486	TTA establishment	1 day	Dec 1 '22	Dec 1 '22			1487
1487	Hard material excavation and disposal	1 day	Dec 2 '22	Dec 2 '22		1486	1488
1488	Soil excavation , laying sheetpile and disposal	7 days	Dec 3 '22	Dec 9 '22		1487	1489
1489	Treatment of bedding	1 day	Dec 10 '22	Dec 10 '22		1488	1490
1490	Pipe laying D.I.	7 days	Dec 11 '22	Dec 17 '22		1489	1491
1491	Backfilling general fill and compaction	14 days	Dec 18 '22	Dec 31 '22		1490	1492
1492	Reinstatement	1 day	Jan 1 '23	Jan 1 '23		1491	
1493	CH300 to CH360 (60m)	32 days	Jan 2 '23	Feb 2 '23		1485	
1494	TTA establishment	1 day	Jan 2 '23	Jan 2 '23			1495
1495	Hard material excavation and disposal	1 day	Jan 3 '23	Jan 3 '23		1494	1496
1496	Soil excavation , laying sheetpile and disposal	7 days	Jan 4 '23	Jan 10 '23		1495	1497
1497	Treatment of bedding	1 day	Jan 11 '23	Jan 11 '23		1496	1498
1498	Pipe laying D.I.	7 days	Jan 12 '23	Jan 18 '23		1497	1499
1499	Backfilling general fill and compaction	14 days	Jan 19 '23	Feb 1 '23		1498	1500
1500	Reinstatement	1 day	Feb 2 '23	Feb 2 '23		1499	1501
1501	Remaining section of Yip Wo Street (270m)	446 days	Feb 3 '23	Apr 23 '24		1500	
1502	RW10 (DN300) - On Lok Mun Street (930m) (XP ID: 1301294, 1311241)	1211 days	Oct 3 '22	Jan 25 '26			
1503	CH930 to CH980 (50m)	56 days	Oct 3 '22	Nov 27 '22			1511
1504	TTA establishment	2 days	Oct 3 '22	Oct 4 '22			1505
1505	Hard material excavation and disposal	2 days	Oct 5 '22	Oct 6 '22		1504	1506
1506	Soil excavation , laying sheetpile and disposal	21 days	Oct 7 '22	Oct 27 '22		1505	1507
1507	Treatment of bedding	2 days	Oct 28 '22	Oct 29 '22		1506	1508
1508	Pipe laying D.I.	14 days	Oct 30 '22	Nov 12 '22		1507	1509
1509	Backfilling general fill and compaction	14 days	Nov 13 '22	Nov 26 '22		1508	1510
1510	Reinstatement	1 day	Nov 27 '22	Nov 27 '22		1509	
1511	CH840 to CH930 (90m)	40 days	Nov 28 '22	Jan 6 '23		1503	1519
1512	TTA establishment	1 day	Nov 28 '22	Nov 28 '22			1513
1513	Hard material excavation and disposal	2 days	Nov 29 '22	Nov 30 '22		1512	1514
1514	Soil excavation , laying sheetpile and disposal	7 days	Dec 1 '22	Dec 7 '22		1513	1515
1515	Treatment of bedding	1 day	Dec 8 '22	Dec 8 '22		1514	1516
1516	Pipe laying D.I.	14 days	Dec 9 '22	Dec 22 '22		1515	1517
1517	Backfilling general fill and compaction	14 days	Dec 23 '22	Jan 5 '23		1516	1518
1518	Reinstatement	1 day	Jan 6 '23	Jan 6 '23		1517	
1519	CH800 to CH840 (40m)	33 days	Jan 7 '23	Feb 8 '23		1511	1527
1520	TTA establishment	1 day	Jan 7 '23	Jan 7 '23			1521
1521	Hard material excavation and disposal	2 days	Jan 8 '23	Jan 9 '23		1520	1522
1522	Soil excavation , laying sheetpile and disposal	7 days	Jan 10 '23	Jan 16 '23		1521	1523
1523	Treatment of bedding	1 day	Jan 17 '23	Jan 17 '23		1522	1524
1524	Pipe laying D.I.	7 days	Jan 18 '23	Jan 24 '23		1523	1525
1525	Backfilling general fill and compaction	14 days	Jan 25 '23	Feb 7 '23		1524	1526
1526	Reinstatement	1 day	Feb 8 '23	Feb 8 '23		1525	
1527	CH980 to CH1000 (20m)	30 days	Feb 9 '23	Mar 10 '23		1519	1535
1528	TTA establishment	2 days	Feb 9 '23	Feb 10 '23			1529
1529	Hard material excavation and disposal	2 days	Feb 11 '23	Feb 12 '23		1528	1530
1530	Soil excavation , laying sheetpile and disposal	7 days	Feb 13 '23	Feb 19 '23		1529	1531
1531	Treatment of bedding	2 days	Feb 20 '23	Feb 21 '23		1530	1532
1532	Pipe laying D.I.	2 days	Feb 22 '23	Feb 23 '23		1531	1533
1533	Backfilling general fill and compaction	14 days	Feb 24 '23	Mar 9 '23		1532	1534
1534	Reinstatement	1 day	Mar 10 '23	Mar 10 '23		1533	
1535	CH830 to CH860 (30m)	37 days	Mar 11 '23	Apr 16 '23		1527	1543
1536	TTA establishment	2 days	Mar 11 '23	Mar 12 '23			1537
1537	Hard material excavation and disposal	2 days	Mar 13 '23	Mar 14 '23		1536	1538
1538	Soil excavation , laying sheetpile and disposal	14 days	Mar 15 '23	Mar 28 '23		1537	1539
1539	Treatment of bedding	2 days	Mar 29 '23	Mar 30 '23		1538	1540
1540	Pipe laying D.I.	2 days	Mar 31 '23	Apr 1 '23		1539	1541
1541	Backfilling general fill and compaction	14 days	Apr 2 '23	Apr 15 '23		1540	1542
1542	Reinstatement	1 day	Apr 16 '23	Apr 16 '23		1541	
1543	CH800 to CH830 (30m)	26 days	Apr 17 '23	May 12 '23		1535	1551
1544	TTA establishment	1 day	Apr 17 '23	Apr 17 '23			1545
1545	Hard material excavation and disposal	1 day	Apr 18 '23	Apr 18 '23		1544	1546
1546	Soil excavation , laying sheetpile and disposal	7 days	Apr 19 '23	Apr 25 '23		1545	1547
1547	Treatment of bedding	1 day	Apr 26 '23	Apr 26 '23		1546	1548



Project: 3WSD20 Programme
Date: Mar 2 '23

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
1548	Pipe laying D.I.	1 day	Apr 27 '23	Apr 27 '23		1547	1549
1549	Backfilling general fill and compaction	14 days	Apr 28 '23	May 11 '23		1548	1550
1550	Reinstatement	1 day	May 12 '23	May 12 '23		1549	
1551	CH110 to CH140 (30m)	26 days	May 13 '23	Jun 7 '23		1543	1559
1552	TTA establishment	1 day	May 13 '23	May 13 '23			1553
1553	Hard material excavation and disposal	1 day	May 14 '23	May 14 '23		1552	1554
1554	Soil excavation , laying sheetpile and disposal	7 days	May 15 '23	May 21 '23		1553	1555
1555	Treatment of bedding	1 day	May 22 '23	May 22 '23		1554	1556
1556	Pipe laying D.I.	1 day	May 23 '23	May 23 '23		1555	1557
1557	Backfilling general fill and compaction	14 days	May 24 '23	Jun 6 '23		1556	1558
1558	Reinstatement	1 day	Jun 7 '23	Jun 7 '23		1557	
1559	CH080 to CH110 (30m)	37 days	Jun 8 '23	Jul 14 '23		1551	1567
1560	TTA establishment	2 days	Jun 8 '23	Jun 9 '23			1561
1561	Hard material excavation and disposal	2 days	Jun 10 '23	Jun 11 '23		1560	1562
1562	Soil excavation , laying sheetpile and disposal	14 days	Jun 12 '23	Jun 25 '23		1561	1563
1563	Treatment of bedding	2 days	Jun 26 '23	Jun 27 '23		1562	1564
1564	Pipe laying D.I.	2 days	Jun 28 '23	Jun 29 '23		1563	1565
1565	Backfilling general fill and compaction	14 days	Jun 30 '23	Jul 13 '23		1564	1566
1566	Reinstatement	1 day	Jul 14 '23	Jul 14 '23		1565	
1567	Remaining Section of On Lok Mun Street (840m)	926 days	Jul 15 '23	Jan 25 '26		1559	
1568	RW35 (DN150) - On Chuen Street (720m) (XP ID: 1301294, 1311241)	992 days	Sep 1 '22	May 19 '25			
1569	CH590 to CH610 (30m)	26 days	Sep 1 '22	Sep 26 '22			
1570	TTA establishment	1 day	Sep 1 '22	Sep 1 '22			1571
1571	Hard material excavation and disposal	1 day	Sep 2 '22	Sep 2 '22		1570	1572
1572	Soil excavation , laying sheetpile and disposal	7 days	Sep 3 '22	Sep 9 '22		1571	1573
1573	Treatment of bedding	1 day	Sep 10 '22	Sep 10 '22		1572	1574
1574	Pipe laying D.I.	1 day	Sep 11 '22	Sep 11 '22		1573	1575
1575	Backfilling general fill and compaction	14 days	Sep 12 '22	Sep 25 '22		1574	1576
1576	Reinstatement	1 day	Sep 26 '22	Sep 26 '22		1575	1578
1577	CH560 to CH590 (30m)	26 days	Sep 27 '22	Oct 22 '22			
1578	TTA establishment	1 day	Sep 27 '22	Sep 27 '22		1576	1579
1579	Hard material excavation and disposal	1 day	Sep 28 '22	Sep 28 '22		1578	1580
1580	Soil excavation , laying sheetpile and disposal	7 days	Sep 29 '22	Oct 5 '22		1579	1581
1581	Treatment of bedding	1 day	Oct 6 '22	Oct 6 '22		1580	1582
1582	Pipe laying D.I.	1 day	Oct 7 '22	Oct 7 '22		1581	1583
1583	Backfilling general fill and compaction	14 days	Oct 8 '22	Oct 21 '22		1582	1584
1584	Reinstatement	1 day	Oct 22 '22	Oct 22 '22		1583	1586
1585	CH530 to CH560 (30m)	50 days	Oct 23 '22	Dec 11 '22			
1586	TTA establishment	1 day	Oct 23 '22	Oct 23 '22		1584	1587
1587	Hard material excavation and disposal	2 days	Oct 24 '22	Oct 25 '22		1586	1588
1588	Soil excavation , laying sheetpile and disposal	14 days	Oct 26 '22	Nov 8 '22		1587	1589
1589	Treatment of bedding	2 days	Nov 9 '22	Nov 10 '22		1588	1590
1590	Pipe laying D.I.	2 days	Nov 11 '22	Nov 12 '22		1589	1591
1591	Backfilling general fill and compaction	28 days	Nov 13 '22	Dec 10 '22		1590	1592
1592	Reinstatement	1 day	Dec 11 '22	Dec 11 '22		1591	1594
1593	CH500 to CH530 (30m)	26 days	Dec 12 '22	Jan 6 '23			
1594	TTA establishment	1 day	Dec 12 '22	Dec 12 '22		1592	1595
1595	Hard material excavation and disposal	1 day	Dec 13 '22	Dec 13 '22		1594	1596
1596	Soil excavation , laying sheetpile and disposal	7 days	Dec 14 '22	Dec 20 '22		1595	1597
1597	Treatment of bedding	1 day	Dec 21 '22	Dec 21 '22		1596	1598
1598	Pipe laying D.I.	1 day	Dec 22 '22	Dec 22 '22		1597	1599
1599	Backfilling general fill and compaction	14 days	Dec 23 '22	Jan 5 '23		1598	1600
1600	Reinstatement	1 day	Jan 6 '23	Jan 6 '23		1599	1602
1601	CH230 to CH260 (30m)	26 days	Jan 7 '23	Feb 1 '23			
1602	TTA establishment	1 day	Jan 7 '23	Jan 7 '23		1600	1603
1603	Hard material excavation and disposal	1 day	Jan 8 '23	Jan 8 '23		1602	1604
1604	Soil excavation , laying sheetpile and disposal	7 days	Jan 9 '23	Jan 15 '23		1603	1605
1605	Treatment of bedding	1 day	Jan 16 '23	Jan 16 '23		1604	1606
1606	Pipe laying D.I.	1 day	Jan 17 '23	Jan 17 '23		1605	1607
1607	Backfilling general fill and compaction	14 days	Jan 18 '23	Jan 31 '23		1606	1608
1608	Reinstatement	1 day	Feb 1 '23	Feb 1 '23		1607	1610
1609	CH200 to CH230 (30m)	26 days	Feb 2 '23	Feb 27 '23			
1610	TTA establishment	1 day	Feb 2 '23	Feb 2 '23		1608	1611
1611	Hard material excavation and disposal	1 day	Feb 3 '23	Feb 3 '23		1610	1612
1612	Soil excavation , laying sheetpile and disposal	7 days	Feb 4 '23	Feb 10 '23		1611	1613
1613	Treatment of bedding	1 day	Feb 11 '23	Feb 11 '23		1612	1614
1614	Pipe laying D.I.	1 day	Feb 12 '23	Feb 12 '23		1613	1615
1615	Backfilling general fill and compaction	14 days	Feb 13 '23	Feb 26 '23		1614	1616
1616	Reinstatement	1 day	Feb 27 '23	Feb 27 '23		1615	1618
1617	CH170 to CH200 (30m)	36 days	Feb 28 '23	Apr 4 '23			
1618	TTA establishment	1 day	Feb 28 '23	Feb 28 '23		1616	1619
1619	Hard material excavation and disposal	2 days	Mar 1 '23	Mar 2 '23		1618	1620
1620	Soil excavation , laying sheetpile and disposal	14 days	Mar 3 '23	Mar 16 '23		1619	1621
1621	Treatment of bedding	2 days	Mar 17 '23	Mar 18 '23		1620	1622
1622	Pipe laying D.I.	2 days	Mar 19 '23	Mar 20 '23		1621	1623
1623	Backfilling general fill and compaction	14 days	Mar 21 '23	Apr 3 '23		1622	1624
1624	Reinstatement	1 day	Apr 4 '23	Apr 4 '23		1623	1626
1625	CH000 to CH060 (60m)	26 days	Apr 5 '23	Apr 30 '23			
1626	TTA establishment	1 day	Apr 5 '23	Apr 5 '23		1624	1627
1627	Hard material excavation and disposal	1 day	Apr 6 '23	Apr 6 '23		1626	1628
1628	Soil excavation , laying sheetpile and disposal	7 days	Apr 7 '23	Apr 13 '23		1627	1629
1629	Treatment of bedding	1 day	Apr 14 '23	Apr 14 '23		1628	1630
1630	Pipe laying D.I.	1 day	Apr 15 '23	Apr 15 '23		1629	1631
1631	Backfilling general fill and compaction	14 days	Apr 16 '23	Apr 29 '23		1630	1632
1632	Reinstatement	1 day	Apr 30 '23	Apr 30 '23		1631	1633
1633	Remaining Section of On Chuen Street (630m)	750 days	May 1 '23	May 19 '25	60	1632	
1634	Coordination with ND/2019/04	90 days	Mar 1 '23	May 29 '23			
1635	RW09 (DN450) - Wo Hing Road (436m)	720 days	Feb 1 '24	Jan 20 '26			
1636	RW60 (DN150) - Tee from RW09 (14m)	29 days	Dec 1 '24	Dec 29 '24	14		
1637	RW40 (DN200) - Tai Wo Service Road West (420m)	450 days	Mar 1 '24	May 24 '25	30		
1638	Overall testing	21 days	Jan 26 '26	Feb 15 '26		1481,1472	1642
1639	Swabbing	7 days	Jan 26 '26	Feb 1 '26			1640
1640	CCTV	7 days	Feb 2 '26	Feb 8 '26		1639	1641
1641	Hydrostatic pressure test	7 days	Feb 9 '26	Feb 15 '26		1640	
1642	Pipe connection and completion	14 days	Feb 16 '26	Mar 1 '26		1638	1643FF
1643	Planned completion for section 8	0 days	Mar 1 '26	Mar 1 '26		1642FF	
1644							
1645	**Section 9 - Conversion works to effect the supply of reclaimed water**	**1676 days**	**Jul 30 '21**	**Mar 1 '26**			
1646	Access Date	1 day	Jul 30 '21	Jul 30 '21			
1647	Initial survey by stages	180 days	Dec 1 '22	May 29 '23			
1648	Liaison, coordination and enabling work for conversion	210 days	Dec 1 '22	Jun 28 '23			1649
1649	**Conversion works**	**944 days**	**Aug 1 '23**	**Mar 1 '26**		**1648**	**1655FF**
1650	Section 4 (Part 3) - 3 nos.	60 days	Aug 1 '23	Sep 29 '23			
1651	Section 5 (Part 4) - 11 nos.	220 days	Dec 23 '23	Jul 29 '24			
1652	Section 6 (Part 5) - 11 nos.	220 days	Jun 24 '24	Jan 29 '25			
1653	Section 7 (Part 6) - 40 nos.	400 days	Aug 26 '24	Sep 29 '25			
1654	Section 8 (Part 7) - 3 nos.	60 days	Jan 1 '26	Mar 1 '26			
1655	Planned completion for section 9	0 days	Mar 1 '26	Mar 1 '26		1649FF	

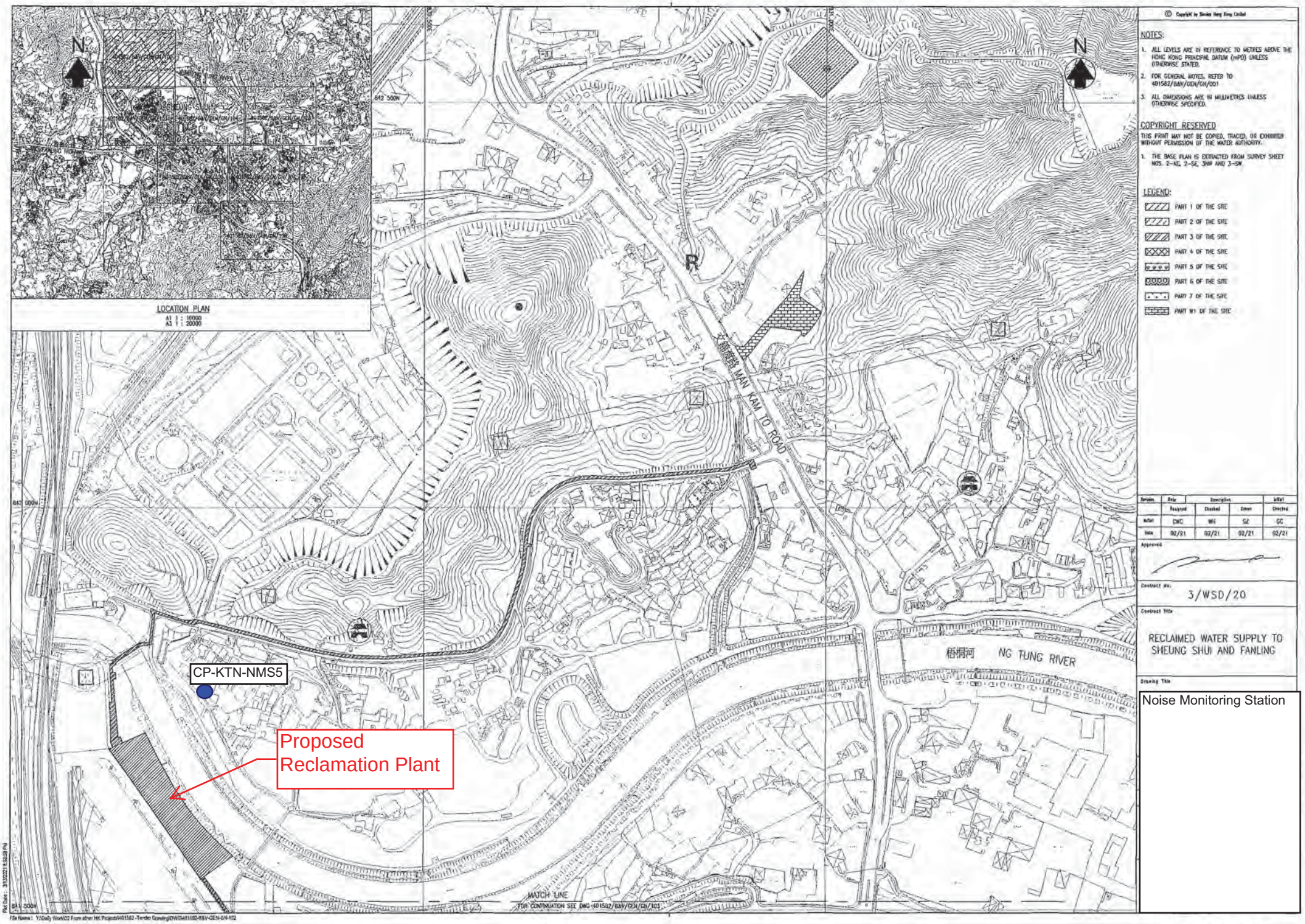


Project: 3WSD20 Programme
Date: Mar 2 '23

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	

Appendix D

Location of Designated Noise Monitoring Station CP-KTN-NMS5



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/GAN/GEN/GN/001
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.

1. THE BASE PLAN IS EXTRACTED FROM SURVEY SHEET NOS. 2-NG, 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

Revision	Date	Description			Initial
	Designed	Checked	Drawn	Checked
Initial	CWC	WH	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
Noise Monitoring Station

Plot Date: 3/03/2021 8:03:28 PM
File Name: Y:\Daily Work\CC From other HK Projects\401582-Tender Drawing\DWG\401582-BSV-GEN-GN-102

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. : C226779
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC22-2282) Date of Receipt / 收件日期 : 8 November 2022

Description / 儀器名稱	:	Sound Level Meter (EQ015)
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NL-52
Serial No. / 編號	:	00142581
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 : 19 November 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
- 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 : 21 November 2022

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
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Certificate of Calibration
校正證書

Certificate No. : C226779
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	93.8	± 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	93.8 (Ref.)
				104.00		103.8
				114.00		113.7

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	93.8	Ref.
			Slow			93.8	± 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	67.5	-26.2 ± 1.5
					125 Hz	77.6	-16.1 ± 1.5
					250 Hz	85.1	-8.6 ± 1.4
					500 Hz	90.6	-3.2 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	95.0	+1.2 ± 1.6
					4 kHz	94.8	+1.0 ± 1.6
					8 kHz	92.8	-1.1 (+2.1 ; -3.1)
					16 kHz	85.8	-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	92.9	-0.8 ± 1.5
					125 Hz	93.6	-0.2 ± 1.5
					250 Hz	93.8	0.0 ± 1.4
					500 Hz	93.8	0.0 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	93.6	-0.2 ± 1.6
					4 kHz	93.0	-0.8 ± 1.6
					8 kHz	90.9	-3.0 (+2.1 ; -3.1)
					16 kHz	83.9	-8.5 (+3.5 ; -17.0)

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Certificate of Calibration
校正證書

Certificate No. : C226779
證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 20044

- 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 (March 2023)

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

✓	Monitoring Day
	Sunday or Public Holiday

The Coming Month Monitoring Schedule (April 2023)

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

Note:

Ecology monitoring dates are tentative and are subject to change

✓	Monitoring Day
	Sunday or Public Holiday

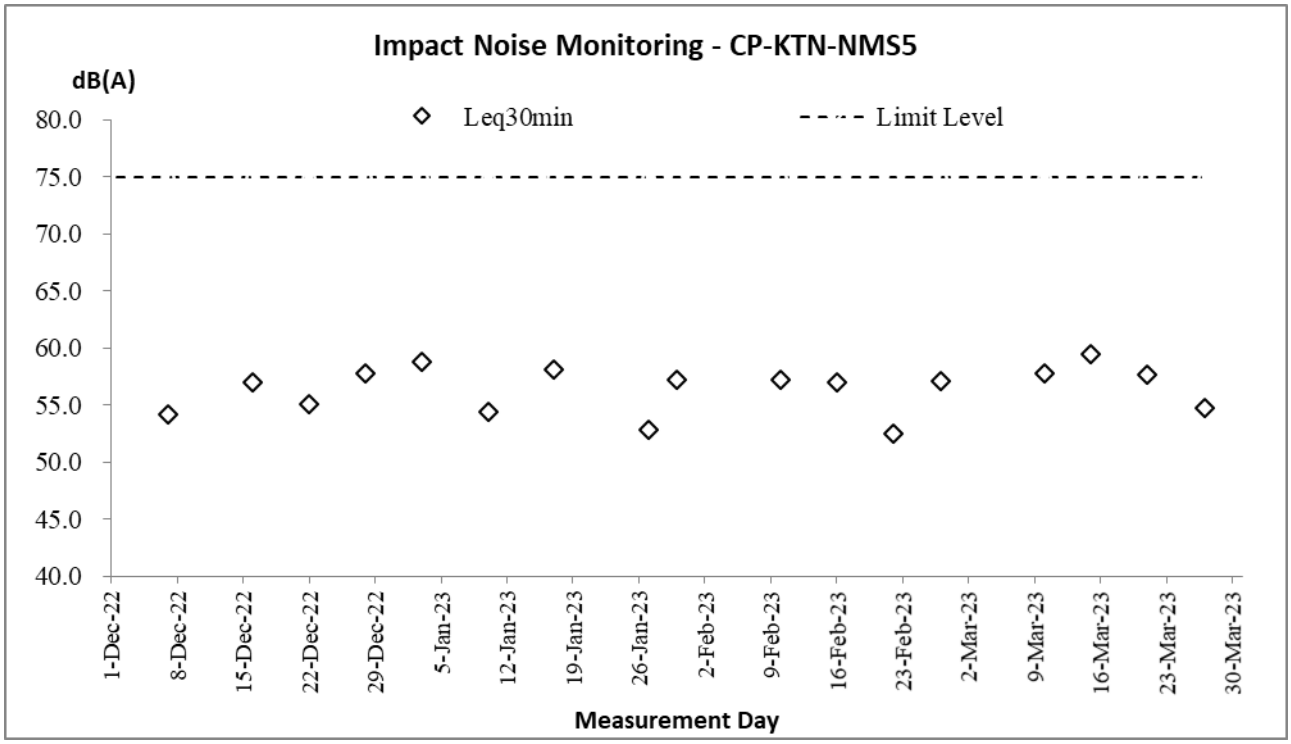
Appendix G

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)**		
10-Mar-23	9:15	57.4	60.7	54.1	58.3	61.2	55.9	57.6	60.2	54.3	57.0	59.9	55.1	57.8	59.7	54.7	58.2	60.8	55.6	57.7	60.7
15-Mar-23	10:24	60.1	63.1	56.2	58.8	61.2	55.8	59.6	62.3	55.9	58.3	60.9	55.3	60.2	63.3	56.0	59.5	61.0	55.2	59.5	62.5
21-Mar-23	13:16	56.5	58.2	54.3	57.2	59.7	55.8	56.8	58.5	54.4	58.2	60.5	55.1	58.5	60.9	55.3	58.5	60.8	55.5	57.7	60.7
27-Mar-23	11:01	54.2	57.1	50.2	55.8	58.1	51.6	54.9	57.8	50.8	55.2	58.3	51.0	53.8	56.9	50.3	54.5	57.5	50.6	54.8	57.8

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-Dec-22
8-Dec-22
15-Dec-22
22-Dec-22
29-Dec-22
5-Jan-23
12-Jan-23
19-Jan-23
26-Jan-23
2-Feb-23
9-Feb-23
16-Feb-23
23-Feb-23
2-Mar-23
9-Mar-23
16-Mar-23
23-Mar-23
30-Mar-23
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 _2023_

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	0.1842	0	0	0	0.1842	0	0	0	0	0	0.0034
Feb	0.2990	0	0	0	0.2990	0	0	0	0	0	0.0170
Mar	0.1300	0	0	0	0.1300	0	0	0	0	0	0.0300
Apr											
May											
June											
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	0.6132	0	0	0	0.6132	0	0	0	0	0	0.0504

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

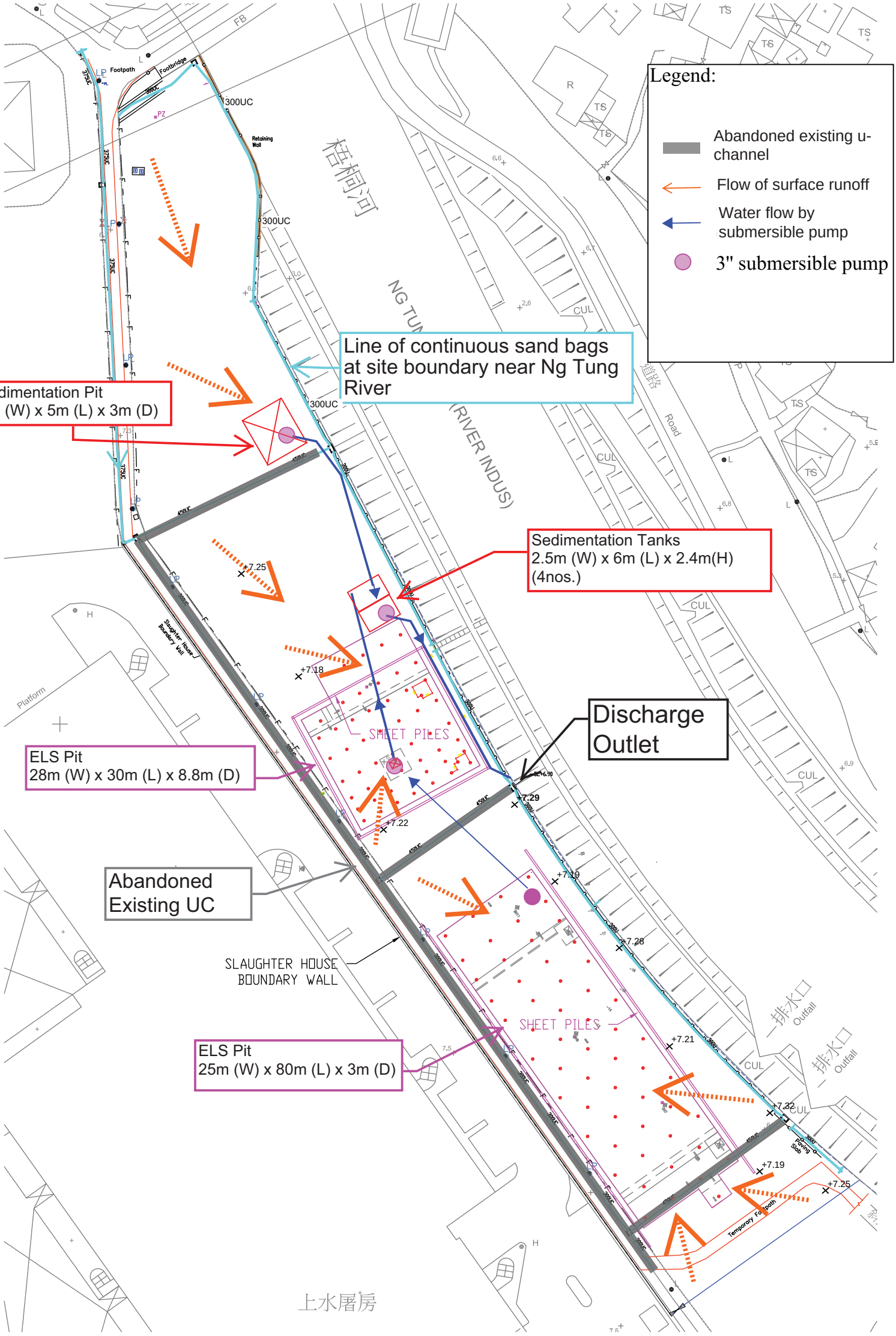
EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the Measures?	Location of the measures	When to implement the Measures?	What requirements or standards for the measures to achieve?
		undertaking any works adjacent 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
SLAUGHTER HOUSE BOUNDARY WALL
ELS Pit
25m (W) x 80m (L) x 3m (D)
SHEET PILES
SHEET PILES
上水屠房
Footpath
Footbridge
Retaining Wall
Slaughter House Boundary Wall
Platform
Temporary Footpath
Roaring Side
Outfall
Outfall
Road
(RIVER INDUS)
300UC
375UC
450UC
CUL
TS
FB
PZ
LP
+7.25
+7.18
+7.22
+7.29
+7.19
+7.28
+7.21
+7.32
+7.19
+7.25

Appendix L

Waterbirds Survey Report for the Reporting Month

ecology
biodiversity
landscape

aec

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

Monthly Report for March 2023
(Issue 1)

Job Ref.: 21/2063/582 AUES-SWHTSE
Date: 4th April 2023

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

Monthly Report for March 2023

(Issue 1)

April 2023

	Name	Signature
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Date:	**4th April 2023**	

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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 March 2023.

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 numbers 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

Survey data from each month is compared to the baseline monitoring data. Baseline monitoring data was downloaded and extracted from the Baseline Monitoring Report retrieved from the following hyperlink (the extracted Winter dataset of the baseline monitoring data is shown in **Appendix D**): https://www.epd.gov.hk/eia/register/english/permit/fep1792018/documents/blmrev1/pdf/blmrev1.pdf. 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.

3.2 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	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	Investigate cause(s) and if cause(s) identified as related to the NDAs project instigate remedial action.

Action Level	Response	Limit Level	Response
Monitoring such that the Action Level response is triggered.		Limit Level response is triggered.	Review and adjust project's Long Valley Nature Park (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(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.

3.3 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**
3-Mar-23	15:00	1.52	Sunny	2-Mar-23	8:30	1.38	Sunny
9-Mar-23	10:00	1.59	Sunny	9-Mar-23	8:30	0.84	Sunny
14-Mar-23	11:00	1.62	Cloudy	14-Mar-23	9:30	1.19	Cloudy
24-Mar-23	9:30	1.54	Cloudy	22-Mar-23	15:00	1.22	Cloudy
31-Mar-23	8:00	1.5	Cloudy	28-Mar-23	8:00	1.16	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	45	695
Waterbirds	16	252

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	24
Eastern Cattle Egret	*Bubulcus coromandus*	牛背鷺	36
Grey Heron	*Ardea cinerea*	蒼鷺	18

Common Name	Species Name	Chinese Name	Abundance
Great Egret	*Ardea alba*	大白鷺	15
Little Egret	*Egretta garzetta*	小白鷺	86
Great Cormorant	*Phalacrocorax carbo*	普通鸕鷀	14

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	No decline					-1.356	6	0.112		
Chinese Pond Heron	-1.603	11	0.069			-3.201	8	0.006	*	*
Eastern Cattle Egret	-0.384	9	0.355			No decline				
Grey Heron	No decline					-5.682	26	0.000	*	*
Great Egret	-0.650	11	0.264			-3.000	11	0.006	*	*
Little Egret	-0.262	8	0.400			No decline				
Great Cormorant	No decline					-2.421	12	0.016	*	

* = level triggered

5.2 Decline in abundance of Chinese Pond Heron, Grey Heron and Great Egret have triggered the limit level compared to previous data in Winter, while decline in abundance of Great Cormorant triggered the action level of the Winter average.

5.3 As discussed in previous months, the decline of individual waterbird species should not be the result of increased disturbances from the Project or its surrounding on-going projects, as increased disturbance would discourage multiple waterbird species from foraging near the transect and point count locations instead. Thus it is suggested that construction of the current project did not cause the decline in Chinese Pond Heron, Grey Heron Great Egret and Great Cormorant.

5.4 However, constructions around the survey transects are still active during the reporting month and the following activities were noted:

5.5 Since the survey dated on 4th November 2022, surveyors have recorded works involving laying concrete blocks using cranes across Ng Tung River at P2 and P3, these works were determined to be as part of the North East New Territories Sewerage System Upgrade led by Drainage Services Department (DSD). It was observed during the survey on 28th March 2023 (as seen in Photo 2 of **Appendix E**) that these works are part of the process of inspection and maintenance works of the inflatable dam at P2. Still, the water level of Ng Tung River along T1 (P1 and P2 included) is higher than the baseline survey due to the concrete blocks damming the flow of water, and may reduce the foraging area at P1 and/or P2 and attract less waterbirds to forage at these two points.

5.6 Additionally, construction involving excavators by an unknown party were observed to be operating near P6 since the survey on 17th February 2023 (indicated in Photo 3 of **Appendix E**). At the same time, sediments piles were observed in the river in T3, and thus the sediment piles are believed to be related to the construction. The increased water level as a result of accumulation of sediments would decrease area available for foraging waterbirds and activities of excavators are believed to be a source

of disturbance that may discourage waterbirds from foraging near P6. However this operation was observed to have been finished on 31st of March 2023 (Photo 4 of **Appendix E**)

5.7 The construction involving excavation and sheet piling (similar to the previous month) right next to P3 by DSD near the Sheung Shui Slaughter House was observed to be completed by the survey dated 2nd March 2023, while the construction by Civil Engineering and Development Department (CEDD) near P7 was observed active throughout the entire reporting month (Photo 5 of **Appendix E**).

5.8 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 8.**

Table 8 Observations of the anthropogenic activities during the Ecological Monitoring in the Reporting Month

Location	Observations	
	Project Related	**Non-project Related**
T1 (PC1, PC2)	/	Inflatable dam inspection and maintenance at P2 (DSD)
T2 (PC3, PC4)	Use of crane, scaffolding	Fishing, laying of concrete blocks at P3 (DSD), road enhancement (DSD)
T3 (PC6, PC7)	/	Fishing, use of speaker by pedestrians, use of excavators near P6, 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
Northern Shoveler	琵嘴鴨	*Spatula clypeata*	Y	1	
Chinese Pond Heron	池鷺	*Ardeola bacchus*	Y	24	+
Eastern Cattle Egret	牛背鷺	*Bubulcus coromandus*	Y	36	+
Grey Heron	蒼鷺	*Ardea cinerea*	Y	18	++
Great Egret	大白鷺	*Ardea alba*	Y	15	++
Little Egret	小白鷺	*Egretta garzetta*	Y	86	+++++
Great Cormorant	普通鸕鷀	*Phalacrocorax carbo*	Y	14	+
Black Kite	黑鳶	*Milvus migrans*	N	6	+
White-breasted Waterhen	白胸苦惡鳥	*Amaurornis phoenicurus*	Y	1	+
Black-winged Stilt	黑翅長腳鷸	*Himantopus himantopus*	Y	33	+
Common Sandpiper	磯鷸	*Actitis hypoleucos*	Y	9	+
Green Sandpiper	白腰草鷸	*Tringa ochropus*	Y	5	
Common Redshank	紅腳鷸	*Tringa totanus*	Y	1	
Common Greenshank	青腳鷸	*Tringa nebularia*	Y	3	
Spotted Dove	珠頸斑鳩	*Spilopelia chinensis*	N	24	++++
Greater Coucal	褐翅鴉鵑	*Centropus sinensis*	N	2	+
Asian Koel	噪鵑	*Eudynamys scolopaceus*	N	30	+++
White-throated Kingfisher	白胸翡翠	*Halcyon smyrnensis*	Y	3	+
Common Kingfisher	普通翠鳥	*Alcedo atthis*	Y	1	+
Alexandrine Parakeet	亞歷山大鸚鵡	*Psittacula eupatria*	N	5	
Black Drongo	黑卷尾	*Dicrurus macrocercus*	N	1	+
Red-billed Blue Magpie	紅嘴藍鵲	*Urocissa erythroryncha*	N	4	+
Oriental Magpie	喜鵲	*Pica serica*	N	3	++
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	11	++
Red-whiskered Bulbul	紅耳鵯	*Pycnonotus jocosus*	N	44	++++
Chinese Bulbul	白頭鵯	*Pycnonotus sinensis*	N	21	++
Barn Swallow	家燕	*Hirundo rustica*	N	25	++++
Yellow-browed Warbler	黃眉柳鶯	*Phylloscopus inornatus*	N	8	+
Pallas's leaf Warbler	黃腰柳鶯	*Phylloscopus proregulus*	N	3	
Dusky Warbler	褐柳鶯	*Phylloscopus fuscatus*	N	1	+
Yellow-bellied Prinia	黃腹鷦鶯	*Prinia flaviventris*	N	4	
Common Tailorbird	長尾縫葉鶯	*Orthotomus sutorius*	N	19	++
Black-throated Laughingthrush	黑喉噪鶥	*Pterorhinus chinensis*	N	1	
Masked Laughingthrush	黑臉噪鶥	*Pterorhinus perspicillatus*	N	18	++
Swinhoe's white-eye	暗綠繡眼鳥	*Zosterops simplex*	N	38	+++++
Crested Myna	八哥	*Acridotheres cristatellus*	N	119	+++++
Black-collared Starling	黑領椋鳥	*Gracupica nigricollis*	N	23	+++++
Oriental Magpie Robin	鵲鴝	*Copsychus saularis*	N	2	+
Daurian Redstart	北紅尾鴝	*Phoenicurus auroreus*	N	1	+

Common Name	Chinese Name	Scientific Name	Waterbird	Point Count Abundance	Transect Abundance
Stejneger's Stonechat	黑喉石(即鳥)	*Saxicola stejnegeri*	N	2	+
Eurasian Tree Sparrow	樹麻雀	*Passer montanus*	N	6	
Eastern Yellow Wagtail	東黃鶺鴒	*Motacilla tschutschensis*	N	2	
White Wagtail	白鶺鴒	*Motacilla alba*	N	19	++
Olive-backed Pipit	樹鷚	*Anthus hodgsoni*	N	1	
		Total Point Count Abundance		432	
		Total Waterbirds		165	

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	2/3/2023	8:30	Low	36	49
	3/3/2023	15:00	High	13	
2	9/3/2023	10:00	High	19	63
	9/3/2023	8:30	Low	44	
3	14/3/2023	11:00	High	13	28
	14/3/2023	9:30	Low	15	
4	22/3/2023	15:00	Low	24	46
	24/3/2023	9:30	High	22	
5	28/3/2023	8:00	Low	49	66
	31/3/2023	8:00	High	17	
			Survey Average		50.40
			Baseline	March Average	50.22
				Winter Average	60.77

Appendix C Abundance of Representative Waterbirds from Point Count

Representative Species		Recorded Abundance (Mar 2023)						Baseline	
Common Name	**Species Name**	**Week 1**	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Average**	**Mar Average**	**Winter Average**
Chinese Pond Heron	*Ardeola bacchus*	8	5	1	4	6	4.8	9.22	9.21
Eastern Cattle Egret	*Bubulcus coromandus*	3	0	0	12	21	7.2	9.22	3.77
Grey Heron	*Ardea cinerea*	4	6	5	1	2	3.6	2.56	12.82
Great Egret	*Ardea alba*	2	5	3	3	2	3	3.89	5.15
Little Egret	*Egretta garzetta*	4	38	13	14	17	17.2	19	14.36
Great Cormorant	*Phalacrocorax carbo*	7	3	4	0	0	2.8	2.67	7.08

Appendix D Baseline Survey Data Winter

** Only include data from "All Waterbirds" and the six representative waterbird species for data analysis*

Representative Species		Recorded Abundance (Winter Baseline)							
Common Name	**Species Name**	**21-12-17**	**29-12-17**	**04-01-18**	**09-01-18**	**19-01-18**	**26-01-18**	**01-02-18**	**09-02-18**
All Waterbirds		91	31	50	82	44	87	99	47
Chinese Pond Heron	*Ardeola bacchus*	11	5	8	1	7	4	9	5
Eastern Cattle Egret	*Bubulcus coromandus*	0	0	0	0	0	6	4	0
Grey Heron	*Ardea cinerea*	28	11	16	31	16	31	29	21
Great Egret	*Ardea alba*	7	2	3	5	5	11	7	6
Little Egret	*Egretta garzetta*	9	6	12	8	13	10	12	8
Great Cormorant	*Phalacrocorax carbo*	33	1	6	0	2	0	7	4
Representative Species		**Recorded Abundance (Winter Baseline)**							
Common Name	**Species Name**	**14-02-18**	**22-02-18**	**02-03-18**	**09-03-18**	**12-03-18**	**22-03-18**	**28-03-18**	**05-10-18**
All Waterbirds		26	30	18	86	38	81	83	36
Chinese Pond Heron	*Ardeola bacchus*	3	3	2	1	3	22	20	9
Eastern Cattle Egret	*Bubulcus coromandus*	0	0	0	27	11	8	24	0
Grey Heron	*Ardea cinerea*	11	14	7	0	0	0	0	7
Great Egret	*Ardea alba*	3	3	3	12	5	7	2	7
Little Egret	*Egretta garzetta*	6	8	4	37	15	33	32	12
Great Cormorant	*Phalacrocorax carbo*	0	0	0	3	2	0	0	0
Representative Species		**Recorded Abundance (Winter Baseline)**							
Common Name	**Species Name**	**08-10-18**	**15-10-18**	**25-10-18**	**05-11-18**	**12-11-18**	**22-11-18**	**30-11-18**	**07-12-18**
All Waterbirds		46	58	63	75	82	70	85	77
Chinese Pond Heron	*Ardeola bacchus*	14	12	12	9	15	11	10	9
Eastern Cattle Egret	*Bubulcus coromandus*	0	0	0	1	0	0	0	8
Grey Heron	*Ardea cinerea*	8	10	13	20	17	19	21	16
Great Egret	*Ardea alba*	6	9	4	8	8	3	10	8
Little Egret	*Egretta garzetta*	12	15	20	12	18	16	16	17
Great Cormorant	*Phalacrocorax carbo*	1	2	2	19	15	12	8	10
Representative Species		**Recorded Abundance (Winter Baseline)**							
Common Name	**Species Name**	**10-12-18**	**17-12-18**	**27-12-18**	**02-01-19**	**09-01-19**	**17-01-19**	**25-01-19**	**08-02-19**
All Waterbirds		75	62	77	54	59	51	75	83
Chinese Pond Heron	*Ardeola bacchus*	11	6	11	14	10	11	11	10
Eastern Cattle Egret	*Bubulcus coromandus*	0	15	9	3	3	0	0	6
Grey Heron	*Ardea cinerea*	16	15	15	10	9	8	14	13
Great Egret	*Ardea alba*	7	6	8	2	2	4	6	4
Little Egret	*Egretta garzetta*	17	11	14	11	18	12	18	19
Great Cormorant	*Phalacrocorax carbo*	9	9	10	12	5	14	13	15
Representative Species		**Recorded Abundance (Winter Baseline)**							
Common Name	**Species Name**	**14-02-19**	**22-02-19**	**25-02-19**	**08-03-19**	**15-03-19**	**22-03-19**	**25-03-19**	
All Waterbirds		72	71	60	60	33	27	26	
Chinese Pond Heron	*Ardeola bacchus*	13	13	9	9	9	11	6	
Eastern Cattle Egret	*Bubulcus coromandus*	7	2	0	3	3	0	7	
Grey Heron	*Ardea cinerea*	13	11	14	10	4	2	0	
Great Egret	*Ardea alba*	7	3	2	4	1	1	0	
Little Egret	*Egretta garzetta*	11	14	14	15	12	12	11	
Great Cormorant	*Phalacrocorax carbo*	13	13	17	15	4	0	0	

Appendix E Survey Photos

Photo 1 Works on current project at P4 (14/3/2023)	**Photo 2** Inflatable dam maintenance and repair by DSD at P2 (28/3/2023)
	
Photo 3 Accumulation of sediments by other projects at T3 (2/3/2023)	**Photo 4** Return to initial conditions at T3 (31/3/2023)
	
Photo 5 Piling at P7 by CEDD (31/3/2023)	**Photo 6** Little Egret at T3
	

Figure 1

Transect and Point Count Location

P4
P1
P3
P2
T1
T2
P7
P5
T3
P6

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

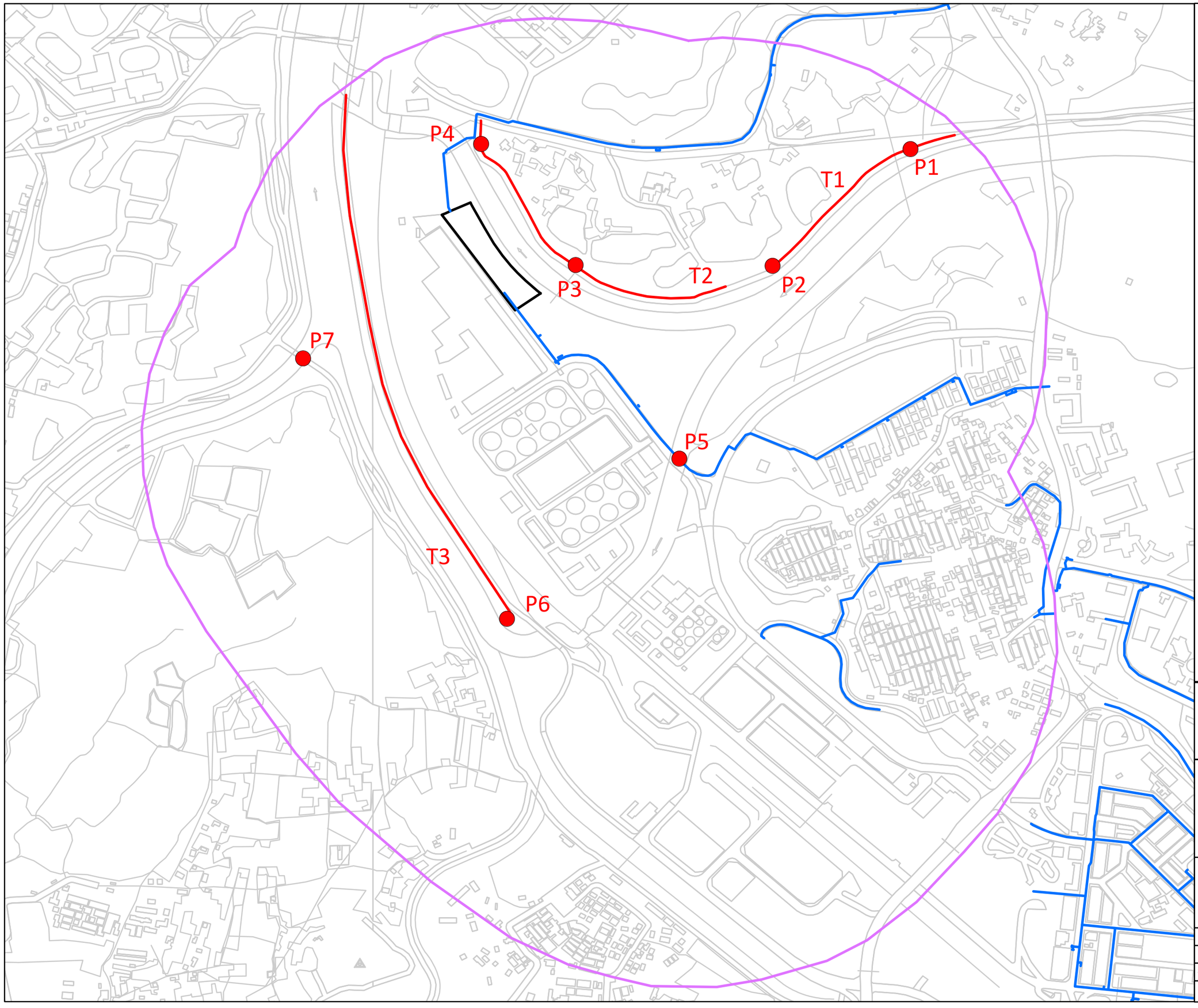
Figure Title:

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)



Proposed Shek Wu Hui Water Reclamation Plant

500m Survey Boundary

Proposed Retained Water Mains

Walk Transect

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 (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