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Civil Engineering and Development Department
East Development Office
East Division 1
Project Division (1)
8/F, South Tower, West Kowloon Government Offices,
11 Hoi Ting Road,
Yau Ma Tei, Kowloon

By E-Mail
15th December 2020

Attn: Mr. LO Sai Park, Sunny

Dear Mr. Lo,

Agreement No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O – Lam Tin Tunnel - Design and Construction
(Environmental Permit (EP) No. EP-458/2013/C)
Contract No. NE/2017/06 – Waste Management Plan (Rev. A)

We refer to the Waste Management Plan (Rev. A) submitted by GTECH Services (Hong Kong) Limited on 8th December 2020 via email.

We are pleased to inform you that we have no further comment on the Waste Management Plan (Rev. A).

Should you have any queries, please contact our Ms. Karina Chan at 2157 3880 or the undersigned at 2151 2083.

Yours faithfully,

For and on behalf of
Cinotech Consultants Limited

Dr. H.F Chan
Environmental Team Leader

c.c.	AECOM	Mr. KY Chan	By E-mail
	ANewR	Mr. Adi Lee	By E-mail
	GTECH	Mr. Terry Leung	By E-mail

ANEWR

Civil Engineering and Development Department
East Development Office
8/F, South Tower, West Kowloon Government Offices
11 Hoi Ting Road
Yau Ma Tei
Kowloon

Your reference:

Our reference: HKCEDD08/50/106959

Date: 21 December 2020

Attention: Mr Raymond Chan

BY FAX & POST
(Fax no.: 2739 0076)

Dear Sirs

Agreement No.: NTE 06/2016
Independent Environmental Checker for Tseung Kwan O – Lam Tin Tunnel
Waste Management Plan for Traffic Control and Surveillance System (Rev. A)

We refer to emails of 11 November, 3 and 8 December 2020 from GTECH Services (Hong Kong) Limited attaching the Waste Management Plan (Rev. A) of the captioned.

We have no further comments and hereby verify the captioned plan in accordance with Clause 2.6 of the Environmental Permit no. EP-458/2013/C.

Should you have any queries, please do not hesitate to contact the undersigned or our Mr Ricky Lau on 2618 2831.

Yours faithfully
ANEWR CONSULTING LIMITED

Adi Lee
Independent Environmental Checker

LYMA/LCCR/lsmt

cc CEDD – Mr Raymond Chan (email: rcbchan@cedd.gov.hk)
AECOM – Mr K Y Chan (email: ky.chan@tko-ltt1-aecom.com)
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ISO 9001 : 2015
Certificate No.: CC 3988

CONTRACT NO. NE/2017/06
TSEUNG KWAN O – LAM TIN TUNNEL
TRAFFIC CONTROL AND SURVEILLANCE SYSTEM (TCSS) AND ASSOCIATED WORKS

Submission Review Record

Reviewer :	Environmental Protection Department (EPD)	**Reviewer's Doc. Ref. :**	EPD's email dated 23 November 2020		
Contractor :	GTECH	**Submission Title :**	Waste Management Plan		
Submission No.:	N/A	**Submission Review Date :**	30 November 2020	**Page:**	1of 2

Item No.	Document Reference	Reviewer's Comment	Contractor's Response
1	Section 1.5, 5th paragraph and Section 5.1.2	Please note "public fill" shall read as "public fill reception facilities".	Noted and amended in Section 1.5 and 5.1.2.
2	Section 3, Table 3.1	Please clarify whether the volume of wastes to be generated is estimated based on daily generation rate or throughout the whole construction period.	- The volume of wastes to be generated is estimated based on the construction programme throughout the whole construction period. - The unit of "Estimated Volume to be Generated" & "Estimated Volume to be Disposed Off-site" should be in <'000m^3>. - C&D materials (packings, wooden boards, etc.) are expected to be recycled & reused on site as many as possible.
3	Section 3, Table 3.1	Please clarify whether chemical waste would be generated or not.	Chemical waste is not expected to be generated. If there is a needs, GTECH will reserve enough time to apply for a chemical waste producer's account from EPD.
4	Section 4.1	Please review whether inert construction materials is anticipated or not as the inert construction materials were not mentioned in Section 3.	Inert construction waste is not expected to be generated.

CONTRACT NO. NE/2017/06
TSEUNG KWAN O – LAM TIN TUNNEL
TRAFFIC CONTROL AND SURVEILLANCE SYSTEM (TCSS) AND ASSOCIATED WORKS

Submission Review Record

Reviewer :	Environmental Protection Department (EPD)	**Reviewer's Doc. Ref. :**	EPD's email dated 23 November 2020		
Contractor :	GTECH	**Submission Title :**	Waste Management Plan		
Submission No.:	N/A	**Submission Review Date :**	30 November 2020	**Page:**	2of 2

Item No.	Document Reference	Reviewer's Comment	Contractor's Response
5	N/A	Please be reminded that the WMP, which becomes part of the Environmental Management Plan (EMP) in accordance with ETWB TC(W) No. 19/2005, shall be submitted to the Engineer / Architect for approval prior to the commencement of construction works.	Noted.

CONTRACT NO. NE/2017/06

TSEUNG KWAN O – LAM TIN TUNNEL TRAFFIC CONTROL AND SURVEILLANCE SYSTEM (TCSS) AND ASSOCIATED WORKS

WASTE MANAGEMENT PLAN

Prepared for

The Government of the Hong Kong Special Administrative Region
Civil Engineering and Development Department

Revision History

Date	Rev.	Details of Change	Prepared By	Reviewed By	Approved By
2 July 2020	-	Original Issue	Terry Leung	Joyce Chan	Roman Choi
8 Dec 2020	A	- Responses to comments from EPD's email dated on 23 November 2020 - Responses to comments from ET's email dated on 2 December 2020 - Section 1.5 updated - Section 3 & Table 3.1 updated - Section 4 updated - Section 5 updated	Terry Leung	Joyce Chan	Roman Choi

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1 INTRODUCTION

1.1 Background

This Waste Management Plan (WMP) is prepared by GTECH Services (Hong Kong) Limited (hereafter called "GTECH") for Contract No. NE/2017/06 Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System and Associated Works. Pursuant to the Environmental Permit (No.EP-458/2013/C) section 2.6, a Waste Management Plan (WMP) shall be submitted before commencement of construction of the Project.

1.2 Scope of Works

The Works comprise the design, supply, delivery, installation, testing and commissioning of Traffic Control and Surveillance System (TCSS) and associated works for Tseung Kwan O – Lam Tin Tunnel and Cross Bay Link (subject to excision).

The system will mainly consist of:-

- Central System (Software and Hardware)
- Traffic Control Devices
- Communication System
- Closed Circuit Television System
- Building Private Automatic Branch Exchange (PABX) System
- Emergency Telephone System
- Public Address System
- Radio System
- Detection System
- Manual Fallback Control System
- Operation Facilities
- Power Distribution System
- Speed Enforcement System
- Government Optical Fibre System

1.3 Purpose of the Plan

This WMP will describe the arrangements for avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities. This WMP includes the recommended mitigation measures on waste management in the EIA Report.

The Environmental Officer will be responsible for the preparation and checking of the WMP and the Site Agent is responsible for its approval.

This Waste Management Plan is developed by an environmental committee led by Site Agent to ensure GTECH compliance with environmental regulations (applicable ordinance) and the contractual requirements, to identify areas in which potential waste may be avoided or reduced, efficiency may be improved and other areas of environmental concern requiring management and operational control.

1.4 Waste Management Policy

It is the policy of GTECH to ensure that the contractual work will be conducted in, as far as is practical, an environmental responsible manner. GTECH recognizes that environmental concern and protection are integral part of its business strategy. The following waste management statement will be documented, implemented and reviewed annually for continuous improvement, and will be made available to parties concerned.

- GTECH will comply with all contractual requirements, applicable legislation's, and relevant government guidelines as a minimum requirement and will strive to improve waste management performance beyond the required standards.
- GTECH will allocate sufficient resources in terms of time, personnel and finance to ensure that waste management objectives and targets are met.
- All GTECH employees will be made aware of the waste management strategy through internal communications and training, will be encouraged to act in accordance with the waste management policy and to contribute in its improvement.
- Communicate with interested parties including the sharing of reducing or minimizing generation of construction and demolition materials on site.
- GTECH will strive to minimise waste production and maximise recycling options.
- GTECH is committed to auditing, reviewing and improving the policy statement and the waste management strategy.

The management of GTECH is responsible for implementing and maintaining the waste management policy, which is disseminated and understood at all levels of the organisation.

1.5 Statutory Requirements

The following legislation relates to the handling, treatment and disposal of wastes probably associated with the project:

- The Waste Disposal Ordinance (Cap354);
- Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C);
- Waste Disposal (Charges for Disposal of Chemical Waste) Regulation (Cap. 354J);
- Waste Disposal (Designated Waste Disposal Facility) Regulation (Cap. 354L);
- Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)

The Waste Disposal Ordinance (WDO) prohibits the unauthorised disposal of wastes, requiring disposal only at designated waste disposal facilities, licensed by the waste disposal authority.

Under Waste Disposal (Chemical Waste) (General) Regulation all producers of chemical wastes (including asbestos) must register with EPD and treat their wastes either utilizing on-site plant licensed by EPD, or arranging for a licensed collector to take the wastes to a licensed facility. The regulation also prescribes the storage facilities to be provided on site, including labeling warning signs, and requires the preparation of written procedures and training to deal with emergencies such as spillages, leakages or accidents arising from the storage of chemical wastes.

Under Waste Disposal (Charges for Disposal of Chemical Waste) Regulation, it listed the payment of charges for disposal of chemical waste at the Chemical Waste Treatment Centre thus providing an incentive scheme to minimize the chemical waste producers to produce chemical wastes.

Under the Waste Disposal (Charges for Disposal of Construction Waste) Regulation, for contracts with a value of more than HK$1,000,000 or above, the main Contractor is required to establish a billing account at EPD before transporting the construction waste to the designated waste disposal facilities (e.g. landfill, public fill reception facilities, etc.). Each load of construction waste delivered to a landfill for disposal must not contain more than 50% by weight of inert material. Each load of construction waste delivered to a sorting facility for disposal must contain more than 50% by weight of inert material, whereas each load of construction waste delivered to a public fill reception facility for disposal must consist entirely of inert construction waste.

Under the Waste Disposal (Designated Waste Disposal Facility) Regulation, the Contractor shall inform the Engineer of the account number of the billing account for disposal of construction waste.

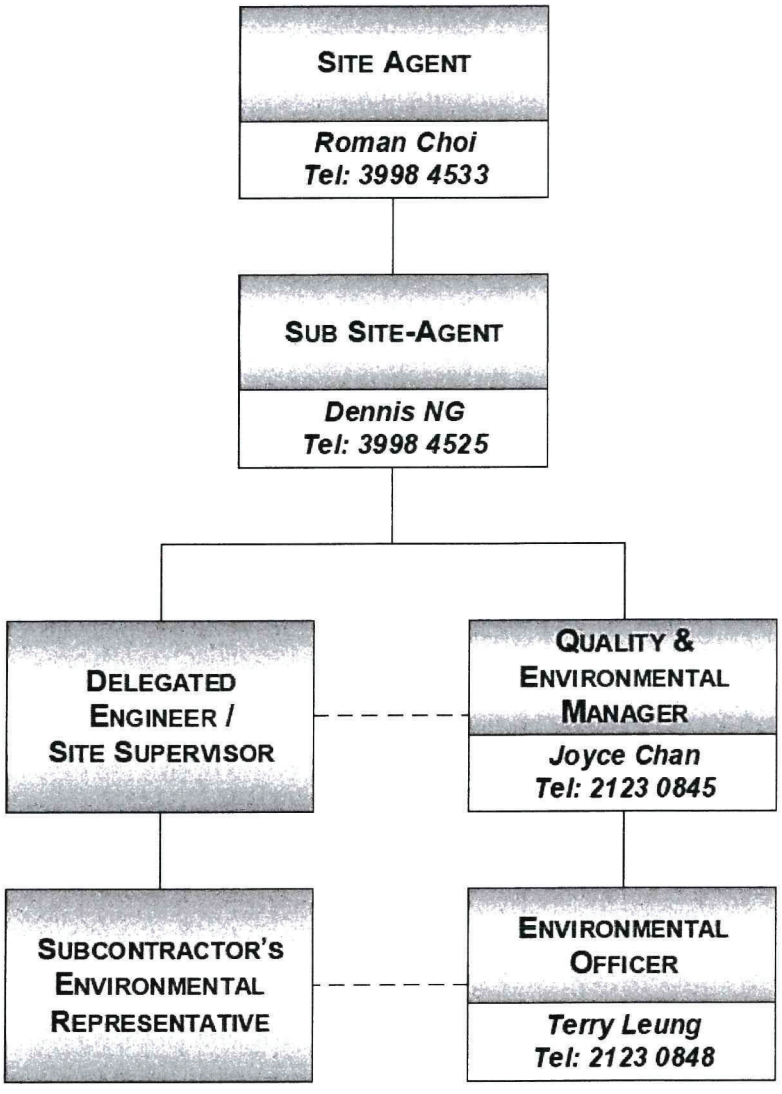
1.6 Abbreviations

GTECH	-	GTECH Services (Hong Kong) Limited
C&D	-	Construction and Demolition
DDF	-	Disposal Delivery Form
DRS	-	Daily Record Summary
SMP	-	Site Management Plan
TCSS	-	Traffic Control and Surveillance System
TTS	-	Trip-ticket System
WFT	-	Waste Flow Table
WMP	-	Waste Management Plan

2 SITE ORGANIZATION AND STAFF DUTIES

2.1 Organizational Structure

The site organization chart is set up so as to enable implement and enforce of waste management in managing the procedure of C&D material disposal. Such includes regular checking, and monitoring to ensure the enforcement of the WMP by GTECH. The site organization chart is shown as below:



Legend:

_____ Line of Authority

_ _ _ _ _ _ _ Line of Communication

2.2 Roles and Responsibilities

The roles and responsibilities of responsible persons in the organisation chart of 2.1 are described in details as follows.

2.2.1 Site Agent

- As Contractor's Superintendence for this Contract;
- Full authority to receive on behalf of the Contractor directions and instructions from the Engineer and the Engineer's Representative;
- Commit the implementation of the waste management system described in this WMP;
- Ensure to achieve the policy commitments, targets and measures for waste management of the Contract;
- Provide sufficient resources and facilities for the implementation of the WMP;
- Maintain proper liaison and formal communication with the Engineer and other parties;
- Define the levels of delegated authority for the key positions of the project team ;
- Ensure the requirements stated in the Waste Management Plan is satisfactorily implemented; and
- In the event of a non-compliance, be empowered to stop the works.

2.2.2 Sub Site-Agent

- Responsible to enforce the WMP and its implementation, as well as the statutory and contractual obligations;
- Carry out the front line supervision and delegate engineers and/or foreman to assist and carry out duties, such as reporting, site inspections, training and liaison with sub-contractors; and
- Instruct and monitor sub-contractor to follow the WMP requirements and action plan.

2.2.3 Quality & Environmental Manager

- Review this WMP and EPD submission prior to issue;
- Ensure that any polluting or potentially polluting situation is promptly rectified; and
- Ensure to follow the WMP requirements and action plan.

2.2.4 Environmental Officer

- Prepare, implement and update the Waste Management Plan;
- Empower to discharge her duties in the proper implementation of the WMP on the Site;
- Advise on waste management measures to be taken in the interest of environmental protection, and implement such measures;
- Carry out inspections of the Site for identifying potential hazards to the environment, and to report findings with recommendations for corrective actions;
- Participate in the weekly environmental walks (whether this is combined with the weekly safety walk or otherwise) with the nominated site staff of the Engineer, and to supervise and monitor the environmental performance on the Site;
- Check and ensure that any polluting or potentially polluting situation is promptly rectified;
- Compile the monthly environmental report for submission to the Engineer;
- Arrange and provide the environmental training including the site specific induction training and toolbox talks for workers on the Site, and to organize environmental promotional activities;
- Advise the Contractor on the implementation of an waste management system; and
- Record the quantities of C&D materials generated each month, using the Monthly Summary Waste Flow Table.

2.2.5 Subcontractor's Environmental Representative

- Supervise the execution of waste sorting works by the workers on the Site; and
- Ensure their workers aware of the work activities which might affect the surrounding environment in site environmental performance.

3 SOURCES OF WASTE AND DISPOSAL LOCATION

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

a) Non-inert C&D materials (C&D Wastes)
   - Metals
   - Paper / cardboard packaging
   - Plastics (i.e. plastic bottles / containers, plastic sheets / foam from equipment or material packaging)

b) Chemical wastes **

c) General refuse

Due to the nature of our scope of work, inert C&D materials (i.e. concrete, earth, soil, sand, etc.) will not be generated throughout the whole construction period.

The disposal sites for the wastes generated from the project are listed in Table 3.1.

Table 3.1 Source of waste and corresponding disposal site (Volume estimated based on the construction programme throughout the whole construction period)

Waste Type	Estimated Volume to be Generated (in '000m^3)	Estimated Volume to be Disposed Off-site (in '000m^3)	Disposal Site
Non-inert C&D Materials (e.g. metals, paper / cardboard, plastics)	0.888	0.888	Collected by recycling contractors
Inert C&D Materials (e.g. concrete, earth, soil, sand, etc.)	0	0	Public fill reception facilities
Chemical Wastes	0**	0**	Collected by licensed chemical waste collector
General Refuse	0.144	0.144	NENT Landfill

** : Target for "ZERO" generation throughout the whole construction period

4 WASTE REDUCTION

4.1 Targets

To facilitate assessment of the effectiveness of the waste management measures, the following performance targets should be adopted:

- No excavated materials will be generated;
- All metallic waste should be recovered on site for collection by recycling contractors;
- All cardboard and paper packaging (for plant, equipment and materials) should be recovered in store, properly stockpiled in dry condition and covered to prevent cross contamination by other C&D materials;
- No chemical wastes is expected to be generated. If there is a needs, apply a chemical waste producer licence from EPD & chemical wastes will be removed on site and collected by licensed chemical waste collector;
- All demolition debris to be sorted to recover broken concrete, reinforcement bars, mechanical and electrical fittings, hardware as well as other fittings/materials that have established recycling outlets;
- The use of new timbers is to be reduced and the Temporary Works controlled; and
- Useful timber should be segregated for reuse.

4.2 Mitigation Measures

According to the ETWB TCW No. 19/2005 – Environmental Management on Construction Sites, "C&D materials" could be divided into inert or non-inert. The inert portion is the "Inert C&D materials" including soil, building debris, broken rock, concrete etc., and the non-inert portion is the "C&D wastes" comprising timber, paper, plastics, general refuse etc.

For this Contract, the major C&D materials generating activities during construction of the Contract and the proposed mitigation measures are identified and listed below:

Work Processes and Activity	Location	Potential C&D Material	Mitigation Measure
Contractor's temporary accommodation and project signboards	Works Area at Tseung Kwan O	• Metal (e.g. wall panel and partition) • Timber • General refuse	• Prevent over-ordering of materials by sub-contractor • Avoid unnecessary use and cutting • Collect the surplus wall panel, partition and timber in temporary storage area for re-use • Segregate the recyclable wastes (such as metal debris) from general refuse
Unpacking equipment / materials	Store	• Paper cardboard • Plastics • General refuse	• Request suppliers to provide low waste packaging • Collect all cardboard and paper packaging to be properly stockpiled in dry condition and covered to prevent cross contamination

Work Processes and Activity	Location	Potential C&D Material	Mitigation Measure
Installation of conduit and trunking, and cabling	Construction site	• Metal • Timber (e.g. cable drum and wooden wedge) • Cable	• Prevent over-ordering of conduit, trunking and cable • Avoid unnecessary use and cutting • Return the surplus materials and wooden wedge to store for re-use • Segregate the recyclable wastes (such as cable drum and metal debris) from general refuse • Collect all wooden surplus to be properly stockpiled in dry condition
Painting (if necessary)	Construction site	• Chemical waste (e.g. paints and solvent)	• Order the right quantity of paints and solvent at the right time • Collect the exact amount to the Site • Return the surplus to store for re-use and identify with appropriate label
Temporary electricity supply by diesel engine (if necessary)	Construction site	• Chemical waste (e.g. spent diesel oil)	• Order the right quantity of diesel oil at the right time • Collect the exact amount to the Site • Return the surplus to store for re-use and identify with appropriate label
General housekeeping	Site office / Store / Construction site	• General refuse	• Reduce the number of photo copies to a minimum and copy on both sides of paper for internal documents and external documents where appropriate • Prevent over-ordering of office consumables • Provide drinking facility and encourage employees to bring their own cups / bottles • Discourage take-out food • Collect in enclosed bins and covered waste skip • Remove stagnant water promptly and apply the mosquito larvicide if necessary • Dispose of useless cans, empty lunch boxes and other receptacles properly • Inspect regularly to ensure no breeding of mosquitoes

Proper planning of works should be adopted to avoid / minimize C&D material generation. Such measures include:

- Management of construction materials such that over-ordering, poor storage and maintenance, mishandling as well as improper operation procedures shall be avoided. Any ordering of materials shall be reviewed by Site Agent / Sub Site-Agent.
- All C&D materials shall be sorted on-site and be separated into different categories for disposal at landfills, or reuse and recycling.
- Segregated materials shall be temporarily stored at designated area avoiding cross contamination to reusable / recyclable materials collected.
- Proper control of using timbers in temporary works:
  - Use of timber shall be avoided to construct site office or storage shed. GTECH will arrange steel container for site office and storage shed which can be reused after this project.
  - All components of site hoardings and signboards shall be metallic and not be made of timber.
  - The same practice will be extended to cable drums. Reusable steel cable drums will be used as far as possible.
  - Environmental Induction Training and Toolbox Talk shall be conducted optimizing the use of metal framework or other work process to reduce or minimize the use of timber in temporary works construction.
- Weekly environmental inspection shall be carried out to verify the effective implementation of waste management.

5 HANDLING OF C&D MATERIALS

5.1 On-Site Sorting of C&D Materials

All C&D materials arising from or in connection with the Works shall be sorted on-site. All reusable and / or recyclable materials will be used on-site and disposed off-site at the end of their service lives.

Unless otherwise stated, all surplus C&D materials arising from or in connection with the Works shall become the property of GTECH when it is removed from the Site. GTECH shall promptly remove all sorted and processed materials arising from or in connection with the Works from the Site to minimize temporary stockpiling on site.

GTECH shall devise a system of work for on-site sorting of C&D materials. The system shall include:

- identification of the source of generation
- estimated quantity
- arrangement for on-site sorting and / or collection
- temporary storage areas
- frequency of collection by recycling contractors
- frequency of removal off site

GTECH shall advise the resources and facilities required to carry out effective on-site sorting for each type of C&D materials arising from or in connection with the Works.

5.1.1 Classification of C&D Materials

The C&D materials generated from the construction activities shall be divided into the following categories and should be sorted on site.

- Inert C&D Materials
- Re-usable or Recyclable Materials
- Construction Wastes
- General Refuse
- Chemical Waste

5.1.2 Re-usable or Recyclable Materials

The construction materials that are readily reusable will be first recovered at the site otherwise return to Store for reuse as far as practicable.

All recyclable wastes (such as metal debris, scrap cable, cable drum and cardboard packaging) shall be segregated from C&D materials and collected into suitable containers at Recycle Waste Collection Point.

5.1.3 Construction Waste

If there are construction wastes to be generated on the site, all re-usable or recyclable construction wastes shall be segregated and removed off site to storekeeper. The remaining construction waste will be handled as general refuse and disposed in waste skip on the site.

5.1.4 General Refuse

General refuse is domestic waste generated from daily human activities. General refuse may include food wastes and packaging, waste paper, plastic bottles, aluminium cans and other debris.

All recyclable materials should be separated from general refuse and disposed into Recycle Waste Collection Point.

GTECH should collect the remaining general refuse in enclosed bins and covered waste skip on the Site. A waste collector will be employed to remove general refuse from the site on regular basis to minimize odour, pest and litter impacts. The burning of refuse on construction site is prohibited by law and will not be undertaken. Subcontractor will conduct daily cleaning and site tidying check to ensure that the general refuse should contain no observable reusable / recycling C&D materials before disposal to landfill.

5.1.5 Chemical Waste

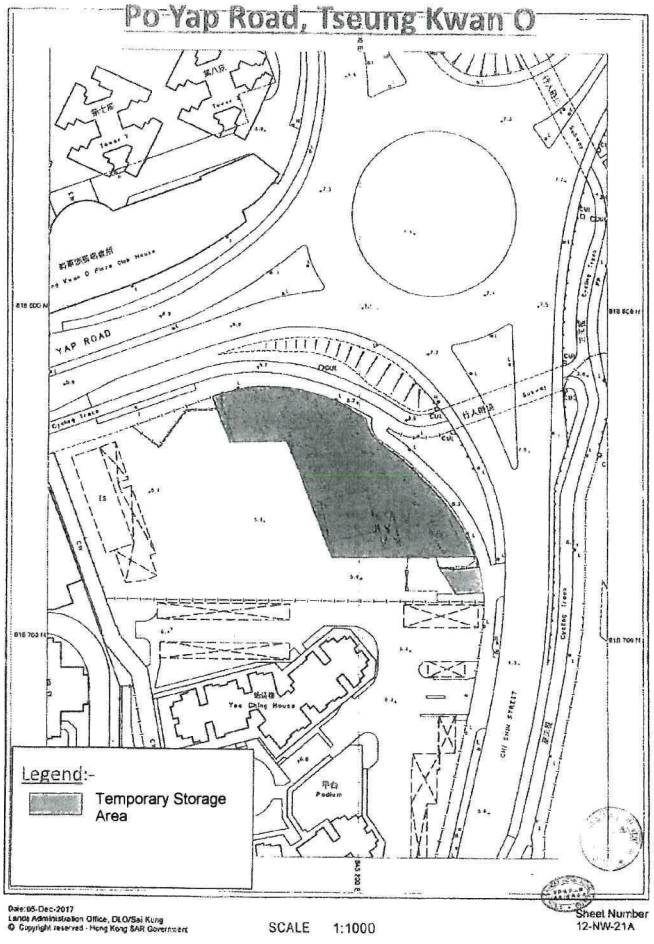
If there are chemical wastes to be generated on the Site, GTECH should register as a chemical waste producer under the Waste Disposal (Chemical Waste) (General) Regulation. All chemical wastes shall be segregated, removed off site to Storekeeper and temporarily stored in chemical storage area in store as per 'Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes'.

After the completion of construction works, GTECH shall follow 'Waste Disposal (Chemical Waste) (General) Regulation' for collection and disposal arrangements.

For each trip of disposal, trip tickets issued for every chemical waste collection made by the licensed chemical waste collector shall be copied to the Engineer's Representative and the original maintained in site office for future reference.

5.2 Identification of Temporary Storage Area

GTECH shall identify and provide sufficient space for temporary storage of C&D materials to facilitate collection and / or sorting on the Site. The temporary storage area as shown below will be allocated and fenced.



GTECH shall remove all C&D materials off site as soon as practicable in order to optimise the use of the on-site storage space.

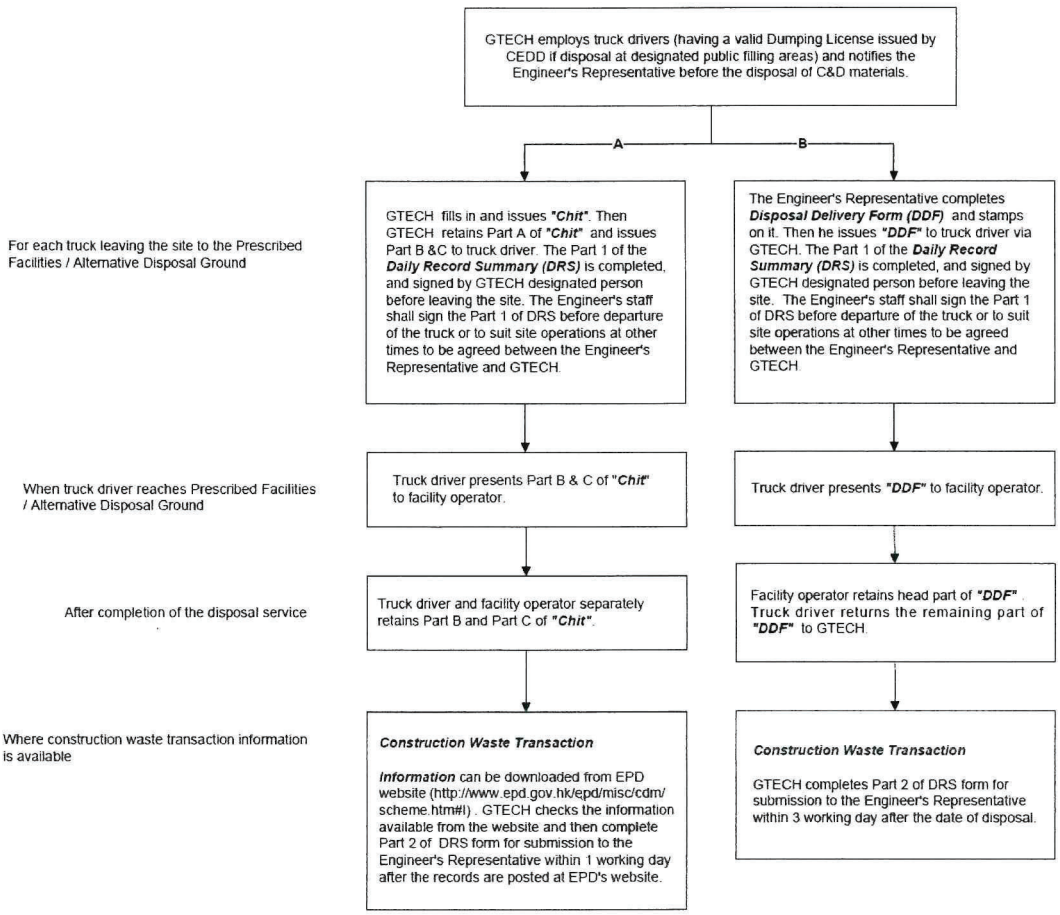
6 TRIP TICKET SYSTEM

A trip ticket system (TTS) for the removal of C&D materials from the Site to the designated disposal ground or alternative disposal ground will be implemented as according to the PS 25.25. Under the Waste Disposal (Charges for Disposal of Construction Waste) Regulation, GTECH applied for a billing account for disposal of construction waste 7 Nov 2018. The account number is 7032520.

The Contractor shall inform the Engineer of the account number of the billing account for disposal of construction waste under the Waste Disposal (Designated Waste Disposal Facility) Regulation (Cap. 354L). This is to enable the Engineer to check the disposal records posted at the Environmental Protection Department's website. The Engineer will provide the account number to the Civil Engineering and Development Department for overall monitoring of the trip ticket system, detecting and taking action to deal with malpractice such as overloading of dump trucks and improper covering of load, and compiling statistics as well as counting eligible trips for mechanical dump truck covers under the pay for safety and environment scheme / pay for safety scheme.

6.1 Site Procedure for Trip Ticket System

GTECH shall establish site procedures to ensure that each truckload of C&D materials leaving the Site will bear a duly competed CHIT / DDF and that Part 1 of the Daily Record Summary (DRS) has been filled in and signed properly before department of the truck (Sample of the CHIT, DDF and DRS Form are attached in ***Appendix A***). CHIT and DDF shall be used for C&D material disposal tracking purpose respectively at prescribed facilities and alternative legitimate disposal grounds. Other legitimate disposal grounds, for which a DDF will continue to be used, include disposal grounds as designated in the Contract or as directed by the Engineer and recycling facilities/construction sites proposed by GTECH and approved by the Engineer. The details of the site procedures are:



A: Disposal of C&D Materials at Prescribed Facilities – Public Filling Facility / Landfill
B: Disposal of C&D Materials at Alternative Disposal Ground Proposed by Contractor and Approved by the Engineer

Where an irregularity is observed or where requested by the Engineer's Representative under special circumstances (e.g. a CHIT / DDF has been issued but there is no disposal record at the disposal ground), GTECH shall submit to the Engineer's Representative within 5 working days after the recorded date of disposal the supporting evidence such as duly stamped CHIT / DDF, or within 2 working days after the Engineer's Representative has requested for such evidence, whichever is later. A copy of the CHIT/ DDF is acceptable, unless otherwise directed by the Engineer. The sample of Report on Irregularity of Disposal of C&D Materials is shown in ***Appendix B***.

6.2 Recording System

GTECH shall maintain a comprehensive register filing system on site in relation to the requirements of this plan, and make it available for inspection by Engineer's Representative upon request. The records include:

- CHIT Ticket / DDF
- Daily Record Summary
- Dumping License of each dump trucks
- Photos / video of Dump Truck at departure from site

6.3 Waste Flow Table

GTECH shall use the Monthly Summary Waste Flow Table (WFT) (refer to ***Appendix C***) and the summary table on the Use of Timber for Temporary Works (refer to ***Appendix D***) to record the actual quantities of C&D materials and timbers generated each month on the site and submit them to the Engineer's Representative together with the updated sections of EMP (if any) by a 15th day of each month, or other specified date as agreed by the Engineer's Representative.

6.4 Video Recording System

GTECH shall maintain a comprehensive register filing system on site in relation to the Possession of the construction sites will not be made to GTECH for this Contract. A video recording system will be provided in the works area possessed by the corresponding interfacing contractor at each vehicular exit / entrance with gates installed to record all trucks leaving the site.

GTECH shall take photographs to record all trucks leaving the site possessed by other interface contractors. The photographs shall capture the registration mark of each vehicle leaving the site and the loading conditions of dump trucks.

6.5 Surveillance

GTECH shall establish a surveillance system within the Site and at any alternative disposal grounds to check that the disposal activities comply with the requirements as set out in the Particular Specification.

The following items shall be included in the agenda for discussion at every Site Safety and Environmental Management Committee meeting, and Site Safety and Environmental Committee meeting, or other established channels for performance monitoring as agreed by the Engineer's Representative:

- Review the site management plan on a monthly basis and implementation of the TTS, and identify areas for improvement;
- Audit the quantity of C&D materials removed from the Site (based on the DRS and survey records) against the quantities of C&D materials delivered to the disposal ground designated in the Contract (e.g. based on EPD website) and directed or approved by the Engineer;
- Review incidents of non-compliance and discuss the necessary follow-up actions;
- Monitor the follow-up action on defects and deficiencies identified.

6.6 Control Measures to Track Internal Movement of Materials

GTECH shall devise the following control measures to ensure that the C&D materials generated by the Site are not disposed of outside the Site in breach of the Contract.

- Proper control and management of chits issued to dump truck operators.
- Close checking and keeping of disposal record of construction wastes.
- Photo taking of each dump truck leaving the site.
- Ensure disposal of construction waste at proper disposal outlets.
- Employ only reliable driver, vehicle and companies with no previous record of engagement in flytipping activities.

GTECH shall at his own cost undertake the following remedial action if C&D materials from the Site have been dumped at a place other than that designated under the Contract or approved by the Engineer.

- Remove the dumped C&D materials from unauthorized disposal ground.
- Reinstate the unauthorized disposal ground to the condition before dumping of the C&D materials.
- Remove the C&D materials to the disposal ground as designated under the Contract or approved by the Engineer to this satisfaction.

Where the unauthorized disposal ground is private property, the Contractor shall be responsible for obtaining the landowner's consent before removal of the dumped C&D materials.

Should GTECH fail to remove the C&D materials from the unauthorized disposal ground or fail to reinstate the unauthorized disposal ground the employer may instruct another contractor to perform the work and the Employer shall be entitled to recover such costs from GTECH.

6.7 Informing the Truck Drivers

GTECH shall write to all truck drivers engaged for removal of C&D materials from the Site and draw their attention to the following particular points:

a) Each truck carrying C&D materials leaving the Site for a disposal ground must bear a duly completed CHIT/ DDF, irrespective of the location and nature of the disposal ground; and
b) The C&D materials must be disposed of at the disposal grounds stipulated in this contract or directed by the Engineer or alternative disposal grounds accepted by the Engineer.

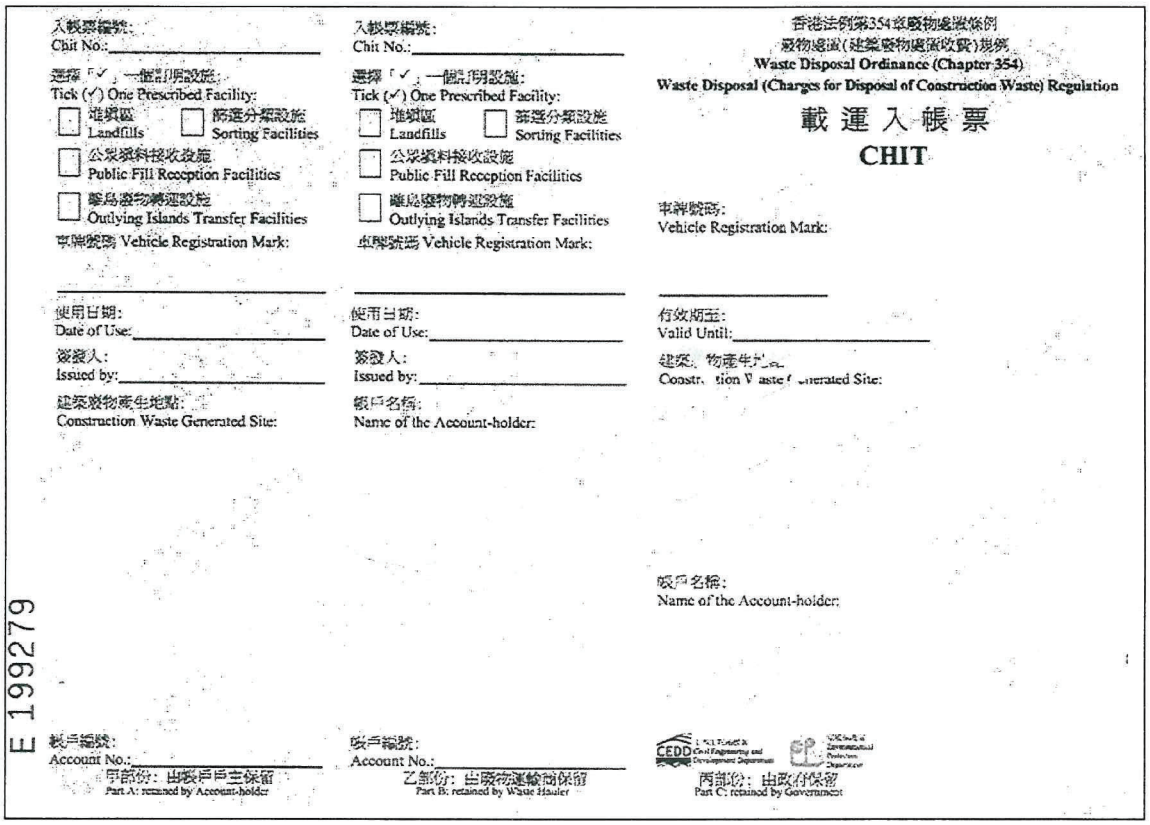
7 PERFORMANCE MONITORING

GTECH will prepare a site management plan for implementation of the TTS for the whole Contract. The plan will include the site organization and staff duties, disposal programme, site procedures, surveillance, recording system, control measures to track internal movement of Materials, and video recording system.

Procedures will be prepared as part of the environmental management plan which will:

- Define the responsibility for handling and investigating non-conformance (in most cases it will be the staff member responsible for the action plan); and
- Evaluate and mitigate the resulting impact(s) on the environment; initiate and complete corrective and preventive action (restore compliance as quickly as possible); and implement and record changes to documented procedures that result from corrective and preventive action. The Site Agent / Sub Site-Agent in cooperation may also carry out case analysis with the employee responsible for the operations. This will detail the incident, loss, immediate cause, basic cause and lack of control. This analysis can help assess the effectiveness of corrective and, more importantly, preventive measures.

Appendix A – Sample of CHIT, DDF and Daily Record Summary



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：由帳戶持有人保留
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

Serial No. 0012345678

Date of Use:
使用日期:

Disposal Ground :
接收設施:

Vehicle Registration Mark. :
車牌號碼:

Issued By:
簽發:

(This part retained by Disposal Ground)
(此部分由接收設施保留)

Chop of Disposal Ground 接收設施蓋印

Serial No. 0012345678

Construction and Demolition Materials Disposal Delivery Form
拆建物料運載記錄票

Contract No: _____ Contract Title: _____

合約編號: _____ 合約名稱: _____

Date of Use: 使用日期: _____
Time of departure from site: 離開地盤時間: _____
Vehicle Registration Mark: 車牌號碼: _____

Disposal Ground:
接收設施: _____

Arrival Time/Date:
抵達日期/時間: _____
(This part retained by Contract/Driver)
(此部分由承建商/司機保留)

Chop of Disposal Ground Representative 接收設施蓋印

Chop of Engineer's/Architect's 工程師 / 建築師代表蓋印

"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. 載運入帳單 / 拆建物料運載記錄表編號	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 備註:

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's / Engineer's Representative within 1 working day after the records are posted at the EPD website.
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

Appendix B – Report on irregularity of disposal of C&D materials

REPORT ON IRREGULARITY OF DISPOSAL OF C&D MATERIALS
(To be submitted within 2 weeks after the date of disposal)

To : Secretary, Public Fill Committee
Civil Engineering and Development Department
Fax : 2714 0113

Contract No. _____

After checking against the "Disposal Records" at the website /http://www.epd.gov.hk/epd/misc/cdm/scheme.htm#j.], I note the following irregularities pertaining to disposal(s) made on _____ :

PART A No. of CHIT/ DDF issued : _____
No. of disposals recorded at the "Disposal Records" : _____

PART B CHIT/ DDF issued but Disposal Trip not found in the "Disposal Records"

Vehicle Registration Mark	Production of evidence (i.e. stamped CHIT/ DDF and/or transaction record slip) by the Contractor/truck driver upon request of Architect's/ Engineer's Representative (please tick the appropriate box).		If ticked "NO", please give the actual location that the disposal was made.
	"YES"	"NO" (See Note below)	

PART C CHIT/ DDF not issued but disposal trip found in the "Disposal Records"

Vehicle Registration Mark (in column "REG_Mark" in "Disposal Records" file)	Transaction Reference No. (in column "REF_NO" in "Disposal Records" file)

Remarks (e.g. root cause of the non-compliance and corrective actions taken by the Contractor)

_____

_____

_____

Signature of Architect's/ Engineer's Representative _____
Name of Architect's/ Engineer's Representative _____
Department / Consultant _____
Telephone No. _____ Fax. _____ Date _____

Note :-

The Architect/Engineer is reminded to take follow-up action in case of non-compliance with the trip ticket system in accordance with the Circular DEVB TCW No. 6/2010 and relevant departmental procedures. Usually, a "NO" entry in Part B constitutes a non-compliance with the trip ticket system. The Secretary of the Public Fill Committee will only provide a formal reply to the report upon request.

Appendix C – Monthly Summary Waste Flow Table

GTECH Services (Hong Kong) Limited

Name of Department: Civil Engineering & Development Department Contract No.: NE/2017/06

Monthly Summary Waste Flow Table For _____(year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Chemical Waste	Others, e.g. General Refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan											
Feb											
Mar											
Apr											
May											
Jun											
Sub-total											
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total											

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

Appendix D – Summary Table of Timber usage

Summary Table for Work Processes or Activities Requiring Timber for Temporary Works

Contract No.: NE/2017/06

Contract Title: Tseung Kwan O - Lam Tin Tunnel - Traffic Control Surveillance System and Associated Works

Item No.	Description of Works Process or Activity [see note (a) below]	Justification for Using Timber in Temporary Construction Works	Est. Quantities of Timber Used (m^3)	Actual Quantities Used (m^3)	Remarks
1.	Nil	Nil	Nil	Nil	
2.					
3.					
4.					
5.					
6.					
7.					
			Total Estimated Quantity of Timber Used		

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 Engineer monthly together with the Waste Flow Table for review and monitoring.

(c) The commencement date of the Contract is 9 November 2018. The current reporting period is from 9 November 2018 to 25 January 2019.