JOB NO.: TCS01216/21

WSD Contract No.: 3/WSD/20 -

Reclaimed Water Supply to Sheung Shui and Fanling

MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT (NO.8) – JULY 2022

PREPARED FOR

WATER SUPPLIES DEPARTMENT

Quality Index

Date	Reference No.	Prepared By	Approved By
9 August 2022	TCS01216/21/600/R0046v1	Martin Li Environmental Consultant	TW Tam Environmental Team Leader

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1	9 August 2022	First Submission

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Date: 12th August 2022

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

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 July 2022

We refer to the monthly EM&A Report for July 2022 for WSD Contract No.: 3/WSD/20 – Reclaimed Water Supply to Sheung Shui and Fanling certified by the Environmental Team Leader on 9th August 2022. 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 **8th** monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from **1** to **31 July 2022** (hereinafter 'the Reporting Period').

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

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

Table ES-1 Environmental monitoring activities in the Reporting Period

Environmental Aspect	Environmental Monitoring Parameters / Inspection	Total Occasions during Reporting Period
Construction Noise	$L_{eq(30min)}$ Daytime	**4**
Ecology	Waterbirds	**4**
Site Inspection / Audit	ET, the Contractor and RE joint site Environmental Inspection	**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 July 2022	0	0	NA

ES.09 In addition, no complaints 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 July 2022	0	0	NA

Table ES-5 Environmental Prosecution Summaries in the Reporting Month

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

REPORTING CHANGE

ES.11 No report change in the reporting period.

SITE INSPECTION

ES.12 Weekly site inspections to evaluate the site environmental performance have been carried out by the RE, ET and the Main Contractor on ***7, 14, 21*** and ***25 July 2022***. No non-compliance was noted during the site inspection.

ES.13 No site visit was undertaken by EPD and AFCD within the Reporting Period. IEC inspection was conducted on 27 July 2022.

FUTURE KEY ISSUES

ES.14 Rebar fixing and formwork erection will be the major construction work in the coming month. Noise mitigation measures such as using soft face hammer for hammering work and erect barrier for wood/steel bar cutting machines were recommended to reduce noise impact.

ES.15 As a general recommendation during wet season, the Contractor was reminded that to paid special attention to water quality mitigation measures especially to prevent surface runoff into Ng Tung River and nearby water bodies/public areas.

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 (Reclaimed Water P/S), 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 **8th** monthly EM&A report to presenting the monitoring results and inspection findings from ***1*** to ***31 July 2022*** of the Reporting Period.

1.2 REPORT STRUCTURE

1.2.1 The report was structured into the following sections:-

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

2. PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

2.1 PROJECT ORGANIZATION

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

Water Supplies Department (WSD)

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

Environmental Protection Department (EPD)

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

Engineer or Engineers Representative (ER)

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

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

The Main Contractor

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

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

Environmental Team (ET)

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

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

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

Independent Environmental Checker (IEC)

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

2.2 CONSTRUCTION PROGRESS

2.2.1 In the Reporting Period, the construction activities of the Contract Works under FEP are listed in below. Moreover, the master construction program and site overview photo in the reporting period are enclosed in ***Appendix C***.
- Excavation and lateral support work at proposed area of Hypo-Chlorination Facilities – 3 excavators
- Rebar fixing work at proposed areas of Hypo-Chlorination Facilities
- Formwork erection work at proposed area of Reclaimed Water Pumping Station
- Pile Cap construction at proposed area of Reclaimed Water Pumping Station

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

Item	Description	Licence/Permit Status		
		Ref. no.	Effective Date	Expiry Date
4	Water Pollution Control Ordinance – Discharge Licence	Discharge Licence No.: WT00039707-2021	17 Nov 2021	30 Nov 2026
5	Construction Noise Permit	CNP No. GW-RN0478-22	13 Jun 2022	12 Oct 2022

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 – 74

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))
8-Jul-22	14:18	63
14-Jul-22	9:30	66
20-Jul-22	15:40	57
26-Jul-22	10:19	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 ***Four (4)*** occasion of waterbirds survey were conducted in the Reporting Month.

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

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

Category	Number of Species	Abundance
All Avifauna	32	728
Waterbirds	11	159

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	58
Eastern Cattle Egret	Bubulcus coromandus	牛背鷺	4
Grey Heron	Ardea cinerea	蒼鷺	5
Great Egret	Ardea alba	大白鷺	19
Little Egret	Egretta garzetta	小白鷺	57
Great Cormorant	Phalacrocorax carbo	普通鸕鷀	0

5.2.3 The result was compared with the baseline data and the number of Little Egrets was found declined compared to the baseline data. 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 As suggested in previous reporting months, the more attractive wetland habitats at Long Valley Nature Park (LVNP) may have caused waterbirds to deprioritize activities within the study area. The hypothesis is supported by the accounts of the surveyor with the observation made in the survey. In addition, the tidal influence of the Rivers may restrict the availability of foraging and roosting sites for the waterbirds. This may further encourage the waterbirds utilizing the more attractive habitats in the nearby LVNP.

5.2.5 Given that the anthropogenic activities recorded were similar to the previous month and no large instances of disturbance caused by construction works of the project were recorded by the surveyor, it is suggested the decline in numbers of Little Egrets are not related to the construction works. No action and limit level exceedance was therefore considered triggered in the Reporting Month.

5.2.6 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)	0.8427	-
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)	0.8427	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)	0.0078	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 ***7, 14, 21*** and ***25 July 2022*** to evaluate site environmental performance of the Contract Works. During the site inspections, no non-compliance was noted.

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

Table 7-2-1 Site Observations

Date	Findings / Deficiencies	Follow-Up Status
7 July 2022	• Stagnant water accumulated inside drip tray should be removed to avoid mosquito breeding	Stagnant Water inside drip tray was removed.
14 July 2022	• No adverse environmental issue was observed during site inspection.	NA
21 July 2022	• Oil stains on the ground was observed near site office. The Contractor was advised to clean it and dispose of as chemical waste.	Oil stain on ground was removed and disposed as chemical waste.
25 July 2022	• Chemical containers should be placed inside drip tray to avoid land contamination. (Near Site Office)	Chemical containers were removed from site.

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 July 2022	0	0	NA

Table 8-1-2 Statistical Summary of Environmental Summons

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

Table 8-1-3 Statistical Summary of Environmental Prosecution

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

9. IMPLEMENTATION STATUS OF MITIGATION MEASURES

9.1 GENERAL REQUIREMENTS

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

9.2 IMPLEMENTATION STATUS OF THE MITIGATION MEASURES IN THE REPORTING PERIOD

9.2.1 The Contract Works shall be implementing the required environmental mitigation measures according to the approved Updated EM&A Manual as subject to the site condition. Environmental mitigation measures implemented by the Main Contractor in this Reporting Month are summarized in ***Table 9-1-1***. A. site temporary drainage layout plan 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.
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:

- Rebar fixing work at proposed areas of Hypo-Chlorination Facilities
- Formwork erection work at proposed area of Reclaimed Water Pumping Station and Hypo-Chlorination Facilities
- Pile Cap construction at proposed area of Reclaimed Water Pumping Station
- Scaffolding work at proposed areas of Reclaimed Water Pumping Station

9.4 KEY ISSUES FOR THE COMING MONTH

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

- Ensure the sand bag bund at site boundary near the Ng Tung River is properly maintained to avoid muddy discharge during heavy rain;

- Ensure sufficient capacity of sedimentation pit and tanks for wastewater sedimentation;
- Ensure all surface runoff are diverted to sedimentation pit and tanks properly;
- Sufficient stock of standby pump should be available on site for pumping the runoff water/wastewater to the sedimentation tank.
- Cover the dusty stockpile on site to reduce potential fugitive dust quality impact;
- All the vehicles should be properly washed prior leaving the site;
- Erect barrier for wood/steel bar cutting machine;
- Use Quiet powered mechanical equipment (QPME) whenever applicable;
- Minimize the number of plants used at the same time to reduce cumulative noise impact;
- Regular clearance of stagnant water after rainy days;
- Properly management of general refuse and chemical waste generated on site.

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS

10.1.1 This is **8th** monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from **1** to **31 July 2022**.

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

10.1.3 Four (4) occasions of the weekly waterbirds survey has been taken in the Reporting Period. Although decline in the Little Ergret was 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 ***7, 14, 21*** and ***25 July 2022***. The mitigation measures implemented was considered satisfactory. No non-compliance observed during the site inspection.

10.2 RECOMMENDATIONS

10.2.1 Rebar fixing and formwork erection will be the major construction work in the coming month. Noise mitigation measures such as using soft face hammer for hammering work and erect barrier for wood/steel bar cutting machines were recommended to reduce noise impact.

10.2.2 As a general recommendation during wet season, the Contractor was reminded that to paid special attention to water quality mitigation measures especially to prevent surface runoff into Ng Tung River and nearby water bodies/public areas.

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

830200 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)

SHEUNG YUE RIVER 石上河

CHUK WAN STREET

FU TEI AU ROAD 導管

污水處理廠 Sewage Treatment Works

SHEK SHEUNG

Ramp

Platform

Outfall

Road

Sheung Shui Slaughter House

PLAN
SCALE 1 : 400

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

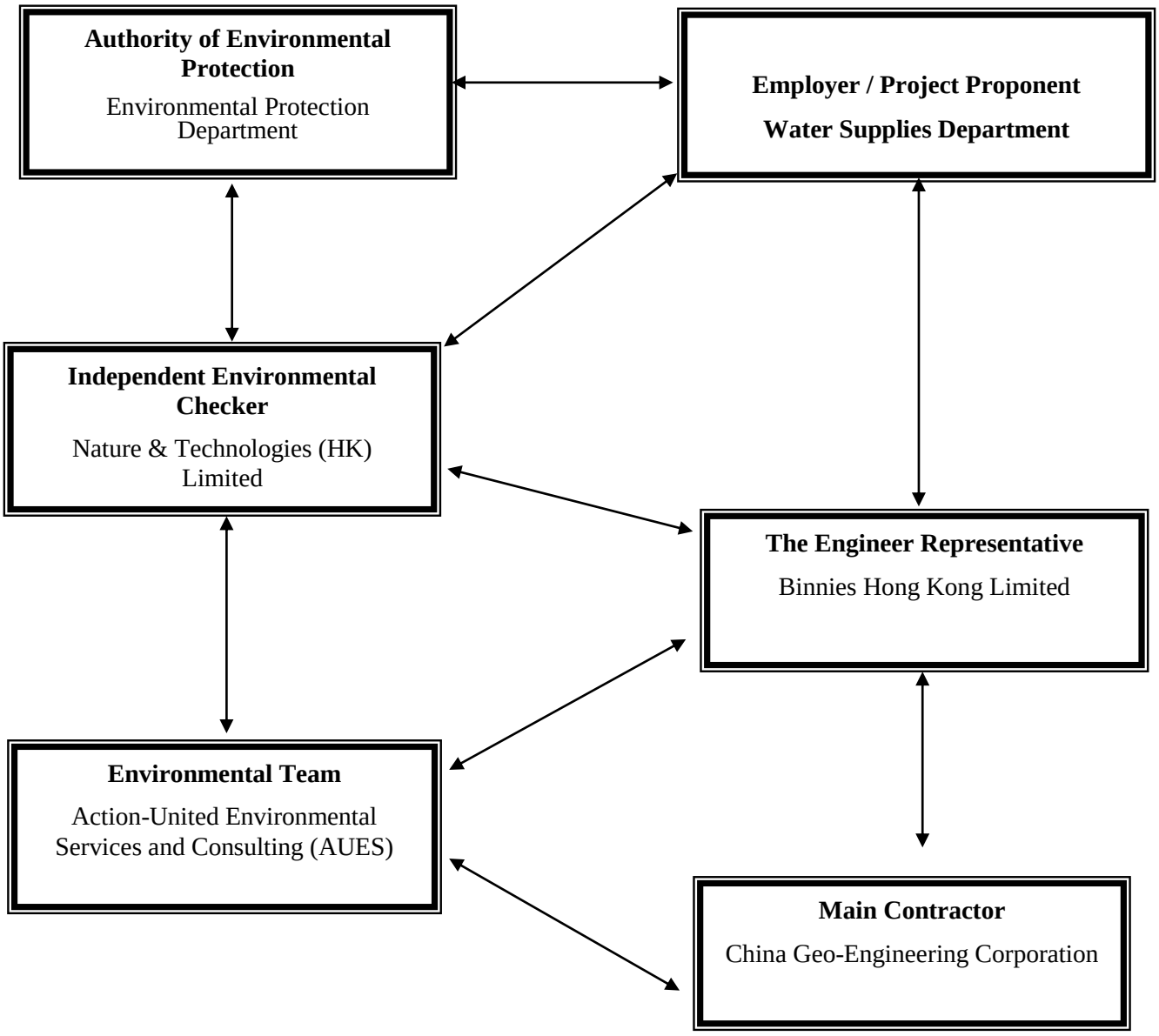
Plot Date: 3/15/2021 11:20:19 AM

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	Chan Tsz Kin	6874 8835	3wsd20@gmail.com
CGC	Environmental Officer	Luke Chung	6488 0975	3wsd20@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

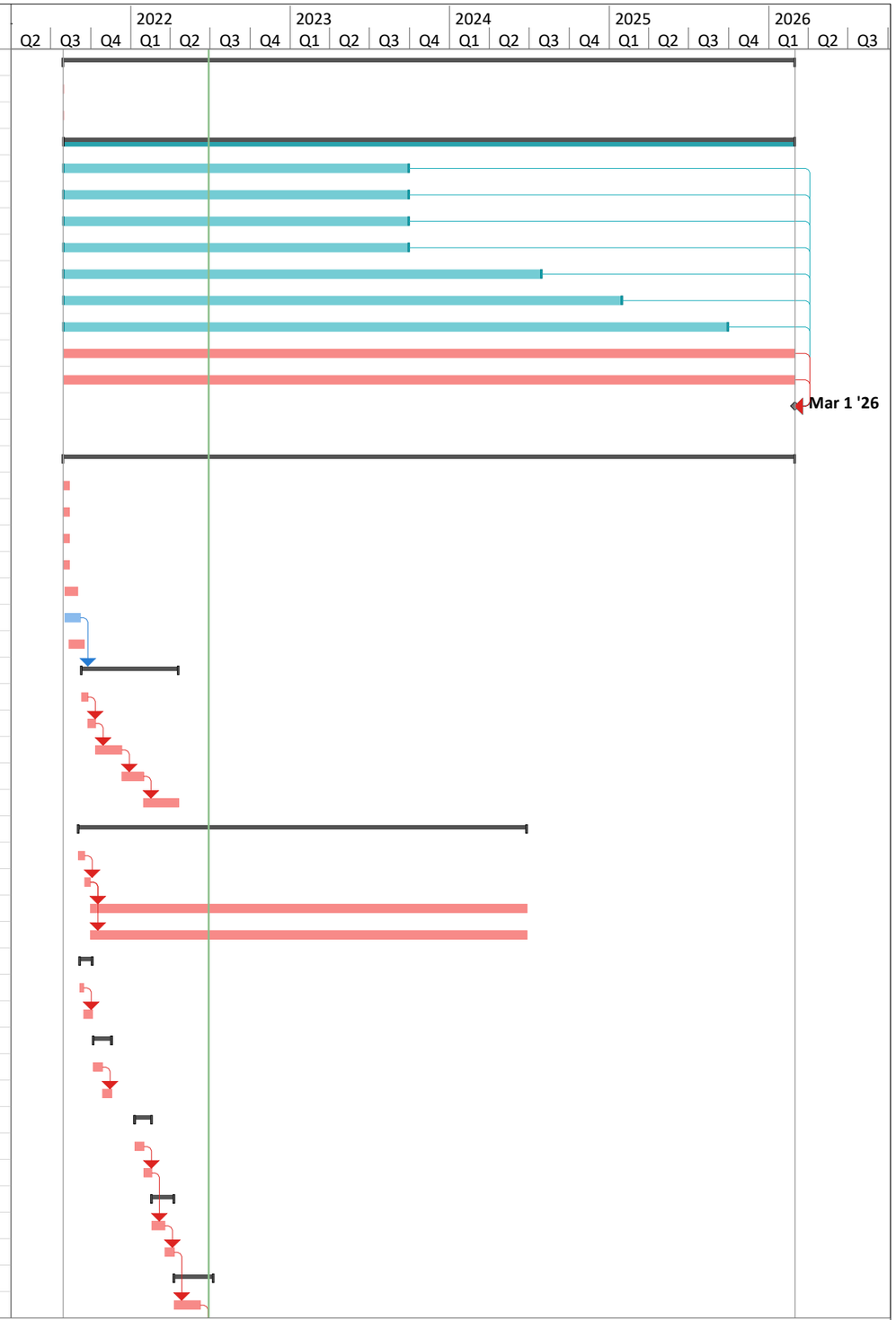
Legend:

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

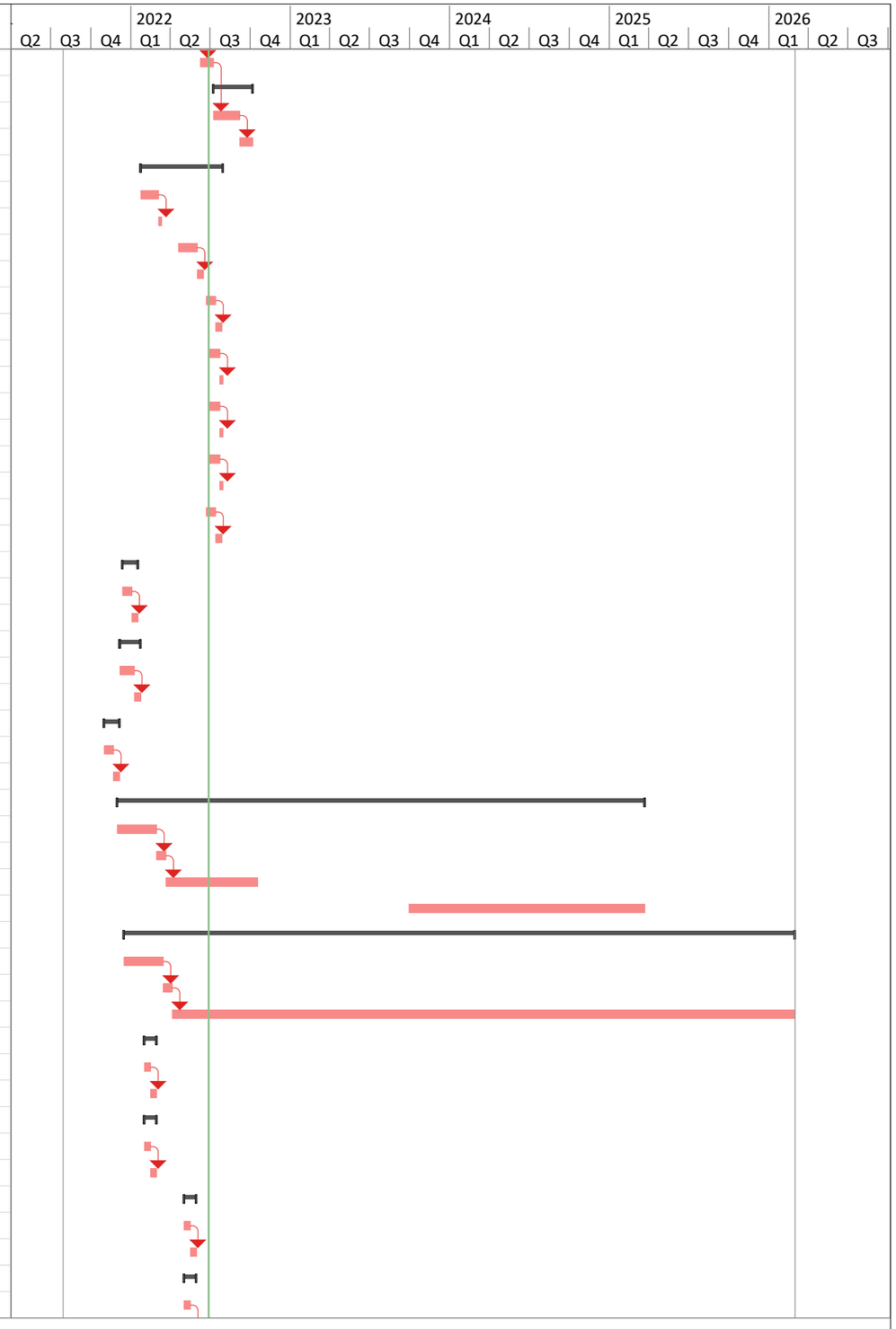
ID	Task Name	Duration	Start	Finish	TRA	Notes
1	**Key Dates**	**1676 days**	**Jul 30 '21**	**Mar 1 '26**		
2	Contract Date	1 day	Jul 30 '21	Jul 30 '21		
3	Starting Date	1 day	Jul 30 '21	Jul 30 '21		
4	**Contract Period**	**1675 days**	**Jul 31 '21**	**Mar 1 '26**		
5	Section 1 - Shek Wu Hui Water Reclamation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



Project: 3WSD20 Programme
Date: Jun 28 '22

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

ID	Task Name	Duration	Start	Finish	TRA	Notes
49	Selection of subcontractor	30 days	Jun 9 '22	Jul 8 '22		
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		
52	Selection of subcontractor	30 days	Sep 7 '22	Oct 6 '22		
53	**Selection of Subcontractor for Mainlaying Works**	**188 days**	**Jan 24 '22**	**Jul 30 '22**		
54	Submission and acceptance of subletting package - open trench (for Section 4)	40 days	Jan 24 '22	Mar 4 '22		
55	Selection of subcontractor - open trench (for Section 4)	7 days	Mar 5 '22	Mar 11 '22		
56	Submission and acceptance of subletting package - open trench (for Section 5)	43 days	Apr 20 '22	Jun 1 '22		
57	Selection of subcontractor - open trench (for Section 5)	14 days	Jun 2 '22	Jun 15 '22		
58	Submission and acceptance of subletting package - open trench (for Section 6)	21 days	Jun 23 '22	Jul 13 '22		
59	Selection of subcontractor - open trench (for Section 6)	14 days	Jul 14 '22	Jul 27 '22		
60	Submission and acceptance of subletting package - open trench (for Section 7)	24 days	Jun 30 '22	Jul 23 '22		
61	Selection of subcontractor - open trench (for Section 7)	7 days	Jul 24 '22	Jul 30 '22		
62	Submission and acceptance of subletting package - open trench (for Section 8)	24 days	Jun 30 '22	Jul 23 '22		
63	Selection of subcontractor - open trench (for Section 8)	7 days	Jul 24 '22	Jul 30 '22		
64	Submission and acceptance of subletting package - open trench (for Section 9)	24 days	Jun 30 '22	Jul 23 '22		
65	Selection of subcontractor - open trench (for Section 9)	7 days	Jul 24 '22	Jul 30 '22		
66	Submission and acceptance of subletting package - trenchless	21 days	Jun 23 '22	Jul 13 '22		
67	Selection of subcontractor - trenchless	14 days	Jul 14 '22	Jul 27 '22		
68	**Selection of Supplier for Survey Equipment**	**35 days**	**Dec 13 '21**	**Jan 16 '22**		
69	Submission and acceptance of subletting package	21 days	Dec 13 '21	Jan 2 '22		
70	Selection of subcontractor	14 days	Jan 3 '22	Jan 16 '22		
71	**Selection of Supplier for Computer Facilities**	**47 days**	**Dec 7 '21**	**Jan 22 '22**		
72	Submission and acceptance of subletting package	33 days	Dec 7 '21	Jan 8 '22		
73	Selection of subcontractor	14 days	Jan 9 '22	Jan 22 '22		
74	**Selection of Environment Team**	**35 days**	**Nov 1 '21**	**Dec 5 '21**		
75	Submission and acceptance of subletting package	21 days	Nov 1 '21	Nov 21 '21		
76	Selection of Environment Team	14 days	Nov 22 '21	Dec 5 '21		
77	**BEAM Plus**	**1208 days**	**Dec 1 '21**	**Mar 22 '25**		
78	Submission and acceptance of subletting package	90 days	Dec 1 '21	Feb 28 '22		
79	Selection of BEAM plus consultant	21 days	Mar 1 '22	Mar 21 '22		
80	BEAM Plus PA submission	210 days	Mar 22 '22	Oct 17 '22		
81	BEAM Plus FA submission	540 days	Sep 30 '23	Mar 22 '25		
82	**BIM**	**1537 days**	**Dec 16 '21**	**Mar 1 '26**		
83	Submission and acceptance of subletting package	90 days	Dec 16 '21	Mar 15 '22		
84	Selection of BIM consultant	21 days	Mar 16 '22	Apr 5 '22		
85	Execution of BIM (rebar BIM, CSD and CBWD coordination and production)	1426 days	Apr 6 '22	Mar 1 '26		
86	**Selection of Contractor's Designer for foundation works**	**28 days**	**Feb 1 '22**	**Feb 28 '22**		
87	Submission and acceptance of subletting package	14 days	Feb 1 '22	Feb 14 '22		
88	Selection of Contractor's Designer	14 days	Feb 15 '22	Feb 28 '22		
89	**Selection of Independent Checking Engineer (ICE) for Permanent Works (foundation)**	**28 days**	**Feb 1 '22**	**Feb 28 '22**		
90	Submission and acceptance of subletting package	14 days	Feb 1 '22	Feb 14 '22		
91	Selection of ICE for Permanent Works	14 days	Feb 15 '22	Feb 28 '22		
92	**Selection of Contractor's Designer for Civil & Structural Works**	**28 days**	**May 3 '22**	**May 30 '22**		
93	Submission and acceptance of subletting package	14 days	May 3 '22	May 16 '22		
94	Selection of Contractor's Designer	14 days	May 17 '22	May 30 '22		
95	**Selection of Independent Checking Engineer (ICE) for Permanent Works (Civil & Structural)**	**28 days**	**May 3 '22**	**May 30 '22**		
96	Submission and acceptance of subletting package	14 days	May 3 '22	May 16 '22		



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Task
Split
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Critical
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Progress
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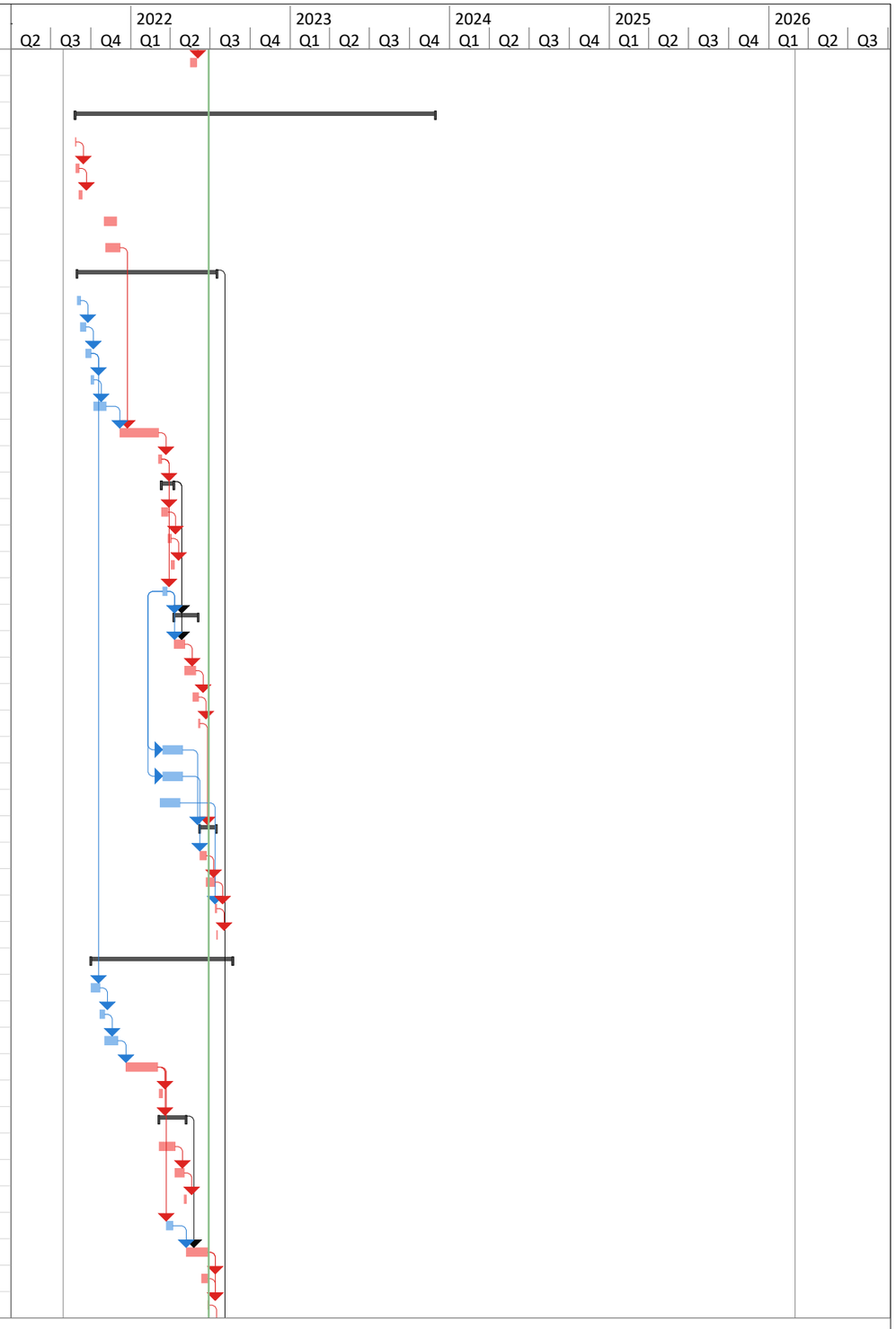
ID	Task Name	Duration	Start	Finish	TRA	Notes
97	Selection of ICE for Permanent Works	14 days	May 17 '22	May 30 '22		
98						
99	**Section 1 & 2 - Construction of SWHWRP and Landscaping Works**	**825 days**	**Aug 27 '21**	**Nov 29 '23**		
100	Access Date (part 1 of the Site)	1 day	Aug 27 '21	Aug 27 '21		
101	Site clearance	7 days	Aug 28 '21	Sep 3 '21		
102	Initial survey	7 days	Sep 4 '21	Sep 10 '21		
103	Installation of monitoring instruments and take initial readings	28 days	Nov 1 '21	Nov 28 '21		
104	Environmental baseline montioring by ET	33 days	Nov 4 '21	Dec 6 '21		
105	**Foundation Works - ReWPS**	**321 days**	**Aug 31 '21**	**Jul 17 '22**		
106	Submission and approval of subletting package for pre-drilling works	7 days	Aug 31 '21	Sep 6 '21		
107	Selection of pre-drilling subcontractor	13 days	Sep 7 '21	Sep 19 '21		
108	Pre-drilling works (15 nos.)	12 days	Sep 20 '21	Oct 1 '21		5 x 4d/hole
109	Pre-drill log report and Point Load Test	6 days	Oct 2 '21	Oct 7 '21		
110	Design review for foundation works	28 days	Oct 8 '21	Nov 4 '21		
111	Piling works (54 nos. of pre-bored H piles) - Total length = 2387m	88 days	Dec 7 '21	Mar 4 '22		
112	Installation of King Post	7 days	Mar 5 '22	Mar 11 '22		
113	Testing of pre-bored H-pile - tension load test	29 days	Mar 12 '22	Apr 9 '22		
114	Shortage of Acetylene Gas	15 days	Mar 12 '22	Mar 26 '22		
115	Setting up of load test	7 days	Mar 27 '22	Apr 2 '22		
116	Tension Load Test	7 days	Apr 3 '22	Apr 9 '22		
117	Sheet piling works for ELS - 300 pcs (length 12m)	10 days	Mar 15 '22	Mar 24 '22		
118	Excavation works (6900m3) and ELS installation	56 days	Apr 10 '22	Jun 4 '22		
119	Shortage of Acetylene Gas	24 days	Apr 10 '22	May 3 '22		
120	ELS installation and excavation	25 days	May 4 '22	May 28 '22		
121	Welding of pile head capping plate	13 days	May 23 '22	Jun 4 '22		
122	Laying of blinding layer	3 days	Jun 5 '22	Jun 7 '22		
123	Submission and acceptance of method statement for pile cap construction	45 days	Mar 15 '22	Apr 28 '22		
124	Submission and acceptance of water proofing material	45 days	Mar 15 '22	Apr 28 '22		
125	Concrete mix submission, plant trial and acceptance of Grade 50 concrete	45 days	Mar 9 '22	Apr 22 '22		
126	Construction of pile cap	38 days	Jun 8 '22	Jul 15 '22		
127	Installation of water proofing system and testing	14 days	Jun 8 '22	Jun 21 '22		
128	Rebar fixing	21 days	Jun 22 '22	Jul 12 '22		
129	Concreting of pile cap (996 m3)	3 days	Jul 13 '22	Jul 15 '22		
130	Backfilling to pile cap top level	2 days	Jul 16 '22	Jul 17 '22		
131	**Foundation Works - HCF**	**325 days**	**Oct 2 '21**	**Aug 22 '22**		
132	Pre-drilling works (25 nos.)	20 days	Oct 2 '21	Oct 21 '21		5 x 4d/hole
133	Pre-drill log report and Point Load Test	11 days	Oct 22 '21	Nov 1 '21		
134	Design review for foundation works	30 days	Nov 2 '21	Dec 1 '21		
135	Piling works - HCF (56 nos. of pre-bored H piles) - Total length = 1871m	72 days	Dec 21 '21	Mar 2 '22		
136	Testing of pre-bored H-pile - proof drilling	7 days	Mar 7 '22	Mar 13 '22		
137	Testing of pre-bored H-pile - compression load test	62 days	Mar 7 '22	May 7 '22		
138	Shortage of Acetylene Gas	36 days	Mar 7 '22	Apr 11 '22		
139	Construction of mini-piles and setting up of load test	21 days	Apr 12 '22	May 2 '22		
140	Compression load test	5 days	May 3 '22	May 7 '22		
141	Sheet piling works for ELS - 425 pcs (length 6m)	15 days	Mar 23 '22	Apr 6 '22	3	60 pcs/day
142	Excavation works (7600m3)	49 days	May 8 '22	Jun 25 '22		
143	Welding of pile head capping plate	14 days	Jun 12 '22	Jun 25 '22		
144	Laying of blinding layer	3 days	Jun 26 '22	Jun 28 '22		



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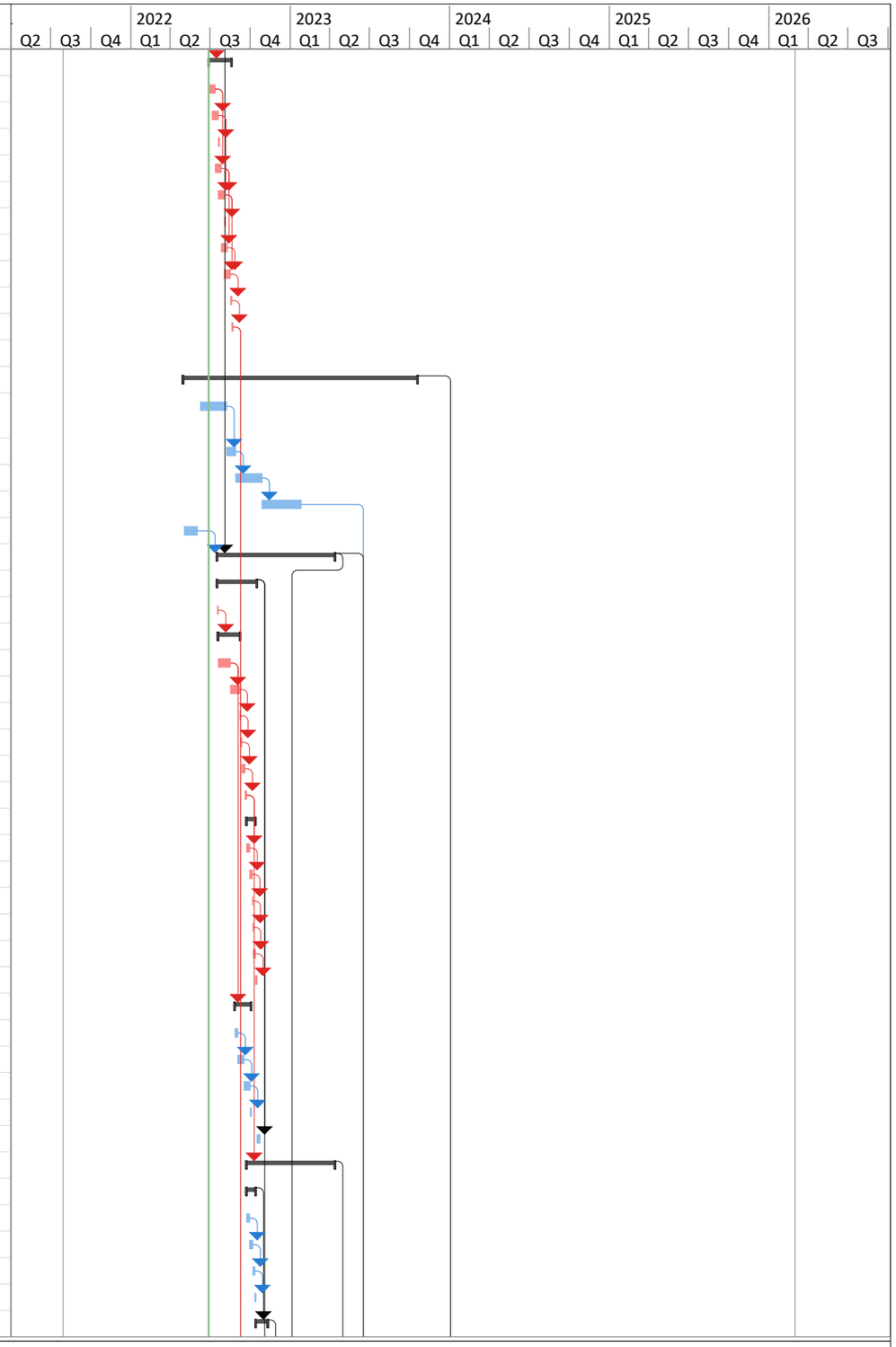
ID	Task Name	Duration	Start	Finish	TRA	Notes
145	Construction of pile cap	52 days	Jun 29 '22	Aug 19 '22		
146	Installation of water proofing system and testing (1/3)	14 days	Jun 29 '22	Jul 12 '22		From G.L. 1
147	Rebar fixing (1/3)	14 days	Jul 6 '22	Jul 19 '22		
148	Concreting of pile cap (1/3) - 920m3	3 days	Jul 20 '22	Jul 22 '22		
149	Installation of water proofing system and testing (1/3)	14 days	Jul 13 '22	Jul 26 '22		
150	Rebar fixing (1/3)	14 days	Jul 20 '22	Aug 2 '22		
151	Concreting of pile cap (1/3) - 920m3	3 days	Aug 3 '22	Aug 5 '22		
152	Installation of water proofing system and testing (1/3)	14 days	Jul 27 '22	Aug 9 '22		
153	Rebar fixing (1/3)	14 days	Aug 3 '22	Aug 16 '22		
154	Concreting of pile cap (1/3) - 920m3	3 days	Aug 17 '22	Aug 19 '22		
155	Backfilling to pile cap top level	3 days	Aug 20 '22	Aug 22 '22		
156						
157	**Construction of SWHWRP**	**537 days**	**May 1 '22**	**Oct 19 '23**		
158	Submission and acceptance of DfMA proposal for bathroom unit, valves chamber, water refilling station	60 days	Jun 9 '22	Aug 7 '22		
159	Selection of Supplier for DfMA	21 days	Aug 8 '22	Aug 28 '22		
160	Manufacture of DfMA Precast Segments	60 days	Aug 29 '22	Oct 27 '22		
161	Installation of DfMA segments	90 days	Oct 28 '22	Jan 25 '23		
162	Submission and acceptance of method statement for construction of ReWPS and HCF	30 days	May 3 '22	Jun 1 '22		
163	**Construction of RC structure of ReWPS**	**270 days**	**Jul 18 '22**	**Apr 13 '23**		
164	**Construction of basement (below ground)**	**91 days**	**Jul 18 '22**	**Oct 16 '22**		
165	Removal of ELS strut and wailing (2nd layer)	2 days	Jul 18 '22	Jul 19 '22		
166	Construction of external walls, W6, W8-W15, beams and slabs (+0mPD to +5.6mPD)	51 days	Jul 20 '22	Sep 8 '22		
167	Scaffolding erection and rebar fixing	28 days	Jul 20 '22	Aug 16 '22		
168	Falsework and Formwork erection	21 days	Aug 17 '22	Sep 6 '22		
169	Concreting	2 days	Sep 7 '22	Sep 8 '22		
170	Removal of formwork	3 days	Sep 9 '22	Sep 11 '22		
171	Installation and testing of water proofing system	7 days	Sep 12 '22	Sep 18 '22		
172	Backfilling and removal of ELS strut and wailing (1st layer)	4 days	Sep 19 '22	Sep 22 '22		
173	Construction of external walls, W6, W8-W15 (+5.6mPD to +7.2mPD)	20 days	Sep 23 '22	Oct 12 '22		
174	Scaffolding erection and rebar fixing	7 days	Sep 23 '22	Sep 29 '22		
175	Formwork erection	6 days	Sep 30 '22	Oct 5 '22		
176	Concreting	1 day	Oct 6 '22	Oct 6 '22		
177	Removal of formwork	1 day	Oct 7 '22	Oct 7 '22		
178	Installation and testing of water proofing system	5 days	Oct 8 '22	Oct 12 '22		
179	Backfilling from +5.6mPD to +7.2mPD	4 days	Oct 13 '22	Oct 16 '22		
180	Construction of Staircase ST1, ST2 (+0mPD to +7.2mPD)	38 days	Aug 27 '22	Oct 3 '22		
181	Scaffolding and falsework erection	7 days	Aug 27 '22	Sep 2 '22		
182	Rebar fixing	14 days	Sep 3 '22	Sep 16 '22		
183	Formwork erection	14 days	Sep 17 '22	Sep 30 '22		
184	Concreting	3 days	Oct 1 '22	Oct 3 '22		
185	Removal of ELS sheet piles	7 days	Oct 17 '22	Oct 23 '22		
186	**Construction of Superstructure (above ground) - Grid Line 4-6**	**203 days**	**Sep 23 '22**	**Apr 13 '23**		
187	Construction of base slab (+4.45mPD to +5.95mPD & +5.6mPD to +7.1mPD)	21 days	Sep 23 '22	Oct 13 '22		
188	Installation of water proofing system	7 days	Sep 23 '22	Sep 29 '22		
189	Rebar fixing	7 days	Sep 30 '22	Oct 6 '22		
190	Formwork erection	5 days	Oct 7 '22	Oct 11 '22		
191	Concreting	2 days	Oct 12 '22	Oct 13 '22		
192	Construction of Columns (+5.95mPD to +13.25mPD)	28 days	Oct 14 '22	Nov 10 '22		



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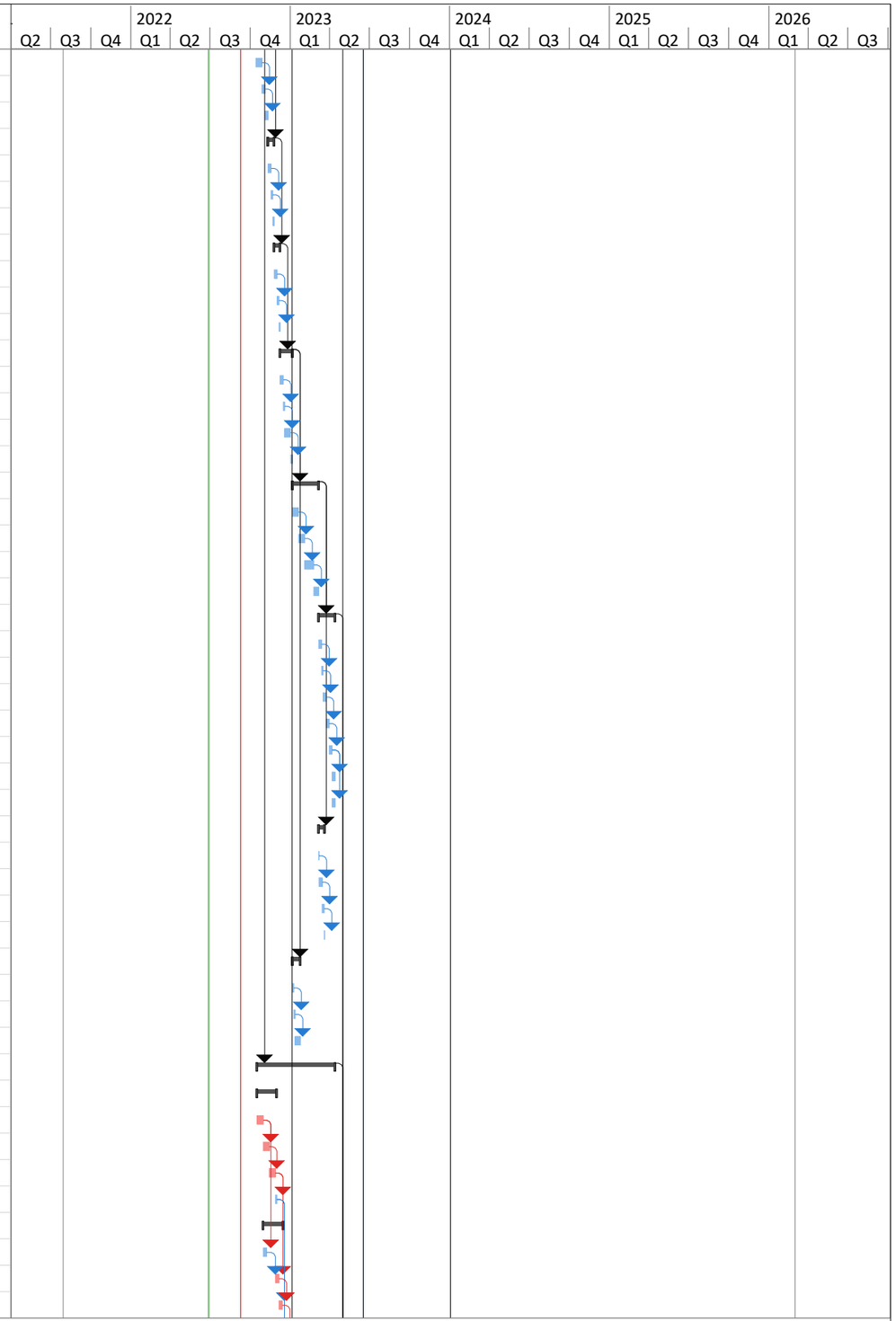
Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Notes
193	Scaffolding erection and rebar fixing	14 days	Oct 14 '22	Oct 27 '22		
194	Formwork erection	7 days	Oct 28 '22	Nov 3 '22		
195	Concreting	7 days	Nov 4 '22	Nov 10 '22		
196	Construction of Bearing walls and Slabs (+5.95mPD to +7.2mPD)	14 days	Nov 11 '22	Nov 24 '22		
197	Rebar fixing	7 days	Nov 11 '22	Nov 17 '22		
198	Formwork erection	4 days	Nov 18 '22	Nov 21 '22		
199	Concreting and curing of concrete	3 days	Nov 22 '22	Nov 24 '22		
200	Construction of Bearing walls (+7.2mPD to +13.25mPD)	14 days	Nov 25 '22	Dec 8 '22		
201	Rebar fixing	7 days	Nov 25 '22	Dec 1 '22		
202	Formwork erection	4 days	Dec 2 '22	Dec 5 '22		
203	Concreting and curing of concrete	3 days	Dec 6 '22	Dec 8 '22		
204	Construction of Beams and Slabs at +11.8mPD	28 days	Dec 9 '22	Jan 5 '23		
205	Scaffolding and falsework erection	7 days	Dec 9 '22	Dec 15 '22		
206	Formwork erection	3 days	Dec 16 '22	Dec 18 '22		
207	Rebar fixing	14 days	Dec 19 '22	Jan 1 '23		
208	Concreting and curing of concrete	4 days	Jan 2 '23	Jan 5 '23		
209	Construction of Beams and Slabs at +13.25mPD	60 days	Jan 6 '23	Mar 6 '23		
210	Scaffolding and falsework erection	14 days	Jan 6 '23	Jan 19 '23		
211	Formwork erection	14 days	Jan 20 '23	Feb 2 '23		
212	Rebar fixing	21 days	Feb 3 '23	Feb 23 '23		
213	Concreting and curing of concrete	11 days	Feb 24 '23	Mar 6 '23		
214	Installation of internal finishing works for Grid Line 4-6	38 days	Mar 7 '23	Apr 13 '23		
215	Mass concrete for cable trench	7 days	Mar 7 '23	Mar 13 '23		
216	Waterproofing system at slabs	3 days	Mar 14 '23	Mar 16 '23		
217	Epoxy painting on floor finish	7 days	Mar 17 '23	Mar 23 '23		
218	Plaster and paint at wall and soffit	7 days	Mar 24 '23	Mar 30 '23		
219	Chequer plate system at cable trench and aerator room	7 days	Mar 31 '23	Apr 6 '23		
220	Steel grating floor system at chemical storage rooms	7 days	Apr 7 '23	Apr 13 '23		
221	SS door and aluminum louver	7 days	Apr 7 '23	Apr 13 '23		
222	Construction of Parapet Walls (+13.25mPD to +14.65mPD)	14 days	Mar 7 '23	Mar 20 '23		
223	Scaffolding erection	1 day	Mar 7 '23	Mar 7 '23		
224	Rebar fixing	7 days	Mar 8 '23	Mar 14 '23		
225	Formwork erection	5 days	Mar 15 '23	Mar 19 '23		
226	Concreting	1 day	Mar 20 '23	Mar 20 '23		
227	Construction of Staircase ST3 (+7.1mPD to +13.5mPD)	18 days	Jan 6 '23	Jan 23 '23		
228	Installation of precast segments	3 days	Jan 6 '23	Jan 8 '23		
229	Rebar fixing	3 days	Jan 9 '23	Jan 11 '23		
230	Concreting and curing of concrete	12 days	Jan 12 '23	Jan 23 '23		
231	**Construction of Superstructure (above ground) - Grid Line 1-4**	**179 days**	**Oct 17 '22**	**Apr 13 '23**		
232	Construction of Beams and Slabs at +7.2mPD	45 days	Oct 17 '22	Nov 30 '22		
233	Falsework erection	14 days	Oct 17 '22	Oct 30 '22		
234	Formwork erection	14 days	Oct 31 '22	Nov 13 '22		
235	Rebar fixing	14 days	Nov 14 '22	Nov 27 '22		
236	Concreting	3 days	Nov 28 '22	Nov 30 '22		
237	Construction of Beams and Slabs at +9.1mPD	46 days	Oct 31 '22	Dec 15 '22		
238	Falsework erection	8 days	Oct 31 '22	Nov 7 '22		
239	Formwork erection	8 days	Nov 28 '22	Dec 5 '22		
240	Rebar fixing	8 days	Dec 6 '22	Dec 13 '22		



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Milestone	Inactive Summary	Start-only	Critical	
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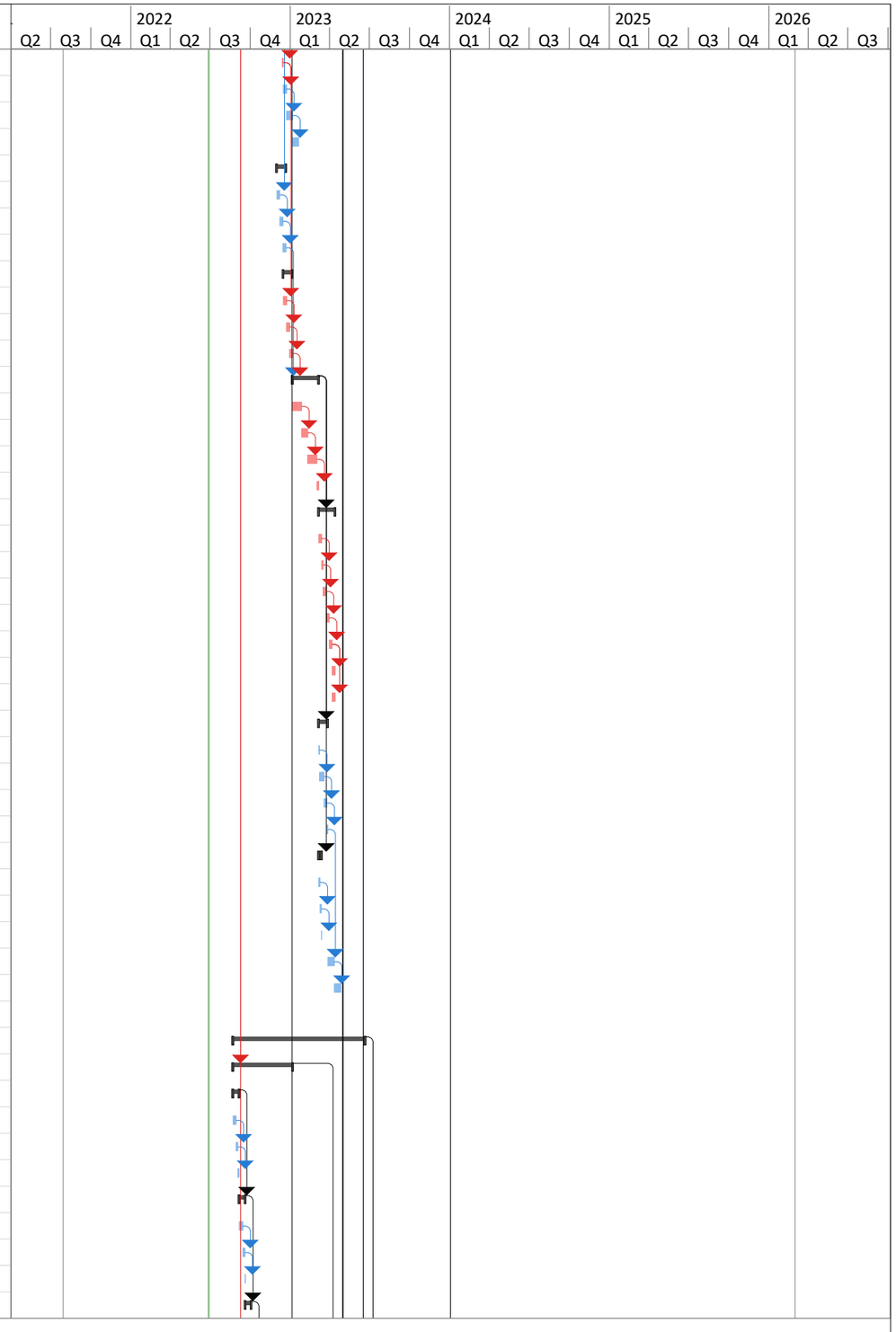
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Notes
241	Concreting	2 days	Dec 14 '22	Dec 15 '22		
242	Removal of formwork and falsework	7 days	Dec 16 '22	Dec 22 '22		
243	Watertightness test	14 days	Dec 23 '22	Jan 5 '23		
244	Installation of internal finishing works for basement	14 days	Jan 6 '23	Jan 19 '23		
245	Construction of Walls and Columns (+7.2mPD to +15.2mPD)	21 days	Dec 1 '22	Dec 21 '22		
246	Scaffolding erection and rebar fixing	7 days	Dec 1 '22	Dec 7 '22		
247	Formwork erection	7 days	Dec 8 '22	Dec 14 '22		
248	Concreting	7 days	Dec 15 '22	Dec 21 '22		
249	Construction of Walls and Columns (+9.1mPD to +15.2mPD)	21 days	Dec 16 '22	Jan 5 '23		
250	Scaffolding erection and rebar fixing	7 days	Dec 16 '22	Dec 22 '22		
251	Formwork erection	7 days	Dec 23 '22	Dec 29 '22		
252	Concreting	7 days	Dec 30 '22	Jan 5 '23		
253	Construction of Beams and Slabs at +15.2mPD	60 days	Jan 6 '23	Mar 6 '23		
254	Falsework erection	21 days	Jan 6 '23	Jan 26 '23		
255	Formwork erection	14 days	Jan 27 '23	Feb 9 '23		
256	Rebar fixing	21 days	Feb 10 '23	Mar 2 '23		
257	Concreting	4 days	Mar 3 '23	Mar 6 '23		
258	Installation of internal finishing works for Grid Line 1-4 above ground	38 days	Mar 7 '23	Apr 13 '23		
259	Mass concrete for cable trench	7 days	Mar 7 '23	Mar 13 '23		
260	Waterproofing system at slabs	3 days	Mar 14 '23	Mar 16 '23		
261	Epoxy painting on floor finish	7 days	Mar 17 '23	Mar 23 '23		
262	Plaster and paint at wall and soffit	7 days	Mar 24 '23	Mar 30 '23		
263	Chequer plate system at cable trench and aerator room	7 days	Mar 31 '23	Apr 6 '23		
264	Steel grating floor system at chemical storage rooms	7 days	Apr 7 '23	Apr 13 '23		
265	SS door and aluminum louver	7 days	Apr 7 '23	Apr 13 '23		
266	Construction of Parapet Walls (+15.2mPD to +16.6mPD)	21 days	Mar 7 '23	Mar 27 '23		
267	Scaffolding erection	2 days	Mar 7 '23	Mar 8 '23		
268	Rebar fixing	10 days	Mar 9 '23	Mar 18 '23		
269	Formwork erection	7 days	Mar 19 '23	Mar 25 '23		
270	Concreting	2 days	Mar 26 '23	Mar 27 '23		
271	Construction of Staircase ST3 (+13.5mPD to +15.45mPD)	7 days	Mar 7 '23	Mar 13 '23		
272	Installation of precast segments	3 days	Mar 7 '23	Mar 9 '23		
273	Rebar fixing	3 days	Mar 10 '23	Mar 12 '23		
274	Concreting and curing of concrete	1 day	Mar 13 '23	Mar 13 '23		
275	**Construction of water proofing system at roof slab of ReWPS**	**15 days**	**Mar 28 '23**	**Apr 11 '23**		
276	**Water tightness test for roof slab of ReWPS**	**15 days**	**Apr 12 '23**	**Apr 26 '23**		
277						
278	**Construction of RC structure of HCF**	**303 days**	**Aug 23 '22**	**Jun 21 '23**		
279	**Construction of Superstructure (above ground) - Grid Line 1-3**	**137 days**	**Aug 23 '22**	**Jan 6 '23**		
280	Construction of Columns (+5.55mPD to +13.00mPD)	14 days	Aug 23 '22	Sep 5 '22		
281	Scaffolding erection and rebar fixing	7 days	Aug 23 '22	Aug 29 '22		
282	Formwork erection	4 days	Aug 30 '22	Sep 2 '22		
283	Concreting	3 days	Sep 3 '22	Sep 5 '22		
284	Construction of Wall W8 (+5.8mPD to +10.4mPD)	14 days	Sep 6 '22	Sep 19 '22		
285	Scaffolding erection and Rebar fixing	8 days	Sep 6 '22	Sep 13 '22		
286	Formwork erection	5 days	Sep 14 '22	Sep 18 '22		
287	Concreting	1 day	Sep 19 '22	Sep 19 '22		
288	Construction of Bearing walls and Slabs (+5.55mPD to +7.1mPD)	14 days	Sep 20 '22	Oct 3 '22		



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Project Summary	Duration-only	External Tasks	Progress	

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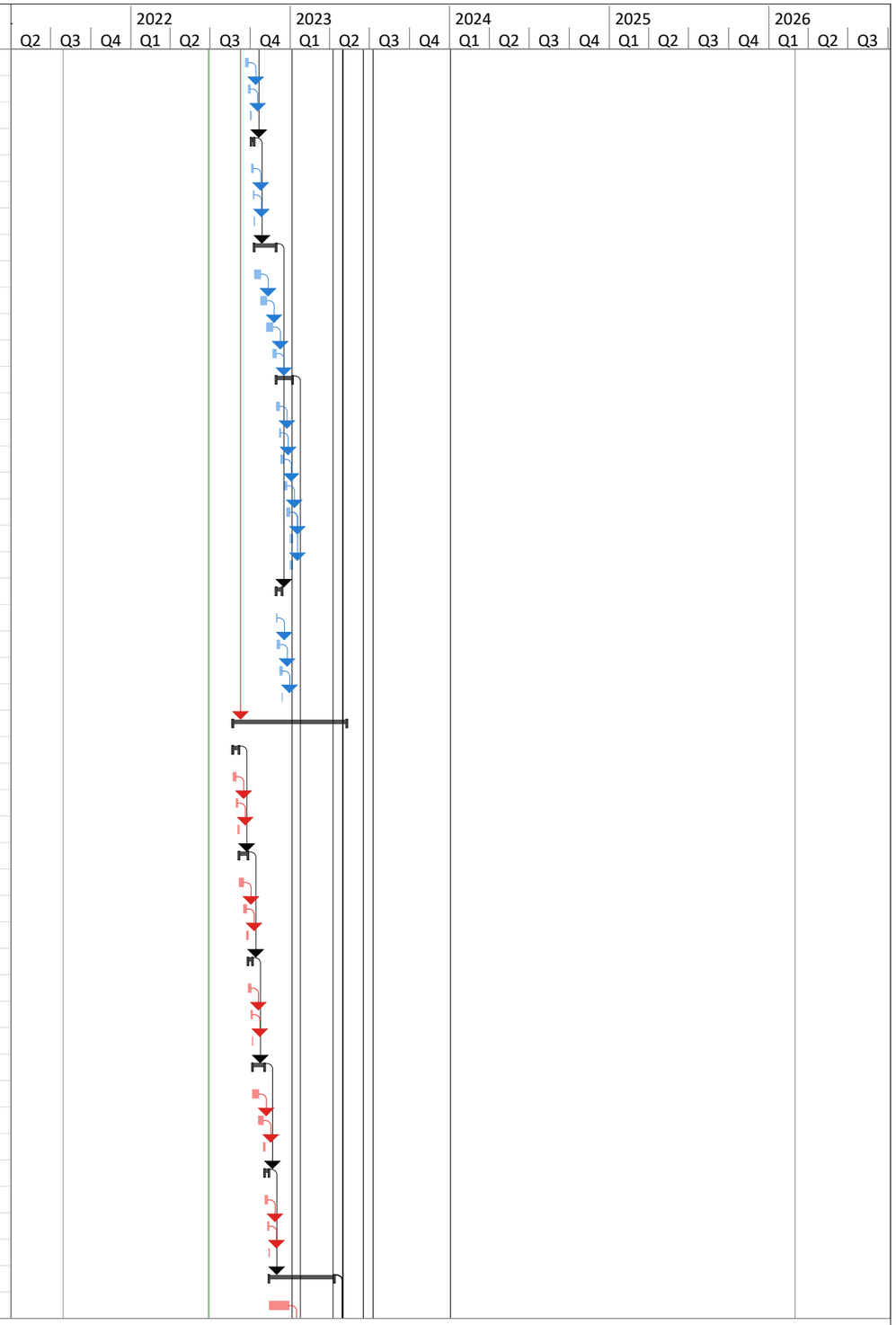
289	Rebar fixing	7 days	Sep 20 '22	Sep 26 '22		
290	Formwork erection	4 days	Sep 27 '22	Sep 30 '22		
291	Concreting and curing of concrete	3 days	Oct 1 '22	Oct 3 '22		
292	Construction of Columns (+10.4mPD to +13.00mPD)	7 days	Oct 4 '22	Oct 10 '22		
293	Scaffolding erection and Rebar fixing	4 days	Oct 4 '22	Oct 7 '22		
294	Formwork erection	2 days	Oct 8 '22	Oct 9 '22		
295	Concreting	1 day	Oct 10 '22	Oct 10 '22		
296	Construction of Beams and Slabs at +13.00mPD	50 days	Oct 11 '22	Nov 29 '22		
297	Scaffolding and falsework erection	14 days	Oct 11 '22	Oct 24 '22		
298	Formwork erection	14 days	Oct 25 '22	Nov 7 '22		
299	Rebar fixing	14 days	Nov 8 '22	Nov 21 '22		
300	Concreting and curing of concrete	8 days	Nov 22 '22	Nov 29 '22		
301	Installation of internal finishing works for Grid Line 1-3	38 days	Nov 30 '22	Jan 6 '23		
302	Mass concrete for cable trench	7 days	Nov 30 '22	Dec 6 '22		
303	Waterproofing system at slabs	3 days	Dec 7 '22	Dec 9 '22		
304	Epoxy painting on floor finish	7 days	Dec 10 '22	Dec 16 '22		
305	Plaster and paint at wall and soffit	7 days	Dec 17 '22	Dec 23 '22		
306	Chequer plate system at cable trench and aerator room	7 days	Dec 24 '22	Dec 30 '22		
307	Steel grating floor system at chemical storage rooms	7 days	Dec 31 '22	Jan 6 '23		
308	SS door and aluminum louver	7 days	Dec 31 '22	Jan 6 '23		
309	Construction of Parapet Walls (+13.00mPD to +15.1mPD)	14 days	Nov 30 '22	Dec 13 '22		
310	Scaffolding erection	1 day	Nov 30 '22	Nov 30 '22		
311	Rebar fixing	7 days	Dec 1 '22	Dec 7 '22		
312	Formwork erection	5 days	Dec 8 '22	Dec 12 '22		
313	Concreting	1 day	Dec 13 '22	Dec 13 '22		
314	**Construction of Superstructure (above ground) - Grid Line 3-7**	**261 days**	**Aug 23 '22**	**May 10 '23**		
315	Construction of Columns (+4.55mPD to +10.8mPD)	14 days	Aug 23 '22	Sep 5 '22		
316	Scaffolding erection and rebar fixing	7 days	Aug 23 '22	Aug 29 '22		
317	Formwork erection	4 days	Aug 30 '22	Sep 2 '22		
318	Concreting	3 days	Sep 3 '22	Sep 5 '22		
319	Construction of Walls W1, W7, W19, W20, W29	21 days	Sep 6 '22	Sep 26 '22		
320	Scaffolding erection and Rebar fixing	10 days	Sep 6 '22	Sep 15 '22		
321	Formwork erection	7 days	Sep 16 '22	Sep 22 '22		
322	Concreting	4 days	Sep 23 '22	Sep 26 '22		
323	Construction of Walls W9, W13, W14, W37, W38	10 days	Sep 27 '22	Oct 6 '22		
324	Scaffolding erection and Rebar fixing	6 days	Sep 27 '22	Oct 2 '22		
325	Formwork erection	3 days	Oct 3 '22	Oct 5 '22		
326	Concreting	1 day	Oct 6 '22	Oct 6 '22		
327	Construction of Walls W2 to W6	28 days	Oct 7 '22	Nov 3 '22		
328	Scaffolding erection and Rebar fixing	14 days	Oct 7 '22	Oct 20 '22		
329	Formwork erection	10 days	Oct 21 '22	Oct 30 '22		
330	Concreting	4 days	Oct 31 '22	Nov 3 '22		
331	Construction of Walls W10, W11, W15, W16, W12, W35, W36	10 days	Nov 4 '22	Nov 13 '22		
332	Scaffolding erection and Rebar fixing	6 days	Nov 4 '22	Nov 9 '22		
333	Formwork erection	3 days	Nov 10 '22	Nov 12 '22		
334	Concreting	1 day	Nov 13 '22	Nov 13 '22		
335	Construction of Beams and Slabs at +10.4mPD and +10.8mPD	150 days	Nov 14 '22	Apr 12 '23		
336	Scaffolding and falsework erection	45 days	Nov 14 '22	Dec 28 '22		



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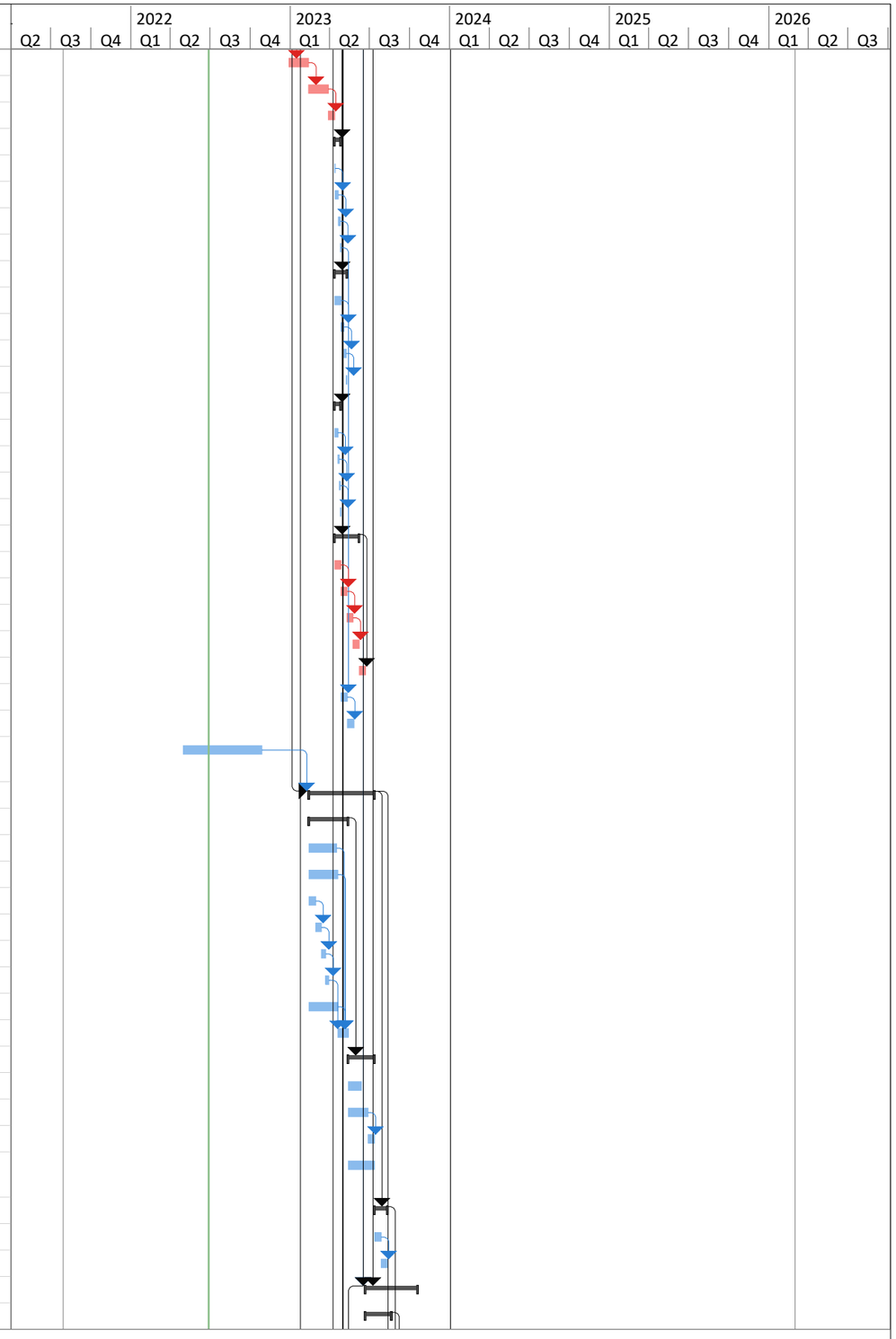
Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress	
Split	Inactive Milestone	Manual Summary	Deadline		
Milestone	Inactive Summary	Start-only	Critical		
Summary	Manual Task	Finish-only	Critical Split		
Project Summary	Duration-only	External Tasks	Progress		

ID	Task Name	Duration	Start	Finish	TRA	Notes
337	Formwork erection	45 days	Dec 29 '22	Feb 11 '23		
338	Rebar fixing	45 days	Feb 12 '23	Mar 28 '23		
339	Concreting and curing of concrete	15 days	Mar 29 '23	Apr 12 '23		
340	Construction of Parapet Walls (+10.4mPD/+10.8mPD to +12.5mPD)	14 days	Apr 13 '23	Apr 26 '23		
341	Scaffolding erection	1 day	Apr 13 '23	Apr 13 '23		
342	Rebar fixing	7 days	Apr 14 '23	Apr 20 '23		
343	Formwork erection	5 days	Apr 21 '23	Apr 25 '23		
344	Concreting	1 day	Apr 26 '23	Apr 26 '23		
345	Construction of Staircase ST01 (+7.1mPD to +11.35mPD)	28 days	Apr 13 '23	May 10 '23		
346	Scaffolding and falsework erection	14 days	Apr 13 '23	Apr 26 '23		
347	Rebar fixing	7 days	Apr 27 '23	May 3 '23		
348	Formwork erection	5 days	May 4 '23	May 8 '23		
349	Concreting	2 days	May 9 '23	May 10 '23		
350	Construction of Staircase ST02 (+10.4mPD to +13.95mPD)	14 days	Apr 13 '23	Apr 26 '23		
351	Scaffolding and falsework erection	7 days	Apr 13 '23	Apr 19 '23		
352	Rebar fixing	3 days	Apr 20 '23	Apr 22 '23		
353	Formwork erection	3 days	Apr 23 '23	Apr 25 '23		
354	Concreting	1 day	Apr 26 '23	Apr 26 '23		
355	Watertightness test in stages	56 days	Apr 13 '23	Jun 7 '23		
356	Inlet Channel and Outlet Channel	14 days	Apr 13 '23	Apr 26 '23		
357	On duty contact tank	14 days	Apr 27 '23	May 10 '23		
358	Standby contact tank	14 days	May 11 '23	May 24 '23		
359	Overall water retaining structure at HCF	14 days	May 25 '23	Jun 7 '23		
360	Installation of internal finishing works for Grid Line 3-7	14 days	Jun 8 '23	Jun 21 '23		
361	Construction of water proofing system at roof slab of HCF	15 days	Apr 27 '23	May 11 '23		
362	Water tightness test for roof slab of HCF	15 days	May 12 '23	May 26 '23		
363	WWO542 design submission for Street Fire Hydrant, potable, flushing, cleansing & irrigation water supply	180 days	May 1 '22	Oct 27 '22		
364	**Construction of roadworks**	**150 days**	**Feb 13 '23**	**Jul 12 '23**		
365	Construction of fence wall	90 days	Feb 13 '23	May 13 '23		
366	Type-1 fence wall at East side (189m)	63 days	Feb 13 '23	Apr 16 '23		
367	Type-2 & Type-3 fence wall at West side (198m)	66 days	Feb 13 '23	Apr 19 '23		
368	Type-3 fence wall at North side (44m)	15 days	Feb 13 '23	Feb 27 '23		
369	Type-2 & Type-3 fence wall at South side (37m)	13 days	Feb 28 '23	Mar 12 '23		
370	Type-4 fence wall at middle (28m)	10 days	Mar 13 '23	Mar 22 '23		
371	Installation of Gate 1 and Gate 2	7 days	Mar 23 '23	Mar 29 '23		
372	Fabrication of steelworks	66 days	Feb 13 '23	Apr 19 '23		
373	Installation of wall finishes and steelworks	24 days	Apr 20 '23	May 13 '23		
374	Construction of underground utilities	60 days	May 14 '23	Jul 12 '23		
375	Laying of pipe work system outside ReWPS and HCF	30 days	May 14 '23	Jun 12 '23		
376	Construction of chambers and water refilling station	45 days	May 14 '23	Jun 27 '23		
377	Installation of surge vessels	15 days	Jun 28 '23	Jul 12 '23		
378	Construction of underground utilities (drainage, irrigation system, cable ducting, CLP cable ducts & drawpits, street fire hydrant, etc)	60 days	May 14 '23	Jul 12 '23		
379	**Construction of EVA road pavement**	**30 days**	**Jul 13 '23**	**Aug 11 '23**		
380	Construction of road pavement near ReWPS	15 days	Jul 13 '23	Jul 27 '23		
381	Construction of road pavement near HCF	15 days	Jul 28 '23	Aug 11 '23		
382	**Installation of architectural works**	**120 days**	**Jun 22 '23**	**Oct 19 '23**		
383	Installation of architectural works near ReWPS	60 days	Jun 22 '23	Aug 20 '23		



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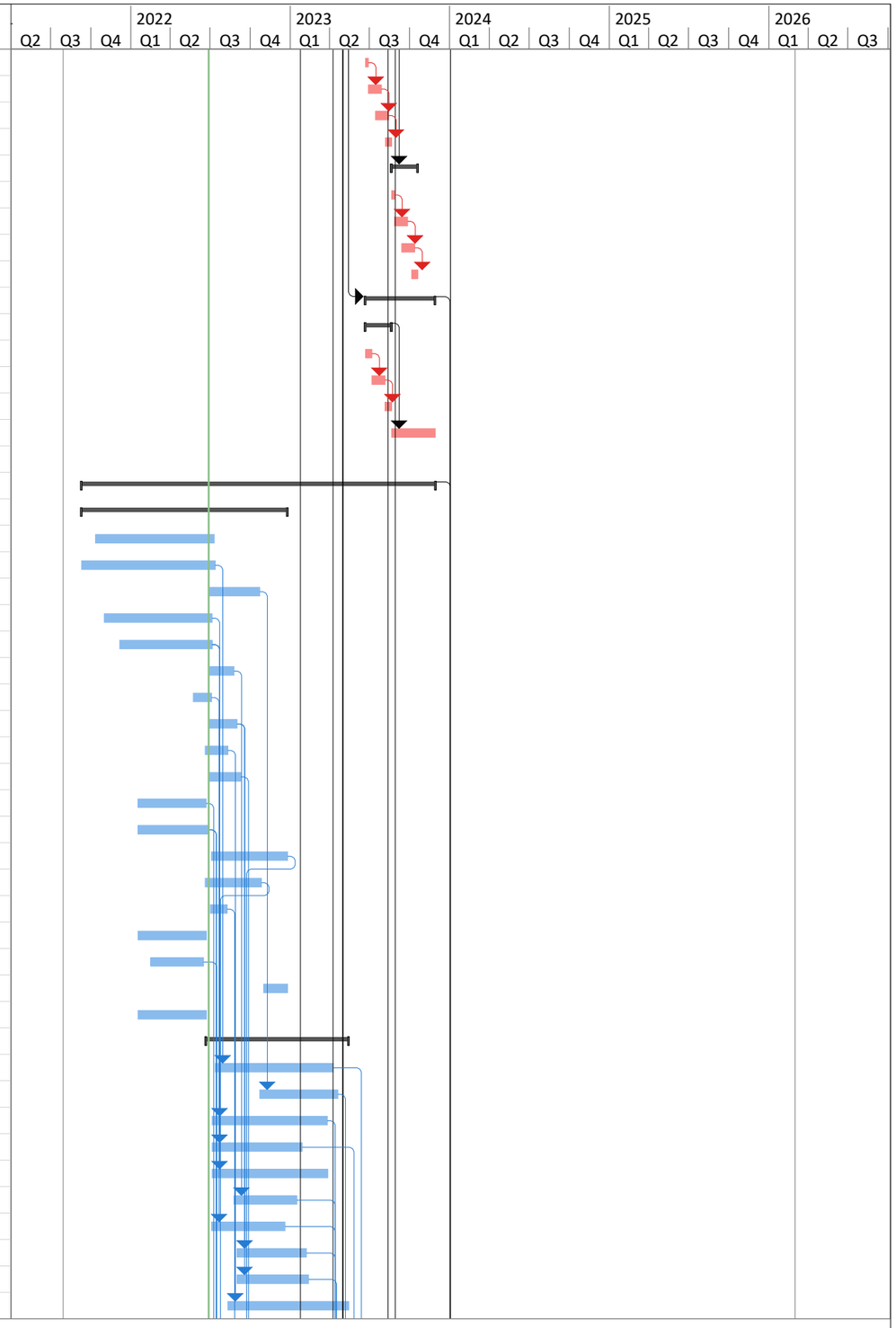
Project Summary	Duration-only	External Tasks	Progress		

ID	Task Name	Duration	Start	Finish	TRA	Notes
384	Erection of working platform	7 days	Jun 22 '23	Jun 28 '23		
385	Laying of artificial granite tile at external wall	30 days	Jun 29 '23	Jul 28 '23		
386	Installation of steelworks	30 days	Jul 15 '23	Aug 13 '23		
387	Installation of cladding	14 days	Aug 7 '23	Aug 20 '23		
388	Installation of architectural works near HCF	60 days	Aug 21 '23	Oct 19 '23		
389	Erection of working platform	7 days	Aug 21 '23	Aug 27 '23		
390	Laying of artificial granite tile at external wall	30 days	Aug 28 '23	Sep 26 '23		
391	Installation of steelworks	30 days	Sep 13 '23	Oct 12 '23		
392	Installation of cladding	14 days	Oct 6 '23	Oct 19 '23		
393	**Landscape works**	**160 days**	**Jun 22 '23**	**Nov 28 '23**		
394	Landscape works at roof top	60 days	Jun 22 '23	Aug 20 '23		
395	Installation of composite timber decking with pedestal	15 days	Jun 22 '23	Jul 6 '23		
396	Laying of artificial granite floor tile / paver block	30 days	Jul 7 '23	Aug 5 '23		
397	Construciton of roof drainage system	15 days	Aug 6 '23	Aug 20 '23		
398	Landscape works within SWHWRP	100 days	Aug 21 '23	Nov 28 '23		
399						
400	**E&M Works of SWHWRP**	**811 days**	**Sep 10 '21**	**Nov 29 '23**		
401	**Design and Submission Stage**	**472 days**	**Sep 10 '21**	**Dec 25 '22**		
402	Submission and acceptance of Surge Analysis Report	272 days	Oct 12 '21	Jul 10 '22		
403	Submission and acceptance of Reclaimed Water Main Pumps	306 days	Sep 10 '21	Jul 12 '22		
404	Submission and acceptance of Surge Vessels and Air Compressors	115 days	Jun 30 '22	Oct 22 '22		
405	Submission and acceptance of Penstock & Stoplog	247 days	Nov 1 '21	Jul 5 '22		
406	Submission and acceptance of Chemical Dosing System & Static In-line Mixer	212 days	Dec 6 '21	Jul 5 '22		
407	Submission and acceptance of Air Blower and Air Diffuser	56 days	Jun 30 '22	Aug 24 '22		
408	Submission and acceptance of Lifting Appliances	42 days	May 24 '22	Jul 4 '22		
409	Submission and acceptance of Minor Mechanical Equipment	63 days	Jun 30 '22	Aug 31 '22		
410	Submission and acceptance of LV switchboard	52 days	Jun 20 '22	Aug 10 '22		
411	Submission and acceptance of DCS	72 days	Jun 30 '22	Sep 9 '22		
412	Submission and acceptance of Instrumenation & Water Monitoring Equipment	156 days	Jan 17 '22	Jun 21 '22		
413	Submission and acceptance of Misc. Electrical Items	162 days	Jan 17 '22	Jun 27 '22		
414	Submission and acceptance of Fire Services Equipment	175 days	Jul 4 '22	Dec 25 '22		
415	Submission and acceptance of MVAC Equipment	129 days	Jun 20 '22	Oct 26 '22		
416	Submission and acceptance of Plumbing & Drainage Equipment	38 days	Jul 2 '22	Aug 8 '22		
417	Submission and acceptance of General Arrangement Drawing	157 days	Jan 17 '22	Jun 22 '22		
418	Submission and acceptance of Civil Requirement Drawing	121 days	Feb 15 '22	Jun 15 '22		
419	Submission and acceptance of method statement for E&M installation works	55 days	Nov 1 '22	Dec 25 '22		
420	CSD, CBWD coordination	157 days	Jan 17 '22	Jun 22 '22		
421	**Procurement and Delivery of Equipment**	**327 days**	**Jun 22 '22**	**May 14 '23**		
422	Reclaimed Water Main Pumps (6 nos.)	270 days	Jul 13 '22	Apr 8 '23		
423	Surge Vessels and Air Compressors	179 days	Oct 23 '22	Apr 19 '23		
424	Penstock & Stoplog	264 days	Jul 6 '22	Mar 26 '23		
425	Chemical Dosing System	206 days	Jul 6 '22	Jan 27 '23		
426	Static In-line Mixer	265 days	Jul 6 '22	Mar 27 '23		
427	Air Blower and Air Diffuser	144 days	Aug 25 '22	Jan 15 '23		
428	Lifting Appliances	168 days	Jul 5 '22	Dec 19 '22		
429	Sump Pumps	159 days	Sep 1 '22	Feb 6 '23		
430	Pipework and Valves	164 days	Sep 1 '22	Feb 11 '23		
431	LV switchboard	277 days	Aug 11 '22	May 14 '23		



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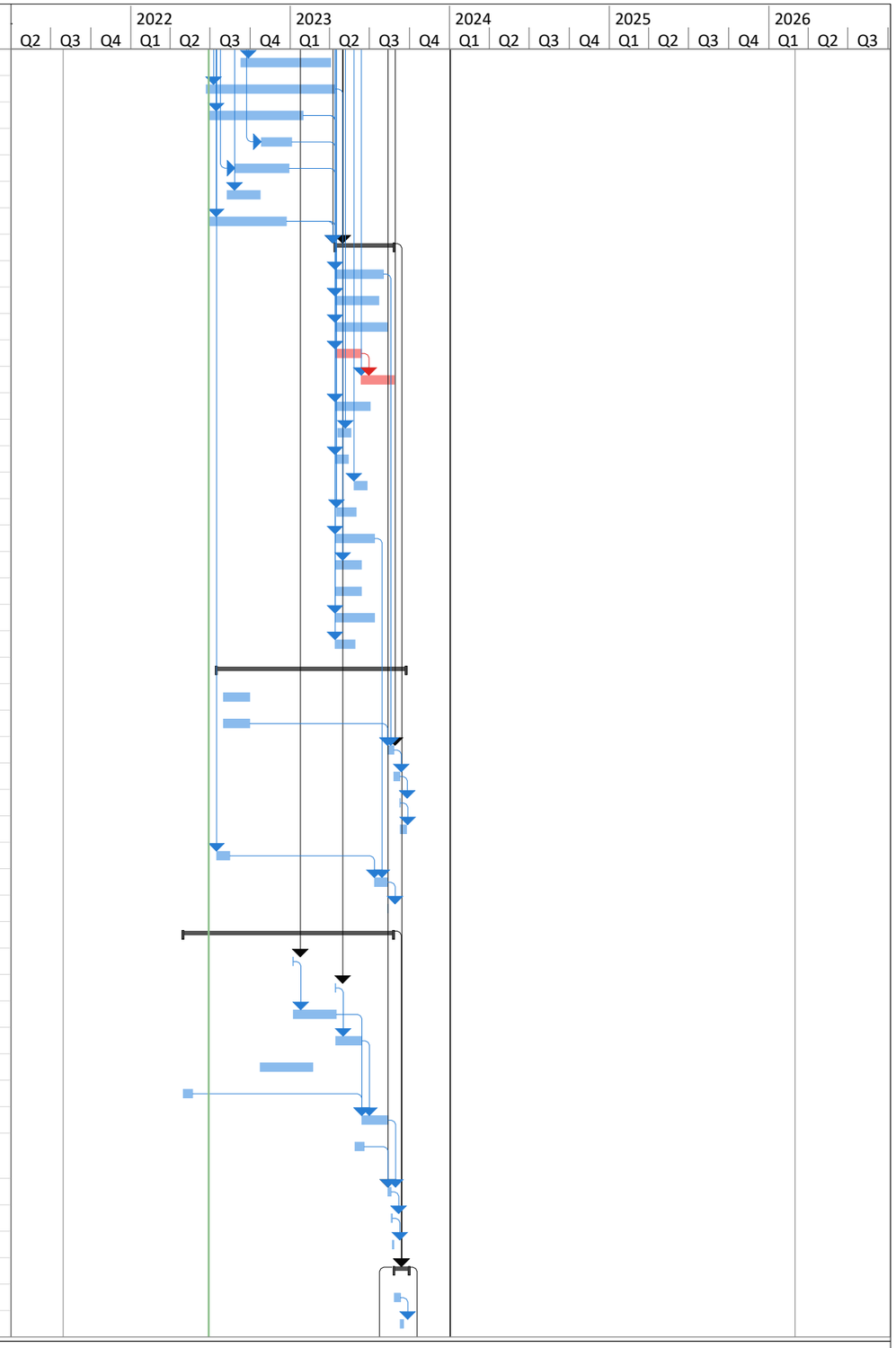
Project Summary	Duration-only	External Tasks	Progress		

ID	Task Name	Duration	Start	Finish	TRA	Notes
432	DCS	205 days	Sep 10 '22	Apr 2 '23		
433	Instrumenation and Water Monitoring Equipment	296 days	Jun 22 '22	Apr 13 '23		
434	Misc. Electrical Items (PV Panel, Earthing & Cables, etc)	216 days	Jun 28 '22	Jan 29 '23		
435	Fire Services Equipment	69 days	Oct 27 '22	Jan 3 '23		
436	MVAC Equipment	123 days	Aug 28 '22	Dec 28 '22		
437	Plumbing & Drainage Equipment	76 days	Aug 9 '22	Oct 23 '22		
438	Misc. Electrical Items (Cables, Cable Containment, Lightings)	178 days	Jun 28 '22	Dec 22 '22		
439	**Installation Works**	**135 days**	**Apr 14 '23**	**Aug 26 '23**		
440	Installation FS Equipment	110 days	Apr 14 '23	Aug 1 '23		
441	Installation of MVAC Equipment	100 days	Apr 14 '23	Jul 22 '23		
442	Installation of BS Equipment	120 days	Apr 14 '23	Aug 11 '23		
443	Installation of Lifting Appliance (12 nos.)	60 days	Apr 14 '23	Jun 12 '23		
444	Installation of Reclaimed Water Pumps (6 Nos.)	75 days	Jun 13 '23	Aug 26 '23		
445	Installation of penstocks (10 nos.) & Stoplogs (2 nos.)	80 days	Apr 14 '23	Jul 2 '23		
446	Installation of Surge Vessel (4 Nos.) & Air Compressor (4 Nos.)	30 days	Apr 20 '23	May 19 '23		
447	Installation of Air Blower (2 Nos.) & Air Diffuser (1 set)	30 days	Apr 14 '23	May 13 '23		
448	Installation of tanks (14 nos.) & Chemical Pumps (12 nos.)	30 days	May 27 '23	Jun 25 '23		
449	Installation of Pipeworks (DI, Chemical pipe, Air pipe)	45 days	Apr 17 '23	May 31 '23		
450	Installation of Cabling, MCC & DCS	90 days	Apr 14 '23	Jul 12 '23		
451	Installation of Instrumentation and Monitoring Stations	60 days	Apr 14 '23	Jun 12 '23		
452	Installation of ELV System (CCTV & Access Control)	60 days	Apr 14 '23	Jun 12 '23		
453	Installation of Plumbing & Drainage Equipment	90 days	Apr 14 '23	Jul 12 '23		
454	Installation of PV Panels	45 days	Apr 14 '23	May 28 '23		
455	**FS / DG Inspection Related Items**	**435 days**	**Jul 16 '22**	**Sep 23 '23**		
456	VAC Desgin Submission to FSD	60 days	Aug 1 '22	Sep 29 '22		
457	FS related statutory submission to FSD	60 days	Aug 1 '22	Sep 29 '22		
458	T&C of FS Related Installation (Integrated Test & Rehearsal)	14 days	Aug 12 '23	Aug 25 '23		
459	Submission of FS 314 & 501	14 days	Aug 26 '23	Sep 8 '23		
460	Target FS Inpsection	1 day	Sep 9 '23	Sep 9 '23		
461	Obtain FSD approval letter (Form FS172 Fire Certificate)	14 days	Sep 10 '23	Sep 23 '23		
462	DG Design Submission to FSD	30 days	Jul 16 '22	Aug 14 '22		
463	DG Inspection	30 days	Jul 13 '23	Aug 11 '23		
464	Obtain DG License	1 day	Aug 12 '23	Aug 12 '23		
465	**Power Energization Related Items**	**482 days**	**May 1 '22**	**Aug 25 '23**		
466	CLP Room Ready for BS installation (HCF)	1 day	Jan 7 '23	Jan 7 '23		
467	CLP Room Ready for BS installation (ReWPS)	1 day	Apr 14 '23	Apr 14 '23		
468	Installation of BS Equipment (HCF)	98 days	Jan 8 '23	Apr 15 '23		
469	Installation of BS Equipment (ReWPS)	60 days	Apr 15 '23	Jun 13 '23		
470	CLP meter application	120 days	Oct 24 '22	Feb 20 '23		
471	Cable laying by CLP in DSD's EVA	21 days	May 1 '22	May 21 '22		
472	Lead time for CLP installation works	60 days	Jun 14 '23	Aug 12 '23		
473	CLP's Inspection for Transformer Room(ReWPS), CLP Room(HCF), draw pit and accsociated cable ducts	21 days	May 29 '23	Jun 18 '23		
474	CLP to install Transformers and Cabling	7 days	Aug 13 '23	Aug 19 '23		
475	Power Energization from CLP Transformer to LVSB	3 days	Aug 20 '23	Aug 22 '23		
476	Power Energization from LVSB to All Equipment	3 days	Aug 23 '23	Aug 25 '23		
477	**Preliminary Test of Equipment**	**35 days**	**Aug 27 '23**	**Sep 30 '23**		
478	Inspection of Equipment/System with SOR	14 days	Aug 27 '23	Sep 9 '23		
479	Trial Run of Equipment/System	7 days	Sep 10 '23	Sep 16 '23		



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Task
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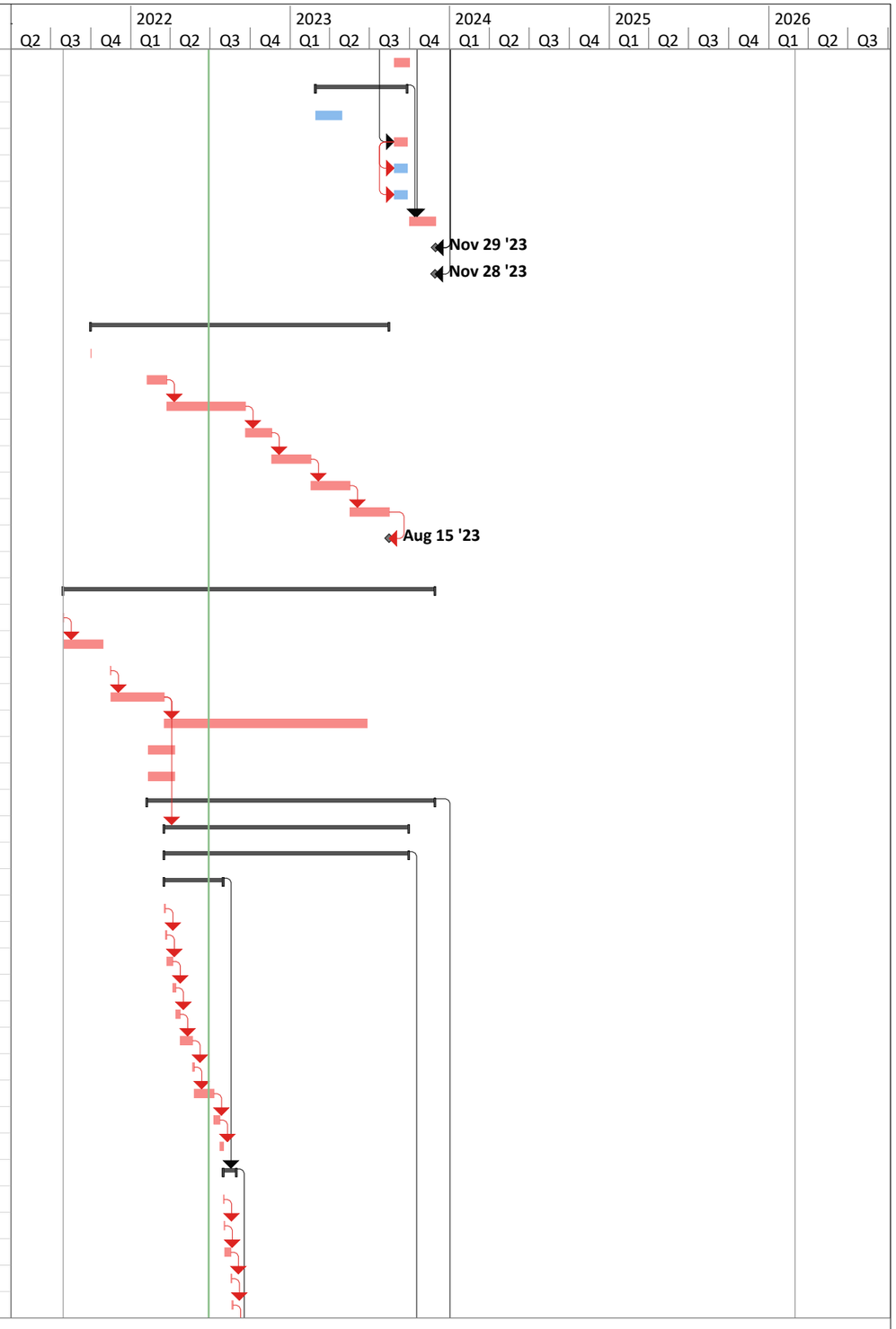
ID	Task Name	Duration	Start	Finish	TRA	Notes
480	Site Acceptance Test of Equipment/Systems with SOR	35 days	Aug 27 '23	Sep 30 '23		
481	**Submission**	**210 days**	**Feb 28 '23**	**Sep 25 '23**		
482	Submission of Testing Procedures & Commissioning Plan	60 days	Feb 28 '23	Apr 28 '23		
483	Submission of As Fitted Drawings	30 days	Aug 27 '23	Sep 25 '23		
484	Submission of Manual	30 days	Aug 27 '23	Sep 25 '23		
485	Submission of Training Material	30 days	Aug 27 '23	Sep 25 '23		
486	**System Commissioning Test**	**60 days**	**Oct 1 '23**	**Nov 29 '23**		
487	**Planned completion for section 1**	**0 days**	**Nov 29 '23**	**Nov 29 '23**		
488	**Planned completion for section 2**	**0 days**	**Nov 28 '23**	**Nov 28 '23**		
489						
490	**Section 3 - Modification of Table Hill Reclaimed Water Service Reservoir**	**684 days**	**Oct 1 '21**	**Aug 15 '23**		
491	Access Date (part 2 of the Site)	1 day	Oct 1 '21	Oct 1 '21		
492	Initial survey and condition survey	45 days	Feb 7 '22	Mar 23 '22		
493	Design submission and acceptance of the supplementary dosing and dyeing system (E&M)	180 days	Mar 24 '22	Sep 19 '22		
494	Submission and acceptance of method statement for supplementary dosing and dyeing system	60 days	Sep 20 '22	Nov 18 '22		
495	Construction of civil works	90 days	Nov 19 '22	Feb 16 '23		
496	Installation of supplementary dosing and dyeing system	90 days	Feb 17 '23	May 17 '23		
497	T&C of E&M equipment	90 days	May 18 '23	Aug 15 '23		
498	Planned completion for section 3	0 days	Aug 15 '23	Aug 15 '23		
499						
500	**Section 4 - Water main laying works in part 3 of the Site**	**852 days**	**Jul 30 '21**	**Nov 28 '23**		
501	Access Date (part 3 of the Site)	1 day	Jul 30 '21	Jul 30 '21		
502	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		
503	1st TMLG meeting	1 day	Nov 15 '21	Nov 15 '21		
504	Application and approval of XP and TTA, including local consultation	122 days	Nov 16 '21	Mar 17 '22		
505	Implementation of TTA by stages	465 days	Mar 18 '22	Jun 25 '23		
506	Procurement and Delivery of pipes, fittings and related materials	60 days	Feb 10 '22	Apr 10 '22		
507	Submission and acceptance of method statement and material	60 days	Feb 10 '22	Apr 10 '22		
508	**Mainlaying by open trench method (RW03 & RW43)**	**660 days**	**Feb 7 '22**	**Nov 28 '23**		
509	**RW03 : DN600 DI pipe - 1092m**	**561 days**	**Mar 18 '22**	**Sep 29 '23**		
510	**Team A : CH000 - CH550**	**561 days**	**Mar 18 '22**	**Sep 29 '23**		
511	CH450 - CH550 (100m)	136 days	Mar 18 '22	Jul 31 '22		
512	TTA establishment	3 days	Mar 18 '22	Mar 20 '22		
513	Hard material excavation and disposal	3 days	Mar 21 '22	Mar 23 '22		
514	Soil excavation , laying sheetpile and disposal	14 days	Mar 24 '22	Apr 6 '22		
515	Obstruction of unchart 900mm pipe	7 days	Apr 7 '22	Apr 13 '22		
516	Pending for setting out of DSD	10 days	Apr 14 '22	Apr 23 '22		
517	Amendment of ELS	28 days	Apr 24 '22	May 21 '22		
518	Treatment of bedding	4 days	May 22 '22	May 25 '22		
519	Pipe laying D.I. & PE (DSD's pipe)	45 days	May 26 '22	Jul 9 '22		
520	Backfilling sand/aggregate, concurrent bend block	14 days	Jul 10 '22	Jul 23 '22		
521	Reinstatement	8 days	Jul 24 '22	Jul 31 '22		
522	CH420 - CH450 (30m)	30 days	Aug 1 '22	Aug 30 '22		
523	TTA establishment	1 day	Aug 1 '22	Aug 1 '22		
524	Hard material excavation and disposal	2 days	Aug 2 '22	Aug 3 '22		
525	Soil excavation , laying sheetpile and disposal	14 days	Aug 4 '22	Aug 17 '22		
526	Treatment of bedding	2 days	Aug 18 '22	Aug 19 '22		
527	Pipe laying D.I.	3 days	Aug 20 '22	Aug 22 '22		



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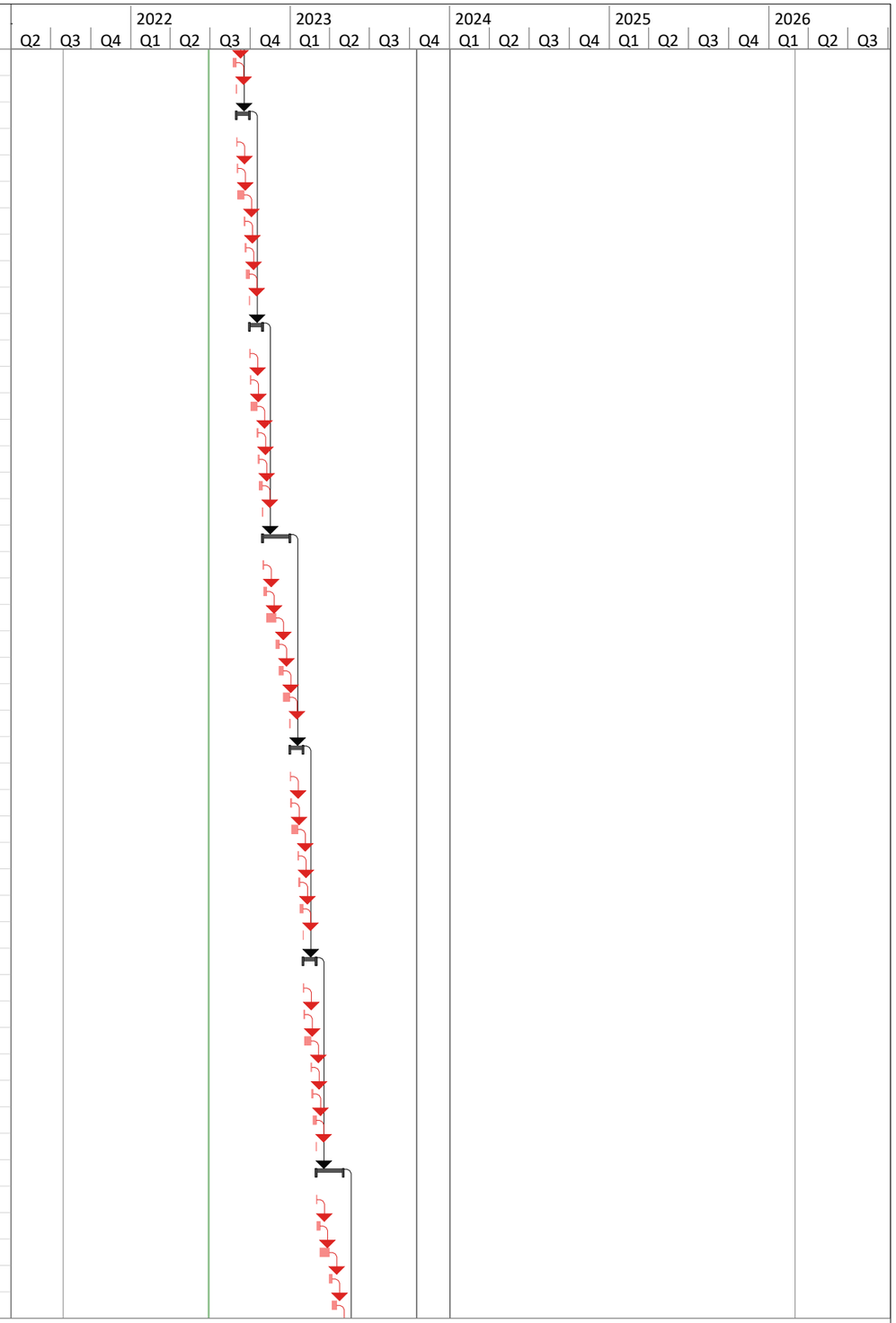
ID	Task Name	Duration	Start	Finish	TRA	Notes
528	Backfilling sand/aggregate, concurrent bend block	7 days	Aug 23 '22	Aug 29 '22		
529	Reinstatement	1 day	Aug 30 '22	Aug 30 '22		
530	CH390 - CH420 (30m)	30 days	Aug 31 '22	Sep 29 '22		
531	TTA establishment	1 day	Aug 31 '22	Aug 31 '22		
532	Hard material excavation and disposal	2 days	Sep 1 '22	Sep 2 '22		
533	Soil excavation , laying sheetpile and disposal	14 days	Sep 3 '22	Sep 16 '22		
534	Treatment of bedding	2 days	Sep 17 '22	Sep 18 '22		
535	Pipe laying D.I.	3 days	Sep 19 '22	Sep 21 '22		
536	Backfilling sand/aggregate, concurrent bend block	7 days	Sep 22 '22	Sep 28 '22		
537	Reinstatement	1 day	Sep 29 '22	Sep 29 '22		
538	CH360 - CH390 (30m)	30 days	Sep 30 '22	Oct 29 '22		
539	TTA establishment	1 day	Sep 30 '22	Sep 30 '22		
540	Hard material excavation and disposal	2 days	Oct 1 '22	Oct 2 '22		
541	Soil excavation , laying sheetpile and disposal	14 days	Oct 3 '22	Oct 16 '22		
542	Treatment of bedding	2 days	Oct 17 '22	Oct 18 '22		
543	Pipe laying D.I.	3 days	Oct 19 '22	Oct 21 '22		
544	Backfilling sand/aggregate, concurrent bend block	7 days	Oct 22 '22	Oct 28 '22		
545	Reinstatement	1 day	Oct 29 '22	Oct 29 '22		
546	CH290 - CH360 (70m)	63 days	Oct 30 '22	Dec 31 '22		
547	TTA establishment	2 days	Oct 30 '22	Oct 31 '22		
548	Hard material excavation and disposal	7 days	Nov 1 '22	Nov 7 '22		
549	Soil excavation , laying sheetpile and disposal	21 days	Nov 8 '22	Nov 28 '22		
550	Treatment of bedding	7 days	Nov 29 '22	Dec 5 '22		
551	Pipe laying D.I.	10 days	Dec 6 '22	Dec 15 '22		
552	Backfilling sand/aggregate, concurrent bend block	14 days	Dec 16 '22	Dec 29 '22		
553	Reinstatement	2 days	Dec 30 '22	Dec 31 '22		
554	CH250 - CH290 (40m)	30 days	Jan 1 '23	Jan 30 '23		
555	TTA establishment	1 day	Jan 1 '23	Jan 1 '23		
556	Hard material excavation and disposal	2 days	Jan 2 '23	Jan 3 '23		
557	Soil excavation , laying sheetpile and disposal	14 days	Jan 4 '23	Jan 17 '23		
558	Treatment of bedding	2 days	Jan 18 '23	Jan 19 '23		
559	Pipe laying D.I.	3 days	Jan 20 '23	Jan 22 '23		
560	Backfilling sand/aggregate, concurrent bend block	7 days	Jan 23 '23	Jan 29 '23		
561	Reinstatement	1 day	Jan 30 '23	Jan 30 '23		
562	CH210 - CH250 (40m)	30 days	Jan 31 '23	Mar 1 '23		
563	TTA establishment	1 day	Jan 31 '23	Jan 31 '23		
564	Hard material excavation and disposal	2 days	Feb 1 '23	Feb 2 '23		
565	Soil excavation , laying sheetpile and disposal	14 days	Feb 3 '23	Feb 16 '23		
566	Treatment of bedding	2 days	Feb 17 '23	Feb 18 '23		
567	Pipe laying D.I.	3 days	Feb 19 '23	Feb 21 '23		
568	Backfilling sand/aggregate, concurrent bend block	7 days	Feb 22 '23	Feb 28 '23		
569	Reinstatement	1 day	Mar 1 '23	Mar 1 '23		
570	CH150 - CH210 (60m)	62 days	Mar 2 '23	May 2 '23		
571	TTA establishment	1 day	Mar 2 '23	Mar 2 '23		
572	Hard material excavation and disposal	7 days	Mar 3 '23	Mar 9 '23		
573	Soil excavation , laying sheetpile and disposal	21 days	Mar 10 '23	Mar 30 '23		
574	Treatment of bedding	7 days	Mar 31 '23	Apr 6 '23		
575	Pipe laying D.I.	10 days	Apr 7 '23	Apr 16 '23		



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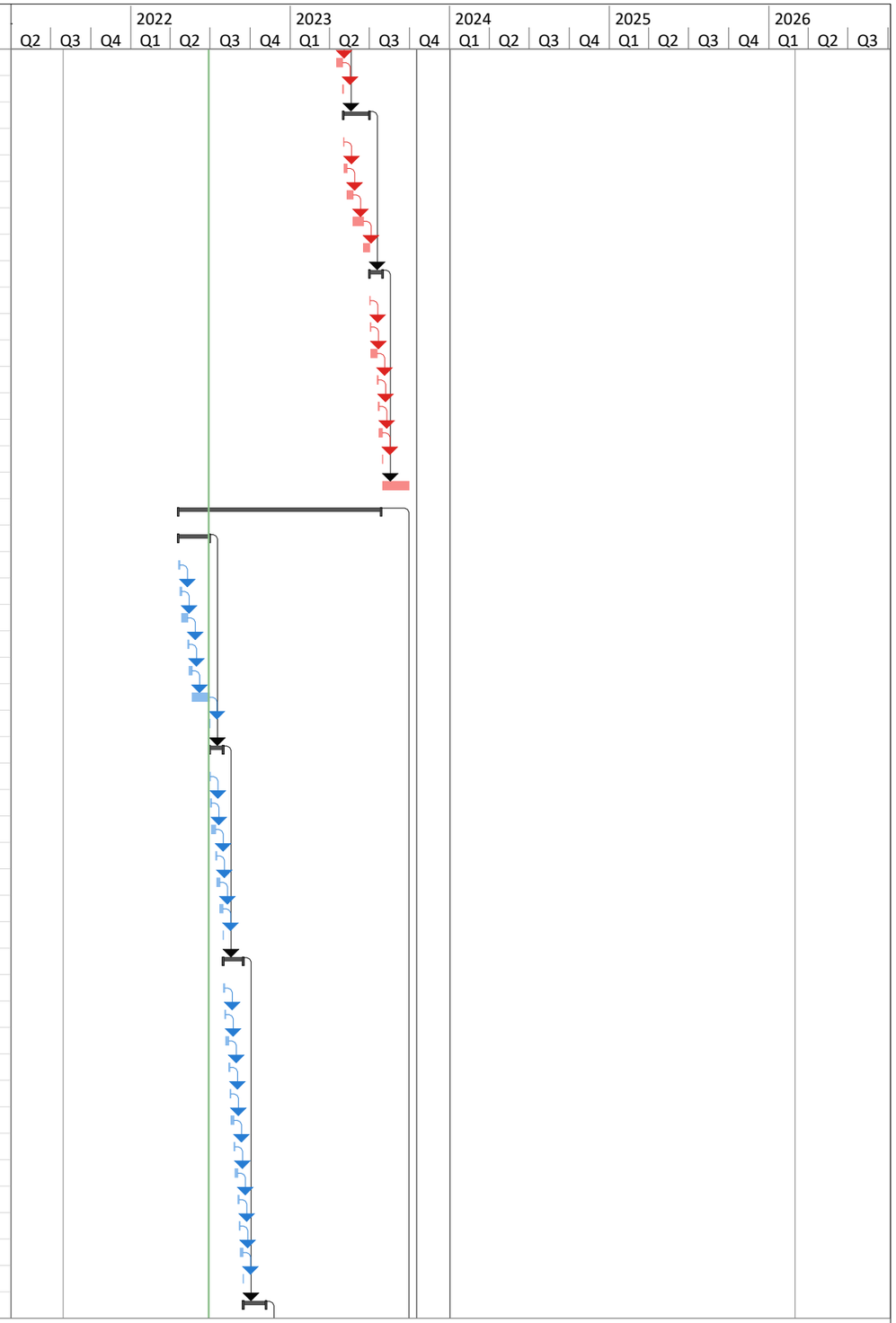
Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

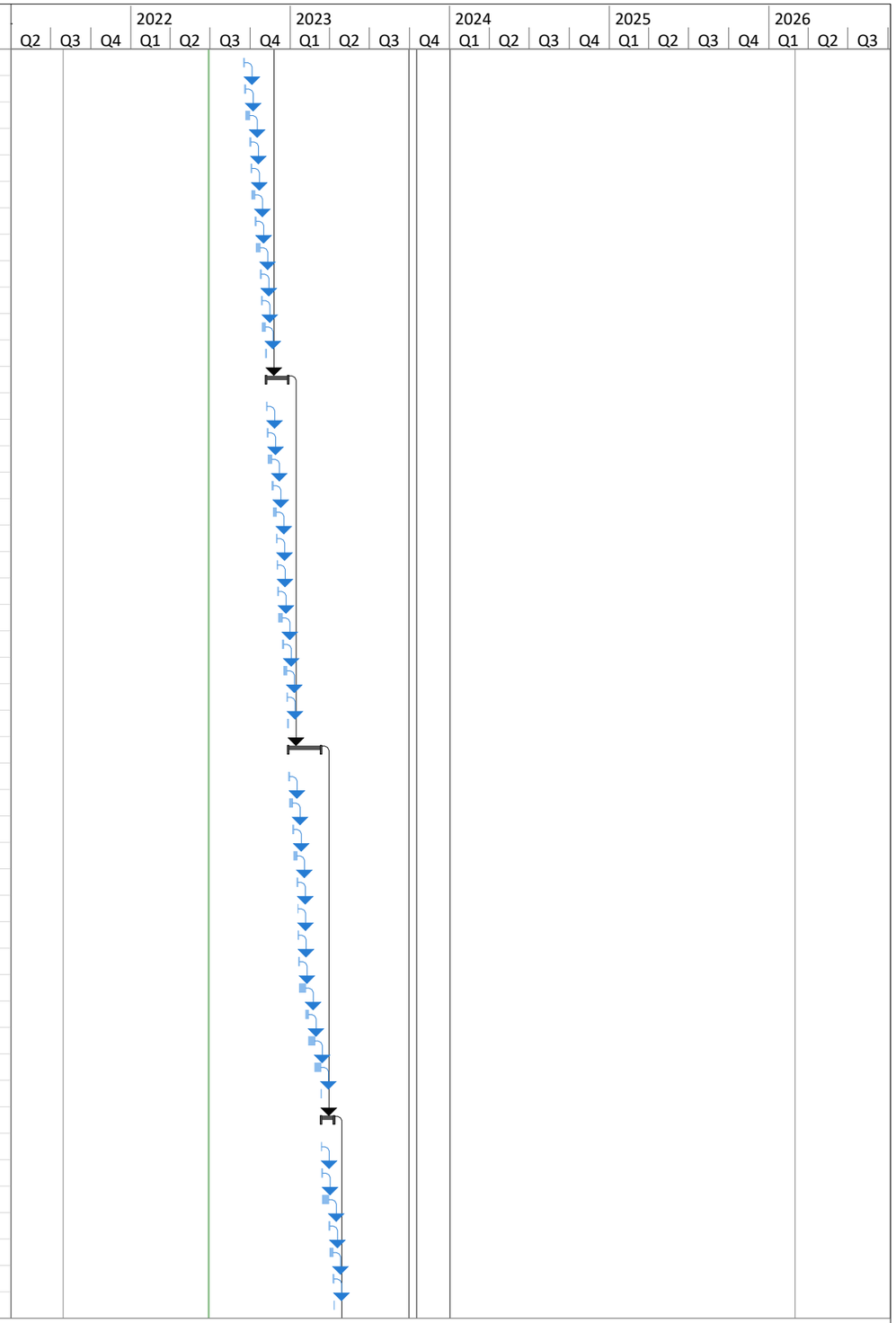
ID	Task Name	Duration	Start	Finish	TRA	Notes
576	Backfilling sand/aggregate, concurrent bend block	14 days	Apr 17 '23	Apr 30 '23		
577	Reinstatement	2 days	May 1 '23	May 2 '23		
578	CH100 - CH150 (50m)	60 days	May 3 '23	Jul 1 '23		
579	TTA establishment	1 day	May 3 '23	May 3 '23		
580	Removal of existing railing	7 days	May 4 '23	May 10 '23		
581	Installation of mild steel pipe	14 days	May 11 '23	May 24 '23		
582	Construction of thrust block	24 days	May 25 '23	Jun 17 '23		
583	Reinstatement of railing	14 days	Jun 18 '23	Jul 1 '23		
584	CH000 - CH100 (100m)	30 days	Jul 2 '23	Jul 31 '23		
585	TTA establishment	1 day	Jul 2 '23	Jul 2 '23		
586	Hard material excavation and disposal	2 days	Jul 3 '23	Jul 4 '23		
587	Soil excavation , laying sheetpile and disposal	14 days	Jul 5 '23	Jul 18 '23		
588	Treatment of bedding	2 days	Jul 19 '23	Jul 20 '23		
589	Pipe laying D.I.	3 days	Jul 21 '23	Jul 23 '23		
590	Backfilling sand/aggregate, concurrent bend block	7 days	Jul 24 '23	Jul 30 '23		
591	Reinstatement	1 day	Jul 31 '23	Jul 31 '23		
592	Pressure test, swabbing and CCTV	60 days	Aug 1 '23	Sep 29 '23		
593	**Team B : CH550 - CH1090 (540m)**	**465 days**	**Apr 20 '22**	**Jul 28 '23**		
594	CH970 - CH1010 (40m)	72 days	Apr 20 '22	Jun 30 '22		
595	TTA establishment	3 days	Apr 20 '22	Apr 22 '22		
596	Hard material excavation and disposal	4 days	Apr 23 '22	Apr 26 '22		
597	Soil excavation , laying sheetpile and disposal	14 days	Apr 27 '22	May 10 '22		
598	Treatment of bedding	3 days	May 11 '22	May 13 '22		
599	Pipe laying D.I.	7 days	May 14 '22	May 20 '22		
600	Backfilling sand/aggregate	40 days	May 21 '22	Jun 29 '22		
601	Reinstatement	1 day	Jun 30 '22	Jun 30 '22		
602	CH910 - CH970 (60m)	31 days	Jul 1 '22	Jul 31 '22		
603	TTA establishment	1 day	Jul 1 '22	Jul 1 '22		
604	Hard material excavation and disposal	2 days	Jul 2 '22	Jul 3 '22		
605	Soil excavation , laying sheetpile and disposal	10 days	Jul 4 '22	Jul 13 '22		
606	Treatment of bedding	3 days	Jul 14 '22	Jul 16 '22		
607	Pipe laying D.I.	7 days	Jul 17 '22	Jul 23 '22		
608	Backfilling sand/aggregate, concurrent bend block	7 days	Jul 24 '22	Jul 30 '22		
609	Reinstatement	1 day	Jul 31 '22	Jul 31 '22		
610	CH850 - CH910 (60m)	46 days	Aug 1 '22	Sep 15 '22		
611	TTA establishment	3 days	Aug 1 '22	Aug 3 '22		
612	Hard material excavation and disposal (CH880 - CH910)	2 days	Aug 4 '22	Aug 5 '22		
613	Soil excavation, laying sheetpile and disposal (CH880 - CH910)	7 days	Aug 6 '22	Aug 12 '22		
614	Treatment of bedding (CH880 - CH910)	3 days	Aug 13 '22	Aug 15 '22		
615	Pipe laying D.I. (CH880 - CH910)	2 days	Aug 16 '22	Aug 17 '22		
616	Backfilling sand/aggregate, concurrent bend block (CH880 - CH910)	7 days	Aug 18 '22	Aug 24 '22		
617	Hard material excavation and disposal (CH850 - CH880)	2 days	Aug 25 '22	Aug 26 '22		
618	Soil excavation, laying sheetpile and disposal (CH850 - CH880)	7 days	Aug 27 '22	Sep 2 '22		
619	Treatment of bedding (CH850 - CH880)	3 days	Sep 3 '22	Sep 5 '22		
620	Pipe laying D.I. (CH850 - CH880)	2 days	Sep 6 '22	Sep 7 '22		
621	Backfilling sand/aggregate, concurrent bend block (CH850 - CH880)	7 days	Sep 8 '22	Sep 14 '22		
622	Reinstatement	1 day	Sep 15 '22	Sep 15 '22		
623	CH750 - CH850 (100m)	52 days	Sep 16 '22	Nov 6 '22		



Project: 3WSD20 Programme
Date: Jun 28 '22

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

ID	Task Name	Duration	Start	Finish	TRA	Notes
624	TTA establishment	2 days	Sep 16 '22	Sep 17 '22		
625	Hard material excavation and disposal (CH800 - CH850)	3 days	Sep 18 '22	Sep 20 '22		
626	Soil excavation , laying sheetpile and disposal (CH800 - CH850)	9 days	Sep 21 '22	Sep 29 '22		
627	Treatment of bedding (CH800 - CH850)	3 days	Sep 30 '22	Oct 2 '22		
628	Pipe laying D.I. (CH800 - CH850)	2 days	Oct 3 '22	Oct 4 '22		
629	Backfilling sand/aggregate, concurrent bend block	7 days	Oct 5 '22	Oct 11 '22		
630	Hard material excavation and disposal (CH750 - CH800)	3 days	Oct 12 '22	Oct 14 '22		
631	Soil excavation , laying sheetpile and disposal (CH750 - CH800)	9 days	Oct 15 '22	Oct 23 '22		
632	Treatment of bedding (CH750 - CH800)	3 days	Oct 24 '22	Oct 26 '22		
633	Pipe laying D.I. (CH750 - CH800)	2 days	Oct 27 '22	Oct 28 '22		
634	Backfilling sand/aggregate, concurrent bend block	7 days	Oct 29 '22	Nov 4 '22		
635	Reinstatement	2 days	Nov 5 '22	Nov 6 '22		
636	CH650 - CH750 (100m)	51 days	Nov 7 '22	Dec 27 '22		
637	TTA establishment	2 days	Nov 7 '22	Nov 8 '22		
638	Hard material excavation and disposal (CH700 - CH750)	2 days	Nov 9 '22	Nov 10 '22		
639	Soil excavation , laying sheetpile and disposal (CH700 - CH750)	9 days	Nov 11 '22	Nov 19 '22		
640	Treatment of bedding (CH700 - CH750)	3 days	Nov 20 '22	Nov 22 '22		
641	Pipe laying D.I. (CH700 - CH750)	7 days	Nov 23 '22	Nov 29 '22		
642	Backfilling sand/aggregate, concurrent bend block (CH700 - CH750)	2 days	Nov 30 '22	Dec 1 '22		
643	Reinstatement (CH700 - CH750)	1 day	Dec 2 '22	Dec 2 '22		
644	Hard material excavation and disposal (CH650 - CH700)	2 days	Dec 3 '22	Dec 4 '22		
645	Soil excavation , laying sheetpile and disposal (CH650 - CH700)	9 days	Dec 5 '22	Dec 13 '22		
646	Treatment of bedding (CH650 - CH700)	3 days	Dec 14 '22	Dec 16 '22		
647	Pipe laying D.I. (CH650 - CH700)	7 days	Dec 17 '22	Dec 23 '22		
648	Backfilling sand/aggregate, concurrent bend block (CH650 - CH700)	2 days	Dec 24 '22	Dec 25 '22		
649	Reinstatement	2 days	Dec 26 '22	Dec 27 '22		
650	CH550 - CH650 (100m)	75 days	Dec 28 '22	Mar 12 '23		
651	TTA establishment	2 days	Dec 28 '22	Dec 29 '22		
652	Hard material excavation and disposal (CH600 - CH650)	7 days	Dec 30 '22	Jan 5 '23		
653	Soil excavation , laying sheetpile and disposal (CH600 - CH650)	3 days	Jan 6 '23	Jan 8 '23		
654	Treatment of bedding (CH600 - CH650)	7 days	Jan 9 '23	Jan 15 '23		
655	Pipe laying D.I. (CH600 - CH650)	2 days	Jan 16 '23	Jan 17 '23		
656	Backfilling sand/aggregate, concurrent bend block (CH600 - CH650)	1 day	Jan 18 '23	Jan 18 '23		
657	Reinstatement (CH600 - CH650)	1 day	Jan 19 '23	Jan 19 '23		
658	Hard material excavation and disposal (CH550 - CH600)	2 days	Jan 20 '23	Jan 21 '23		
659	Soil excavation , laying sheetpile and disposal (CH550 - CH600)	14 days	Jan 22 '23	Feb 4 '23		
660	Treatment of bedding (CH550 - CH600)	7 days	Feb 5 '23	Feb 11 '23		
661	Pipe laying D.I. (CH550 - CH600)	14 days	Feb 12 '23	Feb 25 '23		
662	Backfilling sand/aggregate, concurrent bend block (CH550 - CH600)	14 days	Feb 26 '23	Mar 11 '23		
663	Reinstatement	1 day	Mar 12 '23	Mar 12 '23		
664	CH1010 - CH1040 (30m)	30 days	Mar 13 '23	Apr 11 '23		
665	TTA establishment	1 day	Mar 13 '23	Mar 13 '23		
666	Hard material excavation and disposal	2 days	Mar 14 '23	Mar 15 '23		
667	Soil excavation , laying sheetpile and disposal	14 days	Mar 16 '23	Mar 29 '23		
668	Treatment of bedding	3 days	Mar 30 '23	Apr 1 '23		
669	Pipe laying D.I.	7 days	Apr 2 '23	Apr 8 '23		
670	Backfilling sand/aggregate, concurrent bend block	2 days	Apr 9 '23	Apr 10 '23		
671	Reinstatement	1 day	Apr 11 '23	Apr 11 '23		



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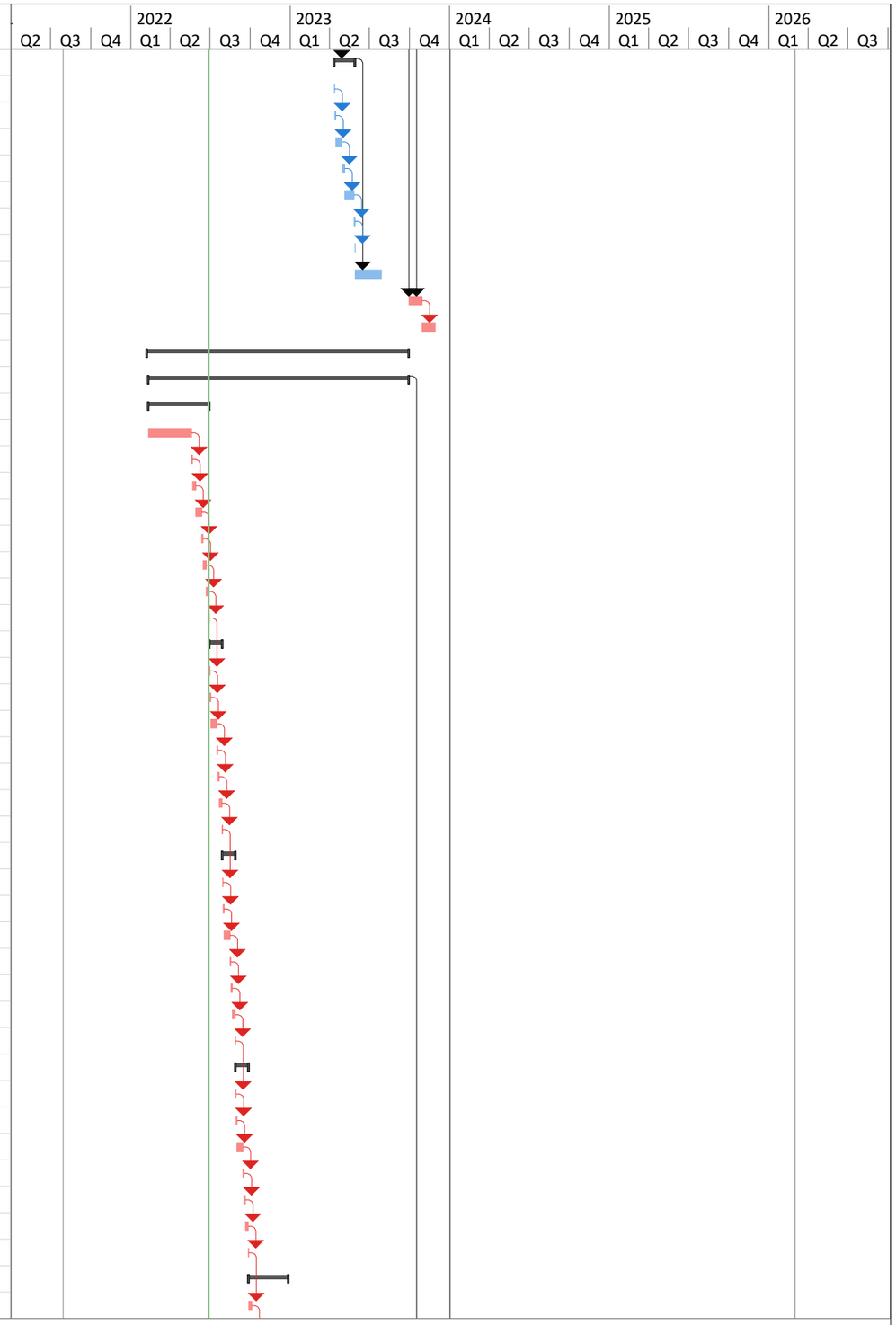
Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Notes
672	CH1040 - CH1090 (50m)	48 days	Apr 12 '23	May 29 '23		
673	TTA establishment	1 day	Apr 12 '23	Apr 12 '23		
674	Hard material excavation and disposal	2 days	Apr 13 '23	Apr 14 '23		
675	Soil excavation , laying sheetpile and disposal	14 days	Apr 15 '23	Apr 28 '23		
676	Treatment of bedding	7 days	Apr 29 '23	May 5 '23		
677	Pipe laying D.I.	21 days	May 6 '23	May 26 '23		
678	Backfilling sand/aggregate, concurrent bend block	2 days	May 27 '23	May 28 '23		
679	Reinstatement	1 day	May 29 '23	May 29 '23		
680	Pressure test, swabbing and CCTV	60 days	May 30 '23	Jul 28 '23		
681	Overall pressure test	30 days	Sep 30 '23	Oct 29 '23		
682	Pipe connection and completion	30 days	Oct 30 '23	Nov 28 '23		
683	**RW43 : DN150 DI pipe - 1144m**	**600 days**	**Feb 7 '22**	**Sep 29 '23**		
684	**Team A CH430 to CH710 & CH970 to CH1144 (454m)**	**597 days**	**Feb 10 '22**	**Sep 29 '23**		
685	Team A CH640 to CH710 (20m)	140 days	Feb 10 '22	Jun 29 '22		
686	Pending for IIB of pipe fittings	99 days	Feb 10 '22	May 19 '22		
687	TTA establishment	2 days	May 20 '22	May 21 '22		
688	Hard material excavation and disposal	7 days	May 22 '22	May 28 '22		
689	Soil excavation , laying sheetpile and disposal	14 days	May 29 '22	Jun 11 '22		
690	Treatment of bedding	3 days	Jun 12 '22	Jun 14 '22		
691	Pipe laying D.I.	7 days	Jun 15 '22	Jun 21 '22		
692	Backfilling general fill and compaction	5 days	Jun 22 '22	Jun 26 '22		
693	Reinstatement	3 days	Jun 27 '22	Jun 29 '22		
694	Team A CH430 to CH460 (30m)	30 days	Jun 30 '22	Jul 29 '22		
695	TTA establishment	1 day	Jun 30 '22	Jun 30 '22		
696	Hard material excavation and disposal	2 days	Jul 1 '22	Jul 2 '22		
697	Soil excavation , laying sheetpile and disposal	14 days	Jul 3 '22	Jul 16 '22		
698	Treatment of bedding	2 days	Jul 17 '22	Jul 18 '22		
699	Pipe laying D.I.	3 days	Jul 19 '22	Jul 21 '22		
700	Backfilling general fill and compaction	7 days	Jul 22 '22	Jul 28 '22		
701	Reinstatement	1 day	Jul 29 '22	Jul 29 '22		
702	Team A CH460 to CH490 (30m)	30 days	Jul 30 '22	Aug 28 '22		
703	TTA establishment	1 day	Jul 30 '22	Jul 30 '22		
704	Hard material excavation and disposal	2 days	Jul 31 '22	Aug 1 '22		
705	Soil excavation , laying sheetpile and disposal	14 days	Aug 2 '22	Aug 15 '22		
706	Treatment of bedding	2 days	Aug 16 '22	Aug 17 '22		
707	Pipe laying D.I.	3 days	Aug 18 '22	Aug 20 '22		
708	Backfilling general fill and compaction	7 days	Aug 21 '22	Aug 27 '22		
709	Reinstatement	1 day	Aug 28 '22	Aug 28 '22		
710	Team A CH490 to CH520 (30m)	30 days	Aug 29 '22	Sep 27 '22		
711	TTA establishment	1 day	Aug 29 '22	Aug 29 '22		
712	Hard material excavation and disposal	2 days	Aug 30 '22	Aug 31 '22		
713	Soil excavation , laying sheetpile and disposal	14 days	Sep 1 '22	Sep 14 '22		
714	Treatment of bedding	2 days	Sep 15 '22	Sep 16 '22		
715	Pipe laying D.I.	3 days	Sep 17 '22	Sep 19 '22		
716	Backfilling general fill and compaction	7 days	Sep 20 '22	Sep 26 '22		
717	Reinstatement	1 day	Sep 27 '22	Sep 27 '22		
718	Team A CH520 to CH640 (120m) (crossing Po Wan Road)	91 days	Sep 28 '22	Dec 27 '22		
719	TTA establishment	7 days	Sep 28 '22	Oct 4 '22		



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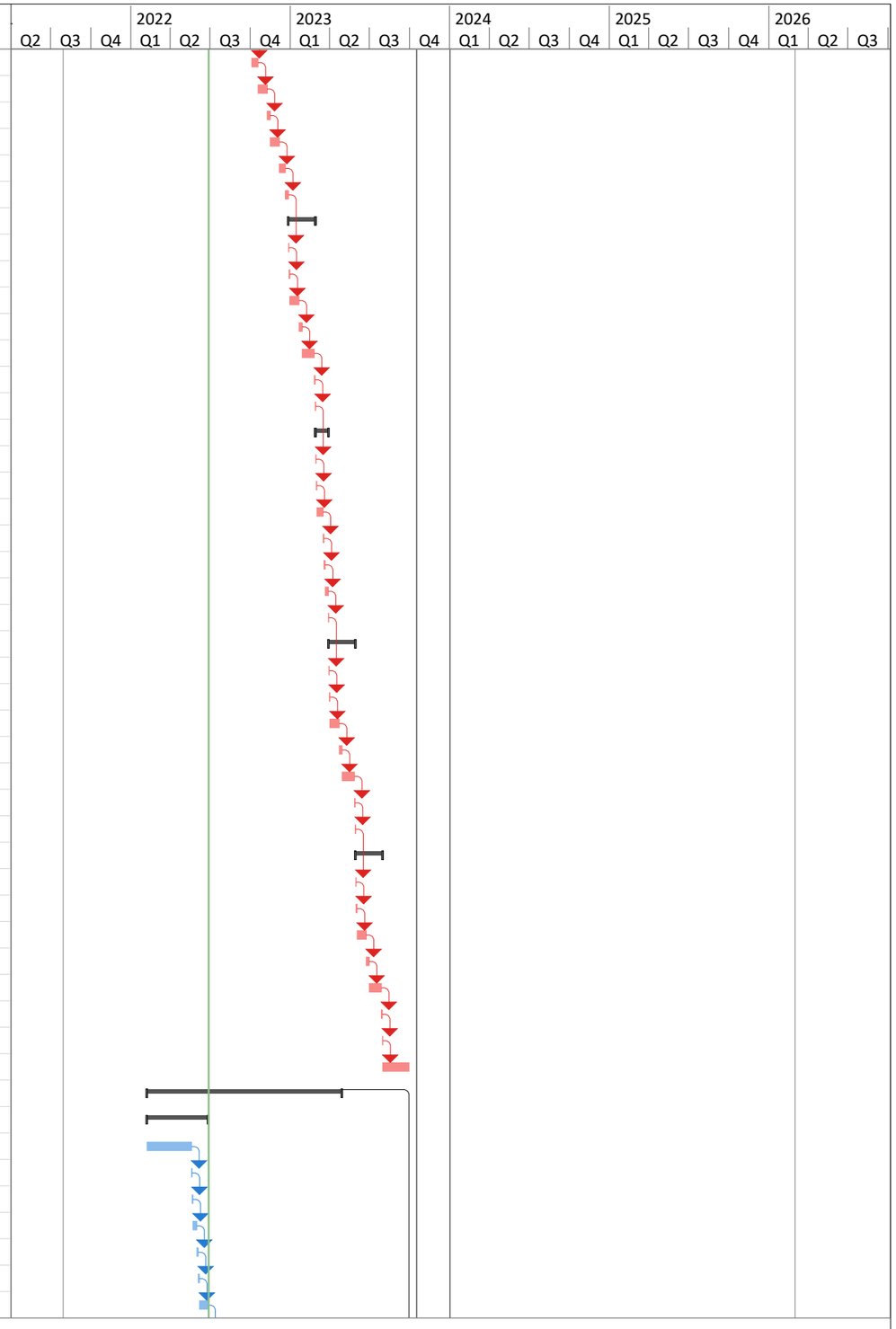
Task	Inactive Task	Manual Summary Rollup	External Milestone	Manual Progress	
Split	Inactive Milestone	Manual Summary	Deadline		
Milestone	Inactive Summary	Start-only	Critical		
Summary	Manual Task	Finish-only	Critical Split		
Project Summary	Duration-only	External Tasks	Progress		

ID	Task Name	Duration	Start	Finish	TRA	Notes
720	Hard material excavation and disposal	14 days	Oct 5 '22	Oct 18 '22		
721	Soil excavation , laying sheetpile and disposal	21 days	Oct 19 '22	Nov 8 '22		
722	Treatment of bedding	7 days	Nov 9 '22	Nov 15 '22		
723	Pipe laying D.I.	21 days	Nov 16 '22	Dec 6 '22		
724	Backfilling general fill and compaction	14 days	Dec 7 '22	Dec 20 '22		
725	Reinstatement	7 days	Dec 21 '22	Dec 27 '22		
726	Team A CH970 to CH1025 (55m)	62 days	Dec 28 '22	Feb 27 '23		
727	TTA establishment	1 day	Dec 28 '22	Dec 28 '22		
728	Hard material excavation and disposal	2 days	Dec 29 '22	Dec 30 '22		
729	Soil excavation , laying sheetpile and disposal	21 days	Dec 31 '22	Jan 20 '23		
730	Treatment of bedding	7 days	Jan 21 '23	Jan 27 '23		
731	Pipe laying D.I.	28 days	Jan 28 '23	Feb 24 '23		
732	Backfilling general fill and compaction	2 days	Feb 25 '23	Feb 26 '23		
733	Reinstatement	1 day	Feb 27 '23	Feb 27 '23		
734	Team A CH1025 to CH1065 (40m)	30 days	Feb 28 '23	Mar 29 '23		
735	TTA establishment	1 day	Feb 28 '23	Feb 28 '23		
736	Hard material excavation and disposal	2 days	Mar 1 '23	Mar 2 '23		
737	Soil excavation , laying sheetpile and disposal	14 days	Mar 3 '23	Mar 16 '23		
738	Treatment of bedding	2 days	Mar 17 '23	Mar 18 '23		
739	Pipe laying D.I.	3 days	Mar 19 '23	Mar 21 '23		
740	Backfilling general fill and compaction	7 days	Mar 22 '23	Mar 28 '23		
741	Reinstatement	1 day	Mar 29 '23	Mar 29 '23		
742	Team A CH1065 to CH1125 (60m)	62 days	Mar 30 '23	May 30 '23		
743	TTA establishment	1 day	Mar 30 '23	Mar 30 '23		
744	Hard material excavation and disposal	2 days	Mar 31 '23	Apr 1 '23		
745	Soil excavation , laying sheetpile and disposal	21 days	Apr 2 '23	Apr 22 '23		
746	Treatment of bedding	7 days	Apr 23 '23	Apr 29 '23		
747	Pipe laying D.I.	28 days	Apr 30 '23	May 27 '23		
748	Backfilling general fill and compaction	2 days	May 28 '23	May 29 '23		
749	Reinstatement	1 day	May 30 '23	May 30 '23		
750	Team A CH1125 to CH1144 (19m)	62 days	May 31 '23	Jul 31 '23		
751	TTA establishment	1 day	May 31 '23	May 31 '23		
752	Hard material excavation and disposal	2 days	Jun 1 '23	Jun 2 '23		
753	Soil excavation , laying sheetpile and disposal	21 days	Jun 3 '23	Jun 23 '23		
754	Treatment of bedding	7 days	Jun 24 '23	Jun 30 '23		
755	Pipe laying D.I.	28 days	Jul 1 '23	Jul 28 '23		
756	Backfilling general fill and compaction	2 days	Jul 29 '23	Jul 30 '23		
757	Reinstatement	1 day	Jul 31 '23	Jul 31 '23		
758	Pressure test, swabbing and CCTV	60 days	Aug 1 '23	Sep 29 '23		
759	**Team B CH000 to CH430 (430m)**	**447 days**	**Feb 7 '22**	**Apr 29 '23**		
760	Team B CH210 to CH235 (25m)	140 days	Feb 7 '22	Jun 26 '22		
761	Pending for release of TTA from other Contractor	102 days	Feb 7 '22	May 19 '22		
762	TTA establishment	1 day	May 20 '22	May 20 '22		
763	Hard material excavation and disposal	2 days	May 21 '22	May 22 '22		
764	Soil excavation , laying sheetpile and disposal	9 days	May 23 '22	May 31 '22		
765	Treatment of bedding	3 days	Jun 1 '22	Jun 3 '22		
766	Pipe laying D.I.	3 days	Jun 4 '22	Jun 6 '22		
767	Backfilling general fill and compaction	19 days	Jun 7 '22	Jun 25 '22		



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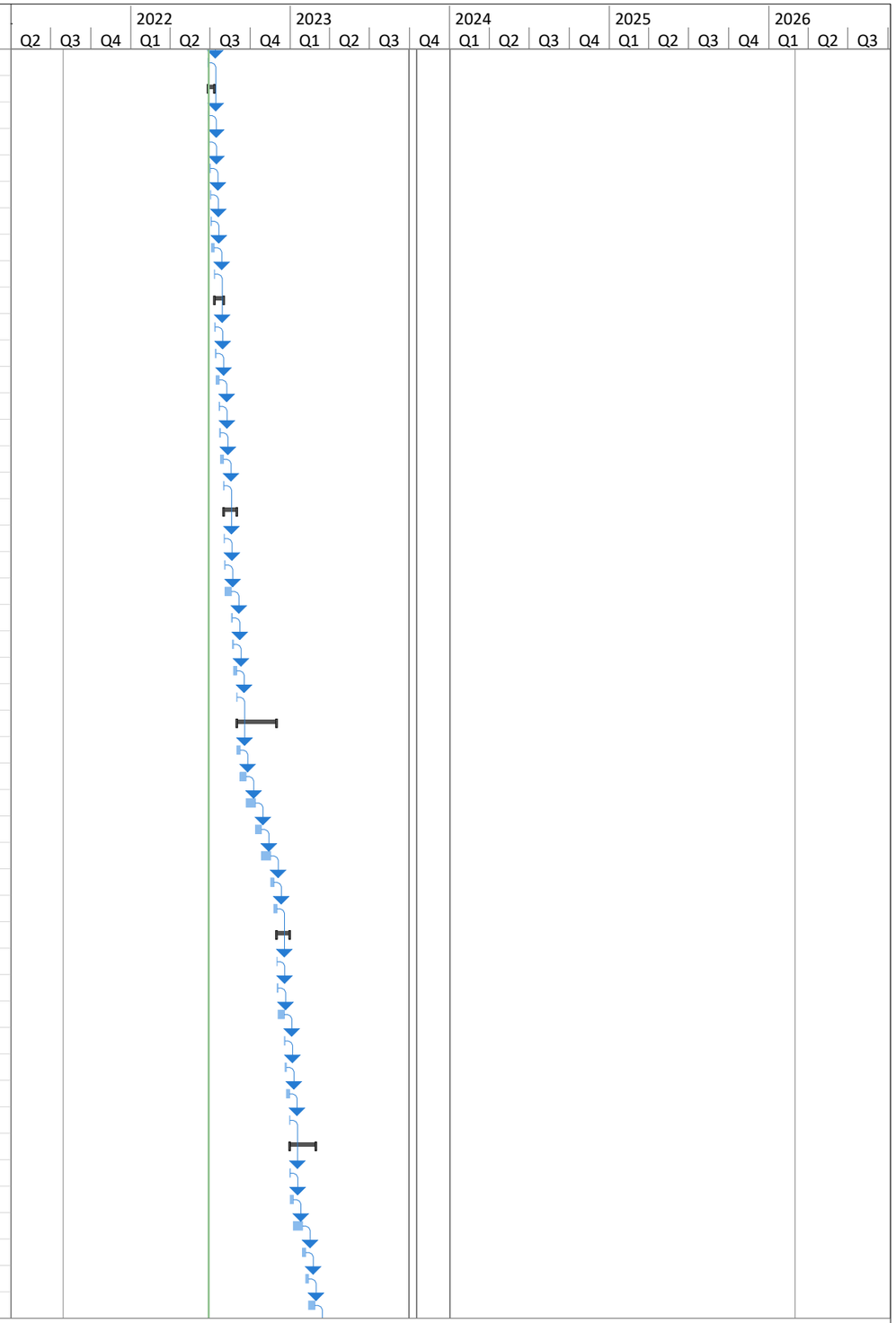
Task	Inactive Task	Manual Summary Rollup	External Milestone
Split	Inactive Milestone	Manual Summary	Deadline
Milestone	Inactive Summary	Start-only	Critical
Summary	Manual Task	Finish-only	Critical Split
Project Summary	Duration-only	External Tasks	Progress

Manual Progress

ID	Task Name	Duration	Start	Finish	TRA	Notes
768	Reinstatement	1 day	Jun 26 '22	Jun 26 '22		
769	Team B CH180 to CH210 (30m)	15 days	Jun 27 '22	Jul 11 '22		
770	TTA establishment	1 day	Jun 27 '22	Jun 27 '22		
771	Hard material excavation and disposal	1 day	Jun 28 '22	Jun 28 '22		
772	Soil excavation , laying sheetpile and disposal	3 days	Jun 29 '22	Jul 1 '22		
773	Treatment of bedding	1 day	Jul 2 '22	Jul 2 '22		
774	Pipe laying D.I.	1 day	Jul 3 '22	Jul 3 '22		
775	Backfilling general fill and compaction	7 days	Jul 4 '22	Jul 10 '22		
776	Reinstatement	1 day	Jul 11 '22	Jul 11 '22		
777	Team B CH235 to CH270 (35m)	21 days	Jul 12 '22	Aug 1 '22		
778	TTA establishment	1 day	Jul 12 '22	Jul 12 '22		
779	Hard material excavation and disposal	2 days	Jul 13 '22	Jul 14 '22		
780	Soil excavation , laying sheetpile and disposal	7 days	Jul 15 '22	Jul 21 '22		
781	Treatment of bedding	1 day	Jul 22 '22	Jul 22 '22		
782	Pipe laying D.I.	2 days	Jul 23 '22	Jul 24 '22		
783	Backfilling general fill and compaction	7 days	Jul 25 '22	Jul 31 '22		
784	Reinstatement	1 day	Aug 1 '22	Aug 1 '22		
785	Team B CH270 to CH310 (40m)	30 days	Aug 2 '22	Aug 31 '22		
786	TTA establishment	1 day	Aug 2 '22	Aug 2 '22		
787	Hard material excavation and disposal	2 days	Aug 3 '22	Aug 4 '22		
788	Soil excavation , laying sheetpile and disposal	14 days	Aug 5 '22	Aug 18 '22		
789	Treatment of bedding	2 days	Aug 19 '22	Aug 20 '22		
790	Pipe laying D.I.	3 days	Aug 21 '22	Aug 23 '22		
791	Backfilling general fill and compaction	7 days	Aug 24 '22	Aug 30 '22		
792	Reinstatement	1 day	Aug 31 '22	Aug 31 '22		
793	Team B CH310 to CH430 (120m) (Shek Shueng River)	91 days	Sep 1 '22	Nov 30 '22		
794	TTA establishment	7 days	Sep 1 '22	Sep 7 '22		
795	Hard material excavation and disposal	14 days	Sep 8 '22	Sep 21 '22		
796	Soil excavation , laying sheetpile and disposal	21 days	Sep 22 '22	Oct 12 '22		
797	Treatment of bedding	14 days	Oct 13 '22	Oct 26 '22		
798	Pipe laying D.I.	21 days	Oct 27 '22	Nov 16 '22		
799	Backfilling general fill and compaction	7 days	Nov 17 '22	Nov 23 '22		
800	Reinstatement	7 days	Nov 24 '22	Nov 30 '22		
801	Team B CH150 to CH180 (30m)	30 days	Dec 1 '22	Dec 30 '22		
802	TTA establishment	1 day	Dec 1 '22	Dec 1 '22		
803	Hard material excavation and disposal	2 days	Dec 2 '22	Dec 3 '22		
804	Soil excavation , laying sheetpile and disposal	14 days	Dec 4 '22	Dec 17 '22		
805	Treatment of bedding	2 days	Dec 18 '22	Dec 19 '22		
806	Pipe laying D.I.	3 days	Dec 20 '22	Dec 22 '22		
807	Backfilling general fill and compaction	7 days	Dec 23 '22	Dec 29 '22		
808	Reinstatement	1 day	Dec 30 '22	Dec 30 '22		
809	Team B CH0 to CH150 (150m)	60 days	Dec 31 '22	Feb 28 '23		
810	TTA establishment	1 day	Dec 31 '22	Dec 31 '22		
811	Hard material excavation and disposal	7 days	Jan 1 '23	Jan 7 '23		
812	Soil excavation , laying sheetpile and disposal	21 days	Jan 8 '23	Jan 28 '23		
813	Treatment of bedding	7 days	Jan 29 '23	Feb 4 '23		
814	Pipe laying D.I.	7 days	Feb 5 '23	Feb 11 '23		
815	Backfilling gerneral fill and compaction	14 days	Feb 12 '23	Feb 25 '23		



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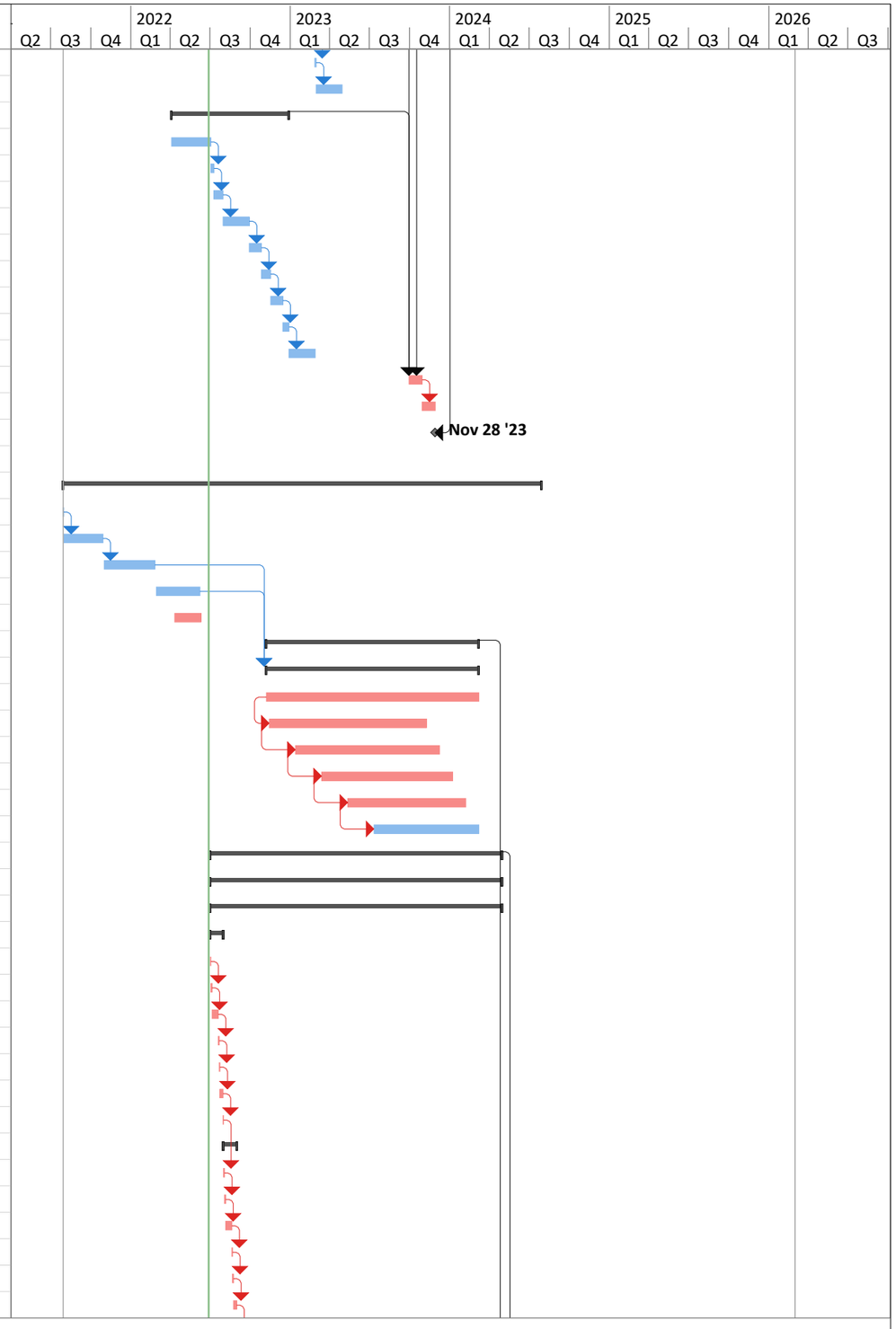
Progress
Manual Progress

ID	Task Name	Duration	Start	Finish	TRA	Notes
816	Reinstatement	3 days	Feb 26 '23	Feb 28 '23		
817	Pressure test, swabbing and CCTV	60 days	Mar 1 '23	Apr 29 '23		
818	**Team C CH710 to CH970 (260m) -within the scope of Shueng Shui Hueng**	**269 days**	**Apr 4 '22**	**Dec 28 '22**		
819	Pending for release of STLA	90 days	Apr 4 '22	Jul 2 '22		
820	TTA establishment	7 days	Jul 3 '22	Jul 9 '22		
821	Hard material excavation and disposal	21 days	Jul 10 '22	Jul 30 '22		
822	Soil excavation , laying sheetpile and disposal	60 days	Jul 31 '22	Sep 28 '22		
823	Treatment of bedding	28 days	Sep 29 '22	Oct 26 '22		
824	Pipe laying D.I.	21 days	Oct 27 '22	Nov 16 '22		
825	Backfilling general fill and compaction	28 days	Nov 17 '22	Dec 14 '22		
826	Reinstatement	14 days	Dec 15 '22	Dec 28 '22		
827	Pressure test, swabbing and CCTV	60 days	Dec 29 '22	Feb 26 '23		
828	Overall pressure testing	30 days	Sep 30 '23	Oct 29 '23		
829	Pipe connection and completion	30 days	Oct 30 '23	Nov 28 '23		
830	Planned completion for section 4	0 days	Nov 28 '23	Nov 28 '23		
831						
832	**Section 5 - Water main laying works in part 4 of the Site**	**1096 days**	**Jul 30 '21**	**Jul 29 '24**		
833	Access Date (part 4 of the Site)	1 day	Jul 30 '21	Jul 30 '21		
834	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		
835	Application and approval of XP and TTA	116 days	Nov 1 '21	Feb 24 '22		
836	Procurement and Delivery of pipes, fittings and related materials	100 days	Feb 28 '22	Jun 7 '22		
837	Submission and acceptance of method statement and material	60 days	Apr 11 '22	Jun 9 '22		
838	**Mainlaying by trenchless method (RW04)**	**487 days**	**Nov 7 '22**	**Mar 7 '24**		
839	**DN450 DI pipe (6 locations , total length 237m)**	**487 days**	**Nov 7 '22**	**Mar 7 '24**	**60**	
840	TTA implementation	487 days	Nov 7 '22	Mar 7 '24		
841	Contruction of jacking pit and receiving pit	360 days	Nov 14 '22	Nov 8 '23		30d/pit
842	Trenchless works and pipe laying	330 days	Jan 13 '23	Dec 8 '23		
843	Manhole / Chamber construction	300 days	Mar 14 '23	Jan 7 '24		
844	Backfilling and compaction	270 days	May 13 '23	Feb 6 '24		
845	Reinstatement	240 days	Jul 12 '23	Mar 7 '24		
846	**Mainlaying by open trench method (RW04)**	**669 days**	**Jul 2 '22**	**Apr 30 '24**		
847	**RW04 : DN450 DI Pipe**	**669 days**	**Jul 2 '22**	**Apr 30 '24**		
848	Tin Ping Road (1377m)	669 days	Jul 2 '22	Apr 30 '24		
849	CH050 to CH080 (30m)	30 days	Jul 2 '22	Jul 31 '22		
850	TTA establishment	1 day	Jul 2 '22	Jul 2 '22		
851	Hard material excavation and disposal	3 days	Jul 3 '22	Jul 5 '22		
852	Soil excavation , laying sheetpile and disposal	14 days	Jul 6 '22	Jul 19 '22		
853	Treatment of bedding	2 days	Jul 20 '22	Jul 21 '22		
854	Pipe laying D.I.	2 days	Jul 22 '22	Jul 23 '22		
855	Backfilling general fill and compaction	7 days	Jul 24 '22	Jul 30 '22		
856	Reinstatement	1 day	Jul 31 '22	Jul 31 '22		
857	CH080 to CH110 (30m)	31 days	Aug 1 '22	Aug 31 '22		
858	TTA establishment	2 days	Aug 1 '22	Aug 2 '22		
859	Hard material excavation and disposal	3 days	Aug 3 '22	Aug 5 '22		
860	Soil excavation , laying sheetpile and disposal	14 days	Aug 6 '22	Aug 19 '22		
861	Treatment of bedding	2 days	Aug 20 '22	Aug 21 '22		
862	Pipe laying D.I.	2 days	Aug 22 '22	Aug 23 '22		
863	Backfilling general fill and compaction	7 days	Aug 24 '22	Aug 30 '22		



Project: 3WSD20 Programme
Date: Jun 28 '22

Task
Split
Milestone
Summary
Project Summary
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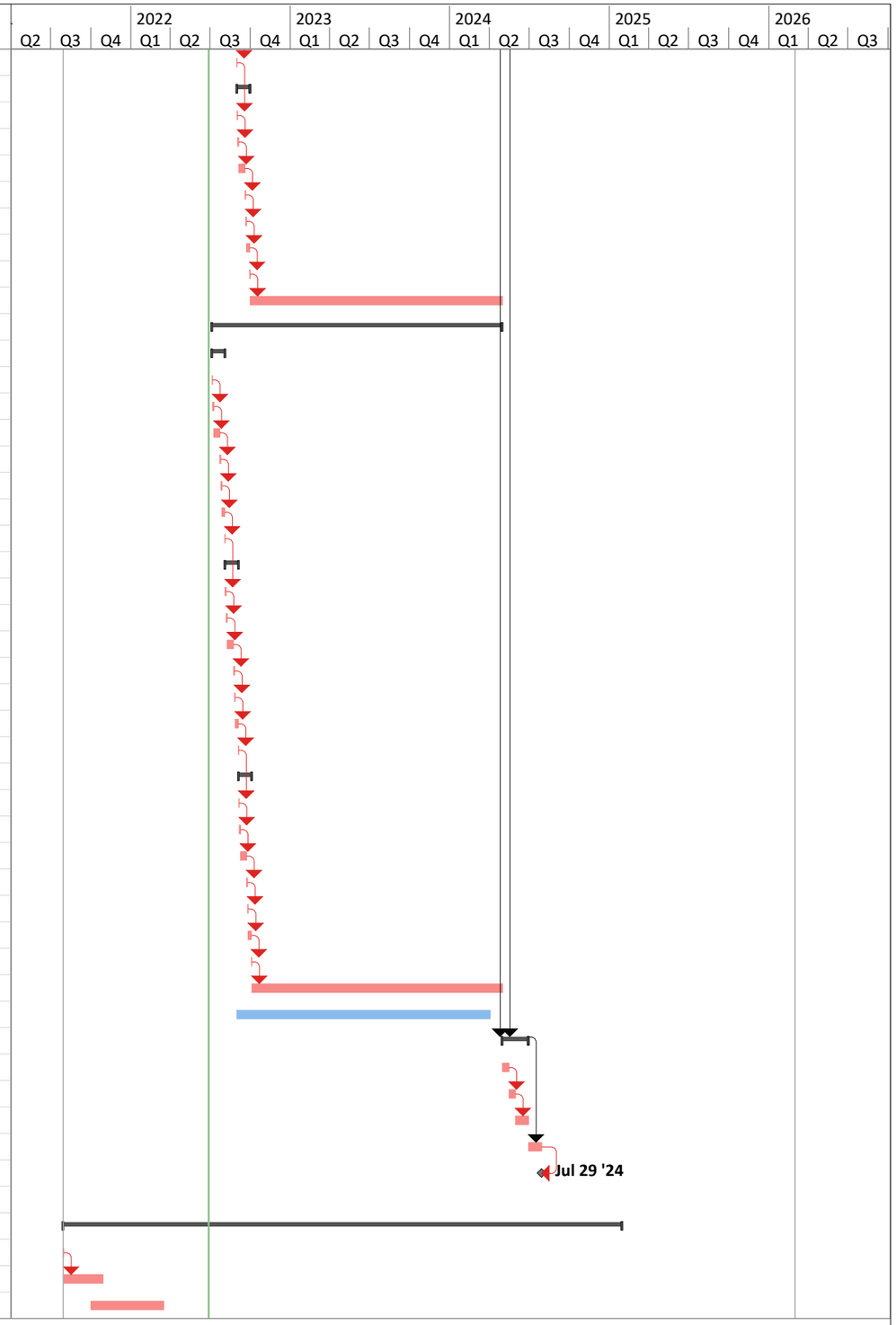
ID	Task Name	Duration	Start	Finish	TRA	Notes
864	Reinstatement	1 day	Aug 31 '22	Aug 31 '22		
865	CH110 to CH140 (30m)	30 days	Sep 1 '22	Sep 30 '22		
866	TTA establishment	1 day	Sep 1 '22	Sep 1 '22		
867	Hard material excavation and disposal	3 days	Sep 2 '22	Sep 4 '22		
868	Soil excavation , laying sheetpile and disposal	14 days	Sep 5 '22	Sep 18 '22		
869	Treatment of bedding	2 days	Sep 19 '22	Sep 20 '22		
870	Pipe laying D.I.	2 days	Sep 21 '22	Sep 22 '22		
871	Backfilling general fill and compaction	7 days	Sep 23 '22	Sep 29 '22		
872	Reinstatement	1 day	Sep 30 '22	Sep 30 '22		
873	Remaining Section of Tin Ping Road (1287m)	578 days	Oct 1 '22	Apr 30 '24		
874	Ma Sik Road (1323m)	665 days	Jul 6 '22	Apr 30 '24		
875	CH1400 to CH1430 (30m)	30 days	Jul 6 '22	Aug 4 '22		
876	TTA establishment	1 day	Jul 6 '22	Jul 6 '22		
877	Hard material excavation and disposal	3 days	Jul 7 '22	Jul 9 '22		
878	Soil excavation , laying sheetpile and disposal	14 days	Jul 10 '22	Jul 23 '22		
879	Treatment of bedding	2 days	Jul 24 '22	Jul 25 '22		
880	Pipe laying D.I.	2 days	Jul 26 '22	Jul 27 '22		
881	Backfilling general fill and compaction	7 days	Jul 28 '22	Aug 3 '22		
882	Reinstatement	1 day	Aug 4 '22	Aug 4 '22		
883	CH1430 to CH1460 (30m)	31 days	Aug 5 '22	Sep 4 '22		
884	TTA establishment	2 days	Aug 5 '22	Aug 6 '22		
885	Hard material excavation and disposal	3 days	Aug 7 '22	Aug 9 '22		
886	Soil excavation , laying sheetpile and disposal	14 days	Aug 10 '22	Aug 23 '22		
887	Treatment of bedding	2 days	Aug 24 '22	Aug 25 '22		
888	Pipe laying D.I.	2 days	Aug 26 '22	Aug 27 '22		
889	Backfilling general fill and compaction	7 days	Aug 28 '22	Sep 3 '22		
890	Reinstatement	1 day	Sep 4 '22	Sep 4 '22		
891	CH1460 to CH1490 (30m)	30 days	Sep 5 '22	Oct 4 '22		
892	TTA establishment	1 day	Sep 5 '22	Sep 5 '22		
893	Hard material excavation and disposal	3 days	Sep 6 '22	Sep 8 '22		
894	Soil excavation , laying sheetpile and disposal	14 days	Sep 9 '22	Sep 22 '22		
895	Treatment of bedding	2 days	Sep 23 '22	Sep 24 '22		
896	Pipe laying D.I.	2 days	Sep 25 '22	Sep 26 '22		
897	Backfilling general fill and compaction	7 days	Sep 27 '22	Oct 3 '22		
898	Reinstatement	1 day	Oct 4 '22	Oct 4 '22		
899	Remaining Section of Ma Sik Road (1233m)	574 days	Oct 5 '22	Apr 30 '24		
900	**Sha Tau Kok Road (869m)**	**580 days**	**Sep 1 '22**	**Apr 2 '24**		**1.5m/day**
901	**Overall testing**	**60 days**	**May 1 '24**	**Jun 29 '24**		
902	Swabbing	15 days	May 1 '24	May 15 '24		
903	CCTV	15 days	May 16 '24	May 30 '24		
904	Hydrostatic pressure test	30 days	May 31 '24	Jun 29 '24		
905	Pipe connection and completion	30 days	Jun 30 '24	Jul 29 '24		
906	Planned completion for section 5	0 days	Jul 29 '24	Jul 29 '24		
907						
908	**Section 6 - Water main laying works in part 5 of the Site**	**1280 days**	**Jul 30 '21**	**Jan 29 '25**		
909	Access Date (part 5 of the Site)	1 day	Jul 30 '21	Jul 30 '21		
910	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		
911	Application and approval of XP and TTA	167 days	Oct 1 '21	Mar 16 '22		



Project: 3WSD20 Programme
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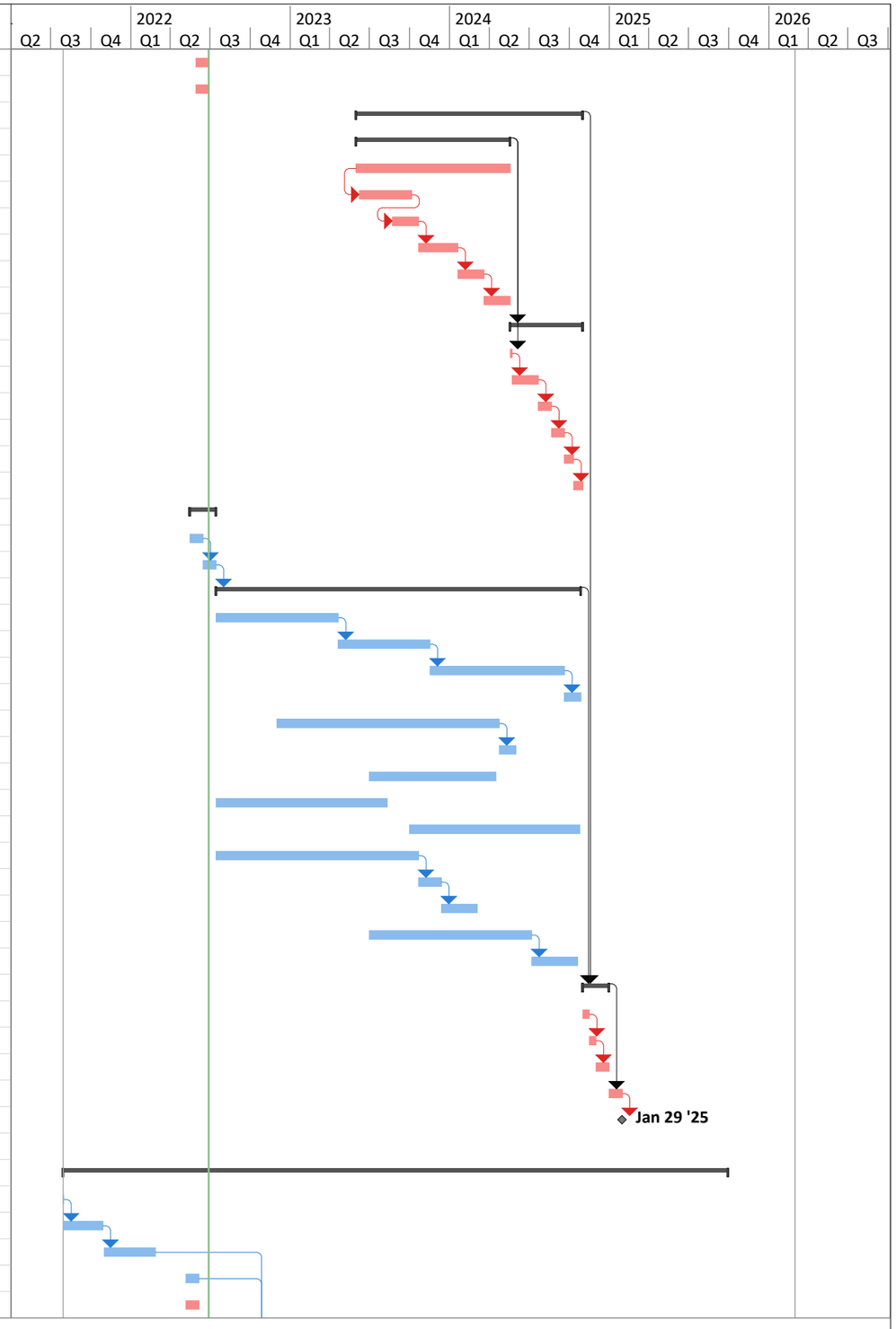
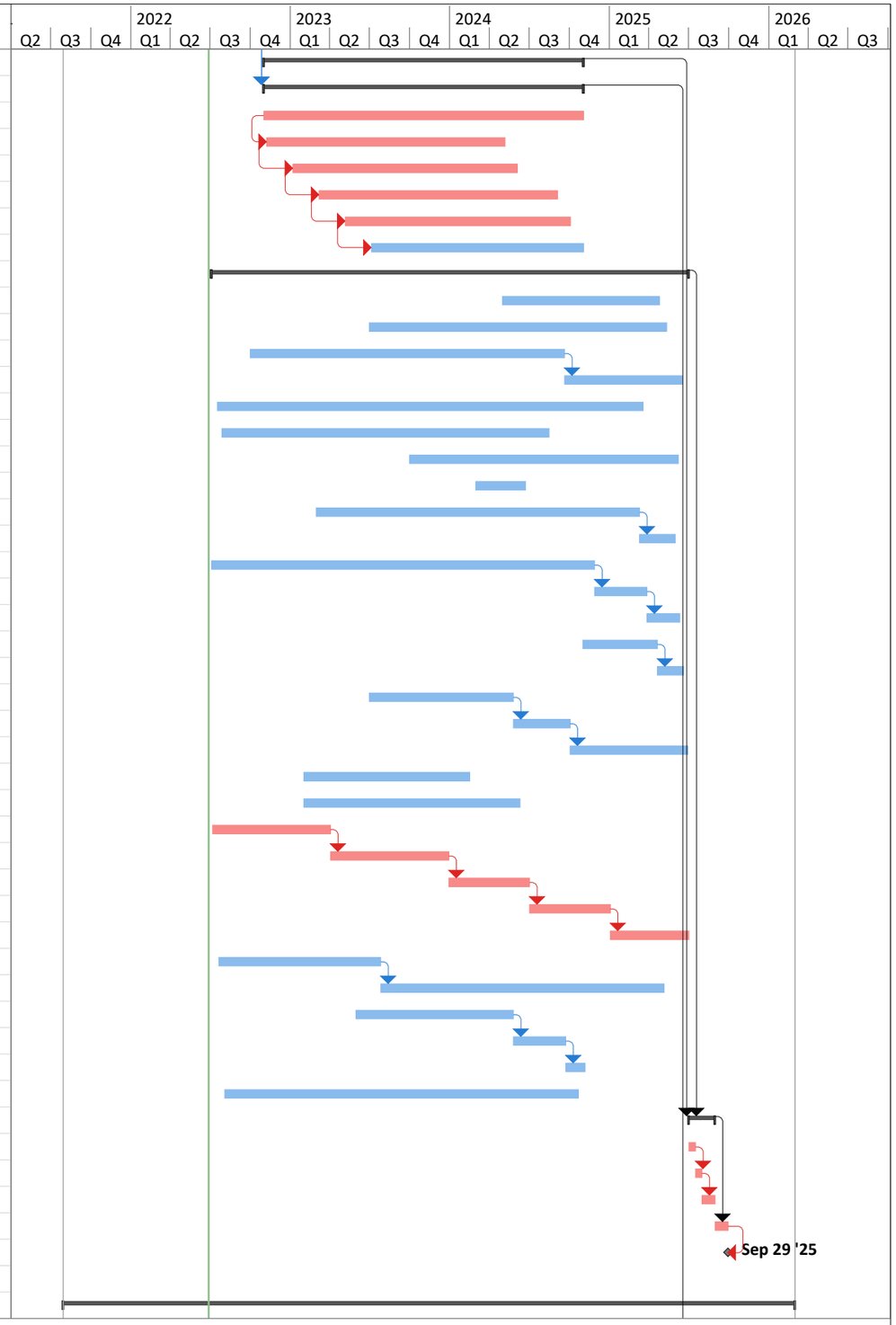
ID	Task Name	Duration	Start	Finish	TRA	Notes
912	Procurement and Delivery of pipes, fittings and related materials	30 days	May 30 '22	Jun 28 '22		
913	Submission and acceptance of method statement and material	30 days	May 30 '22	Jun 28 '22		
914	**Mainlaying by trenchless method**	**519 days**	**Jun 1 '23**	**Oct 31 '24**		
915	**DN400, DN300 DI pipe (2 locations , total length 126m)**	**353 days**	**Jun 1 '23**	**May 18 '24**	**30**	
916	TTA implementation	353 days	Jun 1 '23	May 18 '24		
917	Contruction of jacking pit and receiving pit	120 days	Jun 8 '23	Oct 5 '23		30d/pit
918	Trenchless works and pipe laying	60 days	Aug 23 '23	Oct 21 '23		
919	Manhole / Chamber construction	90 days	Oct 22 '23	Jan 19 '24		
920	Backfilling and compaction	60 days	Jan 20 '24	Mar 19 '24		
921	Reinstatement	60 days	Mar 20 '24	May 18 '24		
922	**DN150 DI pipe (1 location , total length 33m)**	**166 days**	**May 19 '24**	**Oct 31 '24**	**15**	
923	TTA implementation	4 days	May 19 '24	May 22 '24		
924	Contruction of jacking pit and receiving pit	60 days	May 23 '24	Jul 21 '24		30d/pit
925	Trenchless works and pipe laying	30 days	Jul 22 '24	Aug 20 '24		
926	Manhole / Chamber construction	30 days	Aug 21 '24	Sep 19 '24		
927	Backfilling and compaction	21 days	Sep 20 '24	Oct 10 '24		
928	Reinstatement	21 days	Oct 11 '24	Oct 31 '24		
929	**Contractor's Design and Construction of distribution mains**	**60 days**	**May 16 '22**	**Jul 14 '22**		
930	Submission and acceptance of detailed design proposal	30 days	May 16 '22	Jun 14 '22		
931	Site investigation and liaison with relevant parties	30 days	Jun 15 '22	Jul 14 '22		
932	**Mainlaying by open trench method**	**836 days**	**Jul 15 '22**	**Oct 27 '24**		
933	RW41 (DN150) - Sheung Shui Tung Hing Road (288m)	280 days	Jul 15 '22	Apr 20 '23		
934	RW42 (DN150) - No name road in Sheung Shui Heung (210m)	210 days	Apr 21 '23	Nov 16 '23		
935	RW71 (DN150) - Jockey Club Road (308m)	308 days	Nov 17 '23	Sep 19 '24		
936	RW44 (DN150) - Jockey Club Road (38m)	38 days	Sep 20 '24	Oct 27 '24		
937	RW11 (DN150) - Fung Nam Road (480m)	510 days	Dec 1 '22	Apr 23 '24	30	
938	RW46 (DN150) - Fung Nam Lane (38m)	38 days	Apr 24 '24	May 31 '24		
939	RW06 (DN300) - Lung Sum Avenue (290m)	290 days	Jul 1 '23	Apr 15 '24		
940	RW05 (DN400) - Jockey Club Road (377m)	392 days	Jul 15 '22	Aug 10 '23	15	
941	RW15 (DN150) - Sun Fung Road / Sun Shing Road (390m)	390 days	Oct 1 '23	Oct 24 '24		
942	RW18 (DN150) - San Hong Street (464m)	464 days	Jul 15 '22	Oct 21 '23		
943	RW20 (DN150) - Sun Wing Street (52m)	52 days	Oct 22 '23	Dec 12 '23		
944	RW45 (DN150) - Tsun Fu Street (82m)	82 days	Dec 13 '23	Mar 3 '24		
945	RW14 (DN150) - Fu Hing Street (372m)	372 days	Jul 1 '23	Jul 6 '24		
946	RW21 (DN150) - Sun Fat Street (105m)	105 days	Jul 7 '24	Oct 19 '24		
947	Overall testing	60 days	Nov 1 '24	Dec 30 '24		
948	Swabbing	15 days	Nov 1 '24	Nov 15 '24		
949	CCTV	15 days	Nov 16 '24	Nov 30 '24		
950	Hydrostatic pressure test	30 days	Dec 1 '24	Dec 30 '24		
951	Pipe connection and completion	30 days	Dec 31 '24	Jan 29 '25		
952	Planned completion for section 6	0 days	Jan 29 '25	Jan 29 '25		
953						
954	**Section 7 - Water main laying works in part 6 of the Site**	**1523 days**	**Jul 30 '21**	**Sep 29 '25**		
955	Access Date (part 6 of the Site)	1 day	Jul 30 '21	Jul 30 '21		
956	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		
957	Application and approval of XP and TTA	117 days	Nov 1 '21	Feb 25 '22		
958	Procurement and Delivery of pipes, fittings and related materials	30 days	May 7 '22	Jun 5 '22		
959	Submission and acceptance of method statement and material	30 days	May 7 '22	Jun 5 '22		



Project: 3WSD20 Programme
Date: Jun 28 '22

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

ID	Task Name	Duration	Start	Finish	TRA	Notes
960	**Mainlaying by trenchless method**	**733 days**	**Nov 1 '22**	**Nov 2 '24**		
961	**DN450, DN400, DN300 DI pipe (13 locations , total length 1028m)**	**733 days**	**Nov 1 '22**	**Nov 2 '24**	**21**	
962	TTA implementation	733 days	Nov 1 '22	Nov 2 '24		
963	Contruction of jacking pit and receiving pit	546 days	Nov 8 '22	May 6 '24		21d/pit
964	Trenchless works and pipe laying	514 days	Jan 7 '23	Jun 3 '24	30	
965	Manhole / Chamber construction	546 days	Mar 8 '23	Sep 3 '24		
966	Backfilling and compaction	516 days	May 7 '23	Oct 3 '24		
967	Reinstatement	486 days	Jul 6 '23	Nov 2 '24		
968	**Mainlaying by open trench method**	**1093 days**	**Jul 5 '22**	**Jul 1 '25**		
969	RW07 (DN300) - Ma Sik Road (360m)	360 days	May 1 '24	Apr 25 '25		
970	RW05 (DN400) - Jockey Club Road (681m)	681 days	Jul 1 '23	May 11 '25		
971	RW05 (DN300) - Jackey Club Road (720m)	720 days	Oct 1 '22	Sep 19 '24		
972	RW05 (DN300) - Pik Fung Road (270m)	270 days	Sep 20 '24	Jun 16 '25		
973	RW05 (DN300) - Sun Wan Road (945m)	975 days	Jul 18 '22	Mar 18 '25	30	
974	RW08 (DN400) - Fanling Lau Road (750m)	750 days	Jul 28 '22	Aug 15 '24		
975	RW08 (DN400) - Lok Yip Road (616m)	616 days	Oct 1 '23	Jun 7 '25		
976	RW17 (DN150) - Sun Shing Road (114m)	114 days	Mar 1 '24	Jun 22 '24		
977	RW16 (DN250) - Sun Fung Road / Lung Sum Avenue (741m)	741 days	Mar 1 '23	Mar 10 '25		
978	RW47 (DN100) - Tee to Sun Fung Road (82m)	82 days	Mar 11 '25	May 31 '25		
979	RW22 (DN150) - San Wan Road (877m)	877 days	Jul 5 '22	Nov 27 '24		
980	RW24 (DN150) - Chi Ming Street (120m)	120 days	Nov 28 '24	Mar 27 '25		
981	RW49 (DN150) - San Wan Road (75m)	75 days	Mar 28 '25	Jun 10 '25		
982	RW23 (DN150) - Lung Wan Street (171m)	171 days	Nov 1 '24	Apr 20 '25		
983	RW69 (DN150) - Lung Sum Lane (60m)	60 days	Apr 21 '25	Jun 19 '25		
984	RW25 (DN150) - Road to Fanling Wai (330m)	330 days	Jul 1 '23	May 25 '24		
985	RW26 (DN150) - Ka Siu Road (133m)	130 days	May 26 '24	Oct 2 '24		
986	RW27 (DN150) - Fanling Station Road (273m)	270 days	Oct 3 '24	Jun 29 '25		
987	RW34 (DN150) - Road Tee from RW08 (380m)	380 days	Feb 1 '23	Feb 15 '24		
988	RW36 (DN150) - Lok Fung Street (495m)	495 days	Feb 1 '23	Jun 9 '24		
989	RW13 (DN150) - Wo Tai Street (270m)	270 days	Jul 7 '22	Apr 2 '23		
990	RW28 (DN150) - Wo Mun Street (312m)	271 days	Apr 3 '23	Dec 29 '23		
991	RW31 (DN150) - Luen Cheong Street (185m)	185 days	Dec 30 '23	Jul 1 '24		
992	RW32 (DN150) - Luen Shing Street (185m)	185 days	Jul 2 '24	Jan 2 '25		
993	RW33 (DN150) - Luen Hing Street (199m)	180 days	Jan 3 '25	Jul 1 '25		
994	RW13 (DN150) - Wo Tai Street (371m)	371 days	Jul 21 '22	Jul 26 '23		
995	RW30 (DN150) - Luen On Street / Luen Wo Road / Luen Fai Street (649m)	649 days	Jul 27 '23	May 5 '25		
996	RW29 (DN150) - Wo Muk Street / Luen Hing Street (360m)	360 days	Jun 1 '23	May 25 '24		
997	RW12 (DN150) - Luen Chit Street (120m)	120 days	May 26 '24	Sep 22 '24		
998	RW55 (DN150) - Mount One (44m)	44 days	Sep 23 '24	Nov 5 '24		
999	RW03 (DN450) - Jockey Club Road / MTR Railway (810m)	810 days	Aug 4 '22	Oct 21 '24		
1000	Overall testing	60 days	Jul 2 '25	Aug 30 '25		
1001	Swabbing	15 days	Jul 2 '25	Jul 16 '25		
1002	CCTV	15 days	Jul 17 '25	Jul 31 '25		
1003	Hydrostatic pressure test	30 days	Aug 1 '25	Aug 30 '25		
1004	Pipe connection and completion	30 days	Aug 31 '25	Sep 29 '25		
1005	Planned completion for section 7	0 days	Sep 29 '25	Sep 29 '25		
1006						
1007	**Section 8 - Water main laying works in part 7 of the Site**	**1676 days**	**Jul 30 '21**	**Mar 1 '26**		



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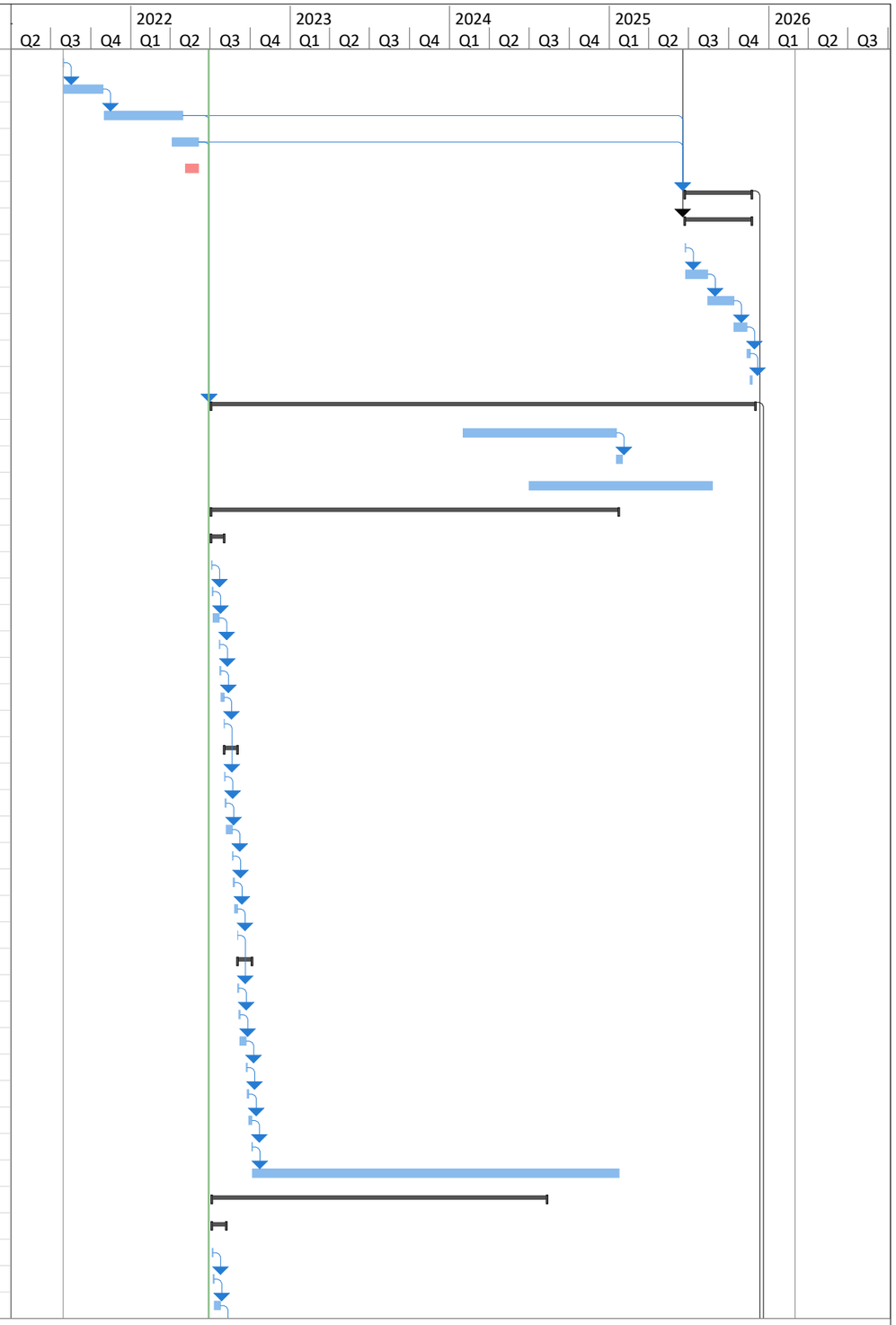
Split	Inactive Milestone	Manual Summary	Deadline	
Milestone	Inactive Summary	Start-only	Critical	
Summary	Manual Task	Finish-only	Critical Split	
Project Summary	Duration-only	External Tasks	Progress	

ID	Task Name	Duration	Start	Finish	TRA	Notes
1008	Access Date (part 7 of the Site)	1 day	Jul 30 '21	Jul 30 '21		
1009	Initial survey (utility survey, condition survey, initial photo)	90 days	Jul 31 '21	Oct 28 '21		
1010	Application and approval of XP and TTA	180 days	Nov 1 '21	Apr 29 '22		
1011	Procurement and Delivery of pipes, fittings and related materials	60 days	Apr 6 '22	Jun 4 '22		
1012	Submission and acceptance of method statement and material	30 days	May 6 '22	Jun 4 '22		
1013	**Mainlaying by trenchless method**	**154 days**	**Jun 23 '25**	**Nov 23 '25**		
1014	**DN300 DI pipe (1 locations , total length 58m)**	**154 days**	**Jun 23 '25**	**Nov 23 '25**		
1015	TTA implementation	2 days	Jun 23 '25	Jun 24 '25		
1016	Contruction of jacking pit and receiving pit	50 days	Jun 25 '25	Aug 13 '25		
1017	Trenchless works and pipe laying	60 days	Aug 14 '25	Oct 12 '25		
1018	Manhole / Chamber construction	30 days	Oct 13 '25	Nov 11 '25		
1019	Backfilling and compaction	7 days	Nov 12 '25	Nov 18 '25		
1020	Reinstatement	5 days	Nov 19 '25	Nov 23 '25		
1021	**Mainlaying by open trench method**	**1247 days**	**Jul 4 '22**	**Dec 1 '25**		
1022	RW38 (DN150) - Yip Cheong Street (351m)	351 days	Feb 1 '24	Jan 16 '25		
1023	RW39 (DN150) - Yip Cheong Street (14m)	14 days	Jan 17 '25	Jan 30 '25		
1024	RW37 (DN150) - Yip Wo Street (420m)	420 days	Jul 1 '24	Aug 24 '25		
1025	RW10 (DN300) - On Lok Mun Street (930m)	934 days	Jul 4 '22	Jan 22 '25		
1026	CH000 to CH030 (30m)	30 days	Jul 4 '22	Aug 2 '22		
1027	TTA establishment	2 days	Jul 4 '22	Jul 5 '22		
1028	Hard material excavation and disposal	2 days	Jul 6 '22	Jul 7 '22		
1029	Soil excavation , laying sheetpile and disposal	14 days	Jul 8 '22	Jul 21 '22		
1030	Treatment of bedding	2 days	Jul 22 '22	Jul 23 '22		
1031	Pipe laying D.I.	2 days	Jul 24 '22	Jul 25 '22		
1032	Backfilling general fill and compaction	7 days	Jul 26 '22	Aug 1 '22		
1033	Reinstatement	1 day	Aug 2 '22	Aug 2 '22		
1034	CH030 to CH060 (30m)	31 days	Aug 3 '22	Sep 2 '22		
1035	TTA establishment	2 days	Aug 3 '22	Aug 4 '22		
1036	Hard material excavation and disposal	2 days	Aug 5 '22	Aug 6 '22		
1037	Soil excavation , laying sheetpile and disposal	14 days	Aug 7 '22	Aug 20 '22		
1038	Treatment of bedding	2 days	Aug 21 '22	Aug 22 '22		
1039	Pipe laying D.I.	3 days	Aug 23 '22	Aug 25 '22		
1040	Backfilling general fill and compaction	7 days	Aug 26 '22	Sep 1 '22		
1041	Reinstatement	1 day	Sep 2 '22	Sep 2 '22		
1042	CH600 to CH900 (30m)	33 days	Sep 3 '22	Oct 5 '22		
1043	TTA establishment	2 days	Sep 3 '22	Sep 4 '22		
1044	Hard material excavation and disposal	3 days	Sep 5 '22	Sep 7 '22		
1045	Soil excavation , laying sheetpile and disposal	14 days	Sep 8 '22	Sep 21 '22		
1046	Treatment of bedding	2 days	Sep 22 '22	Sep 23 '22		
1047	Pipe laying D.I.	4 days	Sep 24 '22	Sep 27 '22		
1048	Backfilling general fill and compaction	7 days	Sep 28 '22	Oct 4 '22		
1049	Reinstatement	1 day	Oct 5 '22	Oct 5 '22		
1050	Remaining Section of On Lok Mun Street (840m)	840 days	Oct 6 '22	Jan 22 '25		
1051	RW35 (DN150) - On Chuen Street (720m)	768 days	Jul 6 '22	Aug 11 '24		
1052	CH650 to CH680 (30m)	33 days	Jul 6 '22	Aug 7 '22		
1053	TTA establishment	2 days	Jul 6 '22	Jul 7 '22		
1054	Hard material excavation and disposal	3 days	Jul 8 '22	Jul 10 '22		
1055	Soil excavation , laying sheetpile and disposal	14 days	Jul 11 '22	Jul 24 '22		



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Project Summary	Duration-only	External Tasks	Progress	

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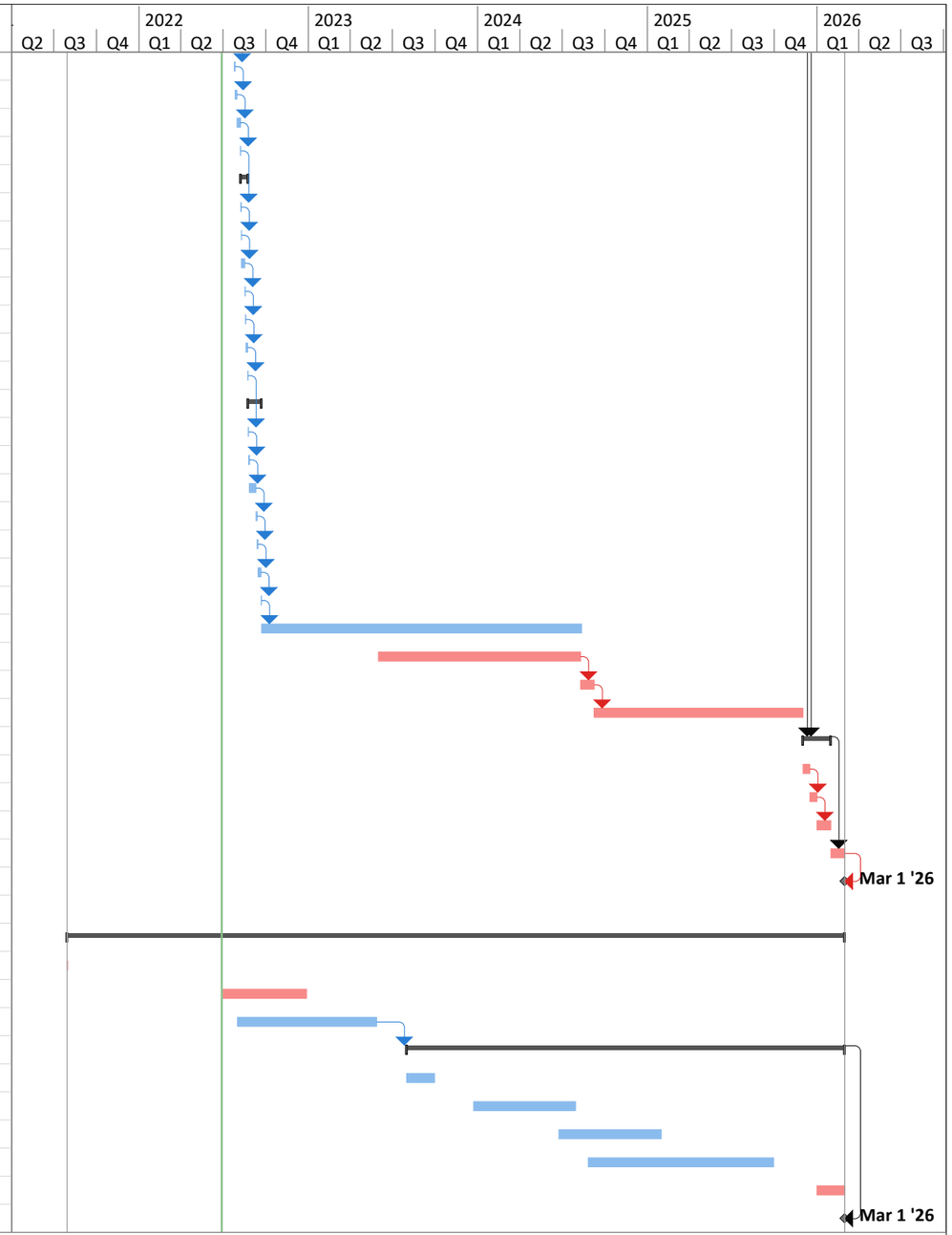
1056	Treatment of bedding	2 days	Jul 25 '22	Jul 26 '22		
1057	Pipe laying D.I.	4 days	Jul 27 '22	Jul 30 '22		
1058	Backfilling general fill and compaction	7 days	Jul 31 '22	Aug 6 '22		
1059	Reinstatement	1 day	Aug 7 '22	Aug 7 '22		
1060	CH620 to CH650 (30m)	16 days	Aug 8 '22	Aug 23 '22		
1061	TTA establishment	1 day	Aug 8 '22	Aug 8 '22		
1062	Hard material excavation and disposal	1 day	Aug 9 '22	Aug 9 '22		
1063	Soil excavation , laying sheetpile and disposal	7 days	Aug 10 '22	Aug 16 '22		
1064	Treatment of bedding	1 day	Aug 17 '22	Aug 17 '22		
1065	Pipe laying D.I.	1 day	Aug 18 '22	Aug 18 '22		
1066	Backfilling general fill and compaction	4 days	Aug 19 '22	Aug 22 '22		
1067	Reinstatement	1 day	Aug 23 '22	Aug 23 '22		
1068	CH590 to CH620 (30m)	29 days	Aug 24 '22	Sep 21 '22		
1069	TTA establishment	1 day	Aug 24 '22	Aug 24 '22		
1070	Hard material excavation and disposal	2 days	Aug 25 '22	Aug 26 '22		
1071	Soil excavation , laying sheetpile and disposal	14 days	Aug 27 '22	Sep 9 '22		
1072	Treatment of bedding	2 days	Sep 10 '22	Sep 11 '22		
1073	Pipe laying D.I.	2 days	Sep 12 '22	Sep 13 '22		
1074	Backfilling general fill and compaction	7 days	Sep 14 '22	Sep 20 '22		
1075	Reinstatement	1 day	Sep 21 '22	Sep 21 '22		
1076	Remaining Section of On Chuen Street (630m)	690 days	Sep 22 '22	Aug 11 '24	60	
1077	RW09 (DN150) - Wo Hing Road (436m)	436 days	Jun 1 '23	Aug 9 '24		
1078	RW60 (DN150) - Tee from RW09 (14m)	29 days	Aug 10 '24	Sep 7 '24	14	
1079	RW40 (DN150) - Tai Wo Service Road West (420m)	450 days	Sep 8 '24	Dec 1 '25	30	
1080	Overall testing	60 days	Dec 2 '25	Jan 30 '26		
1081	Swabbing	15 days	Dec 2 '25	Dec 16 '25		
1082	CCTV	15 days	Dec 17 '25	Dec 31 '25		
1083	Hydrostatic pressure test	30 days	Jan 1 '26	Jan 30 '26		
1084	Pipe connection and completion	30 days	Jan 31 '26	Mar 1 '26		
1085	Planned completion for section 8	0 days	Mar 1 '26	Mar 1 '26		
1086						
1087	**Section 9 - Conversion works to effect the supply of reclaimed water**	**1676 days**	**Jul 30 '21**	**Mar 1 '26**		
1088	Access Date	1 day	Jul 30 '21	Jul 30 '21		
1089	Initial survey by stages	180 days	Jul 1 '22	Dec 27 '22		
1090	Liaison, coordination and enabling work for conversion	300 days	Aug 1 '22	May 27 '23		
1091	**Conversion works**	**944 days**	**Aug 1 '23**	**Mar 1 '26**		
1092	Section 4 (Part 3) - 3 nos.	60 days	Aug 1 '23	Sep 29 '23		
1093	Section 5 (Part 4) - 11 nos.	220 days	Dec 23 '23	Jul 29 '24		
1094	Section 6 (Part 5) - 11 nos.	220 days	Jun 24 '24	Jan 29 '25		
1095	Section 7 (Part 6) - 40 nos.	400 days	Aug 26 '24	Sep 29 '25		
1096	Section 8 (Part 7) - 3 nos.	60 days	Jan 1 '26	Mar 1 '26		
1097	Planned completion for section 9	0 days	Mar 1 '26	Mar 1 '26		



Project: 3WSD20 Programme
Date: Jun 28 '22

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

SITE OVERVIEW PHOTO IN THE REPORTING PERIOD

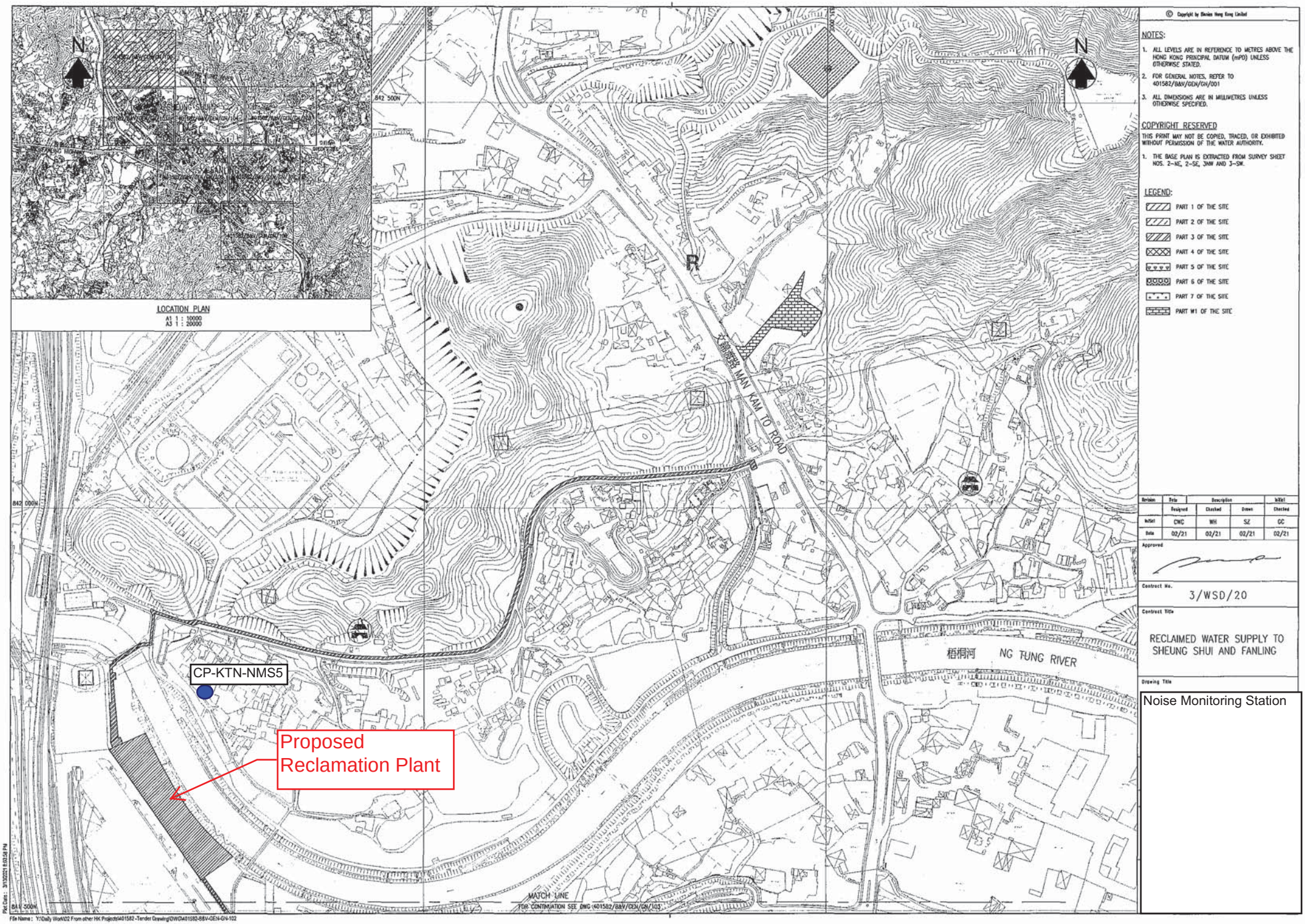
Excavation and lateral support work at proposed area of Hypo-Chlorination Facilities

Rebar fixing work at proposed areas of Hypo-Chlorination Facilities

Pile Cap and Formwork erection work at proposed area of Reclaimed Water Pumping Station

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/B&V/GEN/GN/001
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.

1. THE BASE PLAN IS EXTRACTED FROM SURVEY SHEET NOS. 2-NC, 2-SE, JNW AND J-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		CC
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: 3/3/2021 8:03:58 PM
File Name: T:\Daily Work\22 From other HK Projects\401582 -Tender Drawing\DWG\401582-B&V-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. : C216479
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC21-2189) Date of Receipt / 收件日期 : 25 October 2021

Description / 儀器名稱 : Sound Level Meter (EQ016)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-52
Serial No. / 編號 : 00464681
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 : 9 November 2021

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 : Cheuk
K P Cheuk
Project Engineer

Certified By 核證 :
K C Lee
Engineer

Date of Issue 簽發日期 : 10 November 2021

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

Certificate of Calibration
校正證書

Certificate No. : C216479
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	C210084
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	93.6	± 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	93.6 (Ref.)
				104.00		103.6
				114.00		113.6

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	93.6	Ref.
			Slow			93.6	± 0.3

Certificate of Calibration
校正證書

Certificate No. : C216479
證書編號

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	67.3	-26.2 ± 1.5
					125 Hz	77.4	-16.1 ± 1.5
					250 Hz	84.9	-8.6 ± 1.4
					500 Hz	90.4	-3.2 ± 1.4
					1 kHz	93.6	Ref.
					2 kHz	94.8	+1.2 ± 1.6
					4 kHz	94.6	+1.0 ± 1.6
					8 kHz	92.6	-1.1 (+2.1 ; -3.1)
					16 kHz	85.7	-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	92.7	-0.8 ± 1.5
					125 Hz	93.4	-0.2 ± 1.5
					250 Hz	93.6	0.0 ± 1.4
					500 Hz	93.6	0.0 ± 1.4
					1 kHz	93.6	Ref.
					2 kHz	93.5	-0.2 ± 1.6
					4 kHz	92.8	-0.8 ± 1.6
					8 kHz	90.7	-3.0 (+2.1 ; -3.1)
					16 kHz	83.7	-8.5 (+3.5 ; -17.0)

Certificate of Calibration
校正證書

Certificate No. : C216479
證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 17434

- 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.

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. : C216478
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC21-2189) Date of Receipt / 收件日期 : 25 October 2021

Description / 儀器名稱 : Sound Calibrator (EQ087)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-74
Serial No. / 編號 : 34657231
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 : 9 November 2021

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 : Cheuk
K P Cheuk
Project Engineer

Certified By 核證 :
K C Lee
Engineer

Date of Issue 簽發日期 : 10 November 2021

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. : C216478
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	C213954
CL281	Multifunction Acoustic Calibrator	AV210017
TST150A	Measuring Amplifier	C201309

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	94.1	± 0.3	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.001	1 kHz ± 1 %	± 1

Remark : 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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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

Appendix F

Monitoring Schedule of the Reporting Month and Coming Month

The Reporting Monitoring Schedule (July 2022)

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

✓	Monitoring Day
	Sunday or Public Holiday

The Coming Month Monitoring Schedule (August 2022)

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

Note:

Ecology monitoring dates are tentative and are subject to change

✓	Monitoring Day
	Sunday or Public Holiday

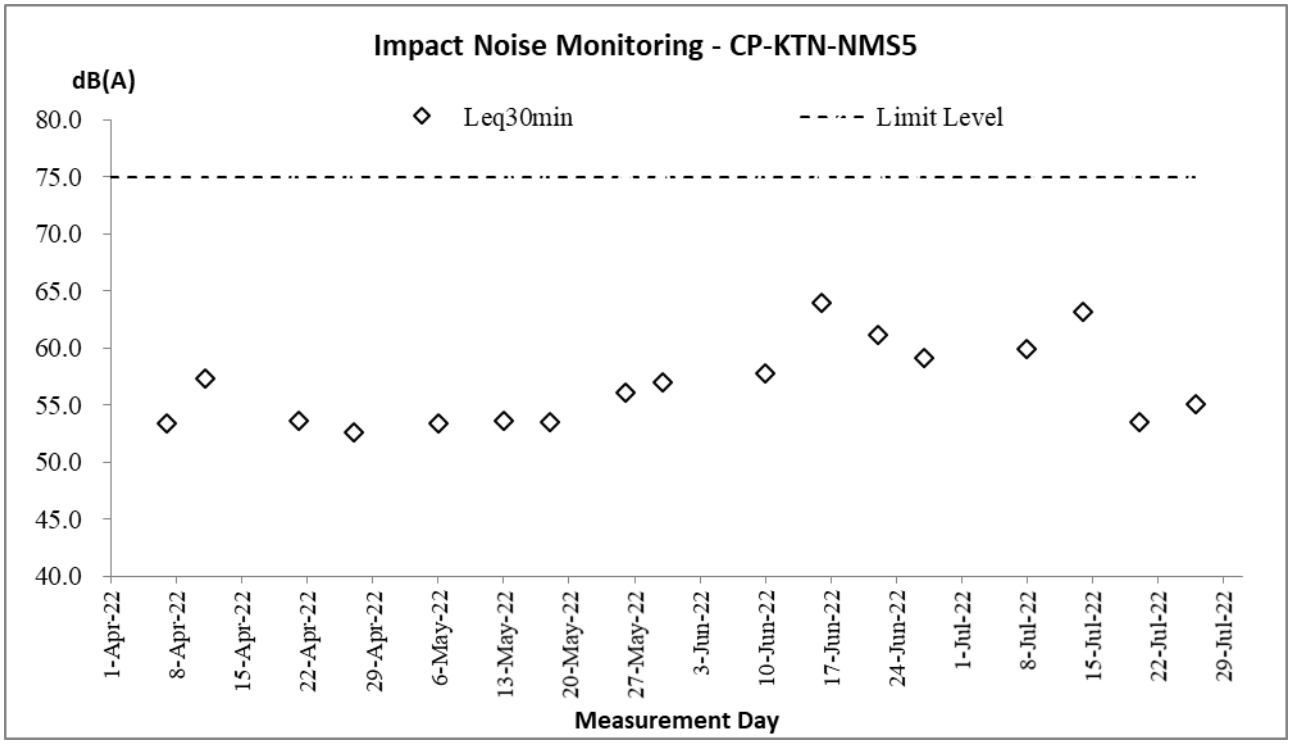
Appendix G

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)**		
8-Jul-22	14:18	62.4	65.0	58.0	58.2	62.5	53.5	57.6	61.0	52.5	61.6	62.5	53.0	56.6	63.5	49.0	60.2	63.0	56.0	59.9	62.9
14-Jul-22	9:30	60.5	61.6	58.7	61.0	62.2	58.8	61.4	62.7	59.2	63.3	64.5	62.3	64.4	65.5	64.4	65.8	65.6	65.2	63.2	66.2
20-Jul-22	15:40	54.0	55.9	51.8	52.9	54.4	51.5	53.7	55.6	50.9	52.4	53.7	50.4	53.4	54.7	50.4	54.5	55.7	51.0	53.5	56.5
26-Jul-22	10:19	58.4	60.4	51.3	57.9	62.1	51.0	52.4	54.0	50.6	52.2	53.9	50.8	52.2	54.6	49.7	51.1	52.1	49.4	55.1	58.1

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-Apr-22
8-Apr-22
15-Apr-22
22-Apr-22
29-Apr-22
6-May-22
13-May-22
20-May-22
27-May-22
3-Jun-22
10-Jun-22
17-Jun-22
24-Jun-22
1-Jul-22
8-Jul-22
15-Jul-22
22-Jul-22
29-Jul-22
Measurement Day

Appendix I

Monthly Summary Waste Flow Table

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

Monthly Summary Waste Flow Table for _2022___ (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	0.3031	0	0	0	0.3031	0	0	0	0	0	0.0016
Feb	0.5411	0	0	0	0.5411	0	0	0	0	0	0.0019
Mar	0.8459	0	0	0	0.8459	0	0	0	0	0	0.0014
Apr	3.2205	0	0	0	3.2205	0	0	0	0	0	0.0024
May	4.1278	0	0	0.39	4.1278	0	0	0	0	0	0.0057
June	4.6925	0	0	1.6148	4.6925	0	0	0	0	0	0.0017
July	0.8427	0	0	0	0.8427	0	0	0	0	0	0.0078
Aug											
Sept											
Oct											
Nov											
Dec											
Total	14.5736	0	0	2.0048	14.5736	0	0	0	0	0	0.0225

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

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			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

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		• 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

Site Temporary Drainage Plan in the Reporting Period

Legend:

Existing u-channel to be abandoned

Water Flow

Water Flow pumped cater level difference

Existing Channels

Sedimentation Pit
(5000W x 5000L x 3000D)

Proposed Sedimentation Tanks
2.4m x 6m x 2.4m(H) (2nos.)

Outlet B

ELS Pit
(28000W x 30000L
x 8800D)

Proposed Sedimentation Tanks
2.4m x 6m x 2.4m(H) (2nos.)

Existing UC to
be abandoned

SLAUGHTER HOUSE
BOUNDARY WALL

ELS Pit
(25000W x 80000L
x 3000D)

Upstream removed by others

梧桐河

NG TUNG RIVER (RIVER INDUS)

Footpath

Footbridge

Retaining Wall

SHEET PILES

Slaughter House Boundary Wall

Temporary Footpath

Paving Slab

排水口 Outfall

排水口 Outfall

Platform

Road

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 July 2022
(Issue 1)

Job Ref.: 21/2063/582 AUES-SWHTSE
Date: 8th August 2022

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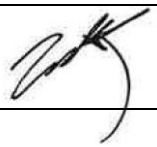
WSD Contract No. 3/WSD/20 - Reclaimed Water Supply to Sheung Shui and Fanling - Provision of EM&A (Ecological) Monitoring

Monthly Report for July 2022

(Issue 1)

August 2022

	Name	Signature
Prepared by:	**Nicholas Tam**	
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Job Ref.: 21/2063/582 AUES-SWHTSE

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Figure 1a Transect and Point Count Locations (Zoomed In)

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 July 2022.

2 MONITORING METHODOLOGY

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

Table 1 Ecological Monitoring Stations

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

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

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

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

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

3 ANALYTICAL METHODOLOGY

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

Table 2 Representative Waterbirds

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

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

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

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

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

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

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

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

4 RESULTS

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

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

High Tide				Low Tide			
Date	**Time**	**Tide (m)**	**Weather**	**Date**	**Time**	**Tide (m)**	**Weather**
4-Jul-22	10:00	1.83	Sunny	6-Jul-22	7:30	1.29	Sunny
14-Jul-22	9:00	3.01	Sunny	15-Jul-22	15:30	1.4	Sunny
20-Jul-22	13:00	1.65	Sunny	18-Jul-22	8:00	1.2	Sunny
30-Jul-22	9:00	2.26	Sunny	28-Jul-22	13:00	1.44	Sunny

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	32	728
Waterbirds	11	159

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	58
Eastern Cattle Egret	*Bubulcus coromandus*	牛背鷺	4
Grey Heron	*Ardea cinerea*	蒼鷺	5
Great Egret	*Ardea alba*	大白鷺	19
Little Egret	*Egretta garzetta*	小白鷺	57
Great Cormorant	*Phalacrocorax carbo*	普通鸕鷀	0

5 ANALYSIS

5.1 The result 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	-0.818	4	0.230			-0.664	3	0.277		
Chinese Pond Heron	-0.823	5	0.224			-0.455	3	0.340		
Eastern Cattle Egret	-0.635	5	0.277			-1.789	8	0.056		
Grey Heron	No decline					No decline				
Great Egret	No decline					No decline				
Little Egret	-3.684	6	0.005	*	*	-2.884	4	0.022	*	
Great Cormorant	No decline					No decline				

* = level triggered

5.2 Only the decline in Little Egrets have triggered the Limit level by monthly standards and Action Level by seasonal standard.

5.3 Similar to the account in the report of previous months, another 56 Little Egrets have been recorded from the transect count in this reporting month, showing that a considerable number of Little Egrets are still active within the survey area, and are simply excluded from the analysis.

5.4 Additionally, as suggested in previous reporting months, the change in habitats of Long Valley Nature Park (e.g. maintenance of shallow water in the reprofiled agricultural land or low-lying areas) is likely to attract more birds to be active within LVNP instead of the Study Area. This hypothesis is supported by the accounts of the surveyor, who observed a number of ardeids in flight above LVNP, which are excluded from both the point count and transect counts due to extent of the Study Area. In addition, the tidal influence of the Rivers may restrict the availability of foraging and roosting sites for the waterbirds. This may further encourage the waterbirds utilising the more attractive habitats in the nearby LVNP.

5.5 Given that the anthropogenic activities recorded were similar to the previous month, and no large instances of disturbance (only use of crane and scaffolding works) caused by the construction works of the project were recorded by the surveyor, it is suggested that the decline in numbers of Little Egrets are not related to the construction works.

5.6 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.

6 OBSERVATIONS

6.1 Waterbird behavior observed during ecological monitoring is listed below:

- Flying
- Resting
- Foraging

6.2 The anthropogenic activities observed during ecological monitoring is listed in **Table 8.**

Table 8 Observations during the Ecological Monitoring in the Reporting Month

Location	Observations	
	Project Related	**Non-project Related**
T1 (PC1, PC2)	/	Fishing
T2 (PC3, PC4)	Use of crane, scaffolding	Fishing
T3 (PC6, PC7)	/	Fishing

7 REFERENCES

Carey, G.J., Chalmers, M.L., Diskin, D.A., Kennerley, P.R., Leader, P.J., Leven, M.R., Lewthwaite, R.W., Melville, D.S., Turnbull, M., and Young, L. 2001. The Avifauna of Hong Kong. Hong Kong Bird Watching Society, Hong Kong.

Cinotech Consultants Limited. 2019. Contract No. SPW 08/2019 Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 Baseline Monitoring Report (Ecology) (Version 1). Accessed from https://shekwuhui.cinotech.hk/?page_id=24 in Jan 2022.

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

Common Name	Chinese Name	Scientific Name	Waterbird	Point Count Abundance	Transect Abundance
Chinese Pond Heron	池鷺	*Ardeola bacchus*	Y	58	+++++
Eastern Cattle Egret	牛背鷺	*Bubulcus coromandus*	Y	4	+
Grey Heron	蒼鷺	*Ardea cinerea*	Y	5	+
Great Egret	大白鷺	*Ardea alba*	Y	19	+++
Little Egret	小白鷺	*Egretta garzetta*	Y	57	+++++
Crested Serpent Eagle	蛇鵰	*Spilornis cheela*	N		+
Black Kite	黑鳶	*Milvus migrans*	N	1	+
White-breasted Waterhen	白胸苦惡鳥	*Amaurornis phoenicurus*	Y	1	+
Black-winged Stilt	黑翅長腳鷸	*Himantopus himantopus*	Y	1	+++
Common Sandpiper	磯鷸	*Actitis hypoleucos*	Y	4	+
Common Greenshank	青腳鷸	*Tringa nebularia*	Y		+
Spotted Dove	珠頸斑鳩	*Spilopelia chinensis*	N	61	+++++
Greater Coucal	褐翅鴉鵑	*Centropus sinensis*	N	2	+
Asian Koel	噪鵑	*Eudynamys scolopaceus*	N	7	+
Asian Barred Owlet	斑頭鴞鶹	*Glaucidium cuculoides*	N	1	
House swift	小白腰雨燕	*Apus nipalensis*	N		+
White-throated Kingfisher	白胸翡翠	*Halcyon smyrnensis*	Y	5	+
Common Kingfisher	普通翠鳥	*Alcedo atthis*	Y	4	+
Pied Kingfisher	斑魚狗	*Ceryle rudis*	Y		+
Long-tailed Shrike	棕背伯勞	*Lanius schach*	N	1	+
Black Drongo	黑卷尾	*Dicrurus macrocercus*	N		+
Red-billed Blue Magpie	紅嘴藍鵲	*Urocissa erythroryncha*	N		+
Oriental Magpie	喜鵲	*Pica serica*	N	6	+
Collared Crow	白頸鴉	*Corvus torquatus*	Y	1	+
Large-billed Crow	大嘴烏鴉	*Corvus macrorhynchos*	N		+
Cinereous Tit	蒼背山雀	*Parus cinereus*	N	13	++
Red-whiskered Bulbul	紅耳鵯	*Pycnonotus jocosus*	N	52	+++++
Chinese Bulbul	白頭鵯	*Pycnonotus sinensis*	N	23	+++
Barn Swallow	家燕	*Hirundo rustica*	N	9	+++++
Yellow-bellied Prinia	黃腹鷦鶯	*Prinia flaviventris*	N	21	+
Common Tailorbird	長尾縫葉鶯	*Orthotomus sutorius*	N	9	++
Masked Laughingthrush	黑臉噪鶥	*Pterorhinus perspicillatus*	N	19	++++
Swinhoe's white-eye	暗綠繡眼鳥	*Zosterops simplex*	N	22	+++++
Crested Myna	八哥	*Acridotheres cristatellus*	N	239	+++++
Black-collared Starling	黑領椋鳥	*Gracupica nigricollis*	N	23	+++++
White-shouldered Starling	灰背椋鳥	*Sturnia sinensis*	N		+
Oriental Magpie Robin	鵲鴝	*Copsychus saularis*	N	15	++
Eurasian Tree Sparrow	樹麻雀	*Passer montanus*	N	29	+
Scaly-Breasted Munia	斑文鳥	*Lonchura punctulata*	N	6	+
White Wagtail	白鶺鴒	*Motacilla alba*	N	10	+++
		Total Point Count Abundance		728	

Common Name	Chinese Name	Scientific Name	Waterbird	Point Count Abundance	Transect Abundance
		Total Waterbirds		159	

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	4-Jul-22	10:00	High	8	30
	6-Jul-22	7:30	Low	22	
2	14-Jul-22	9:00	High	14	30
	15-Jul-22	15:30	Low	16	
3	18-Jul-22	8:00	Low	29	35
	20-Jul-22	13:00	High	6	
4	28-Jul-22	13:00	Low	47	64
	30-Jul-22	9:00	High	17	
			Survey Average		39.75
			Baseline	July Average	47.25
				Summer Average	45.34

Appendix C Abundance of Representative Waterbirds from Point Count

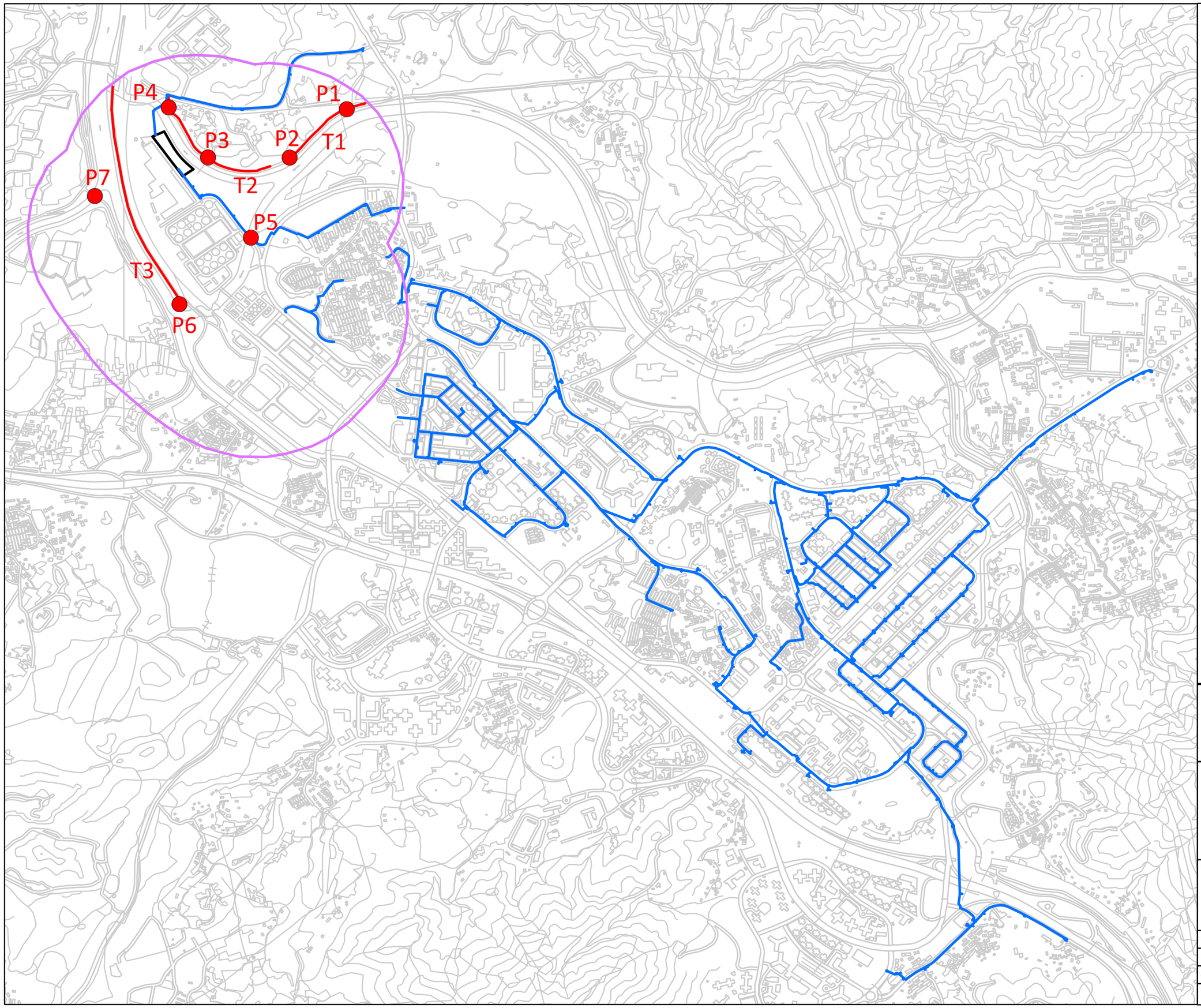
Representative Species		Recorded Abundance (Jul 2022)						Baseline	
Common Name	**Species Name**	**Week 1**	**Week 2**	**Week 3**	**Week 4**		**Average**	**July Average**	**Summer Average**
Chinese Pond Heron	*Ardeola bacchus*	9	13	11	25		14.5	18	16.18
Eastern Cattle Egret	*Bubulcus coromandus*	0	0	0	4		1	1.75	3.32
Grey Heron	*Ardea cinerea*	1	1	1	2		1.25	0	0.55
Great Egret	*Ardea alba*	4	3	6	6		4.75	2.5	2.61
Little Egret	*Egretta garzetta*	14	11	12	20		14.25	24.75	20.53
Great Cormorant	*Phalacrocorax carbo*	0	0	0	0		0	0	0

Appendix D Survey Photos

Photo 1 Works on current project at P3	**Photo 2** Works from other projects at P3
	
Photo 3 Fishing Activities at T2	**Photo 4** Site Condition at T1
	
Photo 5 Site Condition at P2	**Photo 6** Little Egret at T1
	

Figure 1

Transect and Point Count Location



Proposed Shek Wu Hui Water Reclamation Plant

500m Survey Boundary

Proposed Retained Water Mains

Walk Transects

Point Count Locations

ecology
biodiversity
landscape
aec

Project Title:

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

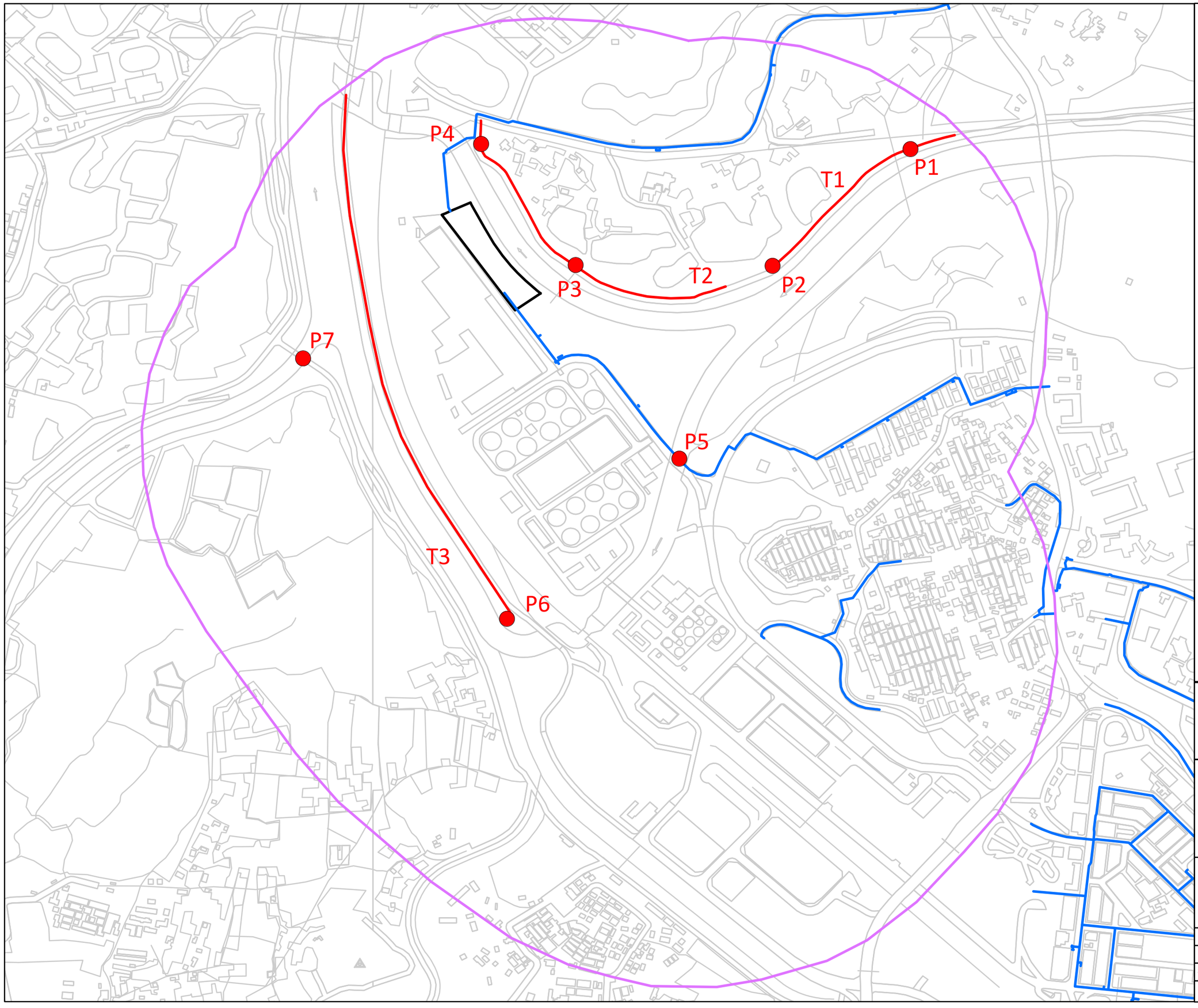
Figure Title:

Transect and Point Count Locations

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

Figure 1a

Transect and Point Count Location (Zoomed In)



Proposed Shek Wu Hui Water Reclamation Plant

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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