UMWELT CONSULTING LIMITED

23/F, On Hong Commercial Building, 145 Hennessy Road, Wan Chai, Hong Kong

**By Post**

**Our Ref : P221002-WMP-R2.8-V**
**Date : 14th August 2023**

Binnies Hong Kong Limited

43/F, AIA Kowloon Tower,

100 How Ming Street,

Kwun Tong, Kowloon, Hong Kong

Attn: Wilson CK Lam

**Agreement No. DHSR/IEC/001**

**Consultancy Service of Independent Environmental Checker (IEC) for Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns under Contract No. 21/WSD/21**

**Waste Management Plan**

Dear Sir,

Pursuant to Condition 2.13 of Environmental Permit (EP) No. EP-602/2021, please note the Waste Management Plan Revision 2.8, dated 14 August 2023 submitted under the EP, certified by the Environmental Team Leader on 14 August 2023, had been reviewed and is hereby verified.

Should you have any query, please feel free to contact the undersigned at 3756 9590 or ivanting@umwelt.consulting .

Your faithfully,

For and on behalf of:

Umwelt Consulting Limited

Ting Po Chung Ivan

Independent Environmental Checker

Date: 14 August 2023
Your ref:
Our ref: PL-202308011

Binnies Hong Kong Limited
43/A, AIA Kowloon Tower
100 How Ming Street
Kwun Tong, Kowloon
Hong Kong

**Attn.: Mr. Wilson C. K. Lam**

Dear Mr. Lam,

**Contract No. 21/WSD/21**
**Relocation of Demand Hill Fresh Water and Salt Water Service Reservoirs to Caverns**
**Certification of Waste Management Plan**

Reference is made to the Waste Management Plan (Revision 2.8) submitted by the Contractor on 14 August 2023. We are pleased to inform you that we have no adverse comment on the Waste Management Plan.

I hereby certify the Waste Management Plan (Revision 2.8) for submission under Condition 2.13 of Environmental Permit No. EP-602/2021.

Thank you for your attention.

Yours faithfully,
For and on behalf of
Aurecon Hong Kong Limited

F. C. Tsang
Environmental Team Leader

Encl.

| | | | |
|---|---|---|---|
| cc. | Umwelt Consulting Limited | Mr. Ivan Ting (IEC) | via email |
| | Binnies Hong Kong Limited | Mr. Howie Ho (RE) | via email |
| | Chun Wo – Sinohydro JV | Mr. Kenny Poon (Site Agent) | via email |

Aurecon Hong Kong Limited
Flat/RM E, 12/F, Ford Glory Plaza,
Nos. 37-39 Wing Hong Street, Kowloon, Hong Kong
tel +852 2698 6833
fax +852 2698 9383 | e-mail admin@acuityhk.com
http www.aurecongroup.com

CHUN WO - SINOHYDRO JV

# WASTE MANAGEMENT PLAN

## CONTRACT NO. 21/WSD/21

## RELOCATION OF DIAMOND HILL FRESH WATER AND SALT WATER RESERVOIRS TO CAVERNS

Approved by:

Revision : 2.8

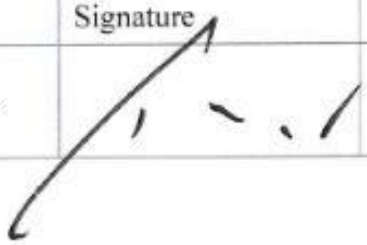
Date : 14 Aug 2023

Paul Yu
Authorized Representative

# Waste Management Plan

Revision: 2.8
Date: 14 Aug 2023

Checked by:

| Position | Signature | Name | Date |
|---|---|---|---|
| Authorized Representative |  | Paul Yu | 14 Aug 2023 |

Prepared by:

| | | | |
|---|---|---|---|
| Environmental Officer | | Denzel Chan | 14 Aug 2023 |

# CONTENTS

**0. Abbreviation and Acronyms ..... 3**

**1. Introduction ..... 4**

**2. Waste Management Hierarchy ..... 8**

**3. Design and Planning of Construction Works ..... 8**

**4. Sources of Waste and Disposal Location ..... 9**

**5. Construction and Demolition (C&D) Material ..... 12**

**5.1 Inert Material** ..... 12

**5.1.1 Maximising On-site and Off-site Reuse of C&D Materials** ..... 12

**5.1.2 Off-site Reuse of Surplus Inert C&D Materials** ..... 12

**5.1.3 Arrangements for On-Site Handling or Storage** ..... 12

**5.1.4 Disposal Arrangement** ..... 12

**5.1.5 Recommended Mitigation Measures** ..... 12

**5.2 Non-Inert Material** ..... 13

**5.2.1 Arrangements for Avoidance, Minimisation, Recovery, Recycling, Reuse** ..... 13

**5.2.2 Arrangements for On-Site Handling or Storage** ..... 13

**5.2.3 Disposal Arrangement** ..... 14

**5.2.4 Training on Waste Management** ..... 14

**5.2.5 Recommended Mitigation Measures** ..... 14

**6. Chemical Waste ..... 15**

**6.1 Arrangements for Avoidance, Minimisation, Recovery, Recycling, Reuse** ..... 15

**6.2 Arrangements for On-site Handling and Storage** ..... 15

**6.3 Disposal Arrangement** ..... 16

**6.4 Recommended Mitigation Measures** ..... 16

**7. General Refuse ..... 16**

**7.1 Arrangements for Avoidance, Minimisation, Recovery, Recycling, Reuse** ..... 16

**7.2 Arrangements for On-Site Handling or Storage** ..... 16

**7.3 Disposal Arrangement** ..... 16

**7.4 Recommended Mitigation Measures** ..... 17

**8. Site Organization and Staff Duties ..... 17**

**8.1 Roles and Responsibilities** ..... 17

**9. Trip Ticket System ..... 19**

**9.1 Site Procedure for Trip Ticket System** ..... 19

**9.2 Recording System** ..... 20

**9.3 Video Recording System** ..... 20

**9.4 Control Measures to Track Internal Movement Materials** ..... 21

**10. GPS Tracking System ..... 21**

**10.1 Installation** ..... 21

**10.2 Operation** ..... 22

**10.3 Monitoring** ..... 22

**11. Emergency Response Plan ..... 23**

**11.1 Environmental Emergency** ..... 23

**11.2 Typhoon and adverse weather operations** ..... 23

**11.3 Chemical Spillage** ..... 24

**12. Reporting ..... 24**

## LIST OF APPENDICES

**Appendix A** Implementation Schedule of Waste Management Mitigation Measures
**Appendix B** Monthly summary of 'Waste Flow Table' (WFT)
**Appendix C** Summary use of timber for Temporary Works construction
**Appendix D** Layout show temporaty storage area for C&D material, C&D material sorting area and Chemical waste container
**Appendix E** Master Program
**Appendix F** Organization Chart
**Appendix G** Sample of the Chit and Daily Record Summary Form
**Appendix H** Sample of Disposal Delivery Form (DDF) of Alternative Disposal Ground

## 0. Abbreviation and Acronyms

| | |
|---|---|
| C&D | Construction & Demolition |
| CEDD | Civil Engineering and Development Department |
| CM | Construction Manager |
| CTS | Chit Ticket System |
| CP | Competent Person for Operation of Chit Ticket System |
| DRS | Daily Record Summary Form |
| EPD | Environmental Protection Department |
| EO | Environmental Officer |
| FEMU | Front End Mobile Unit |
| RTTMV | Real Time Tracking & Monitoring of Vessel |
| SA | Site Agent |
| SE | Site Engineer |
| SMP | Site Management Plan |
| TTS | Trip Ticket System |
| WFT | Waste Flow Table |
| WMP | Waste Management Plan |
| *Supervisor* | Be Designated by the WSD (Binnies) |
| *Project Manager* | Be Designated by the WSD (Binnies) |

# 1. Introduction

Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns Environmental Impact Assessment Report (Register No.: AEIAR-232/2021) was approved without conditions by Environmental Protection Department (EPD) on 16 November 2021. An Environmental Permit (EP-602/2021) was issued on 14 December 2021.

Chun Wo – Sinohydro JV (CWSJV) was commissioned by Water Supplies Department as the appointed main contractor for Contract No. 21/WSD/21 Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns.

This Waste Management Plan is developed and deposited in accordance with Condition 2.13 of Environmental Permit No.: EP-602/2021 and the Permit Holder shall, no later than 1 month before the commencement of construction of the Project or otherwise approved by the Director, deposit with the Director 3 hard copies and 1 electronic copy of a Waste Management Plan (WMP).

The WMP shall include:

- An implementation schedule in table form to clearly list out the amount and disposal outlet for the different types of waste arising, mitigation measures to be implemented, and the implementation party, location, timing, and environmental performance required for implementation of the mitigation measures (See ***Appendix A***).

If there is any change to mitigation measures as recommended in the deposited WMP, the Permit Holder shall, no later than 1 month before the implementation of any such change, deposit with the Director 3 hard copies and 1 electronic copy of an updated WMP. The WMP and updated WMP shall be certified by the ET Leader and verified by the IEC as conforming to the relevant information and recommendations of the EIA Report (Register No. AEIAR-232/2021). All mitigation measures recommended and requirements specified in the WMP and the updated WMP shall be fully implemented.

The measures specified in this WMP will be implemented on-site to manage the disposal of construction and demolition (C&D) materials. The WMP will be reviewed and updated regularly. The following legislation covers or has some bearing upon the handling and disposal of wastes in Hong Kong, and will be used as the criteria:

- *Waste Disposal Ordinance* and its subsidiary regulations;
- *Waste Disposal (Chemical Waste) (General) Regulation*;
- *Public Health and Municipal Services Ordinance - Public Cleansing and Prevention of Nuisances Regulation*; and,
- *Land (Miscellaneous Provisions) Ordinance.*

In addition, The *Contractor* will refer to and comply with the following waste-related legislations/guidelines:

- *A Guide to the Registration of Chemical Waste Producers;*
- *A Guide to the Chemical Waste Control Scheme;*
- *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes*;
- Chapter 9 of *Hong Kong Planning and Standards Guidelines;*
- *Dumping at Sea Ordinance;*
- *Dangerous Goods Ordinance;*
- *Environment, Transport and Works Bureau Technical Circular No. 19/2005 – Environmental Management on Construction Site*
- *Environment, Transport and Works Bureau Technical Circular (Works) No. 34/2002 - Management of Dredged/Excavated Sediment (ETWB TC(W) No. 34/2002)*
- *CEDD Technical Circular No 11/2019 – Management of Construction and Demolition Materials*
- *Development Bureau Technical Circular No. 6/2010 - Trip-ticket System for Disposal of Construction and Demolition Material*;
- *Works Bureau Technical Circular No. 12/2002 - Specifications Facilitating the Use of Recycled Aggregates;*
- *Works Bureau Technical Circular No. 06/2002A - Enhanced Specification for Site Cleanliness and Tidiness;*
- *Works Bureau Technical Circular No. 06/2002 - Enhanced Specification for Site Cleanliness and Tidiness;*
- *Works Bureau Technical Circular No. 19/2001 - Metallic Site Hoardings and Signboards;*
- *Works Bureau Technical Circular No. 12/2000 - Fill Management;*
- *Works Bureau Technical Circular No. 04/1998A - Use of Public Fill in Reclamation and Earth Filling Projects;*
- *Works Bureau Technical Circular No. 04/1998 - Use of Public Fill in Reclamation and Earth Filling Projects;*
- *Works Bureau Technical Circular No. 16/1996 - Wet Soil in Public Dumps;*

- *Works Bureau Technical Circular No. 02/1993B - Public Filling Facilities;*
- *Works Bureau Technical Circular No. 02/1993 - Public Dumps;* and,
- *Works Bureau Technical Circular No. 32/1992 - The Use of Tropical Hardwood on Construction Sites.*

## 1.1 Waste Management Policy

CHUN WO - SINOHYDRO JV has established the Waste Management Policy for the Contract. It outlines the principles and commitment in relation to the overall waste management performance and provide a framework for action and for the setting of waste management objectives and targets for waste management.

**Figure 1.1 Waste Management Policy statement**

CHUN WO - SINOHYDRO JV

## WASTE MANAGEMENT POLICY

**CHUN WO – SINOHYDRO JV** 's waste management objectives are to prevent environmental pollution, reduce waste and enhance waste recycling from our operations through the implementation of Waste Management System.

**CHUN WO – SINOHYDRO JV** is committed to:

- Provision of adequate and appropriate resources to implement this Policy;
- Compliance with environmental laws and other applicable requirements;
- Setting environmental objectives and targets that lead to environmental improvement in waste minimization and reduction;
- Conservation of natural resources and prevent wastage;
- Minimization of pollution by avoiding creating waste, maximizing beneficial reuse and recycling of material;
- Promoting environmental awareness of employees at all levels through the provision of appropriate advocation, education and training;
- Communication of this Policy to all staff and interested parties; and
- Implementation of actions to prevent environmental pollution, reduce waste, enhance waste recycling and to improve environmental performance continuously.

All employees, subcontractors and suppliers are required to implement this Policy diligently. This Policy will be reviewed regularly in light of experience, feedbacks, current regulations and legislation.

Eric Tang
General Manager
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD

Chen Qi
Director
SINOHYDRO CORPERATE LIMITED

Date: 16 January 2023

## 2. Waste Management Hierarchy

CHUN WO - SINOHYDRO JV will implement appropriate waste management practices according to the nature and category of wastes arising. Waste management options will be selected according to the widely accepted hierarchy shown by **Table 2.1** below.

**Table 2.1 Waste Management Hierarchy**

| | | |
|---|---|---|
| **Avoidance and minimization** | Avoid and minimize waste through changing or improving practices and designs. | ↑ Highest Priority |
| **Reuse of materials (with limited reprocessing)** | Reuse construction waste with only limited reprocessing such as uncontaminated soil, wooden planks, metals and other materials in other construction works or process. | |
| **Recovery and Recycling (may require reprocessing)** | Undertaking on-site or off site recycling. | |
| **Treatment** | Offsite destruction and detoxification etc, of wastes into less harmful substances. | Lowest Priority ↓ |
| **Disposal** | Release of wastes to designated areas properly so as to render them harmless. | |

The hierarchy will be used to evaluate waste management options for the minimization of waste generation. By the implementation of this hierarchy, the overall construction waste generation will be reduced by avoiding the over-ordering of construction materials and the handling and disposing of unnecessary waste.

## 3. Design and Planning of Construction Works

Prior to the commencement of the works, CHUN WO - SINOHYDRO JV will carefully consider the construction methodology and programme to assess the waste generation during the works and study the available opportunity to reduce waste arising. Good work planning will not only result in a better estimation of materials required for the works but will also contribute to the performance of the works in the first instance so as to avoid abortive activity.

The waste generation and timber consumption of the Project will be recorded and presented in the monthly summary 'Waste Flow Table' (WFT) and "Summary use of timber for Temporary Works construction" (See ***Appendix B*** and ***Appendix C***).

Prior to the commencement of works, the location and necessary facilities for construction material storage, on-site sorting and temporary waste storage area will be planned and implemented (See ***Appendix D***). The opportunity for the reuse and recycling of the waste material

on-site and off-site will be carefully studied.

## 4. Sources of Waste and Disposal Location

Construction and Demolition (C&D) materials include public fill (inert material) and C&D wastes (non-inert material).

Public fill comprises soil, rocks, broken concrete, brick and aggregates whereas non-inert C&D waste includes chemical wastes, cleared vegetations, general refuse.

The following types of waste will be generated from the construction activities:

- C&D material containing inert and non-inert materials;
- Chemical Waste
- General Refuse

The disposal sites for the wastes generated from the project are shown in the Table 4.1.

**Table 4.1 Sources and Waste and Corresponding Disposal Site**

| Waste Type | Generated from | Materials Generated | Timing of Waste Generation | Disposal |
|---|---|---|---|---|
| **C&D material –public fill (inert)** | Soil Excavation, Construction of PAB, C&C Tunnel, Rock Blasting, Water Main Laying, Demolition Works | Inert C&D materials – Debris, Rubble, Earth, Concrete | 2023-2027 | Suitable material to be reused on site or to be disposed to propose alternative disposal ground to be reused offsite or Tseung Kwan O Area 137 Fill Bank |
| **C&D material – C&D waste (non-inert)** | | Non-inert C&D materials except Timber, Metal, Plastic and Paper | 2023-2027 | South East New Territories (SENT) Landfill |
| | | Non-inert C&D materials – Timber, Metal, Plastic and Paper | 2023-2027 | Recycling Companies |
| **Chemical waste** | Maintenance and servicing of construction plant, equipment and vehicle Building Demolition | Used Oil, spent solvent and asbestos containing materials | 2023-2027 | Chemical Waste Treatment Centre Designated landfill to be determined by EPD |
| **General Refuse** | Site workforce | Food scarps, wastepaper, empty containers | 2023-2027 | South East New Territories (SENT) Landfill |

Table 4.2 Summary of Different Types of Waste Volumes to be Generated during Construction Phase

| **Proposed Works (Programme)** | **Inert C&D Materials** | | | **Non-inert C&D Materials** | | | **Chemical Waste** | **General Refuse** |
|---|---|---|---|---|---|---|---|---|
| | **Generated, $m^3$** | **Re-used On-site, $m^3$** | **Disposal, $m^3$** | **Generated, $m^3$** | **Recycled Off-site, $m^3$** | **Disposal, $m^3$** | | |
| Site Formation (2023) | 7,770 | 0 | 7,770 | 159 | 112 | 47 | 50 litres / year | 65 kg/day |
| Construction of Tunnel Portal (2023-2024) | 26,460 | 0 | 26,460 | 32 | 23 | 9 | | |
| Construction of Access Tunnel (2024-2025) | 88,000 | 4,600 | 83,400 | 2,386 | 1,670 | 716 | | |
| Construction of Service Reservoirs, Pumping Stations and Ancillary Building in Caverns (2024-2026) | 280,000 | 0 | 280,000 | 2,115 | 1,480 | 635 | | |
| Fresh Water / Salt Water Mainlaying (2023-2027) | 25,964 | 15,689 | 10,275 | 157 | 110 | 47 | | |
| E&M Installation (2026-2027) | 0 | 0 | 0 | 30 | 21 | 9 | | |
| **Total** | 428,194 | 20,289 | 407,905 | 4,879 | 3,416 | 1,463 | - | - |

Note:

* The estimated quantities of C&D materials are based on the latest design of the Project and the available ground investigation data. The programme depends on the master program (see ***Appendix E***)

# 5. Construction and Demolition (C&D) Material

## 5.1 Inert Material

### 5.1.1 Maximising On-site and Off-site Reuse of C&D Materials

On-site Reuse of Inert C&D Materials and Import of Public Fill Materials

While all practicable measures will be employed for reuse of inert C&D material generated by the project before consideration of importing material, it is anticipated that approximately 20,289 $m^3$ of the inert C&D materials generated by the project would be reused as the fill material.

### 5.1.2 Off-site Reuse of Surplus Inert C&D Materials

It is estimated that about 407,905 $m^3$ of inert C&D materials generated by the project could not be reused on-site, this volume of surplus inert C&D materials would be delivered to Fill Bank at Tseung Kwan O Area 137 or potential projects in Hong Kong that would require public fill for beneficial use. Inert and non-inert C&D materials should be handled and stored separately to avoid mixing the two types of materials.

### 5.1.3 Arrangements for On-Site Handling or Storage

Temporary stockpiling of the inert C&D materials generated would be required in order to facilitate the subsequent reuse of such materials for the site formation work.

### 5.1.4 Disposal Arrangement

About 407,905 $m^3$ of the surplus inert C&D materials that could not be reused on-site from site will be delivered to Fill Bank at Tseung Kwan O Area 137 by dump trucks.

Inert C&D materials which are to be disposed to public filling outlets will be broken down to a size less than 250mm as according to Dumping Licence conditions prior to disposal. Wet soil with free water or a liquid content of over 70% and other materials such as marine mud, pond mud, household refuse, plastic, metal, industrial and chemical waste matter etc. will not be loaded into the dump truck. This will be controlled by the Foreman during the earthwork operations and further verified at the exit checkpoint by Foreman before the trip ticket is issued for each truck.

### 5.1.5 Recommended Mitigation Measures

The following mitigation measures are recommended during construction phase:

- Appropriate measures to minimise windblown dust during transportation of waste by either covering trucks by tarpaulin/ similar material or by transporting wastes in enclosed containers.
- Stockpiles of C&D materials should be kept covered by impervious sheets to avoid

wind-blown dust;

- All dusty materials including C&D materials should be sprayed with water immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling at the stockpile areas;
- To avoid or minimize dust emissions during transport of C&D materials within the site, each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials. Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet;
- The speed of the trucks including dump trucks carrying C&D materials within the site should be controlled to about 10 km/hour in order to reduce adverse dust impact and secure the safe movement around the site; and
- Dust control measures should be taken into account during stockpiling, loading / unloading and transportation of C&D materials.

## 5.2 Non-Inert Material

### 5.2.1 Arrangements for Avoidance, Minimisation, Recovery, Recycling, Reuse

The following arrangement measures shall be implemented during construction phase:

- CHUN WO - SINOHYDRO JV shall separate the non-inert C&D materials from the inert C&D materials on-site. Any recyclable materials (e.g., metal) should be segregated from the non-inert C&D materials.
- Use of steel or aluminium formworks and falseworks for temporary works as far as practicable;
- Adoption of repetitive design to allow reuse of formworks as far as practicable;
- Proper storage and site practices to minimise the potential for damage or contamination of construction materials;
- Timber should be cleaned for reuse and timber formwork should be carefully dismantled to prevent damage. The timber should be de-nailed, cleaned and stacked neatly for re-use.

### 5.2.2 Arrangements for On-Site Handling or Storage

The non-inert C&D materials should be sorted on-site into recyclable (e.g., metal, paper, packaging and timber) and non-recyclable components (e.g., vegetation, organic material and soil), and the recyclable components should be made available for collection by recycling contractors. Different areas of the work site should be designated for such segregation and storage.

The non-inert C&D materials will be stored in separate covered storage areas to avoid possible cross contamination and loss due to windblown and fugitive dust. If the non-inert C&D materials are to be

temporarily stored in piles on site, they will be covered with a tarpaulin to prevent the emission of fugitive dust.

### 5.2.3 Disposal Arrangement

Non-recyclable components of the non-inert C&D materials will be delivered to South New Territories (SENT) landfill by dump trucks.

Non-inert C&D materials which are to be disposed to landfill will ensure not have more than 50% (by weight) inert material prior to disposal.

### 5.2.4 Training on Waste Management

The EO and ES are responsible for carrying out the environmental training on waste management. They will analyse the problem and the detailed need of waste management training for the employees, consult with their departmental managers, and seek advice from the senior management.

The environmental training plan shall be reviewed by the EO in consultation with the Site Agent to identify and review training needs of the construction activities and to introduce new training program. The training plan will be included in the Environmental Management Plan (EMP). The EMP will be submitted to the Engineer for approval before construction works.

Workers will receive environmental toolbox talks conducted by the respective front-line Foreman, EO/ES. The toolbox talks will focus on on-site sorting of C&D materials to enhance workers' awareness in handling, sorting, reuse, and recycling of C&D materials.

### 5.2.5 Recommended Mitigation Measures

The following mitigation measures are recommended during construction phase:

- Appropriate measures to minimise windblown dust during transportation of waste by either covering trucks by tarpaulin/ similar material or by transporting wastes in enclosed containers.
- C&D materials to be delivered to and from the project site by trucks should be kept wet or covered to avoid wind-blown dust;
- The speed of the trucks including dump trucks carrying C&D materials within the site should be controlled to about 10 km/hour in order to reduce adverse dust impact and secure the safe movement around the site.

# 6. Chemical Waste

## 6.1 Arrangements for Avoidance, Minimisation, Recovery, Recycling, Reuse

The following arrangement measures shall be implemented during construction phase:

Good housekeeping practices should be adopted to deal with chemical waste include:

- Generate less chemical waste through:
  - Delivering appropriate quantity of chemicals to the construction site.
  - Avoiding unnecessary wastage of chemicals by using the chemicals more sensible and in accordance with the manufacturer's instructions.
  - Finishing one bottle/container of chemicals before opening the next one for use.
  - Collecting the remaining chemicals in suitable containers.
  - Removing the unused chemicals out of the construction site after completion of the project.
- Minimise the volume of unused chemicals to be disposed of through:
  - Using the chemicals before the expiry date.
  - Ordering appropriate quantity of chemicals and avoiding unnecessary storage of excess chemicals.

## 6.2 Arrangements for On-site Handling and Storage

Chemical waste should be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Waste. The details are described as follows:

Containers used for the storage of chemical waste should:

- Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;
- Have a capacity of less than 450 litres unless the specification have been approved by EPD; and
- Display a label in English and Chinese in accordance with instruction prescribed in Schedule 2 of the Regulations.

The storage area for chemical waste should:

- Be clearly labelled and used solely for the storage of chemical waste;
- Be enclosed on at least three sides;
- Have an impermeable floor and bund to retain potential leakage of 110% capacity of the largest container or 20% of the storage capacity, whichever is greater;
- Have adequate ventilation;
- Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and
- Be arranged so that incompatible materials are adequately separated.

### 6.3 Disposal Arrangement

CHUN WO - SINOHYDRO JV shall register with the EPD as chemical waste producers. Materials classified as chemical wastes will require special handling and storage arrangements before offsite disposal at Chemical Waste Treatment Centre or other licensed chemical waste recycling/ treatment facilities.

### 6.4 Recommended Mitigation Measures

CHUN WO - SINOHYDRO JV shall follow the guidelines stated in the "Code of Practice on the Packaging Labelling and Storage of Chemical Wastes".

Preventive measures should be implemented for leakage and spillage of fuel and lubricating oil to avoid contamination of the construction site. All on-site equipment maintenance workshops should be located on impermeable areas with provision of drainage channels and interceptors to allow separation of oils from water and release of treated water. All plant and equipment should require regular maintenance. The maintenance records should be kept in site office for future reference.

## 7. General Refuse

### 7.1 Arrangements for Avoidance, Minimisation, Recovery, Recycling, Reuse

Site office management will promote environmental awareness and waste reduction by reducing the amount of paper generated (such as double-sided copying and reuse of wastepaper). Collection of recyclable materials such as aluminium cans, Polyethylene Terephthalate (PET) bottles and paper should be encouraged by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force.

### 7.2 Arrangements for On-Site Handling or Storage

The general refuse should be temporarily stored in enclosed bin to avoid adverse impact to the surroundings. Recycling bins should be provided to maximise waste reuse and recycle volume. Waste storage areas should be well maintained and cleaned regularly to avoid attracting pests and vermin.

### 7.3 Disposal Arrangement

General refuse will be disposed of at SENT landfill. A reputable waste collector should be employed by CHUN WO - SINOHYDRO JV to remove general refuse, separately from C&D material and chemical wastes. General waste will be collected regularly to minimise odour, pest, and litter impacts. The burning of refuse on construction sites (which is prohibited by law) or disposal at sites other than the approved waste transfer or disposal facilities should be prohibited.

### 7.4 Recommended Mitigation Measures

General refuse should be stored in enclosed bins or compaction units separated from inert C&D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind-blown' light material.

## 8. Site Organization and Staff Duties

A site organization structure would be established to identify a senior staff overseeing the operation of TTS; a designated person to fill in and sign Part 1 of the Daily Record Summary (DRS) before departure of the truck; a competent person (CP) to man the exit and record the CHIT no. and the truck information. The Site Organizational Chart showing the manpower resources for implementation of CTS (to be updated regularly) is attached in ***Appendix F***.

### 8.1 Roles and Responsibilities

***Construction Manager (CM)***

The CM is responsible for provision of sufficient resources and facilities for effective and efficient implementation of WMP on-site. The CM will be ultimately responsible for overall coordination, implementation, monitoring and overseeing of the performance of the WMP for the contract. He will be assisted by Site Agent (SA).

***Site Agent (SA)***

The SA is responsible for assisting the CM for implementation WMP of the site. The SA is on-site full time and responsible for the review of site practices in relation to environmental management to ensure efficient and effective implementation of the WMP. He will be assisted by Works Manager (WM).

***Works Manager (WM)***

The WM is responsible for assisting the SA for implementation WMP of the site. The WM is responsible for day-to-day overview of site practices in relation to waste management to ensure efficient and effective implementation of the WMP. He will be assisted by Environmental Officer (EO).

***Environmental Officer (EO)***

The EO will oversee all environmental matters in the Contract. He will act as an in-house advisor to provide training and expertise to all levels of staff in respect of all environmental protection issues. The EO will also handle environmental complaints, carry out site surveillance to monitor the implementation of the WMP and review its effectiveness. The EO will report his work to the SA and will be assisted by the ES. The EO is responsible for the following tasks:

a. Prepare, implement and update the Waste Management Plan;
b. Monitor onsite work to ensure compliance with the environmental requirements for the site;
c. Assist the SA in handling any complaints that are received; and
d. Ensure that the required environmental monitoring is carried out, and that all environmental monitoring results are recorded.
e. Complete Part 2 of DRS.

***Site Engineer (SE)***

The SE will assist the SA and WM in carrying out day-to-day management of construction works and WMP implementation. He will work closely with the EO to provide him with information on site including the performance of the sub-Contractors and the occurrence of non-compliance etc.

***Environmental Supervisor (ES)***

The ES will assist the EO for inspection, supervision and monitoring of the environmental performance of the Works. The ES is responsible for the following tasks:

a. Assist the EO to rectify any non-conformances with the environmental requirements of this WMP that are identified onsite;
b. Attend environmental meetings related to waste management when necessary;
c. Carry out environmental site inspections with the EO when deficiencies in waste management are identified; and
d. Assist the EO with any environmental accidents.

***Environmental Team (ET)***

The ET will serve as an organization independent of the Contractors to audit the overall WMP compliance and prepare EM&A reports.

***Foreman***

Foreman shall be responsible for the following duties in relation to environmental and waste control.

a. Assisting the EO in implementing the WMP;
b. Assisting in the daily implementation of the WMP including the sorting and segregation of construction waste in to separate stockpiles/staging areas and where possible the recycling (via recycling containers) or reusing materials.

c. Ensuring that, where possible, the generation of waste is avoided or minimized.

***Competent Person (CP) for Operation of Trip Ticket System***

The CP for operation of trip ticket system is responsible for ensuring that the trip-ticket system is followed and that all paperwork (e.g., CHIT and Daily Record Summary Form) is signed, completed and collected. The CP is also responsible to complete Part 1 of DRS.

# 9. Trip Ticket System

## 9.1 Site Procedure for Trip Ticket System

For the transportation of public fill and C&D materials, Designated Person will implement the following steps to ensure compliance with the requirements of the Trip Ticket System:

- Each vehicle load of public fill or C&D material transported off-site will be accompanied by a duly completed Chit after completion of Disposal Checklist for record (Samples of the Chit and Daily Record Summary Form are attached in ***Appendix G***).
- Each truck carrying C&D materials leaving the Site for a disposal ground must bear a duly completed Chit, irrespective of the location and nature of the disposal ground; CP would be responsible for checking the Chit Ticket at dump truck departure and recording the number of Chit Ticket and time of departure in logbook and ready for inspection *Supervisor* at any time.
- Part A of Chit would be retained by CP for completion of Part 1 in the Daily Record Summary Form (DRS) extracted from the Contract Specification. Part B and Part C would be passed to the Truck Driver for disposal use.
- For every chit ticket issued to the truck driver, CP would check the loaded material and write the designated disposal ground on top of Part B of the Chit by hand to ensure the driver knows where to dispose of the material. The CP would also show the driver a location map indicating the route from the Site to the designated disposal ground to ensure the driver goes to the correct disposal ground.
- CP should complete Part 1 of DRS in duplicate and inform the *Supervisor* before the departure of the vehicle. Part 1 of DRS should be signed *Supervisor* before the departure of the vehicle, or at other time to be agreed between the *Supervisor* and Site Forman to suit site operations.
- Part C would be collected by the Operator of at the Disposal Facilities and a transaction record issued by the Disposal Facilities would be given to the Truck Driver at departure.
- CP would ensure the Truck Driver can return Part B and the corresponding transaction record within 2 working days after disposal for countercheck against Part A records. Warning letter would be issued to the truck service provider who does not return the Part B and corresponding transaction record on time.
- Environmental Officer shall check the information recorded in the DRS against available information including his own records and data from CEDD's website and then complete Part 2 of DRS form (attached with extract of the relevant "Construction Waste Transaction Records" posted on EPD's website) for submission to the by designated by the WSD *Supervisor* within 1 working day after the records are posted at the EPD website."

- Environmental Officer would check the information recorded in the DRS against data from the website of Civil Engineering and Development Department (CEDD) [*http://www.cedd.gov.hk/eng/services/tripticket/index.html*] on a monthly basis to verify the disposal amount.

## 9.2 Recording System

The SA, with the assistance of the EO, will maintain contemporary records of the following documents in the site office during the Project period:

a. Registration as a Chemical Waste Producer;
b. Records of wastes generated, recycled and disposed;
c. Trip-tickets & Chits (Part A) for disposal of C&D materials;
d. Trip-tickets for disposal of chemical waste;
e. Comprehensive register of the CHIT and Disposal Delivery From (DDF) issued; and
f. Daily Record Summary.

All records will be maintained in a legible and clear manner and be stored and retained in such a way that they are readily retrievable on site in a suitable environment to prevent deterioration or damage and to prevent loss. All records shall be available for inspection by *Supervisor* upon request.

## 9.3 Video Recording System

CHUN WO - SINOHYDRO JV will provide, operate, and maintain, including all necessary cables, wirings, lightings and other accessories, a video recording system at the dump truck control point of exit/entrance installed with the following essential features to record all trucks leaving the site:

- The video cameras used in the system shall be of high resolution, lowlight and colour type;
- Power backup shall be provided to cater for accidental breakdown of the power supply to the system;
- Videos captured by the system shall be recorded continuously without break except with the agreement of the *Project Manager*, or in the month during which there is no disposal of C&D materials off the site for the entire month;
- Videos shall be captured in a format acceptable to the *Project Manager*, the registration mark of each vehicle leaving the site shall be recorded and;
- The loading conditions of dump trucks including empty trucks shall be captured;
- Securely protect the video cameras from being damaged or blocked;
- Design and construct all necessary temporary works, including any supporting frames and

protections, for mounting the video cameras and their accessories;

- Provide the software and hardware for capturing the vehicle registration mark, and the time and date for the *Project Manager*'s immediate taking and viewing of photograph of every truck leaving the Site and viewing the recorded videos;
- Keep the videos record for at least 60 days and the photographs until such time as instructed by the *Project Manager*;
- Post sufficient notices at conspicuous positions to notify the workers, drivers and staff about the purpose of the video recording system in accordance with data protection principles set out in the Personal Data (Privacy) Ordinance;

If a video camera system cannot be installed at the exit due to site constraints or other reasons, CHUN WO - SINOHYDRO JV shall propose alternative methods of control for *Project Manager*'s approval prior to C&D material disposal.

### 9.4 Control Measures to Track Internal Movement Materials

Where trucks need to exit and re-enter the site for delivery of C&D materials generated by the Site, the procedures of trip ticket system for disposal of C&D materials at alternative disposal ground using DDF shall be followed so as to ensure that the C&D materials are not disposed of outside the Site in breach of the Contract. (Sample of Disposal Delivery Form (DDF) of Alternative Disposal Ground are attached in ***Appendix H***).

## 10. GPS Tracking System

All dump trunks for disposal of C&D materials from site to the disposal grounds specified in the Contract and the alternative disposal grounds subsequently approved by the *Supervisor* shall be equipped with a global positioning system (GPS) tracking device.

The GPS service provides details of GPS tracking device together with written consent from dump truck owners, drivers for release of GPS vehicle location data of dump tracks to the *Project Manager* for monitoring purpose.

### 10.1 Installation

The GPS service providers should provide the service to maintain the corresponding historical GPS vehicle location data for at least 6 months after any C&D material disposal trips for retrieval if needed. The Contractor shall ensure that dump trucks requiring installation of GPS tracking device and subscription of monthly tracking services are not engaged with any tracking services provided by

other public works contracts.

### 10.2 Operation

CHUN WO - SINOHYDRO JV shall establish site procedures to ensure that the GPS tracking device of each dump truck deployed for disposal of C&D materials under the Contract has been activated before departure from the Site.

CHUN WO - SINOHYDRO JV informs all dump truck owners and drivers that the vehicle location data obtained from the GPS tracking device ("GPS vehicle location data") of dump trucks for every trip involving disposal of C&D materials from the Site to disposal grounds gathered will be checked by CHUN WO - SINOHYDRO JV and the *Project Manager* regularly or on an as-needed basis.

Written consent from dump truck owners, drivers and all relevant personnel shall be obtained for release of GPS vehicle location data of dump trucks to CHUN WO - SINOHYDRO JV and the *Project Manager* for monitoring purpose.

CHUN WO - SINOHYDRO JV shall ensure a label be fixed at a prominent place inside the driver's cabin of each dump truck drawing the attention of drivers that the GPS vehicle location data of the dump truck will be logged throughout the whole disposal trip. CHUN WO - SINOHYDRO JV shall remind dump truck drivers to keep the GPS tracking device in an active mode throughout the whole disposal trip.

### 10.3 Monitoring

CHUN WO - SINOHYDRO JV shall maintain a register of dump trucks being deployed for use in the Contract. Information such as owners' details, vehicle license plate numbers, installation date and service provider of the GPS tracking device, etc. shall be included in the register. Such register shall be updated regularly and made available for inspection by the *Project Manager/Supervisor* upon request.

CHUN WO - SINOHYDRO JV shall appoint a senior staff member to be fully responsible for implementing and monitoring the operation of the GPS tracking device. The responsible staff member shall ensure that all disposal trips are checked and a monitoring summary with raw data, signed by the responsible staff member and checked by the Contractor's Agent, be maintained and kept on the Site. The monitoring summary shall be submitted by the CHUN WO - SINOHYDRO JV to the *Project Manager/Supervisor* upon request.

CHUN WO - SINOHYDRO JV shall submit GPS vehicle location data, of any dump trucks for any periods throughout any C&D material disposal trips as specified by the *Project Manager/Supervisor* who will conduct spot checks for every 50 disposal trips or on an as-needed basis. CHUN WO –SINOHYDRO JV shall also appoint designated person(s) to spot check the GPS vehicle location data of all dump trucks on the following working day after disposal of C&D materials based on the Daily Record Summary.

## 11. Emergency Response Plan

Environmental emergencies on the construction site may result in adverse impacts to the surrounding environment. Potential environmental emergencies are identified below together with procedures formulated to deal with such situations.

### 11.1 Environmental Emergency

In the event of an environmental emergency, the following procedure will be followed:

a. Immediately report the environmental emergency to the *Supervisor*, EO and SA;
b. If necessary, notify the Police and evacuate all staff to a safe place outside the site;
c. Identify the source and cause of environmental emergency and cease such activity as necessary;
d. Carry out any remedial action to rectify the emergency situation;
e. Recommence work activity if the emergency situation has been rectified; and
f. Keep a record of the environmental emergency and remedial action taken.

### 11.2 Typhoon and adverse weather operations

During the typhoon and rainstorm season, the following additional precautions will be taken:

a. Temporary access roads will be protected by crushed stone or gravel;
b. If digging/backfilling trenches is necessary, this will be carried out in short sections;
c. Stockpiles and temporary exposed slopes will be covered by an impermeable sheeting;
d. Intercepting channels will be provided at the edge of the excavated area to prevent storm runoff from washing across the exposed surface; and,
e. Silt removal facilities, channels and manholes will be maintained and the deposited silt and grit will be removed regularly.

When a typhoon or rainstorm is forecasted, the following actions will be taken:

a. All temporary covers to slopes and stockpiles will be secured; and,

b. Silt removal facilities, channels and manholes will be checked to ensure that they can function properly.

c. Any construction material, stockpiles and chemical placed near watercourses should immediately move to secured area.

### 11.3 Chemical Spillage

Environmental emergency procedures including chemical spill will be developed for the Project. Formal written emergency procedures will be provided to staff and workers, and emergency drills will be conducted regularly to ensure that people are familiar with the actual emergency. The procedures for dealing with spillage/ leakage of chemical waste will be as follows:

a. The workers will be instructed to keep at a safe distance from the spillage/ leakage. If necessary, emergency evacuation will be initiated and the emergency services notified;

b. Adjacent worksites and private homes, if any, will be notified for the emergency situation;

c. Only trained persons equipped with suitable protective clothing and equipment will be allowed to clean up the spillage/leakage;

d. Where the chemical spillage area is small, the spill will be confined within earth barriers and the waste will be transferred back into suitable containers or soaked with suitable absorbing materials. The used absorbing materials will be treated as chemical waste and transferred to suitable containers for disposal;

e. During the clean up, all heat and ignitable sources will be switched off; and,

f. The spraying of water to wash away the spill will be prohibited since some chemicals are likely to be bought.

If the spillage/ leakage is large, other concerned parties such as safety, security and sub-contractor's representatives will be notified to assess the spillage/ leakage and determine the methods of clean up/ containment. If necessary, the police, emergency services, nearby worksites and residential developments will be notified.

## 12. Reporting

The EO will report on site execution of the procedures prescribed in WMP. Waste Flow Table will be used to record the quantities of C&D materials generated each month. The monthly WFT will be submitted on a monthly basis to the *Project Manager* throughout the construction period. The photos taken at the site showing collection and sorting of construction waste will be submitted on a monthly

basis demonstrating that the waste recycling practice and measures are undertaking.

(END)

# Appendix A – Implementation Schedule of Waste Management Mitigation Measures

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| S6.6.1 | S2 | The waste management hierarchy shall apply to the construction waste management (i.e. in order of desirability: avoidance, minimization, recycling, treatment and safe disposal of waste). | Minimise waste generation during construction | Contractor | All construction sites | Design and Construction stages | • Waste Disposal Ordinance<br>• EIAO |
| S6.6.2 | S5.2.4 | The contractor should develop and provide toolbox talk for on-site sorting of C&D materials to enhance workers' awareness in handling, sorting, reuse and recycling of C&D materials. Requirements for staff training should be included in the contractor's Environmental Management Plan (EMP). The EMP shall be submitted to the Architect/Engineer for approval before construction works in accordance with ETWB TC(W) No.19/2005. | Minimise waste generation during construction | Contractor | All construction sites | Construction stage | • Waste Disposal Ordinance<br>• EIAO<br>• ETWB TC(W) No. 19/2005<br>• DEVB TC(W) No. 6/2010 |
| S6.6.3 | S5<br>S6<br>S7 | Good planning and site management practice should be employed to eliminate over ordering or mixing of construction materials to reduce wastage. Proper storage and site practices will minimise the damage or contamination of construction materials. | Ensure proper waste management system throughout the construction | Contractor | All construction sites | Construction stage | • Waste Disposal Ordinance<br>• EIAO<br>• ETWB TC(W) No. 19/2005<br>• DEVB TC(W) No. 6/2010 |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| S6.6.4 | S9<br>S10 | Where waste generation is unavoidable, the potential for recycling or reuse should be rigorously explored. If waste cannot be recycled, disposal routes described in the EMP should be followed. A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be implemented. In order to monitor the disposal of C&D material and solid wastes at public filling facilities and landfills and to<br>control fly-tipping, a trip-ticket system should be included. One may make reference to DEVB TC(W) No. 6/2010 for details. | Reduce waste generation | Contractor | All Construction | Construction stage | • Waste Disposal Ordinance<br>• EIAO<br>• ETWB TC(W) No. 19/2005<br>• DEVB TC(W) No. 6/2010 |
| S6.6.5 | S7.2 | Regular cleaning and maintenance of the waste storage area should be provided. | Avoid odour, pest and litter impacts | Contractor | All construction sites | Construction stage | • DEVB TC(W) No.8/2010<br>• ETWB TC(W) No. 19/2005 |
| S6.6.6 | S2<br>S4<br>S5<br>S6<br>S7<br>S12 | <u>Best Management Practice</u><br>• An on-site environmental co-ordinator should be identified at the outset of the works. The co-ordinator shall prepare an Environmental Management Plan (EMP) incorporating waste management in accordance with the requirements set out in the ETWB TCW No. 19/2005, Environmental Management on Construction | Ensure proper waste management system throughout the construction | Contractor | All construction sites | Construction stage | • EIAO<br>• Waste Disposal Ordinance<br>• ETWB TCW No. 19/2005, Environmental |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| | | Sites. The EMP shall include monthly and yearly Waste Flow Tables<br>(WFT) that indicate the amounts of waste generated, recycled and disposed of (including final disposal site), and which should be regularly updated. WFT will be provided in the WMP which will form part of the EMP in accordance with ETWB TCW No.19/2005;<br>• The reuse/recycling of all materials on site shall be investigated prior to treatment/ disposal off- site;<br>• Good site practices shall be adopted from the commencement of works to avoid the generation of waste, reduce cross contamination of waste and to promote waste minimisation;<br>• All waste materials shall be sorted on-site into inert and non-inert C&D materials, and where the materials can be recycled or reused, they shall be<br>further segregated.<br>• The contractor shall be responsible for identifying what materials can be recycled/ reused, whether on-site or off-site. In the event of the latter, the contractor shall make arrangements for the collection of the recyclable materials.<br>Any remaining non-inert C&D materials shall be | | | | | Management on Construction Sites<br>• DEVB TCW No.6/2010<br>• DEVB TCW No. 8/2010<br>• WBTC No.12/2000 |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| | | collected and disposed of to the landfills whilst any inert C&D materials shall be re-used on site as far as possible.<br>Alternatively, if inert C&D materials cannot be reused on-site, the materials would be delivered to public fill reception facilities for beneficial reuse after obtaining the appropriate licence;<br>• With reference to DEVB TCW No.6/2010, Trip-ticket System for Disposal of Construction and Demolition Material, a trip ticket system should be established at the outset of the construction to monitor the disposal of C&D materials and solid wastes from the site to public filling facilities and landfills;<br>• Under the Waste Disposal (Chemical Waste) (General) Regulation, the Contractor shall register as a Chemical Waste Producer if chemical wastes such as spent lubricants and paints are generated on site. Only licensed chemical waste collectors shall be employed to collect any chemical waste generated at site. The handling, storage, transportation and disposal of chemical wastes shall be conducted in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes | | | | | |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| | | and A Guide to the Chemical Waste Control Scheme both published by EPD;<br>• A sufficient number of covered bins shall be provided on site for the containment of general refuse. These bins shall be cleared daily and the collected waste disposed of to the refuse transfer station. Further to the issue of DEVB TCW No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness, the contractor is required to maintain a clean and hygienic site throughout the Project works;<br>• Tool-box talks should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling; and<br>• The contractor shall comply with all relevant statutory requirements and guidelines and their updated versions that may be issued during the course of Project construction. | | | | | |
| S6.6.7 | S5<br>S6<br>S7 | <u>On-site Sorting, Reuse and Recycling</u><br>All waste materials should be segregated into categories covering:<br>• Inert C&D materials suitable for reuse on-site;<br>• Inert C&D materials suitable for public fill reception | Reduce waste generation | Contractor | All construction sites | Construction stage | •Waste Disposal Ordinance<br>• ETWB TCW No. 19/2005, |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| | | facilities;<br>• Recyclable C&D materials for recycling;<br>• Remaining C&D materials for landfill;<br>• Chemical waste; and<br>• General refuse for landfill. | | | | | Environmental Management on Construction Sites |
| S6.6.8 | S5.2.2 | Proper segregation and disposal of construction waste should be implemented. Separate containers should be provided for inert and non-inert materials. | Reduce waste generation | Contractor | All construction sites | Construction stage | • Waste Disposal Ordinance<br>• ETWB TCW No. 19/2005, Environmental Management On Construction Sites |
| S6.6.9 | S3 | Specific area should be allocated for on-site sorting of C&D materials and to provide a temporary storage area for those sorted materials. If area is limited, all C&D materials should at least be sorted on-site into inert and non-inert components. Non-inert C&D materials such as bamboo, timber, vegetation, packaging waste and other organic materials should be reused and recycled to local recycler wherever | Ensure proper waste management system throughout the construction in order to | Contractor | All construction sites | Construction stage | • Waste Disposal Ordinance<br>• ETWB TCW No. 19/2005, Environmental Management on |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| | | possible and disposed to the designated landfill only as a last resort. Inert C&D materials such as concrete, stone, clay, brick, soil, asphalt and the like should be separated and reused in this or other projects (subject to approval by the relevant parties in accordance with the DEVB TC(W) No. 6/2010) before disposed of at a public filling facility operated by CEDD. Steel and other metals should be recovered from demolition waste stream and recycled. | reduce waste generation | | | | Construction Sites<br>• DEVB TCW No.6/2010<br>• DEVB TCW No. 8/2010 |
| S6.6.10 | S5.1 | The reuse of inert C&D materials such as soil, rock and broken concrete should be maximised. Waste should be separated into fine, soft and hard materials. With the use of a crusher. coarse materials can be crushed to make it suitable for use as fill materials where fill is required in the works. This minimises the use of imported materials and maximises the use of the C&D materials produced. Approval from CEDD and EPD shall be obtained for the use of site crusher in accordance with WBTC No. 11/2002. | Ensure proper waste management system throughout the construction in order to reduce waste generation | Contractor | All construction sites | Construction stage | • Waste Disposal Ordinance<br>• WBTC No. 11/2002 |
| S6.6.11 | S5.1 | <u>Excavated Materials</u><br>Excavated materials should be temporarily stored on-site for use as backfill as far as possible. It should be | Minimise dust, site runoff and | Contractor | All construction sites | Construction stage | • Waste Disposal Ordinance |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| | | properly covered with tarpaulin or similar impervious sheeting to prevent dust nuisance and site runoff. Surplus excavated materials should be disposed of to public fill reception facilities. | waste impacts from excavated and C&D materials | | | | • Air Pollution Control Ordinance<br>• To control the dust impact to meet HKAQO and EIAO-TM criteria |
| S6.6.12 | S5.1.5 | Control measures for temporary stockpiles on-site should be taken, which include:<br>• Surface of stockpiled soil should be regularly wetted with water especially during dry season;<br>• Disturbance of stockpiled soil should be minimised;<br>• Stockpiled soil should be properly covered with tarpaulin especially when heavy rain storms are predicted;<br>• Stockpiling areas should be enclosed where space is available;<br>• Stockpiling location should be away from the water bodies; and<br>• An independent surface water drainage system | Minimise the noise, generation of dust, pollution of water and visual impact from excavated and C&D materials | Contractor | All construction sites | Construction stage | • Waste Disposal Ordinance<br>• Air Pollution Control Ordinance<br>• To control the dust impact to meet HKAQO and EIAO-TM criteria<br>• ETWB TC(W) No. 19/2005 |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| | | equipped with silt traps should be installed at the stockpiling area. | | | | | |
| S6.6.13 | S5.1.4<br>S5.2.3 | The Public Fill Committee of CEDD should be consulted for disposal of inert C&D materials to public fill reception facilities while EPD should be consulted for disposal of non-inert C&D materials to landfill. Disposal of C&D waste to landfill must not have more than 50% (by weight) inert material. The C&D waste delivered for landfill disposal should contain no free water and the liquid content should not exceed 70% by weight. | Minimise waste impacts from C&D materials | Contractor | All construction sites | Design and Construction stages | • Waste Disposal Ordinance<br>• ETWB TCW No. 19/2005, Environmental Management on Construction Sites<br>• DEVB TCW No.6/2010<br>• DEVB TCW No. 8/2010 |
| S6.6.14 | S5.1.5<br>S5.2.5 | In order to avoid dust impacts, any vehicle leaving a works area carrying C&D waste or public fill should have their load covered up before leaving the construction site. | Minimise the dust impact from transferring C&D material | Contractor | All construction sites | Construction stage | • Air Pollution Control Ordinance<br>• ETWB TCW No. 19/2005, Environmental Management |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| | | | | | | | on Construction Sites<br>• DEVB TCW No.6/2010<br>• DEVB TCW No. 8/2010 |
| S6.6.15 | S9 | C&D materials should be disposed of at designated public fill reception facilities or landfills. Disposal of these materials for the use at other construction projects is subject to the approval of the Engineer and/or other relevant reception authorities. Furthermore, unauthorised disposal of C&D materials in particular on private agricultural land is prohibited and may be subject to relevant enforcement and regulating actions. The disposal of public fill and C&D materials will be controlled through trip-ticket system in accordance with DEVB TC(W) No. 6/2010. | Minimise waste impacts from C&D materials | Contractor | All construction sites | Construction stage | • Waste Disposal Ordinance<br>• ETWB TCW No. 19/2005, Environmental Management on Construction Sites<br>• DEVB TCW No.6/2010<br>• DEVB TCW No. 8/2010<br>• Cap 132BK |
| S6.6.16 | S6.3 | Chemical Waste | Proper waste | Contractors/ | All | Construction | • Waste |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| | | Where the construction processes produce chemical waste, the contractor must register with EPD as a chemical waste producer. Wastes classified as chemical wastes are listed in the Waste Disposal (Chemical Waste) (General) Regulation. These wastes are subject to stringent disposal routes. EPD requires information on the particulars of the waste generation processes including the types of waste produced, their location, quantities and generation rates. A nominated contact person must be registered with EPD. An updated list of licensed chemical waste collector can be obtained from EPD. | management for chemical waste | Relevant Operators | construction sites | stage | Disposal (Chemical Waste) (General) Regulation<br>• Code of Practice on the Packaging, Labelling and Storage of Chemical Waste |
| S6.6.17 | S6.2 | Storage, handling, transport and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published by EPD, and collected by a licensed chemical waste collector. | Proper waste management for chemical waste | Contractors/ Relevant Operators | All construction sites | Construction stage | • Waste Disposal (Chemical Waste) (General) Regulation<br>• Code of Practice on the Packaging, Labelling and Storage of |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| | | | | | | | Chemical Waste |
| S6.6.18 | S6.2 | Suitable containers should be used for specific types of chemical wastes. The containers should be properly labelled (in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations), resistance to corrosion, stored safely and closely secured. Stored volume should not be kept more than 450 liters unless the specification has been approved by the EPD. Storage area should be enclosed by three sides by a wall, partition of fence that is at least 2 m height or height of tallest container with adequate ventilation and space. | Proper waste management for chemical waste | Contractors/ Relevant Operators | All construction sites | Construction stage | • Waste Disposal (Chemical Waste) (General) Regulation<br>• Code of Practice on the Packaging, Labelling and Storage of Chemical Waste |
| S6.6.19 | S6.2<br>S6.4 | Hard standing, impermeable surfaces draining via oil interceptors should be provided in works area compounds. Interceptors should be regularly emptied to prevent release of oils and grease into the surface water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain. Oil and fuel bunkers should be bunded and/or enclosed on three sides to | Proper waste management for chemical waste | Contractors/ Relevant Operators | All construction sites | Construction stage | • Waste Disposal Ordinance<br>• ETWB TCW No. 19/2005, Environmental Management on |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| | | prevent discharge due to accidental spillages or breaches of tanks. Bunding should be of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste, whichever is largest. Waste collected from any oil interceptors should be collected and disposed of by a licensed collector. | | | | | Construction Sites<br>• Waste Disposal (Chemical Waste) (General) Regulation<br>• EIAO-TM criteria |
| S6.6.20 | S6.2 | Lubricants, waste oils and other chemical wastes are likely to be generated during the maintenance of vehicles and mechanical equipment. Used lubricants should be collected and stored in individual containers which are fully labelled in English and Chinese and stored in a designated secure place. The chemical waste shall be collected by licensed chemical waste collectors. | Proper waste management for chemical waste | Contractors/ Relevant Operators | All construction sites | Construction stage | • Waste Disposal (Chemical Waste) (General) Regulation<br>• Code of Practice on the Packaging, Labelling and Storage of Chemical Waste |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| S6.6.21 | S6.3<br>S9 | The registered chemical waste producer (i.e. the contractor) has to arrange for the chemical waste to be collected by licensed collectors. The licensed collector should regularly take chemical waste to a licensed chemical waste treatment facility (such as the CWTC in Tsing Yi). A trip ticket system operates to control the movement of chemical wastes. | Proper waste management for chemical waste | Contractors Relevant Operators | All construction sites | Construction stage | • Waste Disposal (Chemical Waste) (General) Regulation |
| S6.6.22 | S6.4 | No lubricants, oils, solvents or paint products should be allowed to discharge into water courses, either by direct discharge, or as contaminants carried in surface water runoff from the construction site. | Proper waste management for chemical waste | Contractors/ Relevant Operators | All construction sites | Construction stage | • Waste Disposal (Chemical Waste) (General) Regulation |
| S6.6.23 | S5.2.2 | <u>General Refuse</u><br>General refuse should be disposed of to landfill as designated by EPD only after recyclable materials (e.g. paper, metals, aluminum cans, etc.) have been sorted out. | Minimise production of the general refuse and avoid odour, pest and litter impacts | Contractors | All construction sites | Construction stage | • Waste Disposal Ordinance<br>• Public Health and Municipal Services Ordinance (Cap. 132) |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| S6.6.24 | S5.2 | The contractor should nominate approved site personnel to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site. Training of site personnel about site cleanliness, proper waste management and chemical handling procedures should be provided. Recyclable materials such as papers and aluminum cans should be separated and delivered to the local recyclers. An adequate number of waste containers should be provided to avoid spillage of waste. | Minimise production of the general refuse and avoid odour, pest and litter impacts | Contractors | All construction sites | Construction stage | • Waste Disposal Ordinance<br>• Public Health and Municipal Services Ordinance (Cap. 132) |
| S6.6.25 | S6<br>S7 | General refuse generated on-site should be stored in enclosed bins or skips and collected separately from other construction and chemical wastes and disposed of at designated landfills by reputable waste collectors. The removal of waste from the site should be arranged on a daily basis or at least on every second day by the contractor to minimise any potential odour impacts, minimise the presence of pests, vermin and other scavengers and prevent unsightly accumulation of waste. | Minimise production of the general refuse and avoid odour, pest and litter impacts | Contractors | All construction sites | Construction stage | • Waste Disposal Ordinance<br>• Public Health and Municipal Services Ordinance (Cap. 132) |
| S6.6.26 | S6<br>S7 | The general refuse and chemical waste generated during the operation phase would follow the same | Minimise production | Relevant Operators | All construction | Operation Stage | • Waste Disposal |

**Implementation Schedule of Wase Management Mitigation Measures**

| EIA Repot Ref. | WMP Section | Mitigation Measures | Objectives of the Measures | Implementation Parties | Location | Implementation Timing | Requirements and/or Standard to be achieved |
|---|---|---|---|---|---|---|---|
| | | handling procedures and disposal method presented in Sections 6.6.16 to 6.6.25 of the EIA report. It is expected that there would be limited quantities of general refuse and chemical waste to be generated from the operation of the Project and will be properly handled by licensed chemical waste collectors and reputable waste collector. Waste monitoring and audit programme for the operation phase of the Project would not be required. | of the general refuse and avoid odour, pest and litter impacts | | sites | | Ordinance<br>• Waste Disposal (Chemical Waste) (General) Regulation<br>• Code of Practice on the Packaging, Labelling and Storage of Chemical Waste<br>• Public Health and Municipal Services Ordinance (Cap. 132) |

Appendix B – Monthly summary of 'Waste Flow Table' (WFT)

**Monthly Summary Waste Flow Table for 2023**

**Contract No.: 21/WSD/21** **Contract Title:** **Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns**

| Month | Actual Quantities of Inert C&D Materials Generated / Imported (in '000m3) | | | | | | Actual Quantities of C&D Wastes Generated | | | | | Actual Quantities of C&D Wastes Recycled | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Quantity Generated | Broken Concrete (including rock for recycling into aggregates) | Reused in the Contract | Reused in other Projects | Disposed as Public Fill | Imported C&D Material | Metals | Paper/ cardboard packaging | Plastics (bottles/containers,plastic sheets/foam package material) | Chemical Waste | Others, e.g. general refuse | Metals | Paper/ cardboard packaging | Plastics (bottles/containers,plastic sheets/foam package material) | Yard Waste | Others |
| | (a+b+c+d) | (a) | (b) | ( c) | (d) | | (in '000kg) | (in '000kg) | (in '000kg) | (in '000$m^3$) | (in '000$m^3$) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000$m^3$) | (in '000$m^3$) |
| Jan | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.0000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.0000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| Feb | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.0000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.0000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| Mar | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.0000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.0000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| Apr | 0.05712 | 0.00000 | 0.00000 | 0.00000 | 0.05712 | 0.00000 | 0.0000 | 0.00000 | 0.00000 | 0.00000 | 0.20064 | 0.0000 | 0.00000 | 0.00000 | 0.00686 | 0.00000 |
| May | 0.00000 | | | | | | | | | | | | | | | |
| Jun | 0.00000 | | | | | | | | | | | | | | | |
| Sub-total | 0.05712 | 0.00000 | 0.00000 | 0.00000 | 0.05712 | 0.00000 | 0.0000 | 0.00000 | 0.00000 | 0.00000 | 0.20064 | 0.0000 | 0.00000 | 0.00000 | 0.00686 | 0.00000 |
| Jul | 0.00000 | | | | | | | | | | | | | | | |
| Aug | 0.00000 | | | | | | | | | | | | | | | |
| Sep | 0.00000 | | | | | | | | | | | | | | | |
| Oct | 0.00000 | | | | | | | | | | | | | | | |
| Nov | 0.00000 | | | | | | | | | | | | | | | |
| Dec | 0.00000 | | | | | | | | | | | | | | | |
| Total | 0.05712 | 0.00000 | 0.00000 | 0.00000 | 0.05712 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.20064 | 0.00000 | 0.00000 | 0.00000 | 0.00686 | 0.00000 |

**Note:**

1. Assume the density of soil fill is 2 ton/m3.
2. Assume the density of rock and broken concrete is 2.5 ton/m3.
3. Assume the density of non-inert C&D waste is 0.9 ton/$m^3$.

Appendix C –Summary use of timber for Temporary Works construction

## (j) Summary Table for Work Process or Activites requiring Timber for Temporary Works (Reporting Month)

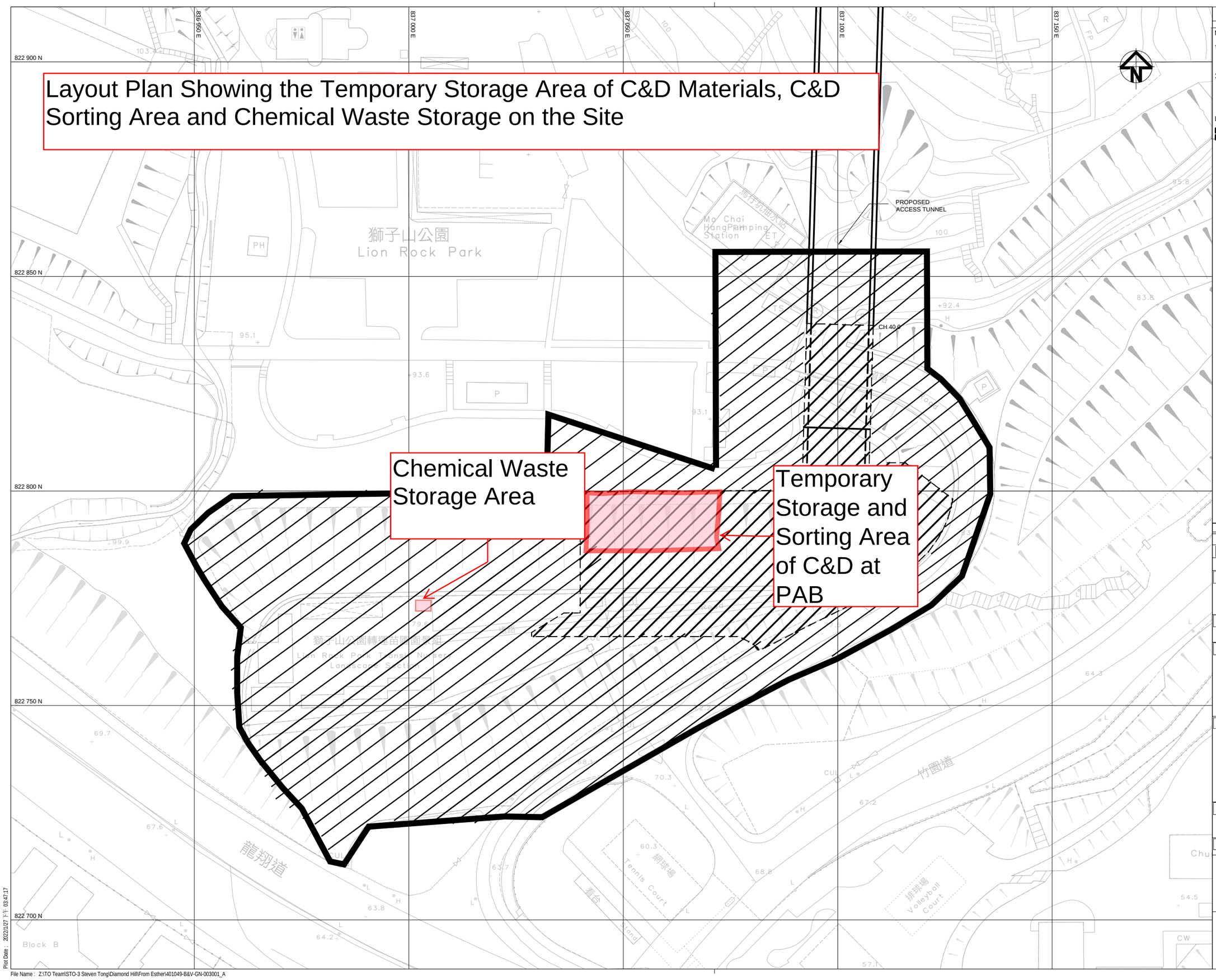
| Item No. | Description of Works Process or Activity [see note (a) below] | Justifications of Using Timber in Temporary Construction Works | Est. Quantities of Timber Used ($m^3$) | Actual Quantities used ($m^3$) | Remarks |
|---|---|---|---|---|---|
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |
| 6. | | | | | |
| 7. | | | | | |
| 8. | | | | | |
| | | Total Estimated Quantity of Timber Used | 0 | | |

Notes: (a) The Contractor shall list out all the work items requiring timber for use in temporary construction works. Several minor work items may be grouped into one for ease of updating.

(b) The summary table shall be submitted to the *Supervisor* monthly together with the Waste Flow Table for review with PS clause 25.24(11).

Appendix D – Layout Plan Showing the Temporary Storage Area of C&D Materials, C&D Sorting Area and Chemical Waste Storage on the Site

# Layout Plan Showing the Temporary Storage Area of C&D Materials, C&D Sorting Area and Chemical Waste Storage on the Site




© Copyright by Binnies Hong Kong Limited

NOTES:

1. THIS DRAWING SHALL READ CONJUNCTION WITH THE APPENDIX S OF THE ADDITIONAL CONDITIONS OF CONTRACT.
2. THE PURPOSE OF THIS DRAWING IS TO DEFINE THE SITE FORMATION EXTENT FOR THE PRE-BID ITEMS AS STATED IN APPENDIX S OF THE ADDITIONAL CONDITIONS OF CONTRACT.

LEGEND:

SITE FORMATION EXTENT

| Revision | Date | Description | Initial |
|---|---|---|---|
| | | | |

| Designed | Checked | Drawn | Checked |
|---|---|---|---|
| CTAM | KMF | SZ | AW |
| 12/19 | 12/19 | 12/19 | 12/19 |

Approved

Agreement No. 21/WSD/21

Project Title: RELOCATION OF DIAMOND HILL FRESH WATER AND SALT WATER SERVICE RESERVOIRS TO CAVERNS

Drawing Title: SITE FORMATION EXTENT

Drawing No. 401049/B&V/GN/003001

Revision A

Scale: A1 1 : 400, ~~A3 1 : 800~~

水務署 Water Supplies Department

BINNIES HONG KONG LIMITED 賓尼斯工程顧問有限公司

Plot Date : 2022/1/27 下午 03:47:17

File Name : Z:\TO Team\STO-3 Steven Tong\Diamond Hill\From Esther\401049-B&V-GN-003001_A

Appendix E – Master Program

# 7.0 Appendix A – First Programme

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| **Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns (DD:9/12/22) 01** | | 1292 | 29-Nov-22 | 11-Apr-27 | 0 |
| Contract Date | | 1595 | 29-Nov-22 | 11-Apr-27 | 0 |
| CD-1000 | Contract Date (CD) | 0 | 29-Nov-22* | | 0 |
| CD-1010 | Starting date (SD, within 2weeks from the CD) | 0 | 09-Dec-22* | | 0 |
| Contract Completion Date | | 0 | 11-Apr-27 | 11-Apr-27 | 0 |
| KD-1000 | Completion date for the whole of the works (1585d) | 0 | | 11-Apr-27* | 0 |
| Anticipated Completion Date | | 0 | 11-Apr-27 | 11-Apr-27 | 0 |
| KD-2100 | Planned Completion date for the whole of the works (1585d) | 0 | | 11-Apr-27 | 0 |
| Access Date | | 90 | 09-Dec-22 | 09-Mar-23 | 1315 |
| AD-1040 | Portion 5 | 0 | 09-Dec-22 | | 0 |
| AD-1000 | Portion 1 (90d after SD) | 0 | 09-Mar-23 | | 15 |
| AD-1010 | Portion 2 (90d after SD) | 0 | 09-Mar-23 | | 1315 |
| AD-1020 | Portion 3 (90d after SD) | 0 | 09-Mar-23 | | 3 |
| AD-1030 | Portion 4 (90d after SD) | 0 | 09-Mar-23 | | 43 |
| Sub-letting / Procurement | | 330 | 29-Nov-22 | 24-Oct-23 | 1265 |
| Works Sub-letting | | 330 | 29-Nov-22 | 24-Oct-23 | 1265 |
| S-240 | Subletting for Condition Survey, CCTV Inspection Survey | 90 | 29-Nov-22 | 26-Feb-23 | 65 |
| S-290 | Subletting for MIC Fabrication | 110 | 29-Nov-22 | 18-Mar-23 | 1485 |
| S-200A | Subletting for Consultants incl. designer, ICE, Traffic consultant | 90 | 29-Nov-22 | 26-Feb-23 | 0 |
| S-100 | Pre-bid for Designer for Temporary Works for Site Formation (assume approval by PM with 28d) | 28 | 29-Nov-22 | 26-Dec-22 | 107 |
| S-110 | Pre-bid for Designer for Alternative Design | 28 | 29-Nov-22 | 26-Dec-22 | 1417 |
| S-120 | Pre-bid for Temporary Works for Site Formation | 28 | 29-Nov-22 | 26-Dec-22 | 1567 |
| S-220 | Subletting for Site Investigation Works incl. Borehole, Trial Trench, Manhole Survey | 90 | 29-Dec-22 | 28-Mar-23 | 315 |
| S-260 | Subletting for Pipe Installation Works by Pipe Jacking | 90 | 27-Feb-23 | 27-May-23 | 141 |
| S-280 | Subletting for Foundation Works | 120 | 27-Jun-23 | 24-Oct-23 | 1265 |
| Contractor's Design | | 612 | 27-Dec-22 | 29-Aug-24 | 955 |
| D-1000 | Design submission and Approval for Cut and Cover Tunnel (Alternative) | 120 | 27-Dec-22 | 25-Apr-23 | 1447 |
| D-1010 | Design submission and Approval for Tunnel Alignment and Cavern Layout (Alternative) | 60 | 27-Dec-22 | 24-Feb-23 | 1507 |
| D-1020 | Design submission and Approval for Lining for Tunnel and Caverns (Alternative) | 150 | 27-Dec-22 | 25-May-23 | 1417 |
| D-1030 | Design submission and Approval for Lining for Portal Foundation (Alternative) | 150 | 27-Dec-22 | 25-May-23 | 1417 |
| D-1100 | Design submission and Approval for Cathodic Protection of Watermains | 30 | 28-Jan-23 | 26-Feb-23 | 65 |
| D-1080 | Design submission and Approval for Permanent Sleeve Pipe for Trenchless Works | 90 | 27-Feb-23 | 27-May-23 | 141 |
| D-1090 | Design submission and Approval for Advance Treatment Works at Ma Chai Hang FWSR | 90 | 09-Mar-23 | 06-Jun-23 | 1225 |
| D-1070 | Design submission and Approval for Tunnel Internal Civil Structure | 90 | 24-Dec-23 | 22-Mar-24 | 437 |
| D-1060 | Design submission and Approval for Overhead Ventilation Ducts | 90 | 23-Jan-24 | 21-Apr-24 | 905 |
| D-1050 | Design submission and Approval for Architectual Works | 90 | 27-Feb-24 | 26-May-24 | 930 |
| D-1040 | Design submission and Approval for E&M systems incl. ventilation, lighting, electrical, FS for Tunnel | 150 | 02-Apr-24 | 29-Aug-24 | 955 |
| For Reprovision of Structures | | 168 | 27-Feb-23 | 13-Aug-23 | 1337 |
| D-S1000 | Design Works for Reprovision of Structures (AIP) | 28 | 27-Feb-23 | 26-Mar-23 | 1337 |
| D-S1010 | ICE Checking - AIP | 21 | 27-Mar-23 | 16-Apr-23 | 1337 |
| D-S1020 | Submission of Contractor Design (AIP) for PM's review | 28 | 17-Apr-23 | 14-May-23 | 1337 |
| D-S1030 | Seeking Approval from PM | 7 | 15-May-23 | 21-May-23 | 1337 |
| D-S1040 | Design Works for Reprovision of Structures (DDA) | 28 | 22-May-23 | 18-Jun-23 | 1337 |
| D-S1080 | Submission and Approval for Foundation Design | 21 | 22-May-23 | 11-Jun-23 | 1400 |

Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

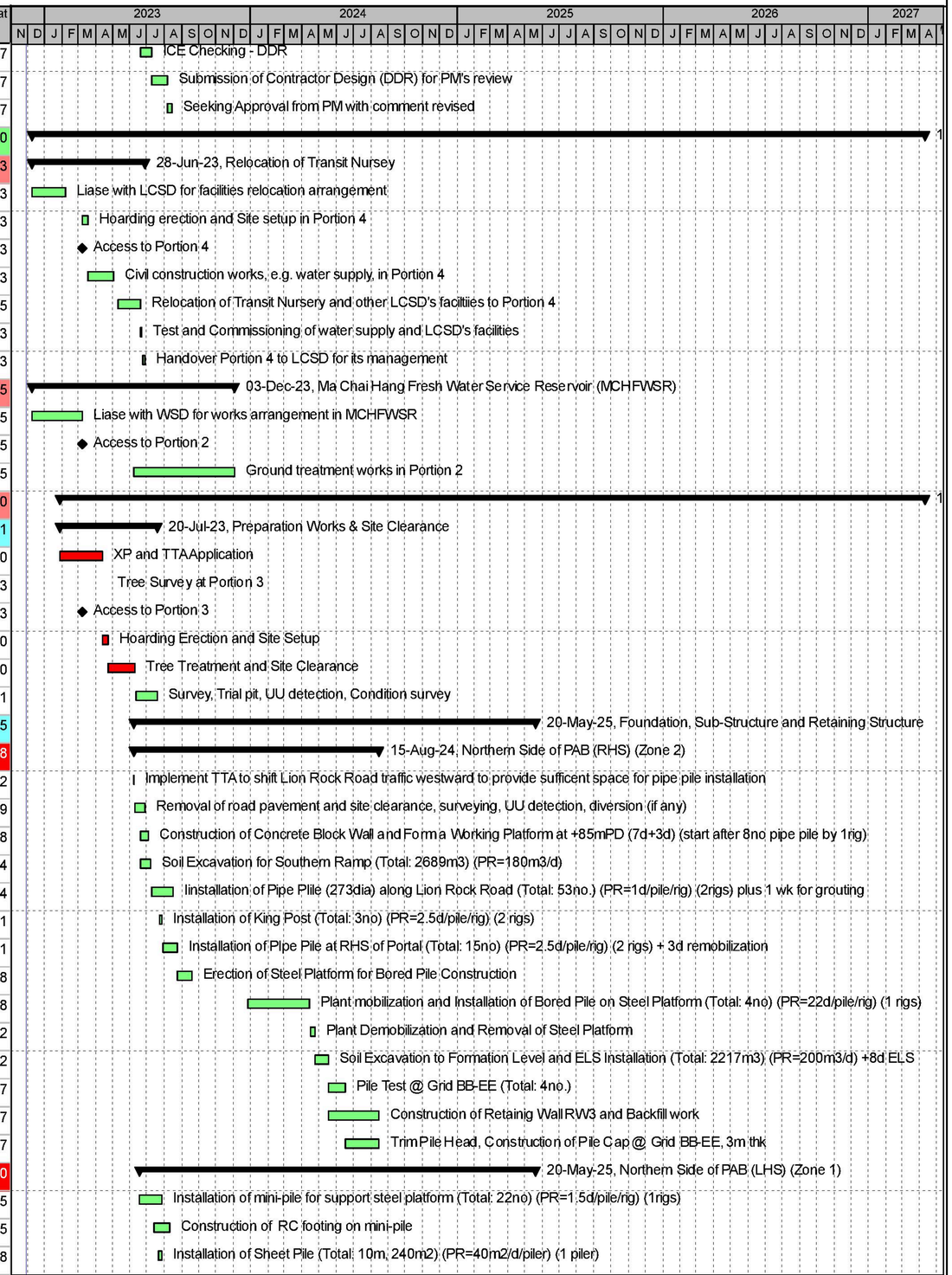


| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| D-S1050 | ICE Checking - DDR | 21 | 19-Jun-23 | 09-Jul-23 | 1337 |
| D-S1060 | Submission of Contractor Design (DDR) for PM's review | 28 | 10-Jul-23 | 06-Aug-23 | 1337 |
| D-S1070 | Seeking Approval from PM with comment revised | 7 | 07-Aug-23 | 13-Aug-23 | 1337 |
| Site Works | | 1283 | 09-Dec-22 | 11-Apr-27 | 0 |
| Relocation of Transit Nursey | | 202 | 09-Dec-22 | 28-Jun-23 | 1383 |
| SW-RTN-1010 | Liase with LCSD for facilities relocation arrangement | 60 | 09-Dec-22 | 06-Feb-23 | 73 |
| SW-RTN-1030 | Hoarding erection and Site setup in Portion 4 | 10 | 09-Mar-23 | 18-Mar-23 | 43 |
| SW-RTN-1020 | Access to Portion 4 | 0 | 09-Mar-23 | | 43 |
| SW-RTN-1040 | Civil construction works, e.g. water supply, in Portion 4 | 45 | 19-Mar-23 | 02-May-23 | 43 |
| SW-RTN-1050 | Relocation of Transit Nursery and other LCSD's facilties to Portion 4 | 40 | 11-May-23 | 19-Jun-23 | 35 |
| SW-RTN-1060 | Test and Commissioning of water supply and LCSD's facilities | 3 | 20-Jun-23 | 22-Jun-23 | 1383 |
| SW-RTN-1070 | Handover Portion 4 to LCSD for its management | 6 | 23-Jun-23 | 28-Jun-23 | 1383 |
| Ma Chai Hang Fresh Water Service Reservoir (MCHFWSR) | | 360 | 09-Dec-22 | 03-Dec-23 | 1225 |
| SW-P2-1000 | Liase with WSD for works arrangement in MCHFWSR | 90 | 09-Dec-22 | 08-Mar-23 | 1225 |
| SW-P2-1010 | Access to Portion 2 | 0 | 09-Mar-23 | | 1315 |
| SW-P2-1020 | Ground treatment works in Portion 2 | 180 | 07-Jun-23 | 03-Dec-23 | 1225 |
| Portal Ancillary Building | | 1245 | 28-Jan-23 | 11-Apr-27 | 0 |
| Preparation Works & Site Clearance | | 174 | 28-Jan-23 | 20-Jul-23 | 241 |
| SW-PAB1000 | XP and TTA Application | 75 | 28-Jan-23 | 12-Apr-23 | 0 |
| SW-PAB1020 | Tree Survey at Portion 3 | 42 | 09-Mar-23 | 19-Apr-23 | 3 |
| SW-PAB1010 | Access to Portion 3 | 0 | 09-Mar-23 | | 3 |
| SW-PAB1030 | Hoarding Erection and Site Setup | 10 | 13-Apr-23 | 22-Apr-23 | 0 |
| SW-PAB1040 | Tree Treatment and Site Clearance | 49 | 23-Apr-23 | 10-Jun-23 | 0 |
| SW-PAB1050 | Survey, Trial pit, UU detection, Condition survey | 40 | 11-Jun-23 | 20-Jul-23 | 241 |
| Foundation, Sub-Structure and Retaining Structure | | 579 | 07-Jun-23 | 20-May-25 | 245 |
| Northern Side of PAB (RHS) (Zone 2) | | 356 | 07-Jun-23 | 15-Aug-24 | 468 |
| SW-PAB-2110 | Implement TTA to shift Lion Rock Road traffic westward to provide sufficent space for pipe pile installation | 2 | 07-Jun-23 | 08-Jun-23 | 292 |
| SW-PAB-2120 | Removal of road pavement and site clearance, surveying, UU detection, diversion (if any) | 20 | 09-Jun-23 | 28-Jun-23 | 359 |
| SW-PAB-2000 | Construction of Concrete Block Wall and Forma Working Platform at +85mPD (7d+3d) (start after 8no pipe pile by 1r | 10 | 20-Jun-23 | 03-Jul-23 | 28 |
| SW-PAB-2010 | Soil Excavation for Southern Ramp (Total: 2689m3) (PR=180m3/d) | 15 | 20-Jun-23 | 08-Jul-23 | 284 |
| SW-PAB-2150 | Iinstallation of Pipe Plile (273dia) along Lion Rock Road (Total: 53no.) (PR=1d/pile/rig) (2rigs) plus 1 wk for grouting | 33 | 10-Jul-23 | 16-Aug-23 | 284 |
| SW-PAB-2020 | Installation of King Post (Total: 3no) (PR=2.5d/pile/rig) (2 rigs) | 5 | 24-Jul-23 | 28-Jul-23 | 11 |
| SW-PAB-2030 | Installation of Plpe Pile at RHS of Portal (Total: 15no) (PR=2.5d/pile/rig) (2 rigs) + 3d remobilization | 22 | 29-Jul-23 | 23-Aug-23 | 11 |
| SW-PAB-2040 | Erection of Steel Platform for Bored Pile Construction | 22 | 24-Aug-23 | 18-Sep-23 | 278 |
| SW-PAB-2050 | Plant mobilization and Installation of Bored Pile on Steel Platform (Total: 4no) (PR=22d/pile/rig) (1 rigs) | 88 | 27-Dec-23 | 15-Apr-24 | 198 |
| SW-PAB-2060 | Plant Demobilization and Removal of Steel Platform | 7 | 16-Apr-24 | 23-Apr-24 | 472 |
| SW-PAB-2070 | Soil Excavation to Formation Level and ELS Installation (Total: 2217m3) (PR=200m3/d) +8d ELS | 19 | 24-Apr-24 | 17-May-24 | 472 |
| SW-PAB-2080 | Pile Test @ Grid BB-EE (Total: 4no.) | 30 | 18-May-24 | 16-Jun-24 | 577 |
| SW-PAB-2100 | Construction of Retainig Wall RW3 and Backfill work | 90 | 18-May-24 | 15-Aug-24 | 577 |
| SW-PAB-2090 | Trim Pile Head, Construction of Pile Cap @ Grid BB-EE, 3m thk | 60 | 17-Jun-24 | 15-Aug-24 | 577 |
| Northern Side of PAB (LHS) (Zone 1) | | 570 | 17-Jun-23 | 20-May-25 | 200 |
| SW-PAB-3000 | Installation of mini-pile for support steel platform (Total: 22no) (PR=1.5d/pile/rig) (1rigs) | 33 | 17-Jun-23 | 27-Jul-23 | 375 |
| SW-PAB-3010 | Construction of RC footing on mini-pile | 24 | 14-Jul-23 | 10-Aug-23 | 375 |
| SW-PAB-3020 | Installation of Sheet Pile (Total: 10m, 240m2) (PR=40m2/d/piler) (1 piler) | 6 | 21-Jul-23 | 27-Jul-23 | 198 |




Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

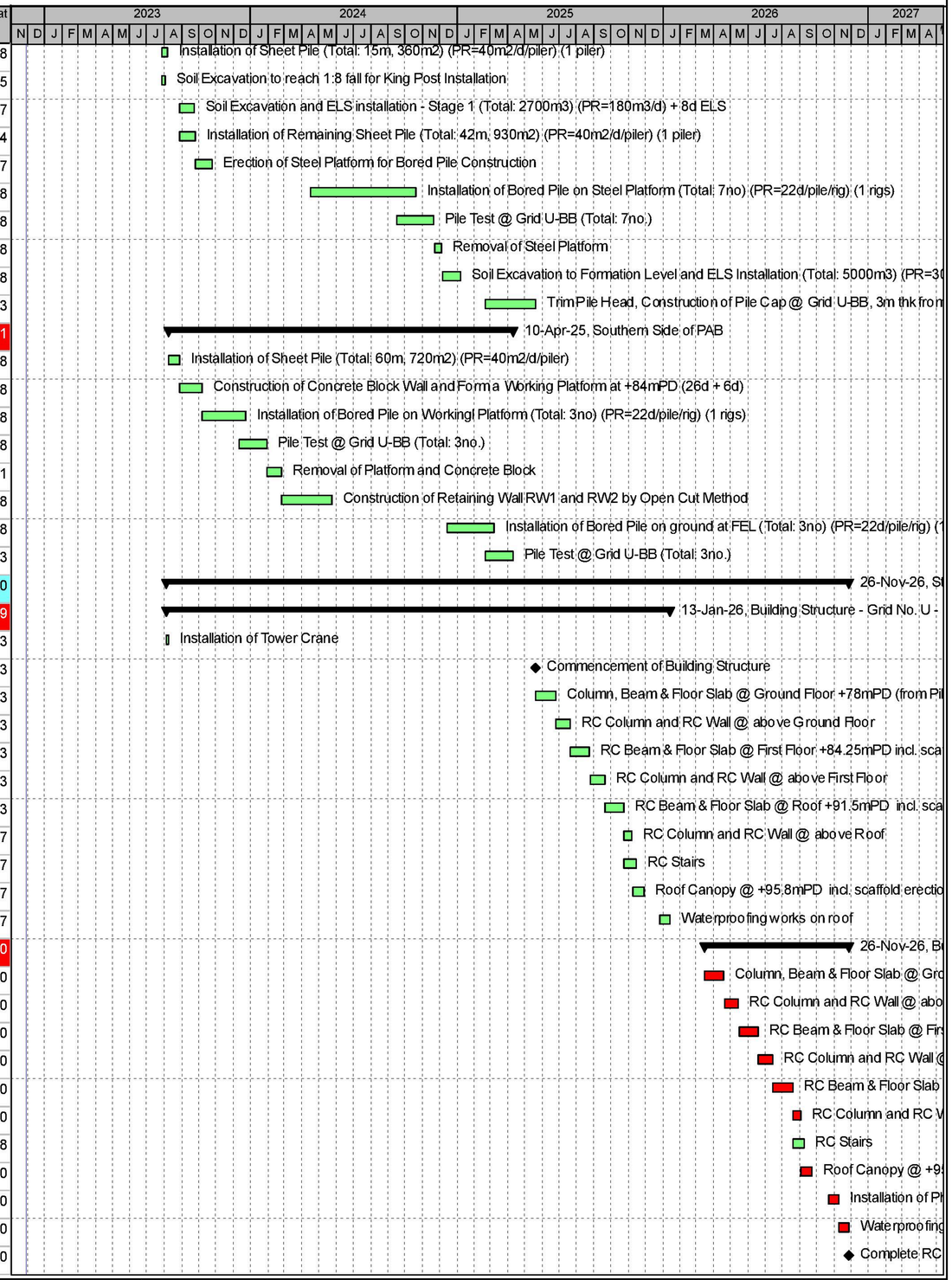


| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| SW-PAB-3040 | Installation of Sheet Pile (Total: 15m, 360m2) (PR=40m2/d/piler) (1 piler) | 9 | 28-Jul-23 | 07-Aug-23 | 198 |
| SW-PAB-3030 | Soil Excavation to reach 1:8 fall for King Post Installation | 6 | 28-Jul-23 | 03-Aug-23 | 295 |
| SW-PAB-3050 | Soil Excavation and ELS installation - Stage 1 (Total: 2700m3) (PR=180m3/d) + 8d ELS | 23 | 29-Aug-23 | 23-Sep-23 | 337 |
| SW-PAB-3100 | Installation of Remaining Sheet Pile (Total: 42m, 930m2) (PR=40m2/d/piler) (1 piler) | 24 | 29-Aug-23 | 25-Sep-23 | 554 |
| SW-PAB-3060 | Erection of Steel Platform for Bored Pile Construction | 24 | 25-Sep-23 | 25-Oct-23 | 337 |
| SW-PAB-3070 | Installation of Bored Pile on Steel Platform (Total: 7no) (PR=22d/pile/rig) (1 rigs) | 154 | 16-Apr-24 | 19-Oct-24 | 198 |
| SW-PAB-3070a | Pile Test @ Grid U-BB (Total: 7no.) | 66 | 17-Sep-24 | 21-Nov-24 | 248 |
| SW-PAB-3080 | Removal of Steel Platform | 12 | 22-Nov-24 | 05-Dec-24 | 198 |
| SW-PAB-3110 | Soil Excavation to Formation Level and ELS Installation (Total: 5000m3) (PR=300m3/d) + 8d ELS | 25 | 06-Dec-24 | 07-Jan-25 | 198 |
| SW-PAB-3130 | Trim Pile Head, Construction of Pile Cap @ Grid U-BB, 3m thk from FL 77.83mPD | 90 | 20-Feb-25 | 20-May-25 | 243 |
| Southern Side of PAB | | 499 | 08-Aug-23 | 10-Apr-25 | 241 |
| SW-PAB-4000 | Installation of Sheet Pile (Total: 60m, 720m2) (PR=40m2/d/piler) | 18 | 08-Aug-23 | 28-Aug-23 | 198 |
| SW-PAB-4010 | Construction of Concrete Block Wall and Forma Working Platform at +84mPD (26d + 6d) | 32 | 29-Aug-23 | 06-Oct-23 | 198 |
| SW-PAB-4020 | Installation of Bored Pile on Workingl Platform (Total: 3no) (PR=22d/pile/rig) (1 rigs) | 66 | 07-Oct-23 | 23-Dec-23 | 198 |
| SW-PAB-4030 | Pile Test @ Grid U-BB (Total: 3no.) | 50 | 11-Dec-23 | 29-Jan-24 | 618 |
| SW-PAB-4040 | Removal of Platform and Concrete Block | 21 | 30-Jan-24 | 24-Feb-24 | 501 |
| SW-PAB-4050 | Construction of Retaining Wall RW1 and RW2 by Open Cut Method | 90 | 25-Feb-24 | 24-May-24 | 618 |
| SW-PAB-4060 | Installation of Bored Pile on ground at FEL (Total: 3no) (PR=22d/pile/rig) (1 rigs) | 66 | 14-Dec-24 | 07-Mar-25 | 198 |
| SW-PAB-4070 | Pile Test @ Grid U-BB (Total: 3no.) | 50 | 20-Feb-25 | 10-Apr-25 | 243 |
| Structure Works | | 986 | 04-Aug-23 | 26-Nov-26 | 0 |
| Building Structure - Grid No. U - BB | | 727 | 04-Aug-23 | 13-Jan-26 | 259 |
| SW-PAB-S2000 | Installation of Tower Crane | 5 | 04-Aug-23 | 09-Aug-23 | 353 |
| SW-PAB-S3000 | Commencement of Building Structure | 0 | 21-May-25 | | 243 |
| SW-PAB-S3010 | Column, Beam & Floor Slab @ Ground Floor +78mPD (from Pile Cap @ +75mPD) incl. scaffold erection | 35 | 21-May-25 | 24-Jun-25 | 243 |
| SW-PAB-S3020 | RC Column and RC Wall @ above Ground Floor | 26 | 25-Jun-25 | 20-Jul-25 | 243 |
| SW-PAB-S3030 | RC Beam & Floor Slab @ First Floor +84.25mPD incl. scaffold erection | 35 | 21-Jul-25 | 24-Aug-25 | 243 |
| SW-PAB-S3040 | RC Column and RC Wall @ above First Floor | 26 | 25-Aug-25 | 19-Sep-25 | 243 |
| SW-PAB-S3050 | RC Beam & Floor Slab @ Roof +91.5mPD incl. scaffold erection | 35 | 20-Sep-25 | 24-Oct-25 | 243 |
| SW-PAB-S3060 | RC Column and RC Wall @ above Roof | 14 | 25-Oct-25 | 07-Nov-25 | 317 |
| SW-PAB-S3080 | RC Stairs | 21 | 25-Oct-25 | 14-Nov-25 | 377 |
| SW-PAB-S3070 | Roof Canopy @ +95.8mPD incl. scaffold erection | 21 | 08-Nov-25 | 28-Nov-25 | 317 |
| SW-PAB-S3090 | Waterproofing works on roof | 18 | 27-Dec-25 | 13-Jan-26 | 317 |
| Building Structure - Grid No. BB - EE | | 256 | 16-Mar-26 | 26-Nov-26 | 0 |
| SW-PAB-S4000 | Column, Beam & Floor Slab @ Ground Floor +78mPD (from Pile Cap @ +75mPD) incl. scaffold erection | 35 | 16-Mar-26 | 19-Apr-26 | 0 |
| SW-PAB-S4010 | RC Column and RC Wall @ above Ground Floor | 26 | 20-Apr-26 | 15-May-26 | 0 |
| SW-PAB-S4020 | RC Beam & Floor Slab @ First Floor +84.25mPD incl. scaffold erection | 35 | 16-May-26 | 19-Jun-26 | 0 |
| SW-PAB-S4030 | RC Column and RC Wall @ above First Floor | 26 | 20-Jun-26 | 15-Jul-26 | 0 |
| SW-PAB-S4040 | RC Beam & Floor Slab @ Roof +91.5mPD incl. scaffold erection | 35 | 16-Jul-26 | 19-Aug-26 | 0 |
| SW-PAB-S4050 | RC Column and RC Wall @ above Roof | 14 | 20-Aug-26 | 02-Sep-26 | 0 |
| SW-PAB-S4070 | RC Stairs | 21 | 20-Aug-26 | 09-Sep-26 | 78 |
| SW-PAB-S4060 | Roof Canopy @ +95.8mPD incl. scaffold erection | 21 | 03-Sep-26 | 23-Sep-26 | 0 |
| SW-PAB-S4080 | Installation of Photovoltaic Panel | 18 | 22-Oct-26 | 08-Nov-26 | 0 |
| SW-PAB-S4090 | Waterproofing works on roof | 18 | 09-Nov-26 | 26-Nov-26 | 0 |
| SW-PAB-S4100 | Complete RC Structure | 0 | | 26-Nov-26 | 0 |




Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

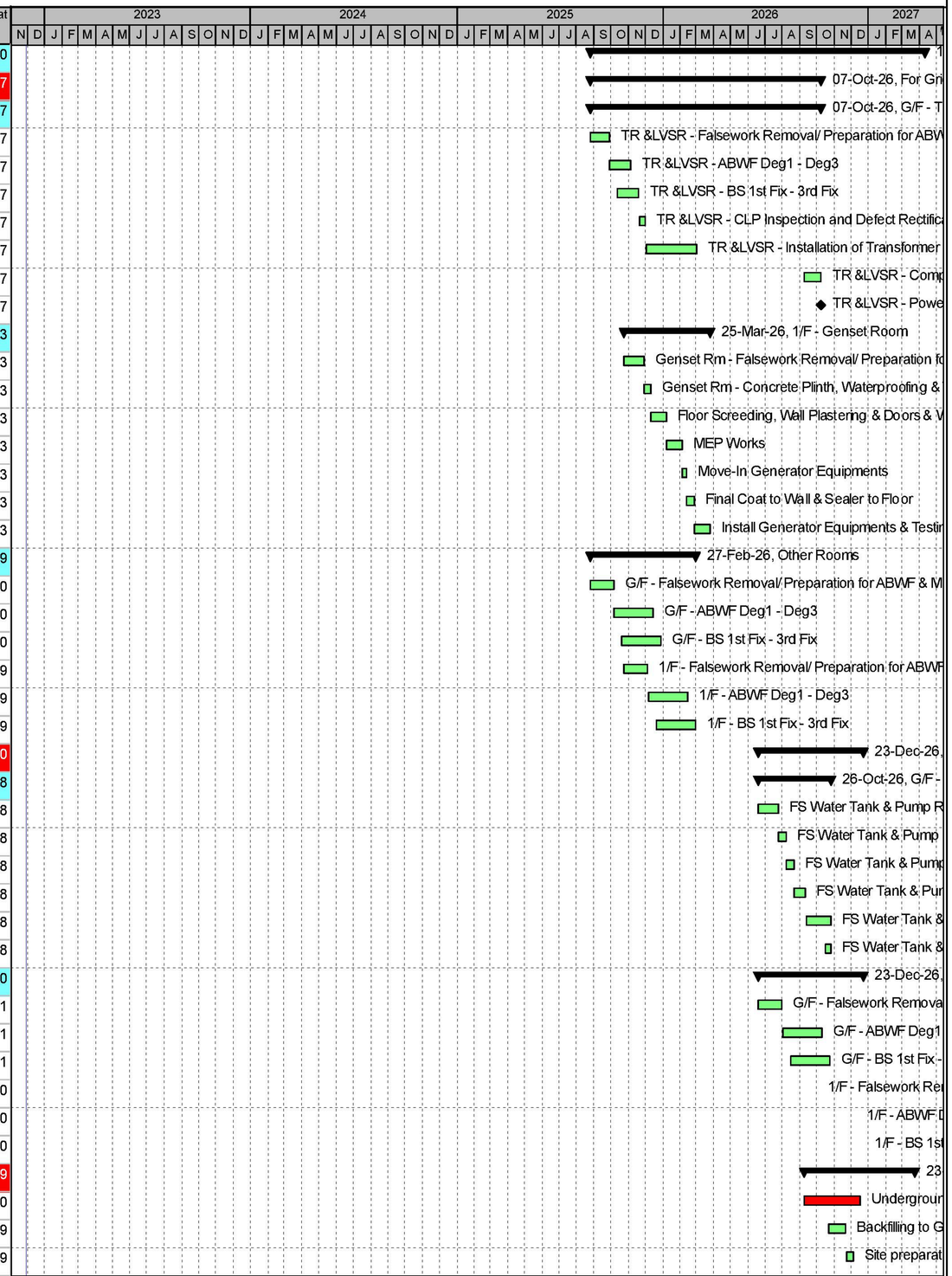


| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| ABWF/ MEP/ FS/ Fitout Works | | 595 | 25-Aug-25 | 11-Apr-27 | 0 |
| For Grid No. U - BB | | 409 | 25-Aug-25 | 07-Oct-26 | 77 |
| G/F - Transformer Room & LV Switch Room | | 409 | 25-Aug-25 | 07-Oct-26 | 47 |
| SW-PAB-A501 | TR &LVSR - Falsework Removal/ Preparation for ABWF & MEP Works | 35 | 25-Aug-25 | 28-Sep-25 | 267 |
| SW-PAB-A502 | TR &LVSR - ABWF Deg1 - Deg3 | 38 | 29-Sep-25 | 05-Nov-25 | 267 |
| SW-PAB-A503 | TR &LVSR - BS 1st Fix - 3rd Fix | 38 | 13-Oct-25 | 19-Nov-25 | 267 |
| SW-PAB-A504 | TR &LVSR - CLP Inspection and Defect Rectification | 12 | 20-Nov-25 | 01-Dec-25 | 267 |
| SW-PAB-A505 | TR &LVSR - Installation of Transformer and T&C by CLP | 90 | 02-Dec-25 | 01-Mar-26 | 267 |
| SW-PAB-A506 | TR &LVSR - Completion of CLP Cable Laying Leading to PAB | 30 | 08-Sep-26 | 07-Oct-26 | 47 |
| SW-PAB-A507 | TR &LVSR - Power-on Date | 0 | | 07-Oct-26 | 47 |
| 1/F - Genset Room | | 152 | 25-Oct-25 | 25-Mar-26 | 243 |
| SW-PAB-A511 | Genset Rm - Falsework Removal/ Preparation for ABWF & MEP Works | 35 | 25-Oct-25 | 28-Nov-25 | 243 |
| SW-PAB-A512 | Genset Rm - Concrete Plinth, Waterproofing & Test | 12 | 29-Nov-25 | 10-Dec-25 | 243 |
| SW-PAB-A513 | Floor Screeding, Wall Plastering & Doors & Wall Lining | 28 | 11-Dec-25 | 07-Jan-26 | 243 |
| SW-PAB-A514 | MEP Works | 28 | 08-Jan-26 | 04-Feb-26 | 243 |
| SW-PAB-A515 | Move-In Generator Equipments | 7 | 05-Feb-26 | 11-Feb-26 | 243 |
| SW-PAB-A516 | Final Coat to Wall & Sealer to Floor | 14 | 12-Feb-26 | 25-Feb-26 | 243 |
| SW-PAB-A517 | Install Generator Equipments & Testing | 28 | 26-Feb-26 | 25-Mar-26 | 243 |
| Other Rooms | | 187 | 25-Aug-25 | 27-Feb-26 | 299 |
| SW-PAB-A521 | G/F - Falsework Removal/ Preparation for ABWF & MEP Works | 42 | 25-Aug-25 | 05-Oct-25 | 360 |
| SW-PAB-A522 | G/F - ABWF Deg1 - Deg3 | 70 | 06-Oct-25 | 14-Dec-25 | 360 |
| SW-PAB-A523 | G/F - BS 1st Fix - 3rd Fix | 70 | 20-Oct-25 | 28-Dec-25 | 360 |
| SW-PAB-A524 | 1/F - Falsework Removal/ Preparation for ABWF & MEP Works | 42 | 25-Oct-25 | 05-Dec-25 | 299 |
| SW-PAB-A525 | 1/F - ABWF Deg1 - Deg3 | 70 | 06-Dec-25 | 13-Feb-26 | 299 |
| SW-PAB-A526 | 1/F - BS 1st Fix - 3rd Fix | 70 | 20-Dec-25 | 27-Feb-26 | 299 |
| For Grid No. BB - EE | | 187 | 20-Jun-26 | 23-Dec-26 | 0 |
| G/F - FS Water Tank & FS Pump Room | | 129 | 20-Jun-26 | 26-Oct-26 | 28 |
| SW-PAB-A601 | FS Water Tank & Pump Rm - Falsework Removal/ Preparation for ABWF & MEP Works | 35 | 20-Jun-26 | 24-Jul-26 | 28 |
| SW-PAB-A602 | FS Water Tank & Pump Rm - Waterproofing & Testing | 14 | 25-Jul-26 | 07-Aug-26 | 28 |
| SW-PAB-A603 | FS Water Tank & Pump Rm - Plastering Works Inside Tank | 14 | 08-Aug-26 | 21-Aug-26 | 28 |
| SW-PAB-A604 | FS Water Tank & Pump Rm - Wall and Floor Tiling Works | 21 | 22-Aug-26 | 11-Sep-26 | 28 |
| SW-PAB-A605 | FS Water Tank & Pump Rm - Install Equipment | 45 | 12-Sep-26 | 26-Oct-26 | 28 |
| SW-PAB-A606 | FS Water Tank & Pump Rm - Install Cat Ladder & Hatch Cover | 10 | 17-Oct-26 | 26-Oct-26 | 28 |
| Other Rooms | | 187 | 20-Jun-26 | 23-Dec-26 | 0 |
| SW-PAB-A611 | G/F - Falsework Removal/ Preparation for ABWF & MEP Works | 42 | 20-Jun-26 | 31-Jul-26 | 61 |
| SW-PAB-A612 | G/F - ABWF Deg1 - Deg3 | 70 | 01-Aug-26 | 09-Oct-26 | 61 |
| SW-PAB-A613 | G/F - BS 1st Fix - 3rd Fix | 70 | 15-Aug-26 | 23-Oct-26 | 61 |
| SW-PAB-A614 | 1/F - Falsework Removal/ Preparation for ABWF & MEP Works | 42 | 20-Aug-26 | 30-Sep-26 | 0 |
| SW-PAB-A615 | 1/F - ABWF Deg1 - Deg3 | 70 | 01-Oct-26 | 09-Dec-26 | 0 |
| SW-PAB-A616 | 1/F - BS 1st Fix - 3rd Fix | 70 | 15-Oct-26 | 23-Dec-26 | 0 |
| External Works | | 197 | 08-Sep-26 | 23-Mar-27 | 19 |
| SW-PAB-E1000 | Underground Utilities Works, Drainage Works & Testing | 100 | 08-Sep-26 | 16-Dec-26 | 0 |
| SW-PAB-E1010 | Backfilling to Ground Level | 30 | 23-Oct-26 | 21-Nov-26 | 19 |
| SW-PAB-E1020 | Site preparation and erect external falsework around building | 14 | 22-Nov-26 | 05-Dec-26 | 19 |




Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary



| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| SW-PAB-E1030 | Extenal wall plastering/ painting works | 24 | 06-Dec-26 | 29-Dec-26 | 79 |
| SW-PAB-E1040 | Extenral wall tiles | 24 | 06-Dec-26 | 29-Dec-26 | 19 |
| SW-PAB-E1050 | Install Metal Doors, Roller Shutter, Cat-Ladder and Metal Railings | 24 | 30-Dec-26 | 22-Jan-27 | 79 |
| SW-PAB-E1060 | Install Steel Claddings, Ventilation Louvres, External Ceiling | 24 | 30-Dec-26 | 22-Jan-27 | 19 |
| SW-PAB-E1070 | Construction of vehicular road | 45 | 23-Jan-27 | 08-Mar-27 | 34 |
| SW-PAB-E1080 | Install Bi-folding gate, security fenece, footpath, boundary wall | 60 | 23-Jan-27 | 23-Mar-27 | 19 |
| SW-PAB-E1100 | Complete External Works | 0 | | 23-Mar-27 | 19 |
| **Testing and Commisioning** | | 97 | 24-Nov-26 | 28-Feb-27 | 0 |
| SW-PAB-T1000 | 1A - West Fire Sta - Testing and Commissioning (FS - Related) | 18 | 24-Nov-26 | 11-Dec-26 | 0 |
| SW-PAB-T2000 | 1A - West Fire Sta - Testing and Commissioning (Non FS - Related) | 67 | 24-Dec-26 | 28-Feb-27 | 0 |
| **Landscaping and Architectural Roof** | | 219 | 20-Aug-26 | 26-Mar-27 | 16 |
| A1000 | Construction of Gabion Wall | 60 | 20-Aug-26 | 18-Oct-26 | 131 |
| A1030 | Tree Transplant near Gabion Wall | 60 | 19-Sep-26 | 17-Nov-26 | 131 |
| A1040 | Installation of Landscape Fence | 14 | 18-Nov-26 | 01-Dec-26 | 131 |
| A1050 | Architectural Roof hardwork | 120 | 27-Nov-26 | 26-Mar-27 | 16 |
| A1060 | Architectural Roof softwork and Tree transplant | 60 | 27-Dec-26 | 24-Feb-27 | 46 |
| **Statutory Approval & Inspection** | | 156 | 07-Nov-26 | 11-Apr-27 | 0 |
| **WSD Inspection** | | 114 | 07-Nov-26 | 28-Feb-27 | 0 |
| SW-PAB-8000 | Submit WWO 46 Part IV (PD) and Wait for Inspection by WSD | 35 | 07-Nov-26 | 11-Dec-26 | 9 |
| SW-PAB-7000 | Submit WWO 46 Part IV (FS) and Wait for Inspection by WSD | 35 | 07-Nov-26 | 11-Dec-26 | 0 |
| SW-PAB-8010 | Inspection and Re-inspection by WSD (PD) (including water test) | 49 | 12-Dec-26 | 29-Jan-27 | 9 |
| SW-PAB-7010 | Inspection and Re-inspection by WSD (FS) | 58 | 12-Dec-26 | 07-Feb-27 | 0 |
| SW-PAB-8020 | Issuance Period of WWO 46 Part V (PD) | 21 | 30-Jan-27 | 19-Feb-27 | 9 |
| SW-PAB-7020 | Issuance Period of WWO 46 Part V (FS) | 21 | 08-Feb-27 | 28-Feb-27 | 0 |
| SW-PAB-8030 | Obtain WWO 46 Part V (PD) by WSD | 0 | | 19-Feb-27 | 9 |
| SW-PAB-7030 | Obtain WWO 46 Part V (FS) by WSD | 0 | | 28-Feb-27 | 0 |
| **FSD and OP Inspection** | | 121 | 12-Dec-26 | 11-Apr-27 | 0 |
| SW-PAB-9000 | Submit Form 314 / FSI501 and Wait for Inspection by FSD | 21 | 12-Dec-26 | 01-Jan-27 | 58 |
| SW-PAB-9010 | FS Inspection and Re-inspection | 28 | 01-Mar-27 | 28-Mar-27 | 0 |
| SW-PAB-9020 | Issue Fire Certificate (FS172) | 14 | 29-Mar-27 | 11-Apr-27 | 0 |
| SW-PAB-9030 | Obtain Fire Certificate (FS172) by FSD | 0 | | 11-Apr-27 | 0 |
| Vehicular Access Tunnel | | 1145 | 09-Mar-23 | 15-Jan-27 | 66 |
| Tunnel Works CH 3 - 40 by Cut and Cover Method | | 476 | 09-Mar-23 | 15-Oct-24 | 654 |
| **Preliminary Works** | | 77 | 09-Mar-23 | 24-May-23 | 0 |
| SW-VAT-1000 | Access to Portion 1 | 0 | 09-Mar-23 | | 15 |
| SW-VAT-1010 | Tree Survey at Portion 1 | 30 | 09-Mar-23 | 07-Apr-23 | 15 |
| SW-VAT-1020 | Hoarding Erection and Site Setup | 10 | 13-Apr-23 | 22-Apr-23 | 0 |
| SW-VAT-1030 | Tree Treatment and Site Clearance | 28 | 23-Apr-23 | 20-May-23 | 0 |
| SW-VAT-1040 | Survey, Trial pit, UU detection, Condition survey | 14 | 11-May-23 | 24-May-23 | 0 |
| **Stage 1 & 2 - ELS works, CH3 -27, at Zone0 (up to existing kerb line of Lion Rock Road)** | | 141 | 25-May-23 | 11-Nov-23 | 49 |
| SW-VAT-1100 | Installation of Pipe Pile (Total: 34no) (PR=2.5d/pile/rig) (2 rigs) | 43 | 25-May-23 | 17-Jul-23 | 0 |
| SW-VAT-1110 | Installation of King Post (Total: 4no) (PR=2.5d/pile/rig) (2 rigs) | 5 | 18-Jul-23 | 22-Jul-23 | 0 |
| SW-VAT-1130 | Soil Excavation for Temporary Steel Platform (Total:878m3) (PR=180m3/d) | 5 | 24-Jul-23 | 28-Jul-23 | 0 |
| SW-VAT-1140 | Erection of Temporary Steel Platform for Traffic Diversion | 18 | 29-Jul-23 | 18-Aug-23 | 0 |

Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

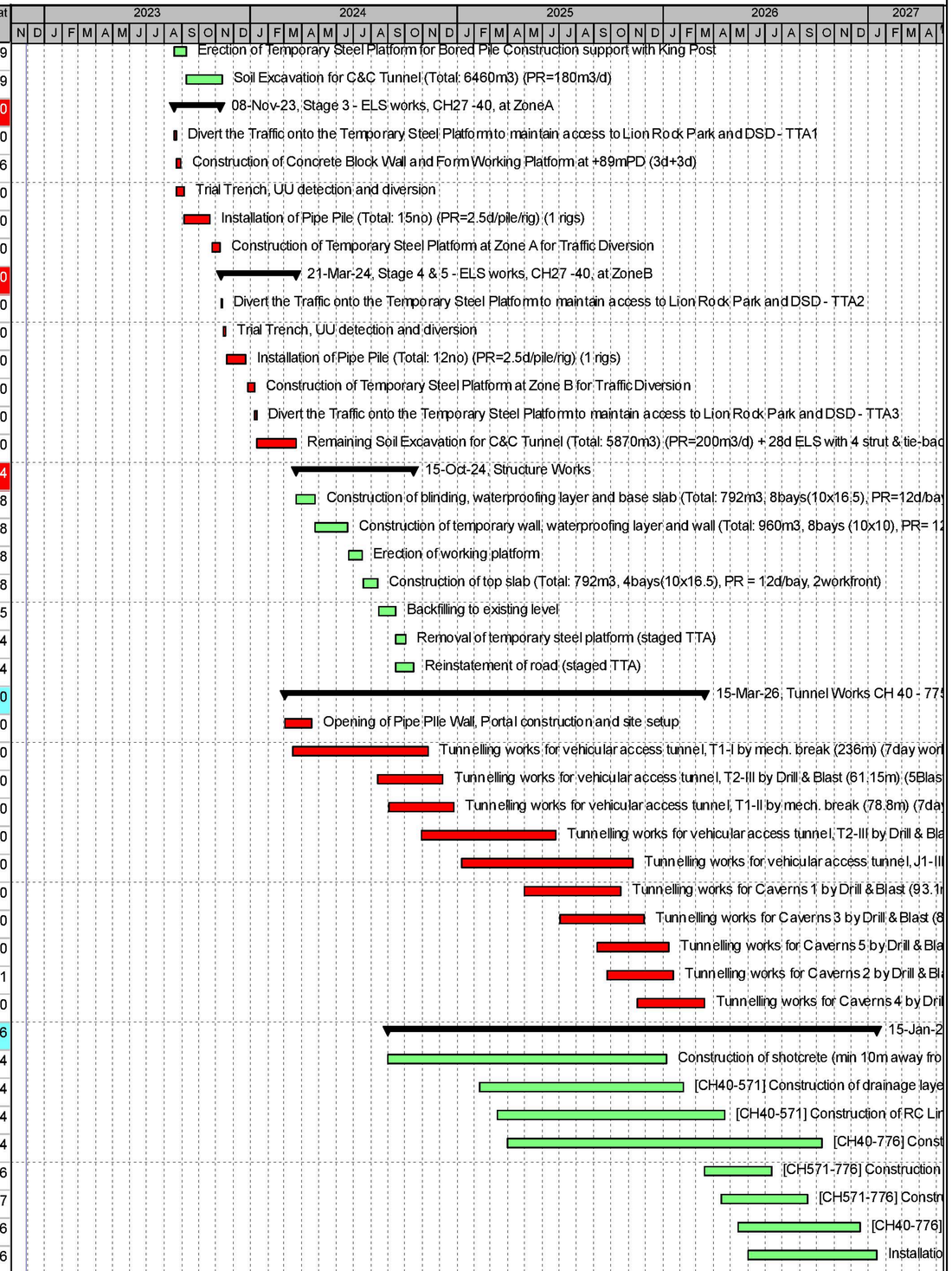


| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| SW-VAT-1150 | Erection of Temporary Steel Platform for Bored Pile Construction support with King Post | 18 | 19-Aug-23 | 08-Sep-23 | 49 |
| SW-VAT-1160 | Soil Excavation for C&C Tunnel (Total: 6460m3) (PR=180m3/d) | 52 | 09-Sep-23 | 11-Nov-23 | 49 |
| [illegible] | | 67 | 19-Aug-23 | 08-Nov-23 | 0 |
| SW-VAT-1200 | Divert the Traffic onto the Temporary Steel Platform to maintain access to Lion Rock Park and DSD - TTA1 | 3 | 19-Aug-23 | 22-Aug-23 | 0 |
| SW-VAT-1210 | Construction of Concrete Block Wall and Form Working Platform at +89mPD (3d+3d) | 6 | 23-Aug-23 | 29-Aug-23 | 6 |
| SW-VAT-1220 | Trial Trench, UU detection and diversion | 12 | 23-Aug-23 | 05-Sep-23 | 0 |
| SW-VAT-1230 | Installation of Pipe Pile (Total: 15no) (PR=2.5d/pile/rig) (1 rigs) | 38 | 06-Sep-23 | 21-Oct-23 | 0 |
| SW-VAT-1240 | Construction of Temporary Steel Platform at Zone A for Traffic Diversion | 14 | 24-Oct-23 | 08-Nov-23 | 0 |
| Stage 4 & 5 - ELS works, CH27 -40, at ZoneB | | 110 | 09-Nov-23 | 21-Mar-24 | 0 |
| SW-VAT-1300 | Divert the Traffic onto the Temporary Steel Platform to maintain access to Lion Rock Park and DSD - TTA2 | 3 | 09-Nov-23 | 11-Nov-23 | 0 |
| SW-VAT-1300a | Trial Trench, UU detection and diversion | 6 | 13-Nov-23 | 18-Nov-23 | 0 |
| SW-VAT-1310 | Installation of Pipe Pile (Total: 12no) (PR=2.5d/pile/rig) (1 rigs) | 30 | 20-Nov-23 | 23-Dec-23 | 0 |
| SW-VAT-1320 | Construction of Temporary Steel Platform at Zone B for Traffic Diversion | 10 | 27-Dec-23 | 08-Jan-24 | 0 |
| SW-VAT-1330 | Divert the Traffic onto the Temporary Steel Platform to maintain access to Lion Rock Park and DSD - TTA3 | 3 | 09-Jan-24 | 11-Jan-24 | 0 |
| SW-VAT-1340 | Remaining Soil Excavation for C&C Tunnel (Total: 5870m3) (PR=200m3/d) + 28d ELS with 4 strut & tie-back | 58 | 12-Jan-24 | 21-Mar-24 | 0 |
| Structure Works | | 167 | 22-Mar-24 | 15-Oct-24 | 654 |
| SW-VAT-1500 | Construction of blinding, waterproofing layer and base slab (Total: 792m3, 8bays(10x16.5), PR=12d/bay) | 24 | 22-Mar-24 | 23-Apr-24 | 638 |
| SW-VAT-1510 | Construction of temporary wall, waterproofing layer and wall (Total: 960m3, 8bays (10x10), PR= 12d/bay) | 48 | 24-Apr-24 | 21-Jun-24 | 638 |
| SW-VAT-1520 | Erection of working platform | 21 | 22-Jun-24 | 17-Jul-24 | 638 |
| SW-VAT-1530 | Construction of top slab (Total: 792m3, 4bays(10x16.5), PR = 12d/bay, 2workfront) | 24 | 18-Jul-24 | 14-Aug-24 | 638 |
| SW-VAT-1540 | Backfilling to existing level | 30 | 15-Aug-24 | 13-Sep-24 | 785 |
| SW-VAT-1550 | Removal of temporary steel platform (staged TTA) | 18 | 14-Sep-24 | 01-Oct-24 | 804 |
| SW-VAT-1560 | Reinstatement of road (staged TTA) | 32 | 14-Sep-24 | 15-Oct-24 | 804 |
| Tunnel Works CH 40 - 775.8 & Caverns (5no.) by Mechanical Break & Drill & Blast Method | | 745 | 01-Mar-24 | 15-Mar-26 | 0 |
| SW-VAT-2000 | Opening of Pipe Pile Wall, Portal construction and site setup | 50 | 01-Mar-24 | 19-Apr-24 | 0 |
| SW-VAT-2010 | Tunnelling works for vehicular access tunnel, T1-I by mech. break (236m) (7day work) | 241 | 15-Mar-24 | 10-Nov-24 | 0 |
| SW-VAT-2020 | Tunnelling works for vehicular access tunnel, T2-III by Drill & Blast (61.15m) (5Blast/wk) | 116 | 13-Aug-24 | 06-Dec-24 | 0 |
| SW-VAT-2030 | Tunnelling works for vehicular access tunnel, T1-II by mech. break (78.8m) (7day work) | 116 | 03-Sep-24 | 27-Dec-24 | 0 |
| SW-VAT-2040 | Tunnelling works for vehicular access tunnel, T2-III by Drill & Blast (155.45m) (5Blast/wk) | 240 | 29-Oct-24 | 25-Jun-25 | 0 |
| SW-VAT-2050 | Tunnelling works for vehicular access tunnel, J1-III by Drill & Blast (204.4m) (5Blast/wk) | 304 | 09-Jan-25 | 08-Nov-25 | 0 |
| SW-VAT-2110 | Tunnelling works for Caverns 1 by Drill & Blast (93.1m) (5Blast/wk) | 172 | 30-Apr-25 | 18-Oct-25 | 0 |
| SW-VAT-2130 | Tunnelling works for Caverns 3 by Drill & Blast (87.4m) (5Blast/wk) | 150 | 03-Jul-25 | 29-Nov-25 | 0 |
| SW-VAT-2150 | Tunnelling works for Caverns 5 by Drill & Blast (83.0m) (5Blast/wk) | 129 | 06-Sep-25 | 12-Jan-26 | 0 |
| SW-VAT-2120 | Tunnelling works for Caverns 2 by Drill & Blast (80.7m) (5Blast/wk) | 118 | 24-Sep-25 | 19-Jan-26 | 1 |
| SW-VAT-2140 | Tunnelling works for Caverns 4 by Drill & Blast (78.3m) (5Blast/wk) [140] | 120 | 16-Nov-25 | 15-Mar-26 | 0 |
| Remaining Works | | 868 | 31-Aug-24 | 15-Jan-27 | 86 |
| SW-VAT-3000 | Construction of shotcrete (min 10m away from exc. face, SS+12, FF+60) 736m, PR=12m/wk (434d) | 495 | 31-Aug-24 | 07-Jan-26 | 64 |
| SW-VAT-3010a | [CH40-571] Construction of drainage layer, base slab, lower part (200m from exca, SS+176;FF+30) 532m, PR=12m | 361 | 11-Feb-25 | 06-Feb-26 | 64 |
| SW-VAT-3020a | [CH40-571] Construction of RC Lining (min 24m from base slab + 2wk erection, SS+30) 532m, PR=12m/9d (405d) | 405 | 13-Mar-25 | 21-Apr-26 | 64 |
| SW-VAT-3030a | [CH40-776] Construction of compartment RHS (min 24m from Lining, SS+18), 736m, PR=12m/9d [558d] | 558 | 31-Mar-25 | 09-Oct-26 | 64 |
| SW-VAT-3010b | [CH571-776] Construction of drainage layer, base slab, lower part (after all excavation) 204m, PR=12m/wk (119d) | 119 | 16-Mar-26 | 12-Jul-26 | 56 |
| SW-VAT-3020b | [CH571-776] Construction of RC Lining (min 24m from base slab + 2wk erection, SS+30) 204m, PR=12m/9d (153d) | 153 | 15-Apr-26 | 14-Sep-26 | 67 |
| SW-VAT-3030b | [CH40-776] Construction of compartment LHS (min 24m from Lining, SS+18), 736m, PR=24m/wk [217d] | 217 | 14-May-26 | 16-Dec-26 | 56 |
| SW-VAT-3040 | Installation of pipeworks below proposed road level (Total: 4416m) PR=36m/d incl. 1M for Pressure Test (150d) | 229 | 01-Jun-26 | 15-Jan-27 | 56 |




Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary



| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| SW-VAT-3070 | Construction of OHVD, 736m, PR=12d/50m | 180 | 01-Jul-26 | 27-Dec-26 | 105 |
| SW-VAT-3060 | Installation of CLP power cable along VAT | 60 | 17-Nov-26 | 15-Jan-27 | 56 |
| Caverns 1 - Salt Water Service Reservoir No.1 | | 478 | 28-Aug-25 | 11-Apr-27 | 0 |
| SW-C1-1010 | Caverns 1 - Construction of Shotcrete | 67 | 28-Aug-25 | 17-Nov-25 | 0 |
| SW-C1-1000 | Caverns 1 - Completion of Tunnel Works | 0 | | 18-Oct-25 | 0 |
| SW-C1-1020 | Caverns 1 - Construction of Cavern Lining (Total: 28.5m long, PR=12m/9d + 2wk for erection) | 39 | 18-Nov-25 | 05-Jan-26 | 0 |
| SW-C1-1030 | Caverns 1 - Waterproofing system and protection layer to Wall and Slab | 60 | 06-Jan-26 | 06-Mar-26 | 0 |
| SW-C1-1040 | Caverns 1 - Construction of Slab 1.6m thk for water tank area (Total: 1939m3, 12bays(11x9), PR= 15d/bay, 3workfrc | 60 | 05-Feb-26 | 22-Apr-26 | 0 |
| SW-C1-1060 | Caverns 1 - Construction of Slab 1.0m thk for pump/plant room area (Total:1200m3, 11bays(12x9), PR=12d/bay, 3 w | 48 | 23-Apr-26 | 20-Jun-26 | 0 |
| SW-C1-1050 | Caverns 1 - Construction of wall, beam & slab up to 91.35mPD for water tank area | 90 | 23-Apr-26 | 21-Jul-26 | 84 |
| SW-C1-1070 | Caverns 1 - Construction of soil filling, pipeworks and at-grade slab for pump/ plant room area | 55 | 21-Jun-26 | 14-Aug-26 | 0 |
| SW-C1-1080 | Caverns 1 - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area | 60 | 15-Aug-26 | 13-Oct-26 | 0 |
| SW-C1-1090 | Caverns 1 - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant | 90 | 14-Oct-26 | 11-Jan-27 | 0 |
| SW-C1-1100 | Caverns 1 - BS, E&M works and ABWF | 150 | 14-Oct-26 | 12-Mar-27 | 0 |
| SW-C1-1110 | Caverns 1 - Completion of BS and ABWF works for Transformer Room and Switchboard Room | 0 | | 12-Dec-26 | 0 |
| SW-C1-1120 | Caverns 1 - CLP installation works in Transformer Room and Switchboard Room | 60 | 13-Dec-26 | 10-Feb-27 | 0 |
| SW-C1-1130 | Caverns 1 - Testing and Commissioning | 90 | 12-Jan-27 | 11-Apr-27 | 0 |
| Caverns 2 - Salt Water Service Reservoir No.2 | | 390 | 12-Dec-25 | 11-Apr-27 | 0 |
| SW-C2-1010 | Caverns 2 - Construction of Shotcrete | 54 | 12-Dec-25 | 20-Feb-26 | 1 |
| SW-C2-1000 | Caverns 2 - Completion of Tunnel Works | 0 | | 19-Jan-26 | 1 |
| SW-C2-1020 | Caverns 2 - Construction of Cavern Lining (Total: 33.2m long, PR=12m/9d + 2wk for erection) | 39 | 20-Feb-26 | 09-Apr-26 | 1 |
| SW-C2-1030 | Caverns 2 - Waterproofing system and protection layer to Wall and Slab | 60 | 10-Apr-26 | 08-Jun-26 | 1 |
| SW-C2-1040 | Caverns 2 - Construction of Slab 1.6m thk for water tank area (Total: 1880m3, 15bays (11x7), PR= 15d/bay, 3workfr | 60 | 11-May-26 | 22-Jul-26 | 0 |
| SW-C2-1060 | Caverns 2 - Construction of Slab 1.0m thk for pump/plant room area (Total:597m3, 7bays(11x7.5), PR=12d/bay, 3 w | 36 | 23-Jul-26 | 02-Sep-26 | 0 |
| SW-C2-1050 | Caverns 2 - Construction of wall, beam & slab up to 91.35mPD for water tank area | 90 | 23-Jul-26 | 20-Oct-26 | 16 |
| SW-C2-1070 | Caverns 2 - Construction of soil filling, pipeworks and at-grade slab for pump/ plant room area | 34 | 03-Sep-26 | 06-Oct-26 | 0 |
| SW-C2-1080 | Caverns 2 - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area | 60 | 07-Sep-26 | 05-Nov-26 | 0 |
| SW-C2-1090 | Caverns 2 - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant | 90 | 07-Oct-26 | 04-Jan-27 | 67 |
| SW-C2-1100 | Caverns 2 - BS, E&M works and ABWF | 127 | 06-Nov-26 | 12-Mar-27 | 0 |
| SW-C2-1110 | Caverns 2 - Connect power cable from SWSR1 Transformer Room & Switchboard Room to SWSR2 | 60 | 13-Dec-26 | 10-Feb-27 | 30 |
| SW-C2-1130 | Caverns 2 - Testing and Commissioning | 90 | 12-Jan-27 | 11-Apr-27 | 0 |
| SW-C2-1120 | Caverns 2 - Energization of SWSR2 | 0 | 11-Feb-27 | | 30 |
| Caverns 3 - Salt Water Service Reservoir No.3 | | 434 | 21-Oct-25 | 10-Apr-27 | 0 |
| SW-C3-1010 | Caverns 3 - Construction of Shotcrete | 57 | 21-Oct-25 | 29-Dec-25 | 1 |
| SW-C3-1000 | Caverns 3 - Completion of Tunnel Works | 0 | | 29-Nov-25 | 1 |
| SW-C3-1020 | Caverns 3 - Construction of Cavern Lining (Total: 28.3m long, PR=12m/9d + 2wk for erection) | 39 | 30-Dec-25 | 13-Feb-26 | 1 |
| SW-C3-1030 | Caverns 3 - Waterproofing system and protection layer to Wall and Slab | 60 | 14-Feb-26 | 14-Apr-26 | 1 |
| SW-C3-1040 | Caverns 3 - Construction of Slab 1.6m thk for water tank area (Total: 1961m3, 12bays (11x9), PR= 15d/bay, 3workfr | 60 | 13-Mar-26 | 27-May-26 | 1 |
| SW-C3-1060 | Caverns 3 - Construction of Slab 1.0m thk for pump/plant room area (Total:597m3, 11bays (11x9), PR=12d/bay, 3 w | 48 | 28-May-26 | 24-Jul-26 | 1 |
| SW-C3-1050 | Caverns 3 - Construction of wall, beam & slab up to 91.35mPD for water tank area | 90 | 28-May-26 | 25-Aug-26 | 49 |
| SW-C3-1070 | Caverns 3 - Construction of soil filling, pipeworks and at-grade slab for pump/ plant room area | 50 | 25-Jul-26 | 12-Sep-26 | 1 |
| SW-C3-1080 | Caverns 3 - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area | 60 | 14-Aug-26 | 12-Oct-26 | 1 |
| SW-C3-1090 | Caverns 3 - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant | 90 | 13-Oct-26 | 10-Jan-27 | 61 |
| SW-C3-1100 | Caverns 3 - BS, E&M works and ABWF | 150 | 13-Oct-26 | 11-Mar-27 | 1 |

Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary



| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| SW-C3-1110 | Caverns 3 - Connect power cable from SWSR1 Transformer Room & Switchboard Room to SWSR3 | 60 | 13-Dec-26 | 10-Feb-27 | 30 |
| SW-C3-1130 | Caverns 3 - Testing and Commissioning | 90 | 11-Jan-27 | 10-Apr-27 | 1 |
| SW-C3-1120 | Caverns 3 - Energization of SWSR3 | 0 | 11-Feb-27 | | 30 |
| Caverns 4 - Fresh Water Service Reservoir No.1 | | 349 | 02-Feb-26 | 10-Apr-27 | 0 |
| SW-C4-1010 | Caverns 4 - Construction of Shotcrete | 56 | 02-Feb-26 | 14-Apr-26 | 20 |
| SW-C4-1000 | Caverns 4 - Completion of Tunnel Works | 0 | | 15-Mar-26 | 1 |
| SW-C4-1020 | Caverns 4 - Construction of Cavern Lining (Total: 20.3m long, PR=12m/9d + 2wk for erection) | 30 | 30-Mar-26 | 07-May-26 | 1 |
| SW-C4-1030 | Caverns 4 - Waterproofing system and protection layer to Wall and Slab | 50 | 08-May-26 | 26-Jun-26 | 1 |
| SW-C4-1040 | Caverns 4 - Construction of Slab 1.6m thk for water tank area (Total: 2482m3, 15bays (11x9), PR= 15d/bay, 3workfr | 60 | 28-May-26 | 07-Aug-26 | 1 |
| SW-C4-1060 | Caverns 4 - Construction of Slab 1.0m thk for pump/plant room area (Total:553m3, 6bays (11x9), PR=12d/bay, 3 wo | 24 | 08-Aug-26 | 04-Sep-26 | 1 |
| SW-C4-1050 | Caverns 4 - Construction of wall, beam & slab up to 91.35mPD for water tank area | 90 | 08-Aug-26 | 05-Nov-26 | 7 |
| SW-C4-1070 | Caverns 4 - Construction of soil filling, pipeworks and at-grade slab for pump/ plant room area | 38 | 05-Sep-26 | 12-Oct-26 | 1 |
| SW-C4-1080 | Caverns 4 - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area | 60 | 13-Sep-26 | 11-Nov-26 | 1 |
| SW-C4-1090 | Caverns 4 - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant | 60 | 12-Nov-26 | 10-Jan-27 | 61 |
| SW-C4-1100 | Caverns 4 - BS, E&M works and ABWF | 120 | 12-Nov-26 | 11-Mar-27 | 1 |
| SW-C4-1110 | Caverns 4 - Connect power cable from SWSR1 Transformer Room & Switchboard Room to SWSR4 | 60 | 13-Dec-26 | 10-Feb-27 | 30 |
| SW-C4-1130 | Caverns 4 - Testing and Commissioning | 90 | 11-Jan-27 | 10-Apr-27 | 1 |
| SW-C4-1120 | Caverns 4 - Energization of SWSR4 | 0 | 11-Feb-27 | | 30 |
| Caverns 5 - Fresh Water Service Reservoir No.2 | | 392 | 10-Dec-25 | 10-Apr-27 | 0 |
| SW-C5-1010 | Caverns 5 - Construction of Shotcrete | 52 | 10-Dec-25 | 11-Feb-26 | 1 |
| SW-C5-1000 | Caverns 5 - Completion of Tunnel Works | 0 | | 12-Jan-26 | 1 |
| SW-C5-1020 | Caverns 5 - Construction of Cavern Lining (Total: 22.5m long, PR=12m/9d + 2wk for erection) | 30 | 12-Feb-26 | 21-Mar-26 | 1 |
| SW-C5-1030 | Caverns 5 - Waterproofing system and protection layer to Wall and Slab | 50 | 22-Mar-26 | 10-May-26 | 2 |
| SW-C5-1040 | Caverns 5 - Construction of Slab 1.6m thk for water tank area (Total: 1961m3, 12bays (11x9), PR= 15d/bay, 3workfr | 60 | 30-Apr-26 | 13-Jul-26 | 1 |
| SW-C5-1060 | Caverns 5 - Construction of Slab 1.0m thk for pump/plant room area (Total:986m3, 9bays (11x9), PR=12d/bay, 3 wo | 36 | 14-Jul-26 | 24-Aug-26 | 1 |
| SW-C5-1050 | Caverns 5 - Construction of wall, beam & slab up to 91.35mPD for water tank area | 90 | 14-Jul-26 | 11-Oct-26 | 32 |
| SW-C5-1070 | Caverns 5 - Construction of soil filling, pipeworks and at-grade slab for pump/ plant room area | 49 | 25-Aug-26 | 12-Oct-26 | 1 |
| SW-C5-1080 | Caverns 5 - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area | 60 | 13-Sep-26 | 11-Nov-26 | 1 |
| SW-C5-1090 | Caverns 5 - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant | 60 | 12-Nov-26 | 10-Jan-27 | 1 |
| SW-C5-1100 | Caverns 5 - BS, E&M works and ABWF | 120 | 12-Nov-26 | 11-Mar-27 | 1 |
| SW-C5-1110 | Caverns 5 - Connect power cable from SWSR1 Transformer Room & Switchboard Room to SWSR5 | 60 | 13-Dec-26 | 10-Feb-27 | 30 |
| SW-C5-1130 | Caverns 5 - Testing and Commissioning | 90 | 11-Jan-27 | 10-Apr-27 | 1 |
| SW-C5-1120 | Caverns 5 - Energization of SWSR4 | 0 | 11-Feb-27 | | 30 |
| Water Mains Installation Works in Portion 5 | | 1283 | 09-Dec-22 | 10-Apr-27 | 0 |
| DN600 and DN450 Fresh Water Mains & DN450 Salt Water Mains | | 1280 | 09-Dec-22 | 07-Apr-27 | 3 |
| A1070 | XP and TTA Application | 145 | 09-Dec-22 | 02-May-23 | 0 |
| A1080 | Application of CNP to extend working hours for pipe jacking works | 142 | 09-Dec-22 | 29-Apr-23 | 169 |
| Pipe Installation by Pipe Jacking Method | | 719 | 30-Aug-23 | 29-Jan-26 | 288 |
| Water Main Tunnel (Detail A), CH 0-59 (59m) along Chuk Yuen Road - Section A1 | | 296 | 02-Feb-25 | 29-Jan-26 | 282 |
| SW-JPA-1000 | TTA implementation, site clearance, road modification and site setup | 14 | 02-Feb-25 | 15-Feb-25 | 226 |
| SW-JPA-1010 | SI works for trenchless design | 28 | 16-Feb-25 | 15-Mar-25 | 302 |
| SW-JPA-1020 | UU Detection and UU diversion for construction of jacking pits | 30 | 16-Feb-25 | 17-Mar-25 | 226 |
| SW-JPA-1030 | Design Approval for trenchless works | 60 | 16-Mar-25 | 14-May-25 | 302 |
| SW-JPA-1040 | Installation of instrumentation and monitoring device and condition survey | 14 | 18-Mar-25 | 31-Mar-25 | 346 |

Actual Work
Remaining Work
Critical Remaining Work
Summary
Milestone

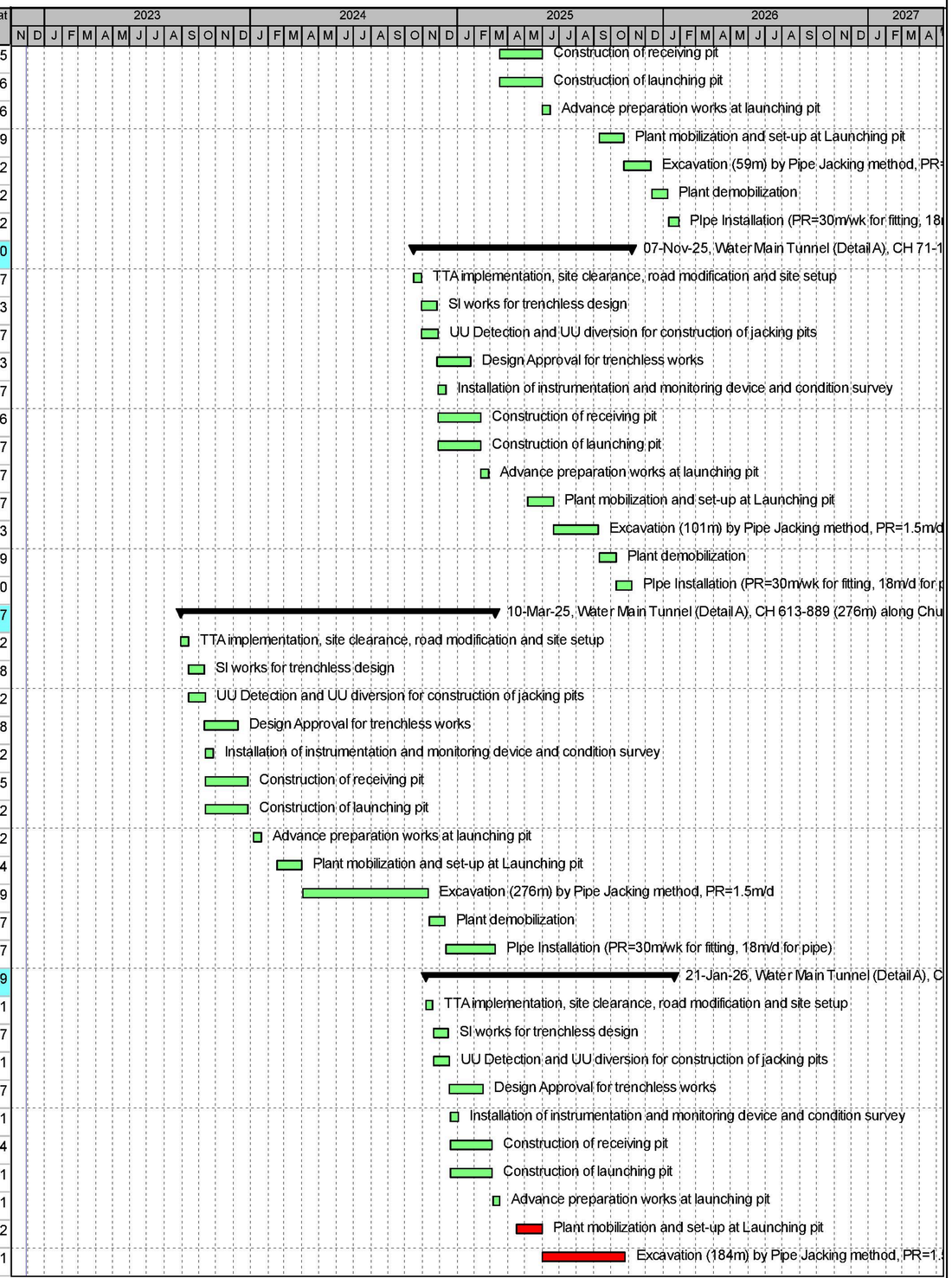


| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| SW-JPA-1050 | Construction of receiving pit | 75 | 18-Mar-25 | 31-May-25 | 285 |
| SW-JPA-1060 | Construction of launching pit | 75 | 18-Mar-25 | 31-May-25 | 226 |
| SW-JPA-1070 | Advance preparation works at launching pit | 14 | 01-Jun-25 | 14-Jun-25 | 226 |
| SW-JPA-1080 | Plant mobilization and set-up at Launching pit | 45 | 10-Sep-25 | 24-Oct-25 | 139 |
| SW-JPA-1090 | Excavation (59m) by Pipe Jacking method, PR=1.5m/d | 40 | 25-Oct-25 | 11-Dec-25 | 112 |
| SW-JPA-1110 | Plant demobilization | 30 | 12-Dec-25 | 10-Jan-26 | 142 |
| SW-JPA-1120 | Pipe Installation (PR=30m/wk for fitting, 18m/d for pipe) | 16 | 12-Jan-26 | 29-Jan-26 | 282 |
| **Water Main Tunnel (Detail A), CH 71-172 (101m) along Chuk Yuen Road - Section A2** | | 316 | 16-Oct-24 | 07-Nov-25 | 350 |
| SW-JPA-2000 | TTA implementation, site clearance, road modification and site setup | 14 | 16-Oct-24 | 29-Oct-24 | 207 |
| SW-JPA-2010 | SI works for trenchless design | 28 | 30-Oct-24 | 26-Nov-24 | 283 |
| SW-JPA-2020 | UU Detection and UU diversion for construction of jacking pits | 30 | 30-Oct-24 | 28-Nov-24 | 207 |
| SW-JPA-2030 | Design Approval for trenchless works | 60 | 27-Nov-24 | 25-Jan-25 | 283 |
| SW-JPA-2040 | Installation of instrumentation and monitoring device and condition survey | 14 | 29-Nov-24 | 12-Dec-24 | 327 |
| SW-JPA-2050 | Construction of receiving pit | 75 | 29-Nov-24 | 11-Feb-25 | 266 |
| SW-JPA-2060 | Construction of launching pit | 75 | 29-Nov-24 | 11-Feb-25 | 207 |
| SW-JPA-2070 | Advance preparation works at launching pit | 14 | 12-Feb-25 | 25-Feb-25 | 207 |
| SW-JPA-2080 | Plant mobilization and set-up at Launching pit | 45 | 07-May-25 | 20-Jun-25 | 137 |
| SW-JPA-2090 | Excavation (101m) by Pipe Jacking method, PR=1.5m/d | 68 | 21-Jun-25 | 09-Sep-25 | 113 |
| SW-JPA-2110 | Plant demobilization | 30 | 10-Sep-25 | 09-Oct-25 | 139 |
| SW-JPA-2120 | Pipe Installation (PR=30m/wk for fitting, 18m/d for pipe) | 24 | 10-Oct-25 | 07-Nov-25 | 350 |
| **Water Main Tunnel (Detail A), CH 613-889 (276m) along Chuk Yuen Road - Section A3** | | 454 | 30-Aug-23 | 10-Mar-25 | 547 |
| SW-JPA-3000 | TTA implementation, site clearance, road modification and site setup | 14 | 30-Aug-23 | 12-Sep-23 | 172 |
| SW-JPA-3010 | SI works for trenchless design | 28 | 13-Sep-23 | 10-Oct-23 | 258 |
| SW-JPA-3020 | UU Detection and UU diversion for construction of jacking pits | 30 | 13-Sep-23 | 12-Oct-23 | 172 |
| SW-JPA-3030 | Design Approval for trenchless works | 60 | 11-Oct-23 | 09-Dec-23 | 258 |
| SW-JPA-3040 | Installation of instrumentation and monitoring device and condition survey | 14 | 13-Oct-23 | 26-Oct-23 | 302 |
| SW-JPA-3050 | Construction of receiving pit | 75 | 13-Oct-23 | 26-Dec-23 | 195 |
| SW-JPA-3060 | Construction of launching pit | 75 | 13-Oct-23 | 26-Dec-23 | 172 |
| SW-JPA-3070 | Advance preparation works at launching pit | 14 | 06-Jan-24 | 19-Jan-24 | 172 |
| SW-JPA-3080 | Plant mobilization and set-up at Launching pit | 45 | 17-Feb-24 | 01-Apr-24 | 144 |
| SW-JPA-3090 | Excavation (276m) by Pipe Jacking method, PR=1.5m/d | 184 | 02-Apr-24 | 11-Nov-24 | 119 |
| SW-JPA-3110 | Plant demobilization | 30 | 12-Nov-24 | 11-Dec-24 | 147 |
| SW-JPA-3120 | Pipe Installation (PR=30m/wk for fitting, 18m/d for pipe) | 70 | 12-Dec-24 | 10-Mar-25 | 547 |
| **Water Main Tunnel (Detail A), CH 1000-1184 (184m) along Chuk Yuen Road - Section A4** | | 359 | 06-Nov-24 | 21-Jan-26 | 289 |
| SW-JPA-4000 | TTA implementation, site clearance, road modification and site setup | 14 | 06-Nov-24 | 19-Nov-24 | 31 |
| SW-JPA-4010 | SI works for trenchless design | 28 | 20-Nov-24 | 17-Dec-24 | 107 |
| SW-JPA-4020 | UU Detection and UU diversion for construction of jacking pits | 30 | 20-Nov-24 | 19-Dec-24 | 31 |
| SW-JPA-4030 | Design Approval for trenchless works | 60 | 18-Dec-24 | 15-Feb-25 | 107 |
| SW-JPA-4040 | Installation of instrumentation and monitoring device and condition survey | 14 | 20-Dec-24 | 02-Jan-25 | 151 |
| SW-JPA-4050 | Construction of receiving pit | 75 | 20-Dec-24 | 04-Mar-25 | 34 |
| SW-JPA-4060 | Construction of launching pit | 75 | 20-Dec-24 | 04-Mar-25 | 31 |
| SW-JPA-4070 | Advance preparation works at launching pit | 14 | 05-Mar-25 | 18-Mar-25 | 31 |
| SW-JPA-4080 | Plant mobilization and set-up at Launching pit | 45 | 17-Apr-25 | 31-May-25 | 2 |
| SW-JPA-4090 | Excavation (184m) by Pipe Jacking method, PR=1.5m/d | 123 | 02-Jun-25 | 25-Oct-25 | 1 |




Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

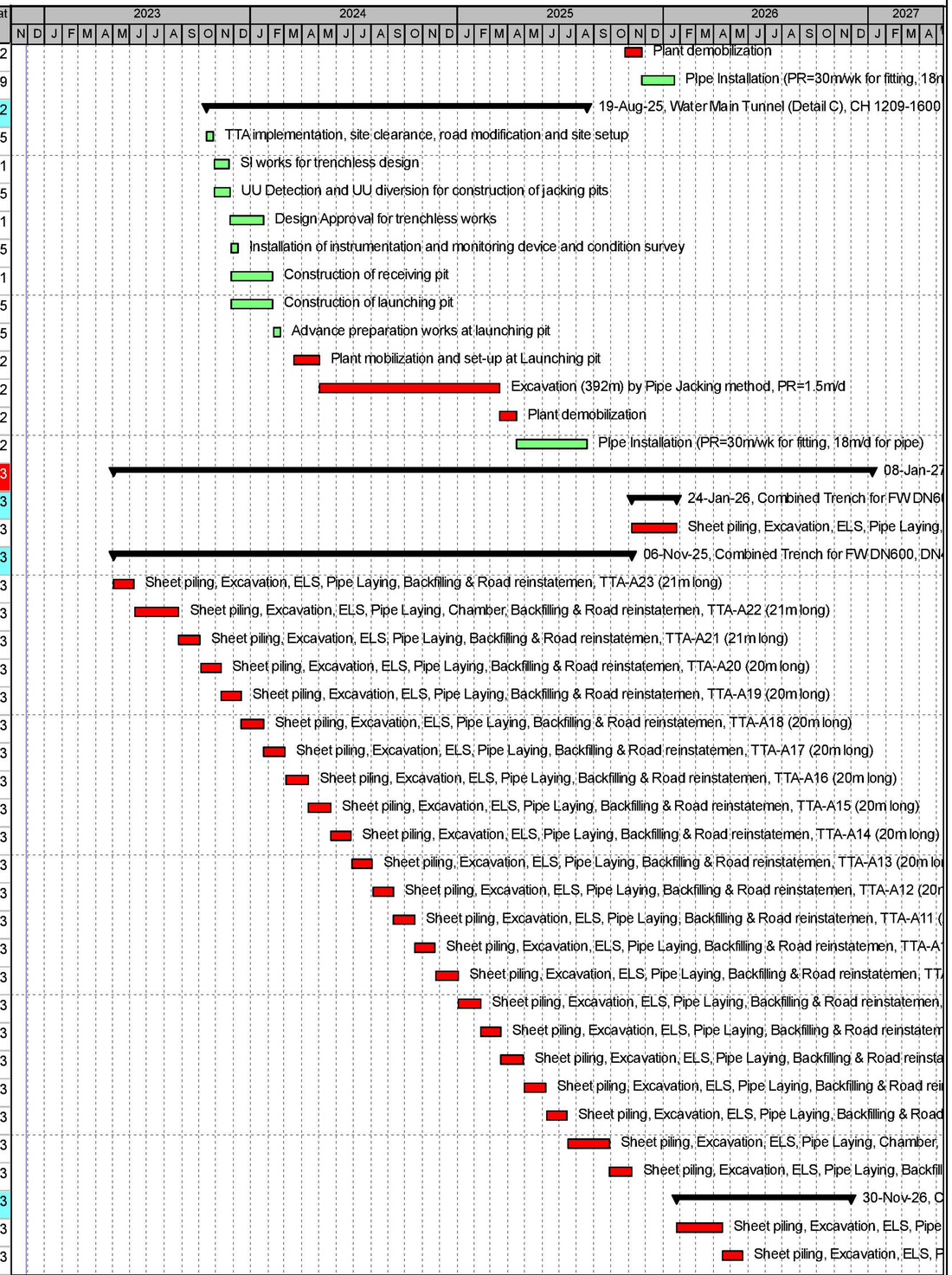


| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| SW-JPA-4110 | Plant demobilization | 30 | 26-Oct-25 | 24-Nov-25 | 2 |
| SW-JPA-4120 | Pipe Installation (PR=30m/wk for fitting, 18m/d for pipe) | 47 | 25-Nov-25 | 21-Jan-26 | 289 |
| **Water Main Tunnel (Detail C), CH 1209-1600 (392m) along Sha Tin Pass Road - Section C1** | | 548 | 14-Oct-23 | 19-Aug-25 | 422 |
| SW-JPA-5000 | TTA implementation, site clearance, road modification and site setup | 14 | 14-Oct-23 | 27-Oct-23 | 25 |
| SW-JPA-5010 | SI works for trenchless design | 28 | 28-Oct-23 | 24-Nov-23 | 101 |
| SW-JPA-5020 | UU Detection and UU diversion for construction of jacking pits | 30 | 28-Oct-23 | 26-Nov-23 | 25 |
| SW-JPA-5030 | Design Approval for trenchless works | 60 | 25-Nov-23 | 23-Jan-24 | 101 |
| SW-JPA-5040 | Installation of instrumentation and monitoring device and condition survey | 14 | 27-Nov-23 | 10-Dec-23 | 145 |
| SW-JPA-5050 | Construction of receiving pit | 75 | 27-Nov-23 | 09-Feb-24 | 31 |
| SW-JPA-5060 | Construction of launching pit | 75 | 27-Nov-23 | 09-Feb-24 | 25 |
| SW-JPA-5070 | Advance preparation works at launching pit | 14 | 10-Feb-24 | 23-Feb-24 | 25 |
| SW-JPA-5080 | Plant mobilization and set-up at Launching pit | 45 | 18-Mar-24 | 01-May-24 | 2 |
| SW-JPA-5090 | Excavation (392m) by Pipe Jacking method, PR=1.5m/d | 262 | 02-May-24 | 17-Mar-25 | 2 |
| SW-JPA-5110 | Plant demobilization | 30 | 18-Mar-25 | 16-Apr-25 | 2 |
| SW-JPA-5120 | Pipe Installation (PR=30m/wk for fitting, 18m/d for pipe) | 100 | 17-Apr-25 | 19-Aug-25 | 422 |
| **Pipe Installation by Open Trench Method** | | 1097 | 03-May-23 | 08-Jan-27 | 3 |
| **Combined Trench for FW DN600, DN450 & SW DN450 along Chuk Yuen Road, from A1 to A2** | | 65 | 07-Nov-25 | 24-Jan-26 | 3 |
| SW-OTA-1000 | Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A1 (15m long) | 65 | 07-Nov-25 | 24-Jan-26 | 3 |
| **Combined Trench for FW DN600, DN450 & SW DN450 along Chuk Yuen Road, from A2 to A3** | | 749 | 03-May-23 | 06-Nov-25 | 3 |
| SW-OTA-2210 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A23 (21m long) | 31 | 03-May-23 | 08-Jun-23 | 3 |
| SW-OTA-2200 | Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A22 (21m long) | 65 | 09-Jun-23 | 25-Aug-23 | 3 |
| SW-OTA-2190 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A21 (21m long) | 31 | 26-Aug-23 | 03-Oct-23 | 3 |
| SW-OTA-2180 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A20 (20m long) | 31 | 04-Oct-23 | 09-Nov-23 | 3 |
| SW-OTA-2170 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A19 (20m long) | 31 | 10-Nov-23 | 15-Dec-23 | 3 |
| SW-OTA-2160 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A18 (20m long) | 31 | 16-Dec-23 | 24-Jan-24 | 3 |
| SW-OTA-2150 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A17 (20m long) | 31 | 25-Jan-24 | 02-Mar-24 | 3 |
| SW-OTA-2140 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A16 (20m long) | 31 | 04-Mar-24 | 12-Apr-24 | 3 |
| SW-OTA-2130 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A15 (20m long) | 31 | 13-Apr-24 | 21-May-24 | 3 |
| SW-OTA-2120 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A14 (20m long) | 31 | 22-May-24 | 27-Jun-24 | 3 |
| SW-OTA-2110 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A13 (20m long) | 31 | 28-Jun-24 | 03-Aug-24 | 3 |
| SW-OTA-2100 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A12 (20m long) | 31 | 05-Aug-24 | 09-Sep-24 | 3 |
| SW-OTA-2090 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A11 (20m long) | 31 | 10-Sep-24 | 18-Oct-24 | 3 |
| SW-OTA-2080 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A10 (20m long) | 31 | 19-Oct-24 | 23-Nov-24 | 3 |
| SW-OTA-2070 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A9 (20m long) | 31 | 25-Nov-24 | 02-Jan-25 | 3 |
| SW-OTA-2060 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A8 (20m long) | 31 | 03-Jan-25 | 11-Feb-25 | 3 |
| SW-OTA-2050 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A7 (20m long) | 31 | 12-Feb-25 | 19-Mar-25 | 3 |
| SW-OTA-2040 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A6 (20m long) | 31 | 20-Mar-25 | 29-Apr-25 | 3 |
| SW-OTA-2030 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A5 (20m long) | 31 | 30-Apr-25 | 07-Jun-25 | 3 |
| SW-OTA-2020 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A4 (20m long) | 31 | 09-Jun-25 | 15-Jul-25 | 3 |
| SW-OTA-2010 | Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A3 (20m long) | 64 | 16-Jul-25 | 27-Sep-25 | 3 |
| SW-OTA-2000 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A2 (20m long) | 31 | 29-Sep-25 | 06-Nov-25 | 3 |
| **Combined Trench for FW DN600, DN450 & SW DN450 along Chuk Yuen Road, from A3 to A4** | | 252 | 26-Jan-26 | 30-Nov-26 | 3 |
| SW-OTA-3050 | Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A29 (18m long) | 64 | 26-Jan-26 | 16-Apr-26 | 3 |
| SW-OTA-3040 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A28 (20m long) | 31 | 17-Apr-26 | 23-May-26 | 3 |




Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

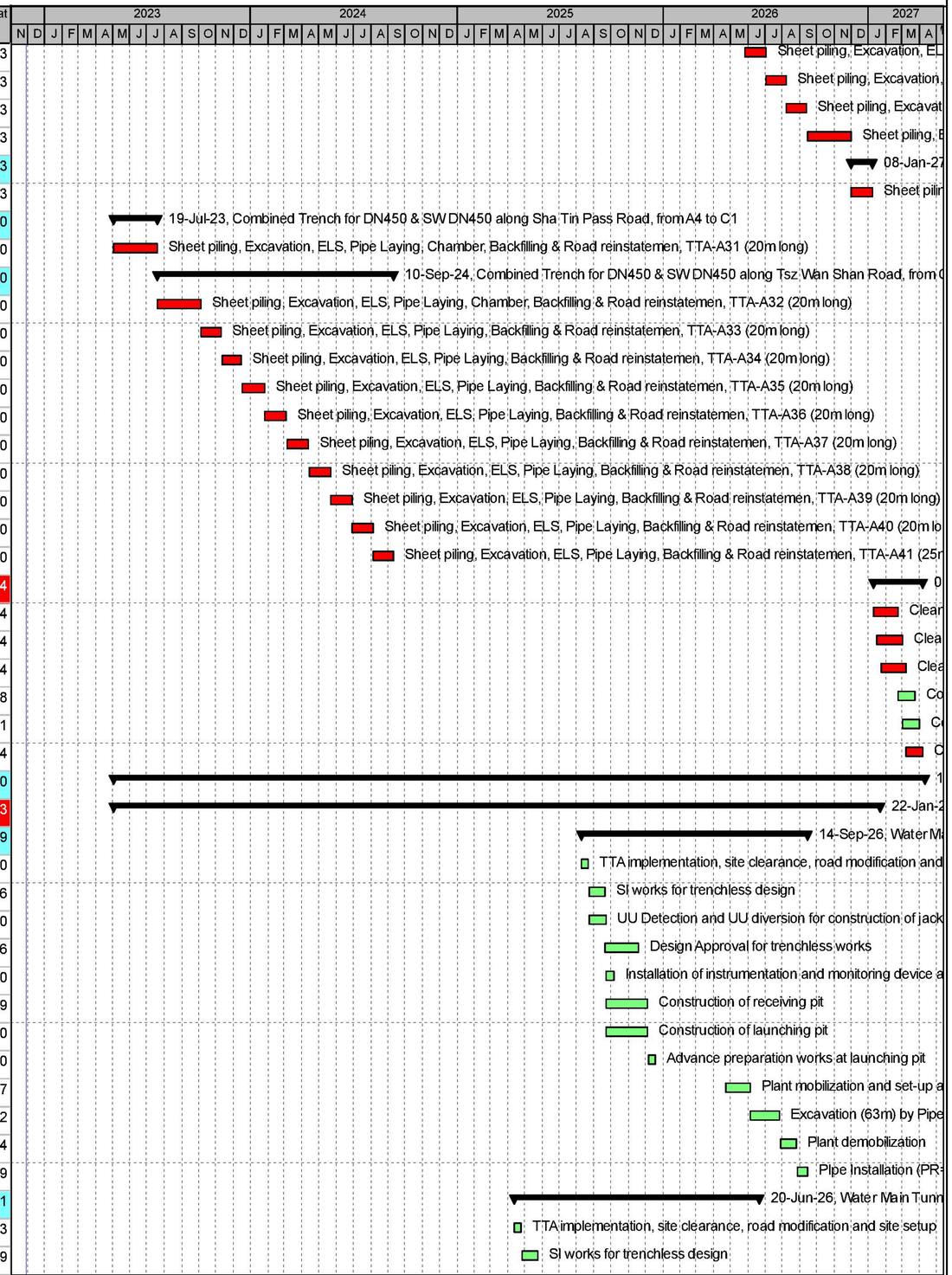


| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| SW-OTA-3030 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A27 (20m long) | 31 | 26-May-26 | 02-Jul-26 | 3 |
| SW-OTA-3020 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A26 (20m long) | 31 | 03-Jul-26 | 07-Aug-26 | 3 |
| SW-OTA-3010 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A25 (20m long) | 31 | 08-Aug-26 | 12-Sep-26 | 3 |
| SW-OTA-3000 | Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A24 (20m long) | 64 | 14-Sep-26 | 30-Nov-26 | 3 |
| **Open Trench for FW DN600 along Chuk Yuen Road, from A4 to Connection Point** | | 31 | 01-Dec-26 | 08-Jan-27 | 3 |
| SW-OTA-4000 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A30 (25m long), to Connection Poi | 31 | 01-Dec-26 | 08-Jan-27 | 3 |
| **Combined Trench for DN450 & SW DN450 along Sha Tin Pass Road, from A4 to C1** | | 64 | 03-May-23 | 19-Jul-23 | 0 |
| SW-OTA-5000 | Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A31 (20m long) | 64 | 03-May-23 | 19-Jul-23 | 0 |
| **Combined Trench for DN450 & SW DN450 along Tsz Wan Shan Road, from C1 to Connection Points** | | 343 | 20-Jul-23 | 10-Sep-24 | 0 |
| SW-OTA-6000 | Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A32 (20m long) | 64 | 20-Jul-23 | 04-Oct-23 | 0 |
| SW-OTA-6010 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A33 (20m long) | 31 | 05-Oct-23 | 10-Nov-23 | 0 |
| SW-OTA-6020 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A34 (20m long) | 31 | 11-Nov-23 | 16-Dec-23 | 0 |
| SW-OTA-6030 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A35 (20m long) | 31 | 18-Dec-23 | 25-Jan-24 | 0 |
| SW-OTA-6040 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A36 (20m long) | 31 | 26-Jan-24 | 04-Mar-24 | 0 |
| SW-OTA-6050 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A37 (20m long) | 31 | 05-Mar-24 | 13-Apr-24 | 0 |
| SW-OTA-6060 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A38 (20m long) | 31 | 15-Apr-24 | 22-May-24 | 0 |
| SW-OTA-6070 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A39 (20m long) | 31 | 23-May-24 | 28-Jun-24 | 0 |
| SW-OTA-6080 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A40 (20m long) | 31 | 29-Jun-24 | 05-Aug-24 | 0 |
| SW-OTA-6090 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A41 (25m long), to Connection Poi | 31 | 06-Aug-24 | 10-Sep-24 | 0 |
| **Test & Commissioning and Connection** | | 89 | 09-Jan-27 | 07-Apr-27 | 4 |
| SW-TC-1000 | Cleaning & Pressure Test for DN600 Fresh Water Main | 45 | 09-Jan-27 | 22-Feb-27 | 4 |
| SW-TC-1020 | Cleaning & Pressure Test for DN450 Fresh Water Main | 45 | 16-Jan-27 | 01-Mar-27 | 4 |
| SW-TC-1040 | Cleaning & Pressure Test for DN450 Salt Water Main | 45 | 23-Jan-27 | 08-Mar-27 | 4 |
| SW-TC-1010 | Connection to existing for DN600 Fresh Water Main | 30 | 23-Feb-27 | 24-Mar-27 | 18 |
| SW-TC-1030 | Connection to existing for DN450 Fresh Water Main | 30 | 02-Mar-27 | 31-Mar-27 | 11 |
| SW-TC-1050 | Connection to existing for DN450 Salt Water Main | 30 | 09-Mar-27 | 07-Apr-27 | 4 |
| DN250, DN750 and DN800 Salt Water Mains | | 1169 | 03-May-23 | 10-Apr-27 | 0 |
| **Pipe Installation by Pipe Jacking Method** | | 1109 | 03-May-23 | 22-Jan-27 | 3 |
| **Water Main Tunnel (Detail B), CH 0-63 (63m) along Chuk Yuen Road - Section B1** | | 328 | 09-Aug-25 | 14-Sep-26 | 109 |
| SW-JPB-1000 | TTA implementation, site clearance, road modification and site setup | 14 | 09-Aug-25 | 22-Aug-25 | 260 |
| SW-JPB-1010 | SI works for trenchless design | 28 | 23-Aug-25 | 19-Sep-25 | 336 |
| SW-JPB-1020 | UU Detection and UU diversion for construction of jacking pits | 30 | 23-Aug-25 | 21-Sep-25 | 260 |
| SW-JPB-1030 | Design Approval for trenchless works | 60 | 20-Sep-25 | 18-Nov-25 | 336 |
| SW-JPB-1040 | Installation of instrumentation and monitoring device and condition survey | 14 | 22-Sep-25 | 05-Oct-25 | 380 |
| SW-JPB-1050 | Construction of receiving pit | 75 | 22-Sep-25 | 05-Dec-25 | 319 |
| SW-JPB-1060 | Construction of launching pit | 75 | 22-Sep-25 | 05-Dec-25 | 260 |
| SW-JPB-1070 | Advance preparation works at launching pit | 14 | 06-Dec-25 | 19-Dec-25 | 260 |
| SW-JPB-1080 | Plant mobilization and set-up at Launching pit | 45 | 22-Apr-26 | 05-Jun-26 | 137 |
| SW-JPB-1090 | Excavation (63m) by Pipe Jacking method, PR=1.5m/d | 42 | 06-Jun-26 | 27-Jul-26 | 112 |
| SW-JPB-1110 | Plant demobilization | 30 | 28-Jul-26 | 26-Aug-26 | 134 |
| SW-JPB-1120 | Pipe Installation (PR=30m/wk for fitting, 18m/d for pipe) | 16 | 27-Aug-26 | 14-Sep-26 | 109 |
| **Water Main Tunnel (Detail B), CH 78-180 (102m) along Chuk Yuen Road - Section B2** | | 351 | 12-Apr-25 | 20-Jun-26 | 181 |
| SW-JPB-2000 | TTA implementation, site clearance, road modification and site setup | 14 | 12-Apr-25 | 25-Apr-25 | 253 |
| SW-JPB-2010 | SI works for trenchless design | 28 | 26-Apr-25 | 23-May-25 | 329 |




Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

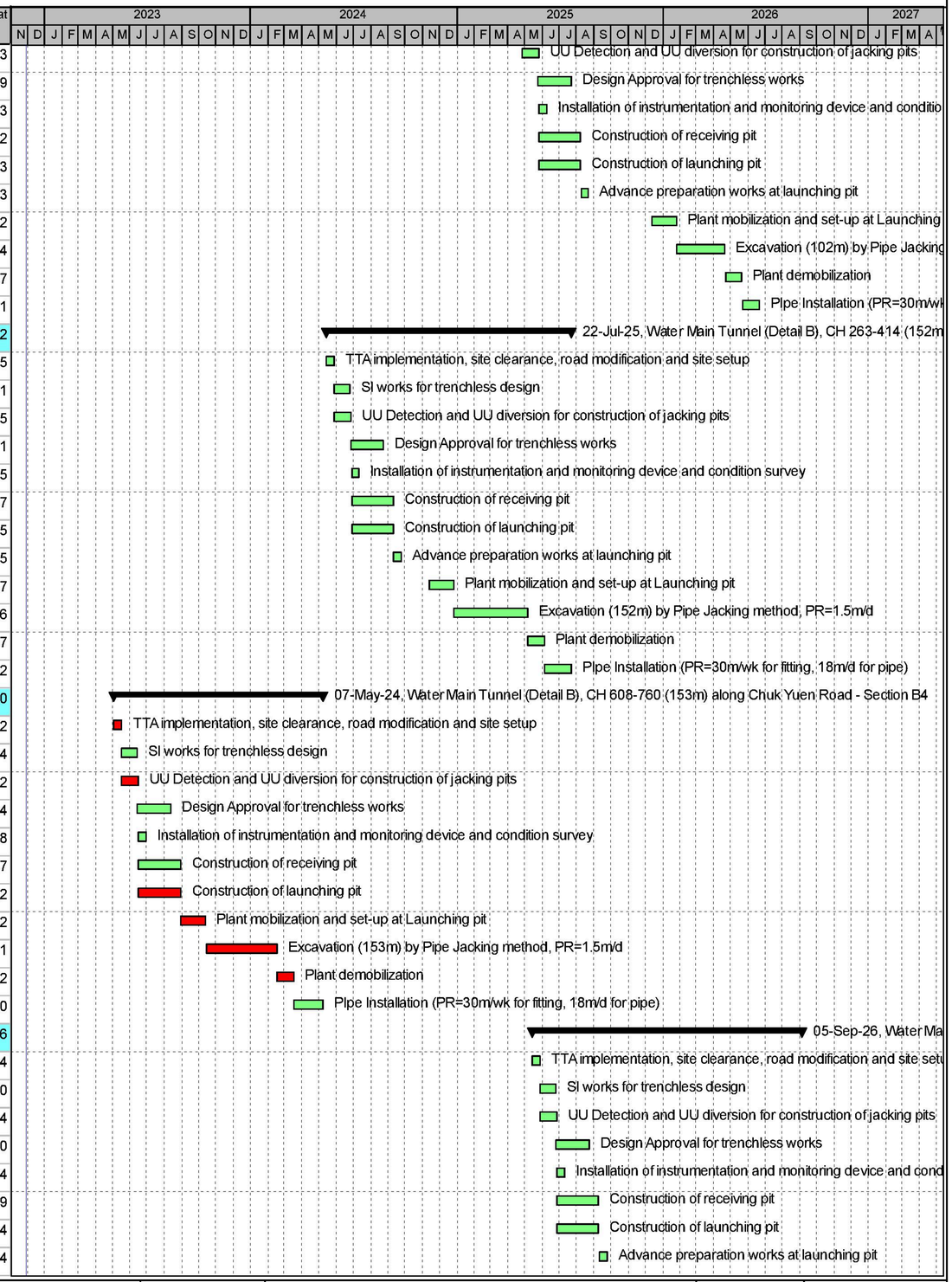


| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| SW-JPB-2020 | UU Detection and UU diversion for construction of jacking pits | 30 | 26-Apr-25 | 25-May-25 | 253 |
| SW-JPB-2030 | Design Approval for trenchless works | 60 | 24-May-25 | 22-Jul-25 | 329 |
| SW-JPB-2040 | Installation of instrumentation and monitoring device and condition survey | 14 | 26-May-25 | 08-Jun-25 | 373 |
| SW-JPB-2050 | Construction of receiving pit | 75 | 26-May-25 | 08-Aug-25 | 312 |
| SW-JPB-2060 | Construction of launching pit | 75 | 26-May-25 | 08-Aug-25 | 253 |
| SW-JPB-2070 | Advance preparation works at launching pit | 14 | 09-Aug-25 | 22-Aug-25 | 253 |
| SW-JPB-2080 | Plant mobilization and set-up at Launching pit | 45 | 12-Dec-25 | 25-Jan-26 | 142 |
| SW-JPB-2090 | Excavation (102m) by Pipe Jacking method, PR=1.5m/d | 68 | 26-Jan-26 | 21-Apr-26 | 114 |
| SW-JPB-2110 | Plant demobilization | 30 | 22-Apr-26 | 21-May-26 | 137 |
| SW-JPB-2120 | Plpe Installation (PR=30m/wk for fitting, 18m/d for pipe) | 24 | 22-May-26 | 20-Jun-26 | 181 |
| **Water Main Tunnel (Detail B), CH 263-414 (152m) along Chuk Yuen Road - Section B3** | | 352 | 15-May-24 | 22-Jul-25 | 452 |
| SW-JPB-3000 | TTA implementation, site clearance, road modification and site setup | 14 | 15-May-24 | 28-May-24 | 195 |
| SW-JPB-3010 | SI works for trenchless design | 28 | 29-May-24 | 25-Jun-24 | 271 |
| SW-JPB-3020 | UU Detection and UU diversion for construction of jacking pits | 30 | 29-May-24 | 27-Jun-24 | 195 |
| SW-JPB-3030 | Design Approval for trenchless works | 60 | 26-Jun-24 | 24-Aug-24 | 271 |
| SW-JPB-3040 | Installation of instrumentation and monitoring device and condition survey | 14 | 28-Jun-24 | 11-Jul-24 | 315 |
| SW-JPB-3050 | Construction of receiving pit | 75 | 28-Jun-24 | 10-Sep-24 | 207 |
| SW-JPB-3060 | Construction of launching pit | 75 | 28-Jun-24 | 10-Sep-24 | 195 |
| SW-JPB-3070 | Advance preparation works at launching pit | 14 | 11-Sep-24 | 24-Sep-24 | 195 |
| SW-JPB-3080 | Plant mobilization and set-up at Launching pit | 45 | 12-Nov-24 | 26-Dec-24 | 147 |
| SW-JPB-3090 | Excavation (152m) by Pipe Jacking method, PR=1.5m/d | 102 | 27-Dec-24 | 06-May-25 | 116 |
| SW-JPB-3110 | Plant demobilization | 30 | 07-May-25 | 05-Jun-25 | 137 |
| SW-JPB-3120 | Plpe Installation (PR=30m/wk for fitting, 18m/d for pipe) | 39 | 06-Jun-25 | 22-Jul-25 | 452 |
| **Water Main Tunnel (Detail B), CH 608-760 (153m) along Chuk Yuen Road - Section B4** | | 302 | 03-May-23 | 07-May-24 | 810 |
| SW-JPB-4000 | TTA implementation, site clearance, road modification and site setup | 14 | 03-May-23 | 16-May-23 | 2 |
| SW-JPB-4010 | SI works for trenchless design | 28 | 17-May-23 | 13-Jun-23 | 64 |
| SW-JPB-4020 | UU Detection and UU diversion for construction of jacking pits | 30 | 17-May-23 | 15-Jun-23 | 2 |
| SW-JPB-4030 | Design Approval for trenchless works | 60 | 14-Jun-23 | 12-Aug-23 | 64 |
| SW-JPB-4040 | Installation of instrumentation and monitoring device and condition survey | 14 | 16-Jun-23 | 29-Jun-23 | 108 |
| SW-JPB-4050 | Construction of receiving pit | 75 | 16-Jun-23 | 29-Aug-23 | 47 |
| SW-JPB-4060 | Construction of launching pit | 75 | 16-Jun-23 | 29-Aug-23 | 2 |
| SW-JPB-4070 | Plant mobilization and set-up at Launching pit | 45 | 30-Aug-23 | 13-Oct-23 | 2 |
| SW-JPB-4080 | Excavation (153m) by Pipe Jacking method, PR=1.5m/d | 102 | 14-Oct-23 | 16-Feb-24 | 1 |
| SW-JPB-4100 | Plant demobilization | 30 | 17-Feb-24 | 17-Mar-24 | 2 |
| SW-JPB-4110 | Plpe Installation (PR=30m/wk for fitting, 18m/d for pipe) | 39 | 18-Mar-24 | 07-May-24 | 810 |
| **Water Main Tunnel (Detail B), CH 1000-1208 (212m) along Chuk Yuen Road - Section B5** | | 394 | 14-May-25 | 05-Sep-26 | 116 |
| SW-JPB-5000 | TTA implementation, site clearance, road modification and site setup | 14 | 14-May-25 | 27-May-25 | 34 |
| SW-JPB-5010 | SI works for trenchless design | 28 | 28-May-25 | 24-Jun-25 | 110 |
| SW-JPB-5020 | UU Detection and UU diversion for construction of jacking pits | 30 | 28-May-25 | 26-Jun-25 | 34 |
| SW-JPB-5030 | Design Approval for trenchless works | 60 | 25-Jun-25 | 23-Aug-25 | 110 |
| SW-JPB-5040 | Installation of instrumentation and monitoring device and condition survey | 14 | 27-Jun-25 | 10-Jul-25 | 154 |
| SW-JPB-5050 | Construction of receiving pit | 75 | 27-Jun-25 | 09-Sep-25 | 59 |
| SW-JPB-5060 | Construction of launching pit | 75 | 27-Jun-25 | 09-Sep-25 | 34 |
| SW-JPB-5070 | Advance preparation works at launching pit | 14 | 10-Sep-25 | 23-Sep-25 | 34 |




Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

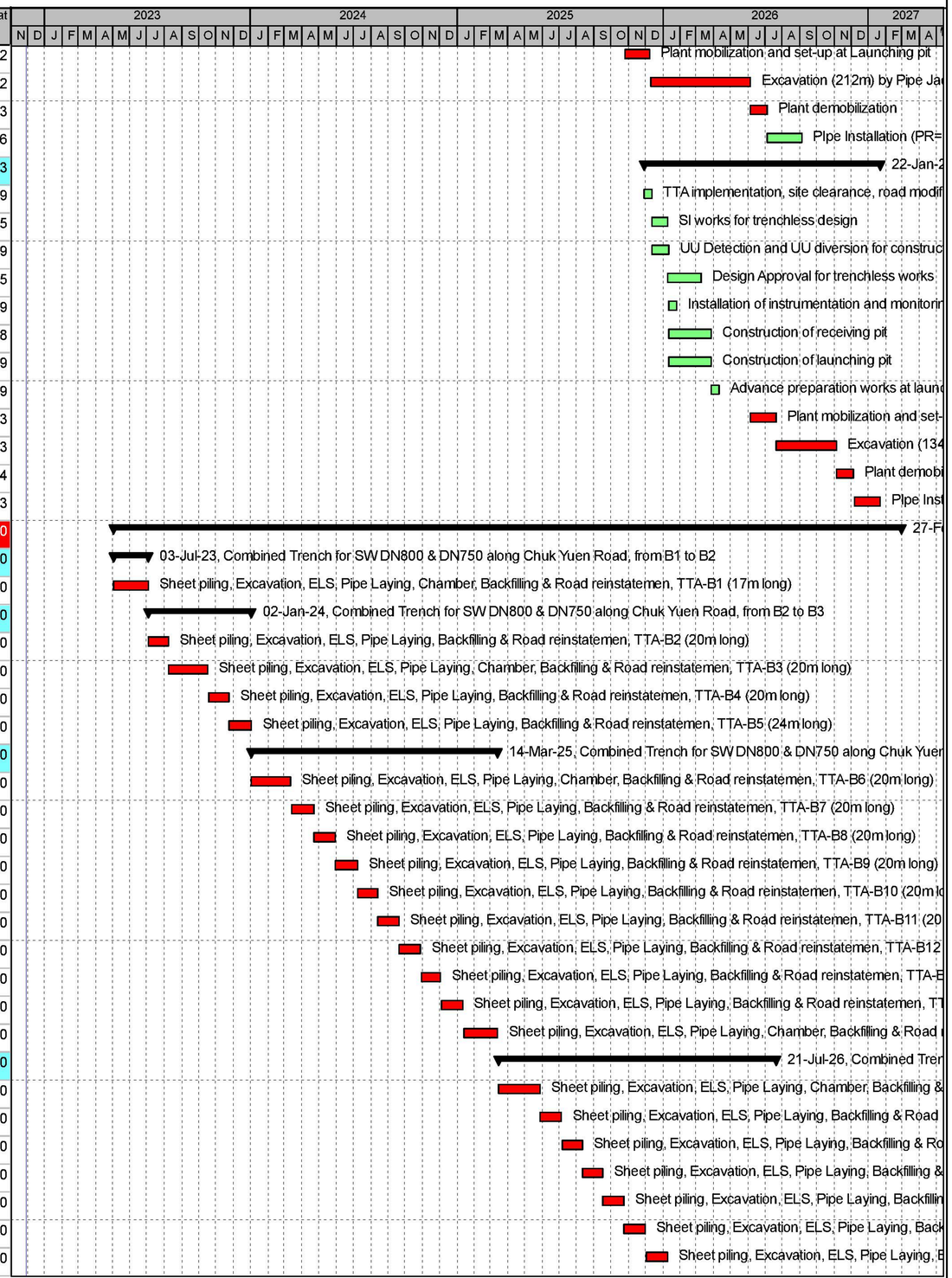


| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| SW-JPB-5080 | Plant mobilization and set-up at Launching pit | 45 | 26-Oct-25 | 09-Dec-25 | 2 |
| SW-JPB-5090 | Excavation (212m) by Pipe Jacking method, PR=1.5m/d | 142 | 10-Dec-25 | 05-Jun-26 | 2 |
| SW-JPB-5110 | Plant demobilization | 30 | 06-Jun-26 | 05-Jul-26 | 3 |
| SW-JPB-5120 | Pipe Installation (PR=30m/wk for fitting, 18m/d for pipe) | 54 | 06-Jul-26 | 05-Sep-26 | 116 |
| **Water Main Tunnel (Detail D), CH 1402-1535 (134m) along Sheung Fung Street - Section D1** | | 341 | 29-Nov-25 | 22-Jan-27 | 3 |
| SW-JPB-6000 | TTA implementation, site clearance, road modification and site setup | 14 | 29-Nov-25 | 12-Dec-25 | 59 |
| SW-JPB-6010 | SI works for trenchless design | 28 | 13-Dec-25 | 09-Jan-26 | 135 |
| SW-JPB-6020 | UU Detection and UU diversion for construction of jacking pits | 30 | 13-Dec-25 | 11-Jan-26 | 59 |
| SW-JPB-6030 | Design Approval for trenchless works | 60 | 10-Jan-26 | 10-Mar-26 | 135 |
| SW-JPB-6040 | Installation of instrumentation and monitoring device and condition survey | 14 | 12-Jan-26 | 25-Jan-26 | 179 |
| SW-JPB-6050 | Construction of receiving pit | 75 | 12-Jan-26 | 27-Mar-26 | 118 |
| SW-JPB-6060 | Construction of launching pit | 75 | 12-Jan-26 | 27-Mar-26 | 59 |
| SW-JPB-6070 | Advance preparation works at launching pit | 14 | 28-Mar-26 | 10-Apr-26 | 59 |
| SW-JPB-6080 | Plant mobilization and set-up at Launching pit | 45 | 06-Jun-26 | 20-Jul-26 | 3 |
| SW-JPB-6090 | Excavation (134m) by Pipe Jacking method, PR=1.5m/d | 90 | 21-Jul-26 | 05-Nov-26 | 3 |
| SW-JPB-6110 | Plant demobilization | 30 | 06-Nov-26 | 05-Dec-26 | 4 |
| SW-JPB-6120 | Pipe Installation (PR=30m/wk for fitting, 18m/d for pipe) | 38 | 07-Dec-26 | 22-Jan-27 | 3 |
| **Pipe Installation by Open Trench Method** | | 1137 | 03-May-23 | 27-Feb-27 | 0 |
| **Combined Trench for SW DN800 & DN750 along Chuk Yuen Road, from B1 to B2** | | 50 | 03-May-23 | 03-Jul-23 | 0 |
| SW-OTB-1000 | Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B1 (17m long) | 50 | 03-May-23 | 03-Jul-23 | 0 |
| **Combined Trench for SW DN800 & DN750 along Chuk Yuen Road, from B2 to B3** | | 151 | 04-Jul-23 | 02-Jan-24 | 0 |
| SW-OTB-2000 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B2 (20m long) | 31 | 04-Jul-23 | 08-Aug-23 | 0 |
| SW-OTB-2010 | Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B3 (20m long) | 58 | 09-Aug-23 | 17-Oct-23 | 0 |
| SW-OTB-2020 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B4 (20m long) | 31 | 18-Oct-23 | 23-Nov-23 | 0 |
| SW-OTB-2030 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B5 (24m long) | 31 | 24-Nov-23 | 02-Jan-24 | 0 |
| **Combined Trench for SW DN800 & DN750 along Chuk Yuen Road, from B3 to B4** | | 356 | 03-Jan-24 | 14-Mar-25 | 0 |
| SW-OTB-3000 | Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 (20m long) | 58 | 03-Jan-24 | 12-Mar-24 | 0 |
| SW-OTB-3010 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B7 (20m long) | 31 | 13-Mar-24 | 22-Apr-24 | 0 |
| SW-OTB-3020 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B8 (20m long) | 31 | 23-Apr-24 | 30-May-24 | 0 |
| SW-OTB-3030 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B9 (20m long) | 31 | 31-May-24 | 08-Jul-24 | 0 |
| SW-OTB-3040 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B10 (20m long) | 31 | 09-Jul-24 | 13-Aug-24 | 0 |
| SW-OTB-3050 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B11 (20m long) | 31 | 14-Aug-24 | 19-Sep-24 | 0 |
| SW-OTB-3060 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B12 (20m long) | 31 | 20-Sep-24 | 28-Oct-24 | 0 |
| SW-OTB-3070 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B13 (20m long) | 31 | 29-Oct-24 | 03-Dec-24 | 0 |
| SW-OTB-3080 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B14 (20m long) | 31 | 04-Dec-24 | 11-Jan-25 | 0 |
| SW-OTB-3090 | Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B15 (17m long) | 50 | 13-Jan-25 | 14-Mar-25 | 0 |
| **Combined Trench for SW DN800 & DN750 along Chuk Yuen Road, from B4 to B5** | | 399 | 15-Mar-25 | 21-Jul-26 | 0 |
| SW-OTB-4110 | Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B27 (20m long) | 58 | 15-Mar-25 | 28-May-25 | 0 |
| SW-OTB-4100 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B26 (20m long) | 31 | 29-May-25 | 05-Jul-25 | 0 |
| SW-OTB-4090 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B25 (20m long) | 31 | 07-Jul-25 | 11-Aug-25 | 0 |
| SW-OTB-4080 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B24 (20m long) | 31 | 12-Aug-25 | 16-Sep-25 | 0 |
| SW-OTB-4070 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B23 (20m long) | 31 | 17-Sep-25 | 24-Oct-25 | 0 |
| SW-OTB-4060 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B22 (20m long) | 31 | 25-Oct-25 | 01-Dec-25 | 0 |
| SW-OTB-4050 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B21 (20m long) | 31 | 02-Dec-25 | 09-Jan-26 | 0 |




Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

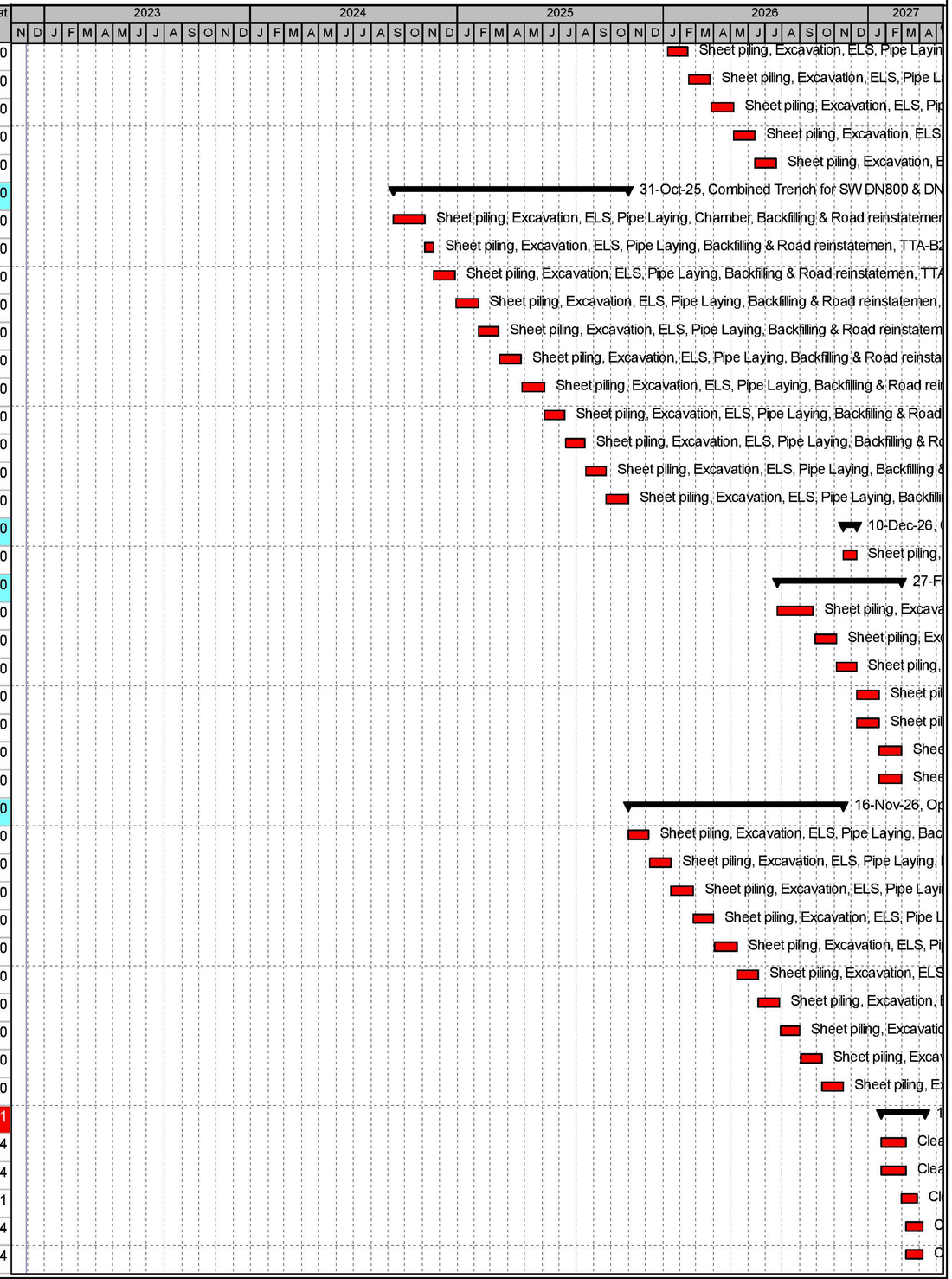


| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| SW-OTB-4040 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B20 (20m long) | 31 | 10-Jan-26 | 14-Feb-26 | 0 |
| SW-OTB-4030 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B19 (20m long) | 31 | 16-Feb-26 | 26-Mar-26 | 0 |
| SW-OTB-4020 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B18 (20m long) | 31 | 27-Mar-26 | 06-May-26 | 0 |
| SW-OTB-4010 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B17 (20m long) | 31 | 07-May-26 | 12-Jun-26 | 0 |
| SW-OTB-4000 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B16 (20m long) | 31 | 13-Jun-26 | 21-Jul-26 | 0 |
| **Combined Trench for SW DN800 & DN250 along Chuk Yuen Road, from B5 to D1** | | 337 | 11-Sep-24 | 31-Oct-25 | 0 |
| SW-OTB-5000 | Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B28 (7m long) | 44 | 11-Sep-24 | 04-Nov-24 | 0 |
| SW-OTB-5010 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B29 (7m long) | 14 | 05-Nov-24 | 20-Nov-24 | 0 |
| SW-OTB-5020 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B30 (20m long) | 31 | 21-Nov-24 | 28-Dec-24 | 0 |
| SW-OTB-5030 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B31 (20m long) | 31 | 30-Dec-24 | 07-Feb-25 | 0 |
| SW-OTB-5040 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B32 (20m long) | 31 | 08-Feb-25 | 15-Mar-25 | 0 |
| SW-OTB-5050 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B33 (20m long) | 31 | 17-Mar-25 | 25-Apr-25 | 0 |
| SW-OTB-5060 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B34 (20m long) | 31 | 26-Apr-25 | 04-Jun-25 | 0 |
| SW-OTB-5070 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B35 (20m long) | 31 | 05-Jun-25 | 11-Jul-25 | 0 |
| SW-OTB-5080 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B36 (20m long) | 31 | 12-Jul-25 | 16-Aug-25 | 0 |
| SW-OTB-5090 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B37 (20m long) | 31 | 18-Aug-25 | 22-Sep-25 | 0 |
| SW-OTB-5100 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B38 (21m long) | 31 | 23-Sep-25 | 31-Oct-25 | 0 |
| **Open Trench for DN800 along Sheung Fung Street, from D1 to Connection Point** | | 21 | 17-Nov-26 | 10-Dec-26 | 0 |
| SW-OTB-6000 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B39 (9m long), to Connection Poin | 21 | 17-Nov-26 | 10-Dec-26 | 0 |
| **Open Trench for DN750 along Chuk Yuen Road, from B5 to Connection Point** | | 181 | 22-Jul-26 | 27-Feb-27 | 0 |
| SW-OTB-7000 | Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B40 (20m long) | 57 | 22-Jul-26 | 25-Sep-26 | 0 |
| SW-OTB-7010 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B41 (20m long) | 31 | 28-Sep-26 | 04-Nov-26 | 0 |
| SW-OTB-7020 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B42 (20m long) | 31 | 05-Nov-26 | 10-Dec-26 | 0 |
| SW-OTB-7030 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B43 (20m long) | 31 | 11-Dec-26 | 19-Jan-27 | 0 |
| SW-OTB-7050 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B45 (20m long) | 31 | 11-Dec-26 | 19-Jan-27 | 0 |
| SW-OTB-7040 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B44 (20m long) | 31 | 20-Jan-27 | 27-Feb-27 | 0 |
| SW-OTB-7060 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B46 (20m long), to Connection Poi | 31 | 20-Jan-27 | 27-Feb-27 | 0 |
| **Open Trench for DN250 along Sheung Fung Street, from D1 to Connection Point** | | 310 | 01-Nov-25 | 16-Nov-26 | 0 |
| SW-OTB-8090 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B56 (20m long), to Connection Poi | 31 | 01-Nov-25 | 06-Dec-25 | 0 |
| SW-OTB-8080 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B55 (20m long) | 31 | 08-Dec-25 | 15-Jan-26 | 0 |
| SW-OTB-8070 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B54 (20m long) | 31 | 16-Jan-26 | 24-Feb-26 | 0 |
| SW-OTB-8060 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B53 (20m long) | 31 | 25-Feb-26 | 01-Apr-26 | 0 |
| SW-OTB-8050 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B52 (20m long) | 31 | 02-Apr-26 | 12-May-26 | 0 |
| SW-OTB-8040 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B51 (20m long) | 31 | 13-May-26 | 18-Jun-26 | 0 |
| SW-OTB-8030 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B50 (20m long) | 31 | 20-Jun-26 | 27-Jul-26 | 0 |
| SW-OTB-8020 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B49 (20m long) | 31 | 28-Jul-26 | 01-Sep-26 | 0 |
| SW-OTB-8010 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B48 (20m long) | 31 | 02-Sep-26 | 09-Oct-26 | 0 |
| SW-OTB-8000 | Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B47 (20m long) | 31 | 10-Oct-26 | 16-Nov-26 | 0 |
| **Test & Commissioning and Connection** | | 78 | 23-Jan-27 | 10-Apr-27 | 1 |
| SW-TC-2000 | Cleaning & Pressure Test for DN800 | 45 | 23-Jan-27 | 08-Mar-27 | 4 |
| SW-TC-2040 | Cleaning & Pressure Test for DN250 | 45 | 23-Jan-27 | 08-Mar-27 | 4 |
| SW-TC-2020 | Cleaning & Pressure Test for DN750 | 28 | 28-Feb-27 | 27-Mar-27 | 1 |
| SW-TC-2010 | Connection to existing for DN800 | 30 | 09-Mar-27 | 07-Apr-27 | 4 |
| SW-TC-2050 | Connection to existing for DN250 | 30 | 09-Mar-27 | 07-Apr-27 | 4 |




Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

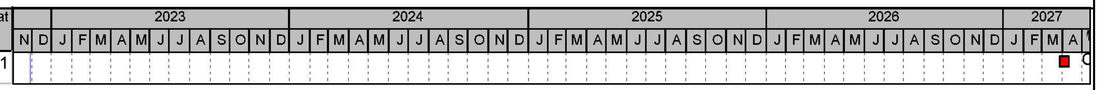


| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

# 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

First Programme

| Activity ID | Activity Name | Original Duration | Start | Finish | Total Float |
|---|---|---|---|---|---|
| SW-TC-2030 | Connection to existing for DN750 | 14 | 28-Mar-27 | 10-Apr-27 | 1 |




Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary



| Date | Revision | Checked | Approved |
|---|---|---|---|
| 12-Dec-22 | First Programme | | |

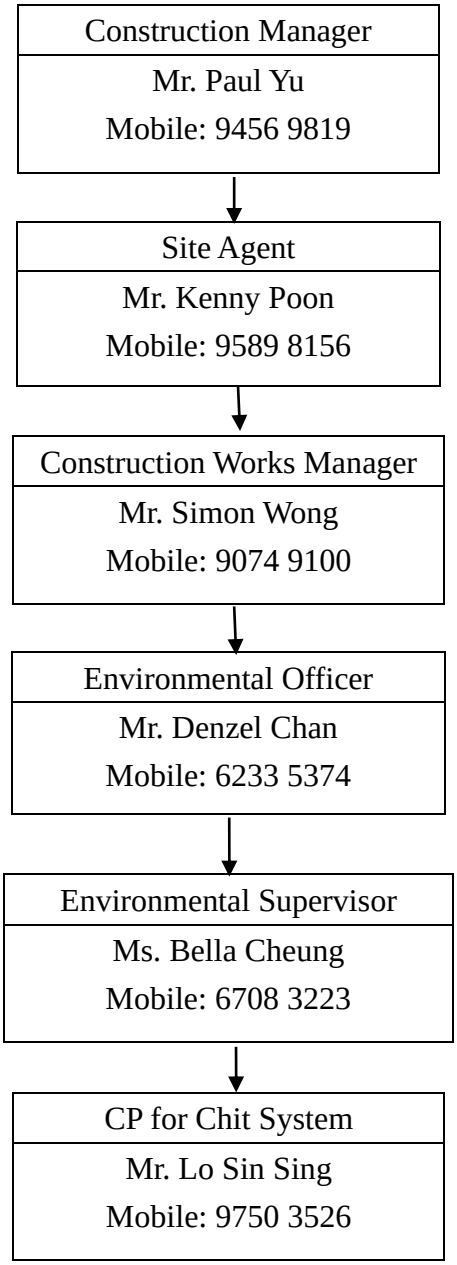
Appendix F – Organization Chart

CHUN WO - SINOHYDRO JV

**Contract: 21/WSD/21 Relocation of Diamond Hill Fresh Water and Salt Water Reservoirs to Caverns**

**Subject: Organization Chart for Waste Management Plan**

**Date**: ___04 July 2023____

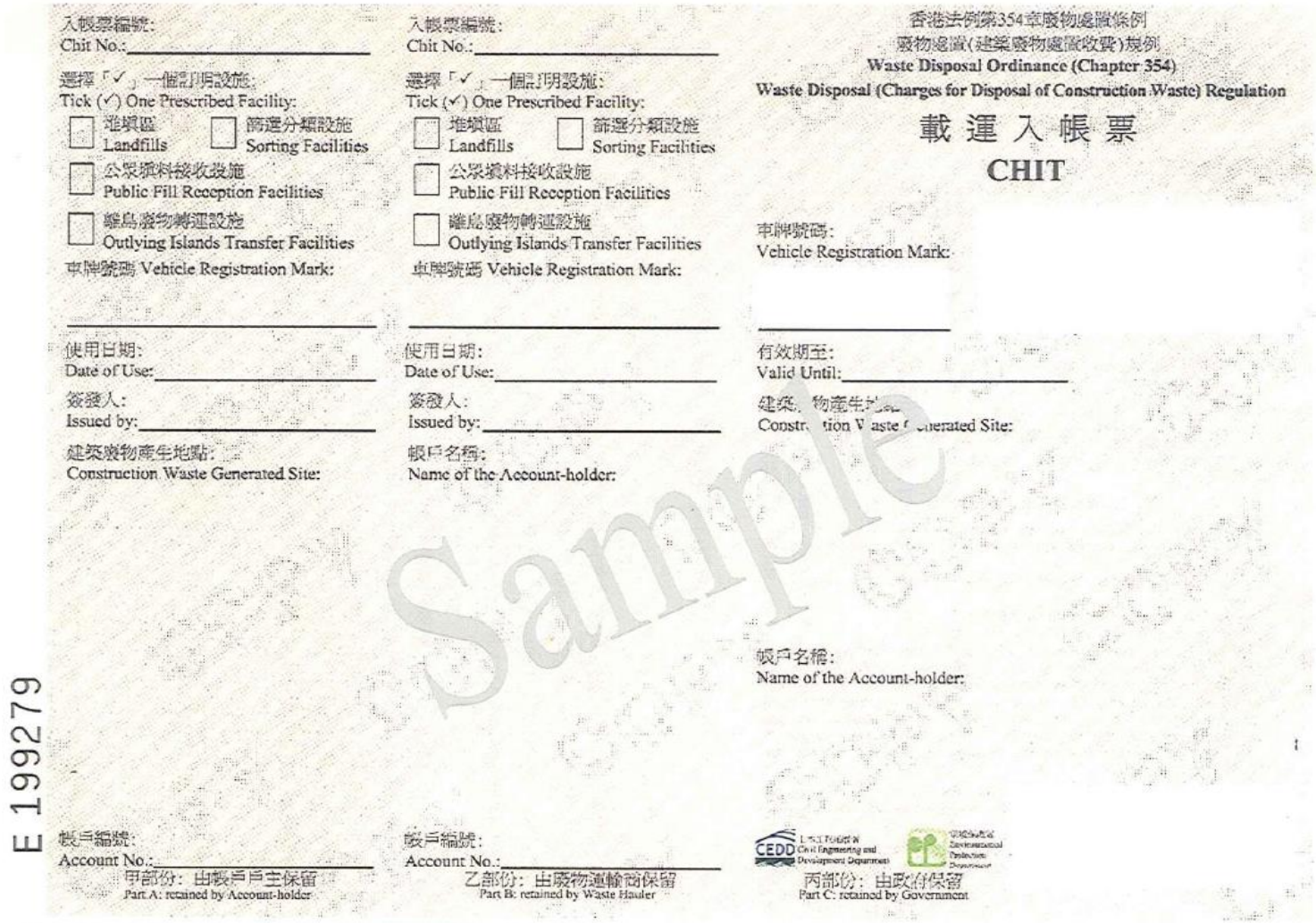



* COMPETENT PERSON (CP) for Chit System to be full-time on site during the entire process of soil disposal and responsible to handle the documentation related to the Chit System

Appendix G – Samples of the Chit and Daily Record Summary Form

## APPENDIX 25.03 TO PARTICULAR SPECIFICATION

**Sample of CHIT**



入帳票編號:
Chit No.:

選擇「✓」一個訂明設施:
Tick (✓) One Prescribed Facility:

- ☐ 堆填區 Landfills
- ☐ 篩選分類設施 Sorting Facilities
- ☐ 公眾填料接收設施 Public Fill Reception Facilities
- ☐ 離島廢物轉運設施 Outlying Islands Transfer Facilities

車牌號碼 Vehicle Registration Mark:

使用日期:
Date of Use:

簽發人:
Issued by:

建築廢物產生地點:
Construction Waste Generated Site:

帳戶編號:
Account No.:

甲部份：由帳戶戶主保留
Part A: retained by Account-holder

入帳票編號:
Chit No.:

選擇「✓」一個訂明設施:
Tick (✓) One Prescribed Facility:

- ☐ 堆填區 Landfills
- ☐ 篩選分類設施 Sorting Facilities
- ☐ 公眾填料接收設施 Public Fill Reception Facilities
- ☐ 離島廢物轉運設施 Outlying Islands Transfer Facilities

車牌號碼 Vehicle Registration Mark:

使用日期:
Date of Use:

簽發人:
Issued by:

帳戶名稱:
Name of the Account-holder:

帳戶編號:
Account No.:

乙部份：由廢物運輸商保留
Part B: retained by Waste Hauler

香港法例第354章廢物處置條例
廢物處置(建築廢物處置收費)規例
**Waste Disposal Ordinance (Chapter 354)**
**Waste Disposal (Charges for Disposal of Construction Waste) Regulation**

# 載運入帳票
# CHIT

車牌號碼:
Vehicle Registration Mark:

有效期至:
Valid Until:

建築廢物產生地點:
Construction Waste Generated Site:

帳戶名稱:
Name of the Account-holder:

丙部份：由政府保留
Part C: retained by Government

E 199279

Sample

# APPENDIX 25.02 TO PARTICULAR SPECIFICATION

## Sample of Daily Record Summary (DRS)

**"Daily Record Summary" to record daily disposal of construction & demolition (C&D) materials from the *Site**
"每日運載記錄撮要" 記錄每日由*地盤所傾卸的拆建物料

(1) Contract no. & title 合約編號及名稱 ;_____

(2) Date of disposal 傾卸日期: _____

(3) Disposal ground (s) designated in the Contract or directed by the Architect/Engineer 合約指定或建築師/工程師指示接收設施: (a)

(b)
Others 其它

(4) Approved alternative disposal grounds 另可接受的接收設施_____

| **CHIT/ DDF no.** 載運入般票/ 拆建物料運載記錄票編號 | **Vehicle registration mark** 車輛登記號碼 | **Approx. vol (e.g. Full/Three Quarter/Half/One quarter)** 大約承載量 (例如全、3/4、半、1/4) | **C&D materials type (e.g. inert or non-inert)** 建築廢料種類 (例如惰性或非惰性) | **Disposal ground** 接收設施 | **Signature & Name of the Contractor's Designated person before departure** 於離開地盤前，承建商的指定人仕姓名及簽名 | **Departure time from *Site** 離開地盤時間 | **Signature & name of the Architect/Engineer's supervisory staff before departure or other time as agreed between the Architect/Engineer's Representative and the Contractor[1]** 於離開地盤前或其它經承建商與建築師/工程師代表同意的時間，建築師/工程師監管人員姓名及簽名 | **Actual disposal ground** 真正接收設施 | **Arrival time at disposal ground** 抵達接收設施時間 | **Remarks** 備注: |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| | | | | | | | | | | |

Part 1[2] 甲部 ←——— Part 2[3] 乙部 ———→

Submitted by 呈交 : _____ *[Name of Contractor's Designated Person 承建商的指定人仕姓名*

Signature 簽名 : _____

Date 日期: _____

Received by 接收 : _____ *[Name and signature of the Architect/Engineer's staff] 建築師/工程師監管人員姓名及簽名*

Post 職位 : _____

Date & Time 日期及時間 : _____

---

[1] For term contract, if there are no full time site supervisory staff, the Architect/Engineer's supervisory staff should spot check and then sign as appropriate in accordance with paragraph 25 of DEVB TC(W) 6/2010 定期合約，如沒有全職地盤監管人員，應根據 DEVB TC(W) 6/2010 的第 25 段進行定點檢查及簽署

[2] Part 1 甲部- The Contractor shall complete Part 1 in duplicate and a copy should be kept by the Architect's/ Engineer's Representative. 承建商填寫甲部兩份，副本由建築師/工程師代表持有

[3] Part 2 乙部- The Contractor shall complete Part 2 and submit the whole Summary to the Architect/Engineer's Representative within 1 working day after the records are posted at the EPD web-site. 承建商填寫乙部及將整份運載記錄撮要於記錄上載在環境保護署網頁後 1 個工作天內呈交給建築師/工程師代表

*Delete "Site" and substitute "Sites" for term contracts.定期合約將" Site" 刪去及以"Sites"代替

Appendix H – Sample of Disposal Delivery Form (DDF) of Alternative Disposal Ground

# Sample of Disposal Delivery Form (DDF) of Alternative Disposal Ground

甲部分:由物料來源地的營運商保留
Part A: Retained by JV at Departure Site

**參考編號 Ref. No.:**
**21WSD21- 00001**

**Contract No.: 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns**
**搬遷鑽石山食水及海水配水庫往岩洞**

## 運載記錄票
## Disposal Delivery Form

使用日期
Date of Use: _____

離開時間
Departure Time: _____

車牌號碼
Vehicle Registration Mark: _____

物料來源地
Location of Source: 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns

物料接收地
Location of Reception Site: Tapbo Environmental Limited (德寶)

「✓」適合的選項:
Tick (✓) the appropriate:

負載量
Loading: ☐ 1/4 ☐ 1/2 ☐ 3/4 ☐ 滿載 Full

物料類別
Material Type: 泥 Soil / 石 Rock

物料來源地簽發人
Issued by (Location of Source): _____
(簽名 Contractor Sign) / (RSS Sign)

物料接收方簽收
Received by (Location of Reception): _____
(簽名 Sign )

甲部分: 物料接收方簽收後三個工作天交回物料來源地
Part A: To return to the Location of Source after signed by the Reception Site within 3 working days

乙部分: 物料接收方保留
Part B: To be retained by the Reception Site

**00001**


乙部分:由物料接收地的營運商保留
Part B: Retained by JV at Reception Site

**參考編號 Ref. No.:**
**21WSD21- 00001**

**Contract No.: 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns**
**搬遷鑽石山食水及海水配水庫往岩洞**

## 運載記錄票
## Disposal Delivery Form

使用日期
Date of Use: _____

離開時間
Departure Time: _____

車牌號碼
Vehicle Registration Mark: _____

物料來源地
Location of Source: 21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns

物料接收地
Location of Reception Site: Tapbo Environmental Limited (德寶)

「✓」適合的選項:
Tick (✓) the appropriate:

負載量
Loading: ☐ 1/4 ☐ 1/2 ☐ 3/4 ☐ 滿載 Full

物料類別
Material Type: 泥 Soil / 石 Rock

物料來源地簽發人
Issued by (Location of Source): _____
(簽名 Contractor Sign) / (RSS Sign)

物料接收方簽收
Received by (Location of Reception): _____
(簽名 Sign )

甲部分: 物料接收方簽收後三個工作天交回物料來源地
Part A: To return to the Location of Source after signed by the Reception Site within 3 working days

乙部分: 物料接收方保留
Part B: To be retained by the Reception Site

**00001**