

Waste Management Plan

for
Harbour Area Treatment Scheme Stage 2A
Construction of Sewage Conveyance System
from North Point to Stonecutters Island

Contract No. DC/2007/23
J3282

Rev. No. : 0

Effective Date : 23rd November 2010


Prepared by :

Reviewed by :

Approved by :



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Sewage Services Branch
Harbour Area Treatment Scheme Division
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2 December 2010
By Fax (2833 9162) and Post

Attn: Mr. Danny Tang

Dear Sir,

Agreement No. CE 8/2009(EP)
Harbour Area Treatment Scheme (HATS) Stage 2A
Independent Environmental Checker for Construction Phase – Investigation

Contract no. DC/2007/23
Construction of Sewage Conveyance System from North Point to Stonecutters Island
Waste Management Plan (Rev. 0)

I refer to the waste management plan (rev. 0) received on 2 December 2010 via email. Pursuant to S.9.152 of the EIA Report for HATS Stage 2A, I hereby verify the captioned plan.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED


A handwritten signature in black ink, appearing to read 'Anne Kerr', written in a cursive style.

Dr. Anne F Kerr
Independent Environmental Checker

c.c. AECOM
Gammon

Mr. Y H Fung
Mr. Max Ko

By email
By email

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REVISION STATUS SHEET

Rev. No.	Effective Date	Summary of Revision	Reviewed		Approved	
			By	Date	By	Date
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Distribution :

Site Office

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1. INTRODUCTION

1.1 Project Description

Contract DC/2007/23 comprises production shafts and drop shafts and approximately 12km of tunnel excavation from North Point via Sai Ying Pun to Stonecutters. Shafts vary in depth from 140m and 170m with 10-12m diameter. Tunnel face area ranges from 16 to 23 square meter face. Embedded drainage pipelines will be installed upon the completion of tunnel excavation.

The works to be executed under this Contract include the following major items:

- (a) construction of sewage conveyance system from North Point Preliminary Treatment Works to Stonecutters Island Sewage Treatment Works via Wan Chai East Preliminary Treatment Works, Central Preliminary Treatment Works and Sai Ying Pun junction shaft;
- (b) construction of drop shafts, riser shafts and junction shafts at North Point Preliminary Treatment Works, Wan Chai East Preliminary Treatment Works, Central Preliminary Treatment Works, Sai Ying Pun and Stonecutter Island Sewage Treatment Works;
- (c) construction of temporary production shafts at North Point, Wan Chai East and Stonecutters Island to provide access for the construction of SCS;
- (d) construction of connection channels, pipes, chambers and tunnel connecting the proposed drop shafts / riser shafts to the facilities of the preliminary treatment works / sewage treatment works;
- (e) carrying out survey of existing buildings, taking over of existing and installation of new piezometers and ground settlement markers and subsequent monitoring thereof and vibration monitoring along the alignment of the sewage conveyance system;
- (f) miscellaneous building, civil and electrical and mechanical works; and
- (g) landscape works.


Environmental protection and sustainable development are part and parcel of the daily operations of the Gammon Construction Limited. The GCL will initiate appropriate actions in order to minimize, and where possible eliminate, the environmental impact arising from the construction of this Project.

1.2 Purpose of the plan

This waste management plan (WMP) is prepared to describe the arrangements for minimising the generation of surplus construction and demolition (C&D) materials and carrying out effective on-site sorting of C&D materials and minimising the generation of C&D waste from equipment/material packaging during the course of the Works.

The WMP shall address the potential and actual impacts and necessary mitigation measures in light of the preferred construction programme and consists of the following:-

- A review of the ordinances, regulations, codes of practices as well as contractual obligations that are applicable to the wastes arising from the Works;
- An organisation chart setting out the roles and responsibilities of the Contractor's personnel responsible for waste management and appropriate mitigation measures;
- An analysis of timing, quantities and types of Construction and Demolition (C&D) materials are anticipated to be generated in the course of the execution of the Works;
- A classification of C&D materials into inert portion (Public Fill) and non-inert portion (C&D Waste);

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- Proposals for avoiding/minimizing, handling, recycling, reuse, return, storage and disposal of C&D materials, chemical waste and general refuse;
- An appraisal of the potential establishment on site of a sorting facility, including the identification of potential area on-site of facilitate the waste sorting;
- A proposal for controlling of dumping vehicles;
- A proposal for maintaining the site in a clean and tidy condition;
- A monitoring and auditing proposal to ensure that the requirements of the WMP are properly implemented.

2 WASTE MANAGEMENT POLICY AND STRATEGIES

2.1 Principles

The principles of waste management adopted in this project shall be in line with Gammon's environmental management system which follows the requirements of the ISO 14001 and based on a cyclical process comprising policy, planning, implementation & operation, checking and corrective action and management review.

2.2 Hierarchy

The various waste management options shall be categorised in terms of preference from an environmental viewpoint. The options considered to be more preferable have the least impacts and are more sustainable in the longer term. Hence, the hierarchy of waste management is as follows:

- Avoidance and minimisation;
- Reuse of materials, thus avoiding disposal;
- Recovery and recycling, thus avoiding disposal; and
- Treatment and disposal, according to relevant laws, guidelines and good practice.

3 ORGANIZATION STRUCTURE


The organisational structure for environmental management during the course of the Works is presented in **Appendix A**, which identifies the major parties with environmental responsibilities and illustrates their lines of communication. Descriptions on the roles and responsibilities of these parties are provided in the following sub-sections.

4 INDIVIDUAL ROLES AND RESPONSIBILITIES

4.1 GCL Contracts Manager

The Contracts Manager, as the most senior person on site, is appointed as the Site Health, Safety and Environmental Representative. He is ultimately responsible for all aspects of environmental issues within the Project, which he will achieve by implementation of the Project WMP. He is responsible for provision of necessary support to the Environmental Officer for the preparation, implementation and review of the Project WMP. His duties include, but are not limited to the following:-

- Ensure works are executed in accordance with the Project WMP.

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- Monitor and control the works including those of subcontractors to ensure compliance with specified requirements.
- Ensure appropriate environmental protection and pollution control mitigation measures are properly implemented.
- Handle any complaints received from the Client or Authorities.

4.2 GCL Construction Manager / Project Managers

The Construction Manager / Project Managers has the overall responsibility for environmental matters at the site operation level. In addition to the above-mentioned duties and responsibilities, he shall make accountable to the Contracts Manager for the achievement of best possible environmental performance in the site operations.


4.3 Environmental Officer

An Environmental Officer (EnvO), who will be present full time on the Site and report to the Project Manager, will be appointed by the Contractor. When there is significant environmental malpractice, the EnvO can stop those construction activities immediately so as to reduce the adverse impact on the environment. The EnvO will be responsible for leading the Contractor's Environmental Team (ET) for the Works and his duties will include:

- prepare, implement and update the WMP;
- prepare and update the monthly summary waste flow table (WFT) (**Appendix B**);
- prepare and update the summary table for using timber in Temporary Works construction (**Appendix C**);
- advise on measures to be taken in the interest of environmental protection, and implement such measures;
- liaise on all matters relating to environmental monitoring and auditing with IEC and ET;
- 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 with the nominated site staff of the project proponent / Engineer's Representative; and to supervise and monitor the environmental performance on the Site;
- check and ensure that any polluting or potentially polluting situation is promptly rectified;
- attend Site Safety and Environmental Management Committee (SSEMC) meetings and Site Safety and Environmental Committee (SSEC) meetings;
- compile the monthly environmental report for submission to the Project Proponent / Engineer's Representative at least five working days before the SSEMC meetings;
- keep the original copy of all statutory required environmental licenses;
- arrange and provide the environmental training including the site specific induction training and toolbox talks for the staff and workers on the Site, and to organise environmental promotional activities; and
- advise the Contractor's Production Team on the implementation of an environmental management system.

4.4 Environmental Supervisor

Site-resident Environmental Supervisor (EnvS) will be appointed by the Contractor. The duties of the EnvS's will include but not limited to the following:

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- assist the EnvO in carrying out his duties;
- carry out daily site environmental inspections based on a checklist approved by the Engineer's representative, and to ensure that follow-up actions have been taken promptly against defects and deficiencies identified;
- advise the EnvO on the upkeeping of environmental performance and standards of the Site;
- attend the weekly environmental walk;
- supervise and promote the execution of environmental work on the Site;
- attend SSEMC meetings and SSEC meetings; and
- conduct toolbox talks as assigned by the Contractor's Agent after acquiring the necessary.
-

4.5 Contractor's Production Team (i.e. Section Manager / Site Agent / Engineer / Foreman etc)

The Production Team are responsible for the following duties in relation to environmental control:

- Assist in the implementation of the Project WMP;
- Control the works to fulfil the requirement of environmental protection issues;
- Report to the Project Manager regarding any non-compliance of environmental protection and mitigation measures;
- Carry out remedial actions or mitigation measures to rectify the non-compliance.
- Ensure the on-site environmental protection facilities are properly maintained.
- Conduct environmental tool box talks to the labourers and workers to make them aware of environmental practice;
- Collaborate with the EnvO and EnvS in the implementation of environmental measures;
- Assist the EnvS in arranging the necessary workforce for carrying out corrective actions identified by the EnvO; and
- Maintain on-site environmental protection facilities such as wheel washing facility, wastewater treatment facilities, material stockpile covers, temporary noise barriers, etc.

4.6 Sub-Contractor and Other Employees


All subcontractors and other employees have the duty to carry out agreed site environmental practices as instructed by the project management. All subcontractors shall have their environmental supervisor and report to GCL's EnvO and EnvS. Every employee will report promptly to project management any non-compliance of environmental protection and mitigation measures. They will actively participate in and co-operate with the project management to achieve the environmental objectives.

5 STATUTORY OBLIGATIONS

5.1 List of Statutory Requirements

The GCL will comply with all current relevant legislation, regulations and guidelines, which include, but not limited to, the following:

- Dumping at Sea Act 1974 (Overseas Territory Order) 1975;
- Factories and Industrial Undertakings Ordinance (Cap. 59);
- Public Health and Municipal Services Ordinance (Cap. 132);

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- Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354);
- Waste Disposal Ordinance (Cap. 354); and

6 IMPLEMENTATION OF WASTE MANAGEMENT

6.1 Waste Management

6.1.1 Potential Sources of Impact

The Works will involve the following activities that may potentially give rise to waste issues on the Site:

- Construction and Demolition Materials generated from construction activities such as diaphragm wall construction, shaft and tunnel excavation
- Chemical wastes arising from maintenance of plants;
- General refuse from workers and site office
- Marine Sediment during construction of shafts
- Asphalt for breaking road surface

6.1.1.1 Construction and Demolition Materials

Construction and Demolition (C&D) materials refer to both inert and non-inert materials generated from construction activities of the Works. The inert portion of the C&D materials include materials such as soil, building debris, broken rock, concrete, and the non-inert portion comprises timber, paper, plastics, general refuse and the like.

According to the memo ref. no. (17) in FM PF/GEN/01 Pt.84 issued by Drainage Services Department, all asphalt generated from the contract will be disposed of at Tseung Kwan O Area 137 Fill Bank, for other inert construction and demolition wastes, excluding asphalt, for generating sites in Hong Kong Island and Stonecutters Island will be disposed of at Chai Wan Public Fill Barging Point and Tuen Mun Area 38 Fill Bank respectively.


The possible disposal routings are presented in **Appendix D**.

6.1.1.2 Chemical Waste

Chemical waste, as defined under the *Waste Disposal (Chemical Waste) (General) Regulation*, includes any substance being scrap material, or unwanted substances specified under Schedule 1 of the Regulation. A complete list of such substances is provided under the Regulation, however substances likely to be generated by construction activities include, but need not be limited to the following:

- Scrap batteries or spent acid/alkali from maintenance;
- Used paint, engine oils, hydraulic fluids and waste fuel;
- Spent material oils/cleaning fluids from mechanical machinery; and,
- Spent solvents/solutions.

6.1.1.3 General Refuse

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The presence of a construction site with large numbers of workers and site office will result in the generation of a variety of general refuse requiring disposal. General refuse will mainly consist of food wastes, aluminium cans and waste paper.

6.1.1.4 Marine Sediment

Based on the previous ground investigation report, several thousand cubic meter of marine sediment will be generated from excavation works for shafts, the marine deposit shall be tested in accordance with the ETWB TC(W) No.34/2002 and the results shall be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee or Director of Environmental Protection depending on the test results.

6.1.1.5 Asphalt


According to the memo ref. no. (17) in FM PF/GEN/01 Pt.84 issued by Drainage Services Department on 4th June 2010, all asphalt generated from the contract will be disposed of at Tseung Kwan O Area 137 Fill Bank. Other inert construction & demolition wastes for generating sites in Hong Kong Island and Stonecutters Island will be disposed of at Chai Wan Public Fill Barging Point and Tuen Mun Area 38 Fill Bank respectively.

6.1.2 Waste Reduction Measures

The measures listed from EIA Report, EM&A Manual and IS will be adopted and the major items are shown as follows:

6.1.2.1 Waste Reduction through Proper planning and good site management

- As presented in the Waste Management Hierarchy, the GCL accords the highest priority to managing waste through reduction at source. To this end, the following measures shall be implemented.
- Management of construction materials such that over-ordering, poor storage and maintenance, mishandling as well as improper operation procedures shall be avoided;
- Restriction on use of hardwood such that softwood, metal props and/or proprietary steel system shall be considered for falsework and the shoring of trenches and pits;
- The formwork shall be designed to maximise the use of standard wooden panels so that high reuse levels can be achieved. More durable alternatives such as steel formwork or plastic facing shall be considered for repetitive areas to increase the potential for reuse;
- C&D materials shall be, as much as possible and practicable, separated into reusable items and materials to be disposed of or recycled. It shall be conducted at the immediate working area to avoid loss / leakage and cross contamination during handling;
- All C&D materials arising from or in connection with the construction and demolition work shall be sorted on-site and be separated into different categories for disposal at landfills, public filling areas, or reuse and recycling as appropriate. The sorting area may be revised from time to time in order to suit the construction activities;
- Useful materials such as timber, rubble and steel / metal shall be segregated for reuse. For example formwork and timber shall be cleaned for reuse, off-cuts of reinforcement shall be sorted into usable lengths and short off cuts stacked for scrap metal. Where it is no longer reusable, scrap steel and metal items will be collected by recycling companies;

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- Segregated materials shall be temporarily stored at designated areas for reuse on site. Steel will be stored at the reinforcement yards, timber at the formwork yard and rubble in a stockpile (either covered or sprayed to control dust). Cardboard and paper packaging recovered from site shall be properly stockpiled in dry condition and covered;
- The remaining non-reusable C&D materials shall be sorted on-site into the inert portion (e.g. rock, brick, bituminous material, concrete and soil, etc.) as the “public fill” and the non-inert portion (e.g. timber, vegetation and paper, etc.) as the “C&D waste”. All inert C&D materials shall be broken down according to the Dumping License conditions prior to disposal to government approved public filling outlets. The hard inert construction and demolition (C&D) materials, such as broken rock and concrete which can be recycled into aggregates for reuse in construction works, shall be delivered to the C&D material sorting and recycling facility at Chai Wan Barging Point. The non-recyclable portion of C&D waste (containing no more than 30% by weight of inert content) shall be tipped at the landfill such as SENT Landfill. Recycling companies will be arranged to collect the recyclable portion of C&D waste;
- In order to avoid over-order of concrete, accurate calculation shall be made prior to concrete pouring. Close supervision shall also be arranged during concrete pouring to avoid over-cast; and
- Surplus concrete shall be used for paving of temporary road or cast of concrete blocks for bunding etc. as far as practicable. In case immediate use of surplus concrete cannot be identified, the surplus concrete will be temporarily poured into designated surplus concrete pouring areas on site for further disposal to public filling areas.

6.1.2.2 On-site Sorting of Construction and Demolition Materials and Reusing of Construction and Demolition Materials at other Gammon project


All Construction and Demolition (C&D) materials arising from or in connection with the Works will be sorted on the Site to recover reusable and/or recyclable materials. All sorted and processed surplus materials arising from or in connection with the Works from the Site will be promptly removed to minimise temporary stockpiling on the Site.

A system will be devised for on-site sorting of C&D materials. The system will include the 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 or frequency of removal off the Site, etc.

The GCL will sort the materials at source into the following categories:

- hard rock and large broken concrete suitable for reuse on the Site or recycling at a designated location;
- metals;
- paper and plastics;
- chemical waste; and
- materials suitable for disposal at public fill reception facilities and landfills / outlying islands transfer facilities.

According to particular specification, Grade I and II granite will dispose of at Lam Tei Quarry. Grade I and II Volcanic Rock and Grade III Rock and Grade IV or below Rock & inert C&D materials, such as broken concrete, will dispose of at Chai Wan Public Filling Barging Point. The other C&D wastes will send to SENT Landfill.

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Subject to the approval of Engineer, surplus Construction and Demolition Materials will propose to deliver to other Gammon Construction Limited project site, such as Tuen Mun Highway Eastern Section for backfilling. It can enhance the recycling rate of construction and demolition materials.

If it is deemed necessary, GCL will import the suitable fill materials from other projects for backfilling purposes after seeking approval from RSS on the sources of backfilling materials.

Other materials to be disposed of at public fill reception facilities and landfills facilities, will comply with their respective requirements under Schedule 6 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap 354).

Sufficient space for temporary storage of C&D materials will be identified and provided to facilitate collection and/or sorting on the Site. Except for those inert C&D materials to be reused on the Site, all other C&D materials off the Site will be removed as soon as practicable to optimise the use of the on-site storage space.

A system for proper handling and storage of chemical waste generated from the Site will be established in accordance with the Waste Disposal (Chemical Waste) (General) Regulation and the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Arrangements will be made with specialist contractors for the collection and disposal of chemical waste.

6.1.2.3 Enhanced Measures to Prevent Disposal to Sorting Facility

A list of enhanced measures is established and adopted to prevent disposal of C&D materials to the sorting facilities. Proposed locations for sorting area are required for submission.

Training

Ongoing training sessions on waste handling, sorting and disposal, in the form of induction training and tool box talk, is continued to provide to the frontline workers, project team members, subcontractor and dump truck subcontractor's representative to enhance their awareness.

Waste Facilities


Waste facilities to facilitate on-site sorting, collection and temporary storage of waste materials is continued to maintain. The waste facilities including the following:

1. Designated area for temporary storage of Inert C&D Material
2. Designated waste skip for temporary storage of non-inert C&D Material
3. Recycling cages for collection of waste metal, plastic and paper.
4. Recycling bins for collection of waste papers, cans and plastic bottles
5. Designated storage area for chemical waste

Administrative Control

To ensure there is no waste to be disposed to sorting facility in future, we have mandated any loaded dump truck, which is rejected by either Public Fill Reception Facility or Landfill, to deliver the unacceptable mixed waste back to site for further sorting.

6.1.2.4 Recycling

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To minimise the amount of waste disposal to landfills, the general refuse shall be reused and recycled as much as practical. Waste sorting and segregation shall be carried out in accordance with the following categories for recycling:

- Plastic (i.e. plastic bag, plastic bottle, plastic packaging, etc.)
- Rubber;
- Paper;
- Wood / timber;
- Glass;
- Textile;
- Metal (i.e. aluminium can, steel metal, ferrous metal, and non-ferrous metal)

Equipment and material packaging (i.e. paper and cardboard) will be recovered, properly stockpiled in dry and covered condition to prevent cross contamination by other C&D materials. Particular attention will be paid to avoid cross contamination in the course of collecting paper for recycling. Arrangements will be made with recycling contractors to ensure that recyclable materials sorted from the Site are collected with reasonable care.

The GCL has employed waste recycle collector to collect the recyclable material which include paper, metal and plastic waste. The volume of collected recyclable will be reported in the monthly waste flow table.

6.1.2.5 Use of Timbers

The use of timber in Temporary Works construction will be avoided, reduce or minimised as far as possible. GCL will assess the volume of timber to be used for temporary works in each method statement. The estimated timber usage will be stated in the environmental part of the method statement and only the brand new timber will be counted. A separate method statement will be submitted to the Engineer for agreement prior to commencement of the relevant Temporary Works if the timber to be used for a Temporary Works construction process / activity exceeds 5m³. The method statement will include the justification for and the measures taken to minimise the use of timber in the said Temporary Works.


The formworks will be designed to maximise the use of standard wooden panels so that high reuse levels can be achieved. More durable alternatives such as reusable metal formwork, falsework, trench supports and the like shall be optimized for use in repetitive areas to increase the potential for reuse, if applicable.

6.1.2.6 Management of Chemical Waste

Containers used for the storage of chemical waste will:

- 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 the EPD; and
- display a label in English and Chinese in accordance with instruction prescribed in *Schedule 2* of the Waste Disposal (Chemical Waste)(General) Regulation.

The storage area for chemical wastes will:

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- be clearly labelled and used solely for the storage of chemical waste;
- be enclosed on at least three sides;
- have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area;
- 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.

Disposal of chemical waste will:

- be via a licensed waste collector; and
- be to an off site facility licensed to receive chemical waste, such as a recycling facility located in Yuen Long Industrial Estate or the Chemical Waste Treatment Facility located in Tsing Yi; or
- to be a reuser of the waste, under the approval from the EPD.

When a chemical spill has been discovered one shall take the following actions:

- Alert all persons in the vicinity and inform the person in-charge of the site.
- Assess the situation and if the spill is serious which will cause danger to nearby people, water bodies, natural habitats, etc., the Fire Services Department shall be informed and the affected area shall be fenced off.
- All personnel shall evacuate from the area and wait for the Fire Services Department to arrive.
- The work area supervisor shall be present at the scene to provide the details of the chemical used and the occurrence of the incident.

If safe to do so, take the following actions:

Where available, follow the emergency procedure as stipulated in the label on the container,
Put on personal protective equipment;
Stop the spillage;
Confine the spill with earth barriers;
Contain the spill inside the work area and prevent it from entering water ways and drainage systems, etc.;


Switch off all heat and ignitable sources.

6.1.2.7 Management of General Refuse

General refuse generated on site will be stored in enclosed bins separate from construction and chemical wastes. A reputable waste collector will be employed by the contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour, pest and litter impacts. The burning of refuse on construction site is prohibited by law.

Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible, so separate, labelled bins for their deposit will be provided if feasible.

Office wastes will be reduced through the recycling of paper. Participation in a local collection scheme will be considered if one is available. In addition, waste separation facilities for paper, aluminium cans, plastic bottles etc., should be provided.

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6.1.2.8 Management of Excavated Marine Sediment

The underground marine deposit will be excavated out from a shaft sinking using an excavator and temporarily placed into designated metal skips in a temporary storage area located next to the shaft area to prevent any cross contamination with other excavated materials during the excavation of the shaft.

The metal skips will be covered by tarpaulin sheets when not actively being filled to prevent rainfalls from entering the metal skips.

Only one storage casing will be transported to Sai Ying Pun using flat topped lorry in one trip.


Storage casings will be solely used for transporting / storing Type 1 / Type 2 marine deposit. Each storage casing will assign an ID mark and paint in different colour to distinguish Type 1 / Type 2 storage casing.

Due care will be exercised during transportation of the excavated marine deposit to the hopper barge. Marine deposit will be stored inside a sealed storage casing during transportation by flat topped lorry. The storage casing will be covered by tarpaulin sheet to avoid spillage, in form of land and water pollution, during transportation. When flat topped lorry arrives Sai Ying Pun, a derrick lighter will lift up the entire storage casing and offload the marine deposit contained inside into the hopper barge. Site coordinators, Mr. Wong Tin Yan and Chen Ka Wa, will be assigned at Sai Ying Pun to supervise loading and unloading of marine deposit into hopper barge. While transferring marine deposit, all marine deposit must be contained within the storage casing. Marine Deposit storing higher the side board of storage casing is not allowed in order to prevent marine deposit dropping into the sea accidentally during lifting of loaded storage casing.

Internal Trip Ticket System will be developed for transporting marine deposit from the temporary storage area in other shafts to hopper barge. Flow chart and sample of Gammon Marine Deposit Disposal Delivery Form and vehicle registration forms are attached in Method Statement for Transitional Storage of Excavated Marine Deposit. Transferring of marine deposit from hopper barge to designated disposal ground as stipulated in marine dumping permit, will use the forms and recording systems as attached in the marine dumping permit.

The procedures for issuing the Gammon Marine Deposit Disposal Delivery Form for transporting marine deposit are as follows:

- (i) Subcontractor representatives to fill in the contents of Gammon Marine Deposit Disposal Delivery Form such as stating the Type of marine deposit to be transported, the vehicle registration number, the departure time etc.;
- (ii) Pass the completed Gammon Marine Deposit Disposal Delivery Form to Gammon's Area Foreman / Assistant Engineer to check and to sign;
- (iii) Gammon's Area Foreman / Assistant Engineer pass the duly signed Gammon Marine Deposit Disposal Delivery Form to Engineer's Representative to counter sign prior to allowing the flat topped lorry leaving the construction site;
- (iv) Original Copy of the Gammon Marine Deposit Disposal Delivery Form shall be kept by Gammon's Area Foreman / Assistant Engineer;
- (v) Engineer's Representative and the sub-contractor representatives shall keep their respective copy of the Gammon Marine Deposit Disposal Delivery Form;
- (vi) Flat topped lorry driver shall present the duly signed Gammon Marine Deposit Disposal Delivery

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Form, with signature / chopped by Gammon and Engineer's Representative to the security guard prior to leaving the construction site. Security guard shall only open the gate when the flat topped lorry driver holding a valid Gammon Marine Deposit Disposal Delivery Form as an second defence;

(vii) When the flat topped lorry arrives Sai Ying Pun, site co-ordinators shall sign the Gammon Marine Deposit Disposal Delivery Form and retain the copy for marine deposit receptor of Gammon Marine Deposit Disposal Delivery Form and complete the form of the registration of vehicle for unloading marine deposit onto Derrick Lighter at Sai Ying Pun;

(viii) The form of the registration of vehicle for unloading marine deposit onto hopper barge at Sai Ying Pun shall be submitted to Engineer's Representative in a daily basis; and

(ix) Operator of the derrick lighter will be informed of the type of marine deposit storing within the storage casing by site co-ordinators by walkie-talkie.

The following (i)-(iii) will provide supervision to the work of marine deposit excavation, the transportation of the excavated marine deposit and the transitional storage :

- (i) The Subcontractor of the excavation works (i.e. K&F) - 1st Tier Supervision ;
- (ii) The Main Contractor (i.e. Gammon) - 2nd Tier Supervision ;
- (iii) The Environmental Team (i.e. ERM - Hong Kong, Ltd) - 3rd Tier Supervision (Independent Supervision).

Environmental Team will conduct weekly environmental site audit to check the environmental condition of the worksite and the implementation of recommended environmental mitigation during the course of work.

The supervisor of the Subcontractor will keep daily record on the marine deposit excavation, the transportation of the excavated marine deposit and the transitional storage, which includes among others the date on which the marine deposit was excavated out, the volume of marine deposit excavated from and transported to Sai Ying Pun Junction Shaft. Such record will submit to Engineer's Representative in a daily basis.

The estimated volumes of the marine sediment are summarized as follows:

- Type I: 2000 m³
- Type II: 2200 m³
- Type III: 250 M tonne

6.1.2.9 Waste Targets

All excavated materials to be sorted to reuse on site or disposal to designated outlets;

All metallic waste to be recovered for collection by recycling contractors;

All cardboard and paper packaging (for plant, equipment and materials) to be recovered, properly stockpiled in dry and covered condition to prevent cross contamination;


All chemical waste to be collected and properly disposed of by specialist contractors;

All demolition debris to be sorted to recover broken concrete, reinforcement bars, mechanical and electrical fittings, hardware as well as other fitting / materials that have established recycling outlets; and

Reducing and controlling the use of timbers in the Temporary Works.

7 PERFORMANCE MONITORING AND CHECKING

7.1 Construction Waste Monitoring Programme

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7.1.1 Trip Ticket System

A trip ticket system (TTS) for the removal of construction and demolition (C&D) materials from the Site to the designated disposal ground will be implemented according to the Particular Specification. A Site Management Plan for the implementation of the TTS for the Works will be prepared. The Site Management Plan will be reviewed on a monthly basis and updated sections will be submitted to the Engineer's Representative for approval.

A comprehensive register of the Disposal Delivery Form, a sample of which is included in **Appendix E**, for recording the disposal of C&D materials will be established.

The procedures for implementation of using the bar-coded DDF and CHIT are as follows:-

- (a) The Engineer's Representative shall prepare and hand the bar-coded DDF to the Contractor on the day of disposal. The Engineer's Representative shall also keep a comprehensive register of DDF issued. At the same time, the Contractor's representative, either Area foreman / Assistant Engineer, will issue a CHIT to dump truck driver for the same truckload of construction and demolition wastes. Dump truck drivers shall return the chopped CHIT, DDF and transaction receipts after disposing C&D materials to government dumping facilities to Area foreman / Assistant Engineer who issued the CHIT and DDF. Then Area Foreman / Assistant shall collect all chopped CHIT, DDF and transaction receipts and submit to Environmental Department for preparing DRS and submit to RSS accordingly. Original Copies of chopped CHIT, DDF and transaction receipts will be kept at Environmental Department.
- (b) For each truckload of C&D materials leaving the site, the Contractor's truck driver must bear a duly completed, signed and stamped DDF together with a issued and signed CHIT. Prior leaving the construction site, the dump truck driver shall present the duly completed CHIT and DDF to Security Guard.
- (c) The truck shall proceed to the disposal ground as stipulated in the DDF and CHIT. The Contractor's truck driver shall present the DDF and CHIT to the reception facility operator. If the C&D materials accords with the acceptance criteria, disposal of the materials will be permitted and the facility operator will give the Contractor's truck driver a transaction receipt and stamp the DDF and CHIT.
- (d) The Contractor shall maintain a daily record of disposal of C&D materials from the Site including details of the C&D materials, the truck number, departure time, etc, using the Daily Record Summary (DRS)
- (e) The Contractor shall submit the duly completed Part 1 of the DRS form promptly to the Engineer's Representative of following the date of disposal. The Contractor shall return CHIT, DDF and transaction record issued by disposal ground to Engineer's Representative within 2 working days after the disposal. Part II of the DRS form shall be filled in. The irregularity will be observed by checking against the disposal records in both CEDD's and EPD's website in a daily basis. Once irregularity is observed, it shall be recorded in the Irregularity Proforma and DRS on the same day.
- (f) For disposal at government disposal facilities, the Engineer's Representative and Contractor shall check whether or not disposal has been properly made at the designation facilities by checking

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against the disposal records in the CEDD's website [<http://www.cedd.gov.hk/eng/services/tripticket/index.html>] or EPD's website [<http://www.epd.gov.hk/epd/misc/cdm/trip.htm>].

- (g) Where the disposal ground is proposed by the Contractor and has been approved by the Engineer's Representative, the Engineer's Representative should ensure that the bar-coded DDF is signed off by a competent person at the disposal ground to confirm completion of each trip. The Engineer's Representative should also maintain a daily record with details of each disposal trip from the site to the disposal ground and should check against with the Contractor's records as soon as possible.
- (h) Where an irregularity is observed or suspected, the Irregularity Proforma downloaded from the CEDD's website will be use to inform Public Fill Committee (PFC). The common irregularities include cases that
- DDF issued but disposal record not found from the computer file.
 - DDF not issued but disposal record found under the particular contract.
- (i) To prevent overloading of dump truck, only dump truck installed with self loaded balance will be used in this Contract.

7.1.2 Construction Waste Disposal Charging Scheme

Construction Waste Disposal Charging Scheme was implemented on 1 December 2005 and the GCL will apply for the Billing Account with the EPD and pay for the construction waste disposal charge before using government disposal facilities. The GCL will apply the billing account for this Project and will get the Chit ticket from EPD.


Prior to the vehicle leaving the site, the GCL will complete all relevant information on the Chit and give it to the waste hauler and retain Part A of the Chit. The Chit will be carried on board the vehicle at all times throughout the vehicular trip.

For each vehicular trip, the waste hauler will present to the operator of the government disposal facilities (including public fill reception facilities and/or landfill) prior to the disposal of construction wastes. On completion of the service, waste hauler retains Part B of the Chit and the Government will retain Part C of Chit. The waste transaction record and the Part A of the Chit ticket will be maintained on site for future references.

7.1.3 Waste Flow Table

A mechanism to record the quantities of C&D materials generated each month, using the monthly summary "Waste Flow Table" (WFT) as included in **Appendix B**, will be established. The monthly summary WFT will be completed and submit it to the Engineer's Representative together with the updated sections of EMP (if any) by not later than the 15th day of each month following the month reported on, or if it is a General Holiday, the day following the General Holiday.

The latest estimate of the total amount of C&D materials, that are expected to be generated by the Works, together with a breakdown of the nature of the materials (ie inert C&D materials (public fill), hard rock or

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concrete, C&D waste, etc) will also be submitted to the Engineer's Representative together with the monthly WFT.

The quantities of all the recyclable materials will be recorded before removal off the Site by recycling contractors, and the details will be included in the WFT for submission to the Engineer's Representative.

A summary table containing the description, justification and the estimated quantity for every work process/activity requiring the use of timber for Temporary Works construction irrespective of the quantity of timber used, using the proforma shown in **Appendix C**, will be submitted to the Engineer's Representative at the same time as the monthly WFT.

The weekly environmental walk will include auditing of waste records including trip tickets for the disposal of C&D materials, records of collection by recycling contractors and refuse collection records.

8 SURVILLANCE SYSTEM

The Contractor shall establish a surveillance system within the Site to check that the disposal activities comply with the requirements as set out in the Particular Specification. Disposal activities that require checking are:-

8.1 Control Measures to track internal movement of materials


Where trucks need to exit and re-enter the Site for delivery of C&D materials generated by the Site, surprise checks at least once a month together with Engineer's Representative's SLOW will be carried to ensure that the C&D materials are not disposed of outside the Site in breach of the Contract. Other than the surprise checks, dump truck drivers shall return the issued DDF and CHIT within 2 days to ensure C&D wastes are disposed at proper disposal facilities. In addition, GCL shall ensure the site procedures as stated in Section 5 shall be fully implemented and CHIT and DDF register shall be checked in a weekly basis.

For movement of the C&D materials, such as marine deposit, within different site portions, GCL will develop its internal trip ticket system to ensure the materials are handled properly. The sample of proposed internal trip ticket system is attached in **Appendix F**.

8.2 Informing the Sub contractors

The GCL will write to all sub-contractors whom he has engaged for removal of C&D materials from the Site and draw their attention to the following particular points:

- Each truck carrying C&D materials leaving the Site for a disposal ground must bear a duly completed and stamped DDF and CHIT, irrespective of the location and nature of the disposal ground;
- The C&D materials must be disposed of at the disposal grounds as stipulated in the DDF and CHIT;
- Any loaded dump truck, which is rejected by the disposal grounds as stipulated in the DDF and CHIT (i.e. either Public Fill Reception Facility or Landfill), the truck drivers should deliver the unacceptable mixed waste back to project site for further sorting;
- What constitutes an improper disposal and that the Public Fill Committee (PFC) will consider revoking the Dumping Licence from the holder of the offending trucks; and

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- Truck drivers must bear a valid Dumping Licence which he can apply from the Civil Engineering and Development Department (CEDD).

8.3 Enhanced Measures to Prevent Disposal to Sorting Facility

The following measures will be implemented continuously to prevent disposal of C&D materials to the sorting facilities.

Training

Ongoing training sessions on waste handling, sorting and disposal, in the form of induction training and tool box talk, is continued to provide to the frontline workers, project team members, subcontractor and dump truck subcontractor's representative to enhance their awareness.

Waste Facilities

Waste facilities to facilitate on-site sorting, collection and temporary storage of waste materials is continued to maintain. The waste facilities including the following:

- Designated area for temporary storage of Inert C&D Material
- Designated waste skip for temporary storage of non-inert C&D Material
- Recycling bins for collection of waste papers, cans and plastic bottles
- Designated storage area for chemical waste

In general, Grade II or above Rock will be disposed of at Lam Tei Quarry. Scrap metals, aluminium cans, paper, plastic bottles will be collected by recycled company as listed in the Environmental Protection Department's website.

Administrative Control


To ensure there is no waste to be disposed to sorting facility in future, we have mandated any loaded dump truck, which is rejected by either Public Fill Reception Facility or Landfill, to deliver the unacceptable mixed waste back to project site for further sorting.

GCL will closely monitor the efficiency and effectiveness of on site sorting and ensure that no waste is allowed to dispose to the sorting facility and are obliged to fully comply with the trip ticket system and the requirements as stipulated in the Employer's Requirement.

8.4 Procedure for Prevention of overloading of dump truck

For dump trucks installed with pressure gauge

1. Based on previous transaction records, each dump truck shall provide a recommended reading (in Bar) at pressure gauge;
2. Before loading excavated materials, the site supervision staff shall check the gauge reading is zero before loading;
3. While loading excavated materials into the dump truck, the site supervision staff shall close monitor the gauge to find our whether any mal-function of the scale and it is recommended to use the suitable scale of pressure gauge if possible;
4. After loading excavated materials into the dump truck, dump truck driver shall use pressure gauge to verify the weight of loaded materials;
5. Site supervision staff shall record the reading of pressure gauge in the attached form and ensure pressure gauge reading being within the recommended reading (in Bar) prior to issuing chit and DDF;

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6. After disposing of spoil, dump truck driver shall return the transaction record issued by CEDD, the total gross vehicle weight of vehicle as stated in the transaction record shall also be recorded in the attached form for future reference and checking the load;
7. The relationship between pressure gauge reading and total gross vehicle weight for individual dump trucks shall be plotted in a graph for easy reference;
8. Site supervisor shall remind excavator operator to provide a larger safety margin, e.g. 3% of total gross vehicle weight, to prevent overloading.

For dump trucks without the pressure gauge

1. Based on previous transaction record, each dump truck shall provide a recommended level within the box of dump trucks;
2. The recommended depth between top of skip and spoil level, 500mm for 30 tonnes dump truck and 750mm for 38 tonnes dump truck, shall be clearly marked on the inside of the box of dump trucks;
3. After loading of the excavated materials into the dump truck, site supervisor shall verify that the loaded materials do not exceed the recommended level prior to issuing of chit and DDF;
4. The recommended level will be adjusted / fine tuned based on the transaction record issued by CEDD;
5. Site supervisor shall remind excavator operator to provide a larger safety margin, e.g. 3% of total gross vehicle weight, to prevent overloading.

For tanker trucks

1. Provide suitable benchmark in level checking tube of tankers;
2. The tankers will carry out its own weight check in weight bridge to calibrate such level prior to disposing to designated government facilities; and
3. Site supervisor shall provide a larger safety margin, e.g. 3% of total gross vehicle weight, to prevent overloading.

Typical record sheet for prevention of overloading of dump truck

Project Title: **HATS Stage 2A – Construction of Sewage Conveyance System from North Point to Stonecutters Island**


Construction Site: _____

Date	Vehicle No.	Recommended Pressure Gauge Reading	Actual Pressure Gauge Reading	Weight of Total Gross Vehicle Weight

New trucks or for those trucks, which was not serviced for other project for more than one month, will drive to private weight bridge to obtain the total gross vehicle weight prior to disposing the construction and demolition wastes to designated government public dumping facilities. The weight of the dump trucks obtained from the private weight bridge will be used to calibrate the pressure gauge installed in the dump trucks.

Installation of weigh bridge at all Production Shafts

1. The weigh bridges will be installed at North Point Production Shaft, Wan Chai East Production Shaft, Sai Ying Pun Junction Shaft and Stonecutters Island Production Shaft. Once the weight bridges installed, all dump trucks shall use weight bridge to record the total gross weight of vehicle prior to leaving the construction site;

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2. The weight bridges will be calibrated by external certification body prior to usage; and
3. The current pressure gauge method and measuring the depth of loaded material within the skips of the dump truck will be superseded after installation of weight bridge.

8.5 Control measures for transporting construction and demolition materials to other construction site

For disposing construction and demolition materials to other disposal grounds, such as other construction sites, a written approval on the proposal for disposing C&D materials at other construction sites shall be issued by RSS prior to commencing of the disposal activities.

For movement of the C&D materials to other construction sites, GCL will develop its trip ticket system to ensure the materials are handled properly. The sample of proposed trip ticket system is attached in **Appendix G**.

9 RECORDING SYSTEM

For disposal at government disposal facilities which is managed by CEDD or landfills which is managed by EPD, the GCL will check the information recorded in the Daily Record Summary (DRS) against available information including our own records and data from the following websites and make it available for inspection by Engineer's Representative upon request.

CEDD's website (For Inert Materials) www.cedd.gov.hk/eng/services/tripticket/index.html


Contract No 合約編號	DDF Serial No 運載記錄票編號	Transaction Ref No 交收備考號碼	Disposal Date 卸置日期	Time In 進入時間	Time Out 離開時間	Vehicle No 車輛登記號碼	GVW 車輛總重	Source of Material 物料來源地	Type of Material 物料類別	Weight In (tonne) 入載重量 (公噸)	Net Vehicle Load (tonne) 物料淨重量 (公噸)	Remarks 備註
1/WSD/06(E)	1234567890	050010425	01-Sep-05	09:08:00	09:23:00	MH**08	24	Sha Tin	Mixed rock & soil	23.88	9.88	

EPD's website (For Non-inert Waste)
www.epd.gov.hk/epd/misc/cdm/trip.htm

Facility 設施	Date of transaction 交易日期	Vehicle No. 車牌號碼	Time-in 進入時間	Time-out 離開時間	Weight-in (tonne) 入閘重量 (公噸)	Weight-out (tonne) 出閘重量 (公噸)	Net weight (tonne) 淨重量 (公噸)	Transaction No. 交收號碼	DDF Serial No. 運載記錄票編號	Contract No. 合約編號
SENT	01/09/06	MH**08	09:01	09:15	16.68	13.38	3.30	1234567	9876543210	1WSD06E

In addition, the Contractor will prepare its own register to record CHIT no., DDF Serial No., Disposal Date, Vehicle Registration Mark and Disposal Site for each load of dump truck. The Contractor's register will compare with the official record issued by Environmental Protection Department for disposing construction and demolition waste in a monthly basis. In addition, the register will be attached in the monthly environmental report that will submit to Engineer's Representative in a monthly basis.

10 RECORD KEEPING AND REPORTING

 Gammon	Construction of Sewage Conveyance System from North Point to Stonecutter Island	Rev. No. : 0
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10.1 List of Record/Report/Sample Proforma

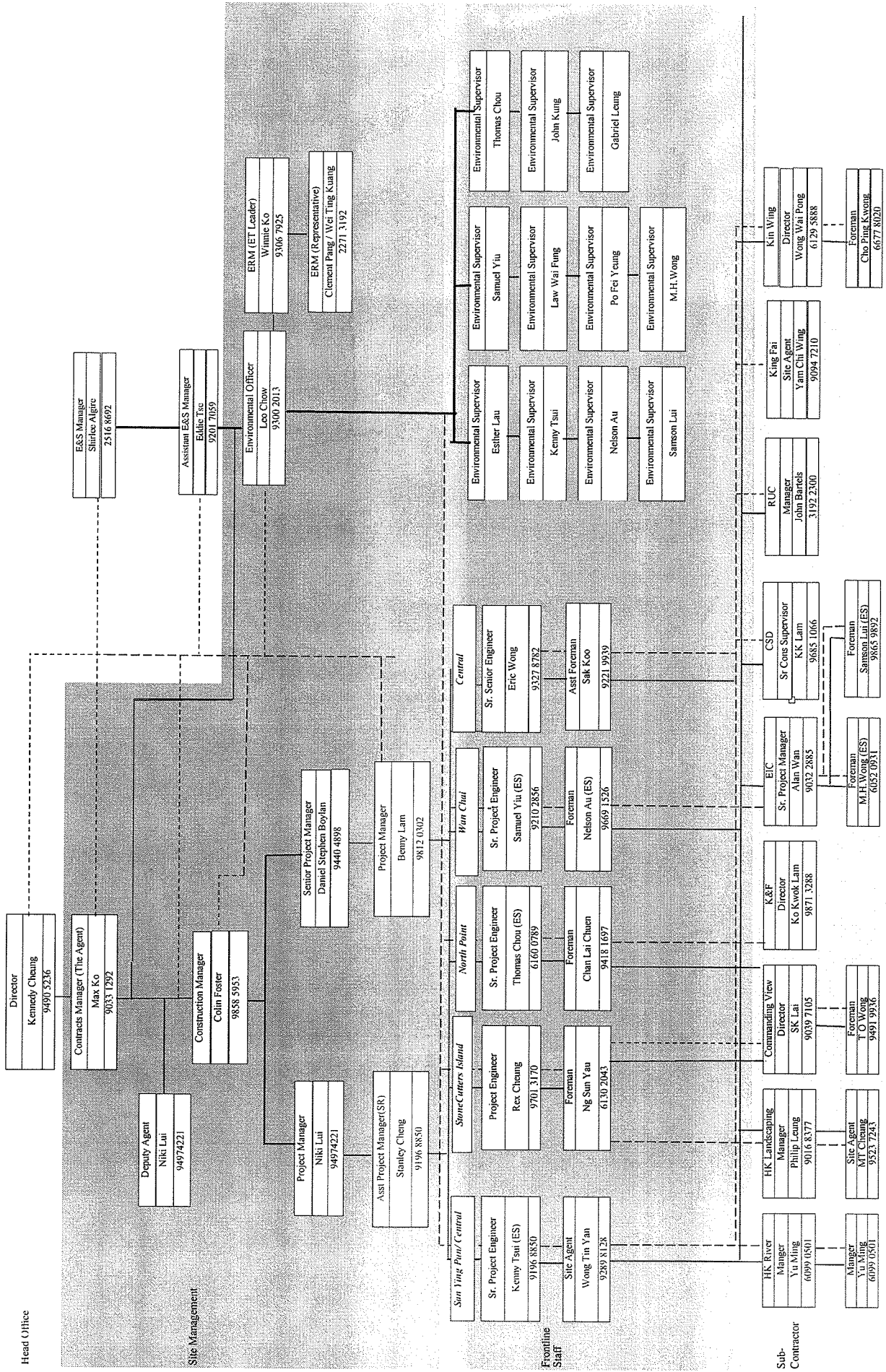
The GCL shall keep adequate and proper records such as certificates, licenses, reports, photographs and measurement records relating to the implementation of the WMP. The names of designated persons for daily and weekly cleanliness checklist should be required.

The EnvO will keep all records related to environmental issues on site. These records shall include but not limited to:

- CHIT
- Waste Flow Table
- Summary record of chemical waste disposal
- Summary record of trip ticket system
- Records of timber usage

APPENDIX A

**Organisation Structure for
Environmental Management**



APPENDIX B

**Monthly & Yearly Summary Waste
Flow Table**

Harbour Area Treatment Scheme Stage 2A – Construction of Sewage Conveyance System from North Point to Stonecutters Island
Contract No. : DC/2007/23
Monthly Summary Waste Flow Table for 2009 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated (in '000m ³)	Broken Concrete (see Note 4) (in '000m ³)	Reused in the Contract (in '000m ³)	Reused in other Projects (in '000m ³)	Disposed as Public Fill (in '000m ³)	Metals (see Note 2) (in '000kg)	Paper/ cardboard packaging (see Note 2) (in '000kg)	Plastics (see Note 3) (in '000kg)	Chemical Waste (in'000kg / '000L)	Others, e.g. general refuse (in '000m ³)
Jan										
Feb										
Mar										
Apr										
May										
June										
Sub-total										
July	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0
Sept	0.016	0	0	0	Dry 0.016	0	0	0	0	0.068
Oct	0.523	0	0	0	0.523	0	0	0	0	0.086
Nov	2.331	0	0	0	2.275	0.056	0	0	0	0.129
Dec	3.803	0	0	0	3.004	0.799	0	0	0	0.120
Total	6.673	0	0	0	5.818	0.855	0.036	0	0	0.403

- 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) Metal and paper/cardboard packaging will be collected by recycler for recycling.
 - (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material and the wastes are collected by recycler for recycling.
 - (4) Broken concrete for recycling into aggregates
 - (5) If necessary, use the conversion factor: 1 full load of dumping truck being equivalent to 6.5 m³ by volume.
 - (6) For chemical waste, the actual quantities of empty paint cans will be in kilogram (kg) and spent lubrication oil will be in litre (L).
 - (7) Metal and paper/cardboard packaging will be collected by recycler for recycling.

Harbour Area Treatment Scheme Stage 2A – Construction of Sewage Conveyance System from North Point to Stonecutters Island
Contract No. : DC/2007/23
Monthly Summary Waste Flow Table for 2010 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly				Actual Quantities of C&D Wastes Generated Monthly						
	Total Quantity Generated (in '000m ³)	Broken Concrete (see Note 4) (in '000m ³)	Reused in the Contract (in '000m ³)	Reused in other Projects (in '000m ³)	Disposed as Public Fill (in '000m ³)		Metals (see Note 2) (in '000kg)	Paper/ cardboard packaging (see Note 2) (in '000kg)	Plastics (see Note 3) (in '000kg)	Chemical Waste (in'000kg / '000L)	Others, e.g. general refuse (in '000m ³)
Jan	5.341	0	0	0	Dry 3.066	Wet 2.275	0	0.144	0	0.8	0.178
Feb	3.328	0	0	0	1.541	1.787	0	0	0	0	0.167
Mar	4.486	0	0	0	2.019	2.467	0	0.09	0	0	0.148
Apr	4.864	0	0	0	1.756	3.108	0	0.054	0	0	0.160
May	7.092	0	0	0	3.383	3.709	0	0.144	0	0.3	0.157
June	6.190	0	0	0	1.083	5.107	0	0.09	0	0.4	0.455
Sub-total	31.301	0	0	0	12.848	18.453	0	0.522	0	1.5	1.265
July	5.031	0	0	0	1.006	4.025	0	0.162	0	0	0.212
Aug	5.140	0	0	0.23	1.970	2.940	0	0.09	0	0.4	0.312
Sept	3.593	0.15	0	0.35	1.771	1.322	0	0.09	0	1	0.146
Oct	2.324	0	0	0	1.429	0.895	0	0.144	0	0	0.078
Nov											
Dec											
Total	47.389	0.15	0	0.58	19.024	27.635	0	1.008	0	2.9	2.013

- 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.
 - (8) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material and the wastes are collected by recycler for recycling.
 - (9) Broken concrete for recycling into aggregates
 - (10) If necessary, use the conversion factor: 1 full load of dumping truck being equivalent to 6.5 m³ by volume.
 - (11) For chemical waste, the actual quantities of empty paint cans will be in kilogram (kg) and spent lubrication oil will be in litre (L).
 - (12) The schedule for peak disposal are for the following activities:
 - a. Diaphragm wall excavation: Jan – July 2010
 - b. Shaft Sinking: Nov 2010 – May 2011
 - c. Tunnel Construction: Jun 2011 – Aug 2013

APPENDIX C

**Summary Table for Using Timber in
Temporary Works**

Harbour Area Treatment Scheme Stage 2A – Construction of Sewage Conveyance System from North Point to Stonecutters Island
 Contract No. : DC/2007/23
 Yearly Summary Waste Flow Table

Year	Estimated (Est.) and Actual (Act.) Annual Quantities of Inert C&D Materials										Estimated (Est.) and Actual (Act.) Annual Quantities of C&D Wastes									
	(a)=(b)+(c)+(d)+(e) Total Quantity Generated (in '000m ³)		(b) Broken Concrete (see Note 4) (in '000m ³)		(c) Reused in the Contract (in '000m ³)		(d) Reused in other Projects (in '000m ³)		(e) Disposed as Public Fill (in '000m ³)		(f) Metals (in '000 kg)		(g) Paper/ cardboard packaging (in '000kg)		(h) Plastics (see Note 3) (in '000kg)		(i) Chemical Waste (in '000kg)		(j) Others, e.g. general refuse disposed at Landfill (See Note 5) (in '000m ³)	
	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.
2009 (3 ^{1c})	0.031	0.016	0.031	0	0	0	0	0.000	0.016	0	0	0	0	0	0	0	0	0	0	0.068
2009 (4 ^{1b})	9.071	6.657	0.5	0	0	0	0	8.571	6.657	7	101.2	0.25	0.036	0.1	0	2.5	0	0.429	0.335	
2010 (1 ^{1b})	8.275	13.155	0.063	0	0	0	0	8.212	13.065	7	0	0.25	0.234	0.1	0	2.5	0.8	0.411	0.493	
2010 (2 ^{1b})	7.070	18.146	0	0	0	0	0	7.070	18.146	7	0	0.25	0.288	0.1	0	2.5	0.7	0.353	0.772	
2010 (3 ^{1c})	22.435	13.764	0	0.15	0	7.674	0.58	Dry 8.364	13.034	7	0	0.25	0.342	0.1	0	2.5	1.4	0.441	0.67	
2010 (4 ^{1b})	28.618		0		0	5.016		Wet 6.396 16.5207	7.0803	7		0.25		0.1		2.5		0.929		
2011 (1 ^{1b})	26.165		0		0	8.432		17.733	0	7		0.25		0.1		2.5		0.631		
2011 (2 ^{1b})	31.228		0.148		0	21.456		9.624	0	7		0.25		0.1		2.5		0.147		
2011 (3 ^{1b})	57.796		0.479		0	49.275		8.042	0	7		0.25		0.1		2.5		0		

2011 (4 th)	67.701	0.700	0	60.076	6.925	0		7	0.25	0.1	2.5	0.012						
2012 (1 st)	67.128	0.379	0	60.076	6.673	0		7	0.25	0.1	2.5	0						
2012 (2 nd)	67.362	0.266	0	60.076	7.02	0		7	0.25	0.1	2.5	0.017						
2012 (3 rd)	55.175	0.178	0	49.187	5.81	0		7	0.25	0.1	2.5	0.017						
2012 (4 th)	16.059	0	0	14.453	1.606	0		7	0.25	0.1	2.5	0						
2013 (1 st)	3.833	0.46	0	2.873	0.50	0		2	0.25	0.1	2.5	0.009						
2013 (2 nd)	2.581	0	0	1.198	1.383	0		2	0.25	0.1	2.5	0.063						
2013 (3 rd)	2.633	0	0	1.069	1.564	0		2	0.25	0.1	2.5	0.072						
2013 (4 th)	0	0	0	0	0	0		2	0.25	0.1	2.5	0						
2014 (1 st)	0	0	0	0	0	0			0.25	0.1	2.5	0						
2014 (2 nd)	0	0	0	0	0	0		1	0.25	0.1	2.5	0						
2014 (3 rd)	0	0	0	0	0	0			0.25	0.1	2.5	0						
2014 (4 th)	0	0	0	0	0	0		1	0.25	0.1	2.5	0						
Grand Total	473.161	51.738	3.204	0.15	0	340.861	0.58	50.918	101	101.2	5.25	0.9	2.1	0	52.5	2.9	3.631	2.338

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) Plastic refer to plastic bottles/containers, plastic sheets/foam from packaging material
- (3) Broken concrete for recycling into aggregates
- (4) The Yearly Waste Flow Table will be updated if there is any changed.

APPENDIX C

**Summary Table for Using Timber in
Temporary Works**

Appendix 25.1
Summary Table for Work Processes or Activities Requiring Timber for Temporary Works

Contract No.: DC/2007/23

Contract Title: Harbour Area Treatment Scheme Stage 2A – Construction of Sewage Conveyance System from North Point to Stonecutters Island

Item No.	Description of Works Process or Activity [see note (a) below]	Justifications for 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.					
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's Representative monthly together with the Waste Flow Table for review and monitoring in accordance with the Sub-clause 5(5) in PSA25.1/2.

APPENDIX D

Possible disposal routings

Possible disposal routing

Site Area	Destination	Possible Routing
North Point	Chai Wan Public Fill Barging Point	<ol style="list-style-type: none"> 1. Island Eastern Corridor 2. Wing Tai Road 3. Siu Sai Wan Road
	Tseung Kwan O Area 137 Fill Bank	<ol style="list-style-type: none"> 1. Eastern Harbour Crossing 2. Tseung Kwun O Tunnel Road 3. Wan Po Road
	South East New Territories Landfill	<ol style="list-style-type: none"> 1. Eastern Harbour Crossing 2. Tseung Kwun O Tunnel Road 3. Wan Po Road
Wan Chai East	Chai Wan Public Fill Barging Point	<ol style="list-style-type: none"> 1. Island Eastern Corridor 2. Wing Tai Road 3. Siu Sai Wan Road
	Tseung Kwan O Area 137 Fill Bank	<ol style="list-style-type: none"> 1. Eastern Harbour Crossing 2. Tseung Kwun O Tunnel Road 3. Wan Po Road
	South East New Territories Landfill	<ol style="list-style-type: none"> 1. Eastern Harbour Crossing 2. Tseung Kwun O Tunnel Road 3. Wan Po Road
Central	Chai Wan Public Fill Barging Point	<ol style="list-style-type: none"> 1. Connaught Road 2. Gloucester Road 3. Island Eastern Corridor 4. Wing Tai Road 5. Siu Sai Wan Road
	Tseung Kwan O Area 137 Fill Bank	<ol style="list-style-type: none"> 1. Connaught Road 2. Gloucester Road 3. Eastern Harbour Crossing 4. Tseung Kwun O Tunnel Road 5. Wan Po Road
	South East New Territories Landfill	<ol style="list-style-type: none"> 1. Connaught Road 2. Gloucester Road 3. Eastern Harbour Crossing 4. Tseung Kwun O Tunnel Road 5. Wan Po Road
Sai Ying Pun	Chai Wan Public Fill Barging Point	<ol style="list-style-type: none"> 1. Fung Mat Road 2. Connaught Road 3. Gloucester Road 4. Island Eastern Corridor 5. Wing Tai Road 6. Siu Sai Wan Road
	Tseung Kwan O Area 137 Fill Bank	<ol style="list-style-type: none"> 1. Fung Mat Road 2. Connaught Road 3. Gloucester Road 4. Eastern Harbour Crossing 5. Tseung Kwun O Tunnel Road 6. Wan Po Road

Site Area	Destination	Possible Routing
	South East New Territories Landfill	<ol style="list-style-type: none"> 1. Fung Mat Road 2. Connaught Road 3. Gloucester Road 4. Eastern Harbour Crossing 5. Tseung Kwun O Tunnel Road 6. Wan Po Road
Stonecutters Island	Tuen Mun Area 38 Fill Bank	<ol style="list-style-type: none"> 1. Stonecutters Bridge 2. Nam Wan Tunnel 3. Ting Kau Bridge 4. Tuen Mun Road 5. Wong Chu Road 6. Lung Mun Road
	Tseung Kwan O Area 137 Fill Bank	<ol style="list-style-type: none"> 1. Container Port Road 2. Ching Cheung Road 3. Lung Cheing Road 4. Kwun Tong Road 5. Tseung Kwun O Tunnel Road 6. Wan Po Road
	South East New Territories Landfill	<ol style="list-style-type: none"> 1. Container Port Road 2. Ching Cheung Road 3. Lung Cheing Road 4. Kwun Tong Road 5. Tseung Kwun O Tunnel Road 6. Wan Po Road

APPENDIX E

Disposal Delivery Form

入帳票編號: 05958771

Chit No.:

選擇 一個訂明設施:

Tick One Prescribed Facility:

堆填區 Landfills

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:

入帳票編號: 05958771

Chit No.:

選擇 一個訂明設施:

Tick One Prescribed Facility:

堆填區 Landfills

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:

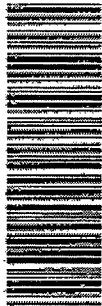
香港條例第354章廢物處理條例
廢物處置(建築廢物處理)條例

Waste Disposal Ordinance (Chapter 354)

Waste Disposal (Charges for Disposal of Construction Waste) Regulation

載運入帳票

CHIT



05958771

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:
SHAFTS AT NORTH POINT,
WAN CHAI EAST,
SAI YING PUN AND
STONECUTTERS ISLAND

有效期至: Not Applicable

Valid Until:

建築廢物產生地點:

Construction Waste Generated Site:
SHAFTS AT NORTH POINT, WAN CHAI EAST,
CENTRAL, SAI YING PUN AND
STONECUTTERS ISLAND

帳戶名稱:

Name of the Account-holder:
GAMMON CONSTRUCTION LIMITED

帳戶編號:

7009167

Account No.:

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

帳戶編號:

7009167

Account No.:

乙部份: 由廢物運轉商保留
Part B: retained by Waste Handler



內政部 政府廢置
Environmental Protection Department



7009167

Serial No. 0002603701



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



Serial No. 0002603701



(Information contained in this form may be displayed on Internet 此表格所載資料可被上載於互聯網)
Date: _____ Time of departure from site: _____ Vehicle Licence Plate Number: _____
日期: _____ 離開地盤時間: _____ 車牌號碼: _____

Designated Public Filling Facility/Landfill: _____ Location of Site: _____
指定公眾填土設施/堆填區: _____ 地盤位置: _____

<input type="checkbox"/> Central & Western 中西區	<input type="checkbox"/> Wanchai 灣仔	<input type="checkbox"/> Eastern 東區	<input type="checkbox"/> Southern 南區	<input type="checkbox"/> Sai Kung 西貢
<input type="checkbox"/> Yau Tsim Mong 油尖旺	<input type="checkbox"/> Shamshui 深水埗	<input type="checkbox"/> Kowloon City 九龍城	<input type="checkbox"/> Wong Tai Sin 黃大仙	<input type="checkbox"/> Outlying Islands 離島
<input type="checkbox"/> Kwan Tong 觀塘	<input type="checkbox"/> Kwai Tsing 葵青	<input type="checkbox"/> Tsuen Wan 荃灣	<input type="checkbox"/> Tuen Mun 屯門	<input type="checkbox"/> Shatin 沙田
<input type="checkbox"/> Yuen Long 元朗	<input type="checkbox"/> North 北區	<input type="checkbox"/> Tai Po 大埔		

Contract No. DC200723

DC200723

Please stick contract no. barcode above
請在上方貼上合約編號條碼



Date: _____
日期: _____

Designated PFF/Landfill: _____
指定公眾填土設施/堆填區: _____

Vehicle Licence Plate Number: _____
車牌號碼: _____

Issued By: _____
簽發: _____

Approximate Load: _____
大約承載量: _____
 1/4 1/2 3/4 Full 滿

Remark: _____
備註: _____

(This part retained by issuing office)
(此部分由簽發部門保留)
CEDD/CEO/84
(Revision: 01/2003)

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

Chop of Designated Public Filling Facility/Landfill
公眾填土設施/堆填區蓋印

Chop of Designated Public Filling Facility/
Landfill 公眾填土設施/堆填區蓋印

Remark: Original form with a light red and inclined watermark "DDF".

A sample of "Daily Record Summary" to record daily disposal of construction & demolition (C&D) materials from the Site

- (1) Contract no. & title: DC/2007/23
- (2) Date of disposal: 14/09/09
- (3) Designated disposal ground(s): (a) Chai Wan Barging Point
 (b) SENT
 (c) _____
 others _____
- (4) Approved alternative disposal grounds: TKO 137 Fill Bank

DDF Serial no.	Vehicle registration no.	Departure time from site	Approx. vol. (e.g. Full/Three Quarter/Half/One quarter)	C&D material type (e.g. inert or non inert)	Actual disposal ground	Arrival time at disposal ground	Acceptance time disposal ground	Acceptance by designated facility	Chit time of facility operator's stamp	Time of facility operator's stamp on DDF	Remark
0001940001	MN360	14:35	Full	Inert	TKO 137	15:01	15:09	TKO137	04885609	15:01	
←-----Part 1 -----→						-----Part 2 -----					
Submitted by:						Submitted by:			Name of Contractor's Designated Person		
Signature:						Signature:			Name of Contractor's Designated Person		
Date:						Date:			Name and Signature of the officer}		
Received by:						Received by:			Name and Signature of the officer}		
Post:						Post:			Name and Signature of the officer}		
Date & Time:						Date & Time			Name and Signature of the officer}		

Remark:

- 1) Part 1 - The Contractor shall complete Part 1 and submit it to the Supervising Officer's Representative by 1:00 pm of the following working day of the disposal trip.
- 2) Part 2 - The Contractor shall complete Part 2 and submit it to the Supervising Officer's Representative within 3 working days of the disposal trip.
- 3) The Contractor shall fill in "Accepted", or "Rejected", or "Diversion to alternative facility". If the disposal is diverted to alternative facility, the Contractor shall record details in the "Remarks" column.

APPENDIX F

**GCL Internal Trip Ticket System,
Marine Mud**

Gammon Marine Deposit Disposal Delivery Form
金門建築海泥運載記錄表 (Table 5)

1

Contract No.: 合約編號 DC/2007/23
 Contractor 承建商 Gammon Construction Limited 金門建築有限公司
 Title 合約名稱 Construction of Sewage Conveyance System from North Point to Stonecutters Island
 Location of Site: 地盤位置 Sai Ying Pun 西營盤
 Trip Ticket No.: 運載票號碼:
 MD Permit No.: 海泥許可證號碼:

Location of Transferring marine mud 轉泥區地點 : Sai Ying Pun 西營盤

Hopper Barge Registration No. 船牌號碼 :	Date 日期:	Time of Departure 離開時間:

Approximate Load : 盛載量 Full / three quarter / half / one quarter * 全滿 / 四分三滿 / 半滿 / 四分之一滿

Type of Marine Deposit 海泥種類 Type 1 / 2
 *Delete whichever inappropriate 刪去不適用者

Remarks: 附註 : _____
 Authorized Chop/ Signature of ER 工程師授權蓋印/簽名

Authorized Chop/Signature of Gammon Construction Limited 金門授權蓋印/簽名

Authorized Chop/Signature of Marine Deposit Receptor 海泥接收者之授權蓋印/簽名

1 Original Copy 正本	2 Engineer's Rep Copy 工程師代表副本	3 Sub-contractor's Copy 分判商副本	4 Marine Deposit Receptor Copy 海泥接收者副本
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Gammon Marine Deposit Disposal Delivery Form
金門建築淤泥運載記錄表 (Table 5)

2

Contract No.:
合約編號 DC12007/23
Contractor: Gammon Construction Limited
承建商 金門建築有限公司
Title: Construction of Sewage Conveyance System from North Point to
合約名稱 Stonecutters Island
Location of Site: Sai Ying Pun 西營盤
地盤位置
Trip Ticket No.:
運載票號碼:
MD Permit No.:
海泥許可證號碼:

Location of Transferring marine mud: Sai Ying Pun 西營盤
轉泥區地點
Hopper Barge Registration No.:
船牌號碼: Date: 日期: Time of Departure: 離開時間:

Approximate Load: Full / three quarter / half / one quarter *
盛載量 全滿 / 四分三滿 / 半滿 / 四分一滿

Type of Marine Deposit: Type 1 / 2
海泥種類

*Delete whichever inappropriate 刪去不適用者

Remarks:

附註:

Authorized Chop/ Signature of ER
工程師授權蓋印/簽名

Authorized Chop/Signature of
Gammon Construction Limited
金門授權蓋印/簽名

Authorized Chop/Signature of
Marine Deposit Receptor
海泥接收者之授權蓋印/簽名

1 Original Copy 正本	2 Engineer's Rep Copy 工程師代表副本	3 Sub-contractor's Copy 分判商副本	4 Marine Deposit Receptor Copy 海泥接收者 副本
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Gammon Marine Deposit Disposal Delivery Form
金門建築海泥運載記錄表 (Table 5)

3

Contract No.:
合約編號 DC/2007/23

Contractor
承建商 Gammon Construction Limited
金門建築有限公司

Title
合約名稱 Construction of Sewage Conveyance System from North Point to
Stonecutters Island

Location of Site:
地盤位置 Sai Ying Pun 西營盤

Trip Ticket No.:
運載票號碼:

MD Permit No.
海泥許可證號碼:

Location of Transferring marine mud
轉泥區地點 Sai Ying Pun 西營盤

Hopper Barge Registration No. 船牌號碼	Date 日期:	Time of Departure 離開時間:

Approximate Load
盛載量 Full / three quarter / half / one quarter *
全滿 / 四分三滿 / 半滿 / 四分一滿

Type of Marine Deposit
海泥種類 Type 1 / 2

*Delete whichever inappropriate 刪去不適用者

Remarks:
附註

Authorized Chop/ Signature of ER
工程師授權蓋印/簽名

Authorized Chop/Signature of
Gammon Construction Limited
金門授權蓋印/簽名

Authorized Chop/Signature of
Marine Deposit Receptor
海泥接收者之授權蓋印/簽名

1 Original Copy 正本	2 Engineer's Rep Copy 工程師代表副本	3 Sub-contractor's Copy 分判商副本	4 Marine Deposit Receptor Copy 海泥接收者 副本

APPENDIX G

**GCL Trip Ticket System for disposing
C&D materials to other construction
sites**



Gammon

Construction and Demolition Material Disposal Delivery Form

金門建築及拆卸物料運載記錄表

1

Contract No.:

合約編號 : DC/2007/23

Contractor : Gammon

承建商 : 金門

Title : Harbour Area Treatment Scheme Stage 2A- Construction of Sewage

合約名稱 : Conveyance System from North Point to Stoncutters Island

淨化海港計劃二期甲:北角至昂船洲污水輸送系統建造工程

Location of Site:

地盤位置 :

Location of Alternative Disposal Ground

額外卸泥區地點 :

Vehicle

Registration No.

車牌號碼 :

Date

日期:

Time of

Departure

離開時間:

Approximate Load : Full / three quarter / half / one quarter *

盛載量 : 全滿 / 四分三滿 / 半滿 / 四分一滿

Weight of Material Loaded : Tonnes

物料重量 : 噸

*Delete whichever inappropriate 刪去不適用者

Remarks: Time of Arrival 到達時間

附註 :

Authorized Chop/Signature of

Gammon

金門之授權蓋印/簽名

Authorized Chop/Signature of

C&D Material Receptor

建築物料接收者之授權蓋印/簽名

1 Original Copy 正本	2 Engineer's Rep Copy 工程師代表副本	3 Sub-contractor's Copy 分包商副本	4 C&D Material Receptor Copy 建築物料接收者 副本
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Gammon

Construction and Demolition Material Disposal Delivery Form

金門建築及拆卸物料運載記錄表

2

Contract No.:

合約編號 DC/2007/23

Contractor Gammon

承運商 金門

Title Harbour Area Treatment Scheme Stage 2A- Construction of Sewage

合約名稱 Conveyance System from North Point to Stoncutters Island

淨化海港計劃二期甲:北角至昂船洲污水輸送系統建造工程

Location of Site:

地盤位置

Location of Alternative Disposal Ground

額外卸泥區地點

Vehicle

Registration No.

車牌號碼

Date

日期

Time of

Departure

離開時間

Approximate Load : Full / three quarter / half / one quarter *

盛載量 : 全滿 / 四分三滿 / 半滿 / 四分一滿

Weight of Material Loaded Tonnes

物料重量 噸

*Delete whichever inappropriate 刪去不適用者

Remarks: Time of Arrival 到達時間

附註

Authorized Chop/Signature of
Gammon

金門之授權蓋印/簽名

Authorized Chop/Signature of
C&D Material Receptor

建築物料接收者之授權蓋印/簽名

1 Original Copy 正本	2 Engineer's Rep Copy 工程師代表副本	3 Sub-contractor's Copy 分判商副本	4 C&D Material Receptor Copy 建築物料接收者 副本
--------------------------	-------------------------------------	--	---



Gammon

Construction and Demolition Material Disposal Delivery Form

金門建築及拆卸物料運載記錄表

3

Contract No.

合約編號 DC/2007/23

Contractor Gammon

承建商 金門

Title Harbour Area Treatment Scheme Stage 2A- Construction of Sewage

合約名稱 Conveyance System from North Point to Stoncutters Island

淨化海港計劃二期甲:北角至昂船洲污水輸送系統建造工程

Location of Site:

地盤位置

Location of Alternative Disposal Ground

額外卸泥區地點

Vehicle

Registration No.

車牌號碼

Date

日期

Time of

Departure

離開時間

Approximate Load : Full / three quarter / half / one quarter *

盛載量 : 全滿 / 四分三滿 / 半滿 / 四分一滿

Weight of Material Loaded Tonnes

物料重量 噸

*Delete whichever inappropriate 刪去不適用者

Remarks: Time of Arrival 到達時間

附註

Authorized Chop/Signature of

Gammon

金門之授權蓋印/簽名

Authorized Chop/Signature of

C&D Material Receptor

建築物料接收者之授權蓋印/簽名

1 Original Copy 正本	2 Engineer's Rep Copy 工程師代表副本	3 Sub-contractor's Copy 分判商副本	4 C&D Material Receptor Copy 建築物料接收者 副本
--------------------------	-------------------------------------	--	---



Construction and Demolition Material Disposal Delivery Form
金門建築及拆卸物料運載記錄表

4

Contract No
 合約編號 DC/2007/2j
 Contractor
 承建商 Gammon
 金門
 Title
 合約名稱 Harbour Area Treatment Scheme Stage 2A- Construction of Sewage
 Conveyance System from North Point to Stoncutters Island
 淨化海港計劃二期甲:北角至昂船洲污水輸送系統建造工程
 Location of Site:
 地盤位置 _____

Location of Alternative Disposal Ground
 額外卸泥區地點 _____

Vehicle Registration No. : _____ Date : _____ Time of Departure : _____
 車牌號碼 : _____ 日期: _____ 離開時間: _____

Approximate Load : Full / three quarter / half / one quarter *
 盛載量 : 全滿 / 四分三滿 / 半滿 / 四分一滿
 Weight of Material Loaded _____ Tonnes
 物料重量 _____ 噸

*Delete whichever inappropriate 刪去不適用者

Remarks: Time of Arrival 到達時間
 附註 : _____

Authorized Chop/Signature of
 Gammon
 金門之授權蓋印/簽名

Authorized Chop/Signature of
 C&D Materiel Receptor
 建築物料接收者之授權蓋印/簽名

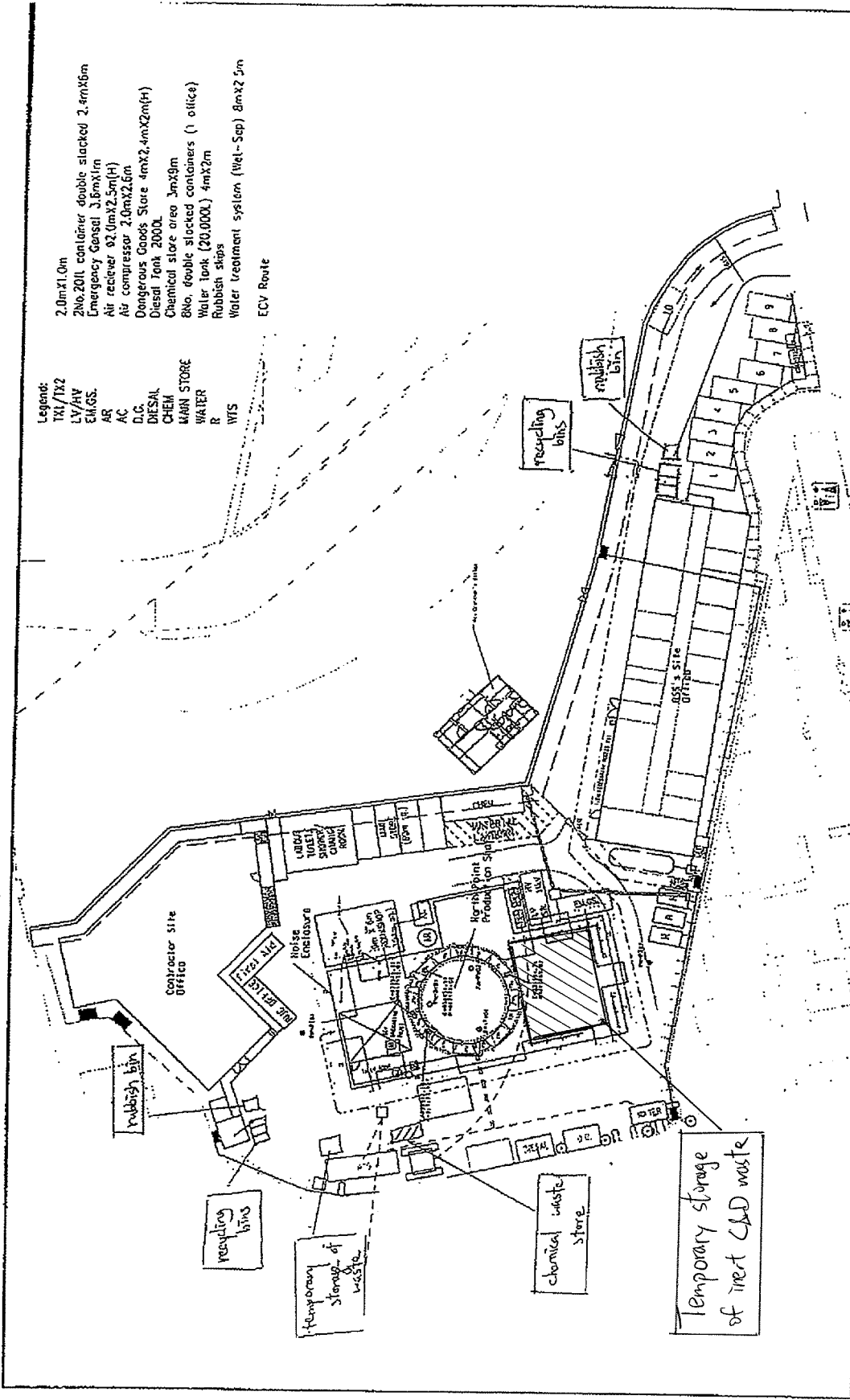
1 Original Copy 正本	2 Engineer's Rep Copy 工程師代表副本	3 Sub-contractor's Copy 分判商副本	4 C&D Material Receptor Copy 建築物料接收者 副本
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FIGURE 1

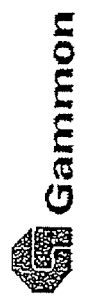
On Site Waste Sorting Facilities

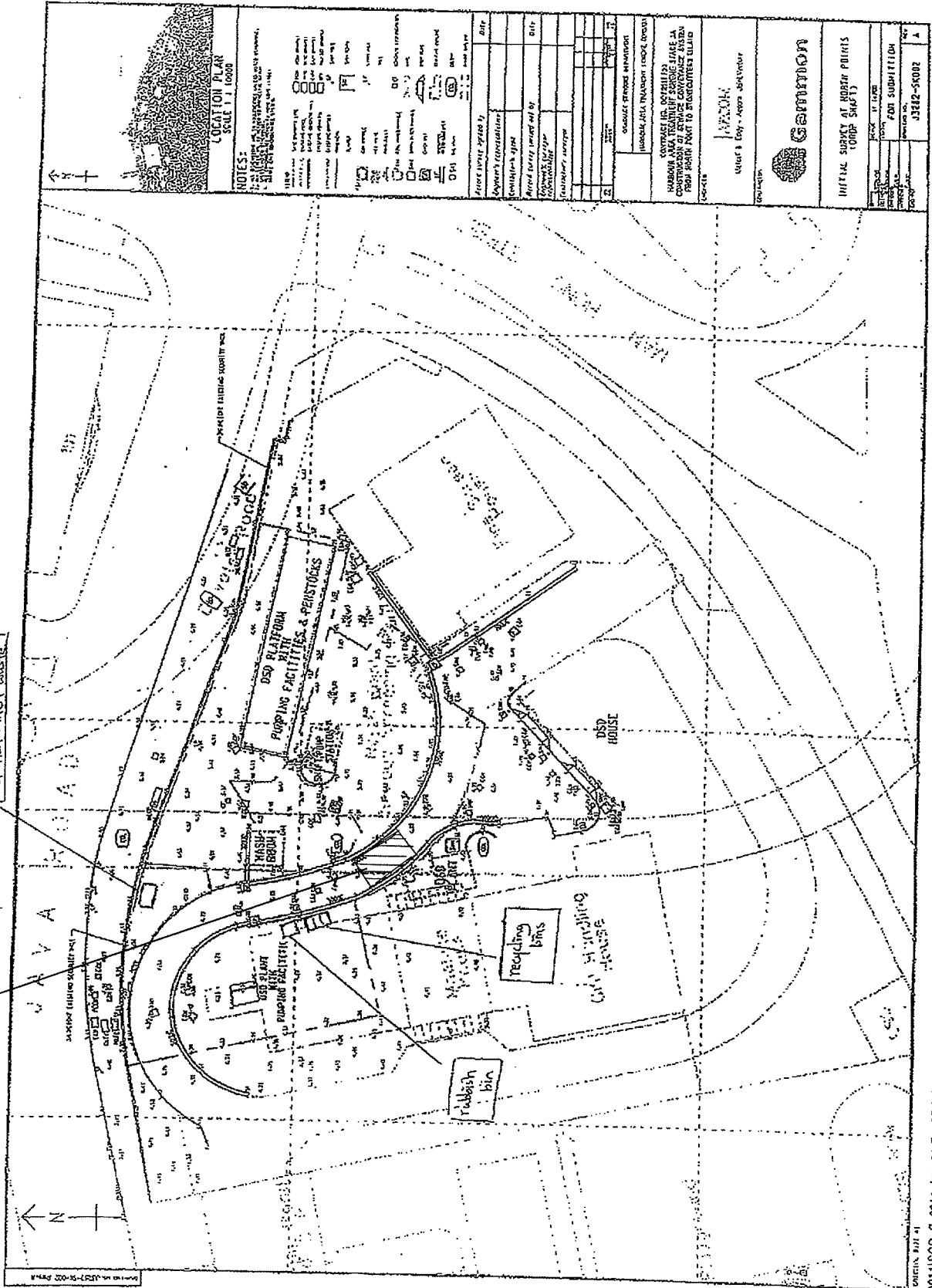
- 2.0m x 1.0m
 2No. 200L container double stacked 2.4m x 8m
 Emergency Genset 3.6m x 1m
 Air receiver 82.0m x 2.5m (H)
 Air compressor 2.0m x 2.6m
 Dangerous Goods Store 4m x 2.4m x 2m (H)
 Diesel Tank 2000L
 Chemical store area 3m x 9m
 8No. double stacked containers (1 office)
 Water tank (20,000L) 4m x 2m
 Rubbish skips
 Water treatment system (Wet-Scp) 8m x 2.5m
 ECV Route

- Legend:**
 TXL/TX2
 LV/HV
 EM.G.S.
 AR
 AC
 D.C.
 DIESEL
 CHEM
 MAIN STORE
 WATER
 R
 WTS



J3282 Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island		No. 0 Date 06/07/10 Ref. Drawing No.: Nil Sketch Title:	Revision: 0 Package No.: Nil
No. 0 Date 06/07/10 Ref. Drawing No.: Nil Sketch Title:	No. 0 Date 06/07/10 Ref. Drawing No.: Nil Sketch Title:	No. 0 Date 06/07/10 Ref. Drawing No.: Nil Sketch Title:	No. 0 Date 06/07/10 Ref. Drawing No.: Nil Sketch Title:
DRAWING SCALE: 1:1000 @ A3			





Temporary storage of inert C&D waste

Temporary storage of heavy inert waste

LOCATION PLAN
SCALE 1:10000

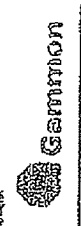
NOTES:
1. THIS PLAN IS A REPRESENTATION OF THE SITUATION AS AT THE DATE OF SURVEY AND IS NOT TO BE USED FOR ANY OTHER PURPOSE.
2. THE BOUNDARIES OF THE PLOTS ARE SHOWN BY DOTTED LINES.
3. THE PLOTS ARE IDENTIFIED BY NUMBERS AND LETTERS.
4. THE DISTANCES BETWEEN THE PLOTS ARE SHOWN BY DIMENSION LINES.
5. THE AREA OF EACH PLOT IS SHOWN BY A NUMBER.
6. THE TOTAL AREA OF THE SITE IS SHOWN BY A NUMBER.
7. THE PERIMETER OF THE SITE IS SHOWN BY A DOTTED LINE.
8. THE LOCATION OF THE PLOTS IS SHOWN BY A DOTTED LINE.
9. THE LOCATION OF THE BUILDINGS IS SHOWN BY A DOTTED LINE.
10. THE LOCATION OF THE INFRASTRUCTURE IS SHOWN BY A DOTTED LINE.

Area (sqm)	100	200	300	400	500	600	700	800	900	1000
Area (sqm)	110	220	330	440	550	660	770	880	990	1100
Area (sqm)	120	240	360	480	600	720	840	960	1080	1200
Area (sqm)	130	260	390	520	650	780	910	1040	1170	1300
Area (sqm)	140	280	420	560	700	840	980	1120	1260	1400
Area (sqm)	150	300	450	600	750	900	1050	1200	1350	1500
Area (sqm)	160	320	480	640	800	960	1120	1280	1440	1600
Area (sqm)	170	340	510	680	850	1020	1190	1360	1530	1700
Area (sqm)	180	360	540	720	900	1080	1260	1440	1620	1800
Area (sqm)	190	380	570	760	950	1140	1330	1520	1710	1900
Area (sqm)	200	400	600	800	1000	1200	1400	1600	1800	2000

Area (sqm)	210	420	630	840	1050	1260	1470	1680	1890	2100
Area (sqm)	220	440	660	880	1100	1320	1540	1760	1980	2200
Area (sqm)	230	460	690	920	1150	1380	1600	1820	2040	2300
Area (sqm)	240	480	720	960	1200	1440	1660	1880	2100	2400
Area (sqm)	250	500	750	1000	1250	1500	1720	1940	2160	2500
Area (sqm)	260	520	780	1040	1300	1560	1780	1980	2220	2600
Area (sqm)	270	540	810	1080	1350	1620	1840	2040	2280	2700
Area (sqm)	280	560	840	1120	1400	1680	1900	2100	2340	2800
Area (sqm)	290	580	870	1160	1450	1740	1960	2160	2400	2900
Area (sqm)	300	600	900	1200	1500	1800	2020	2220	2460	3000

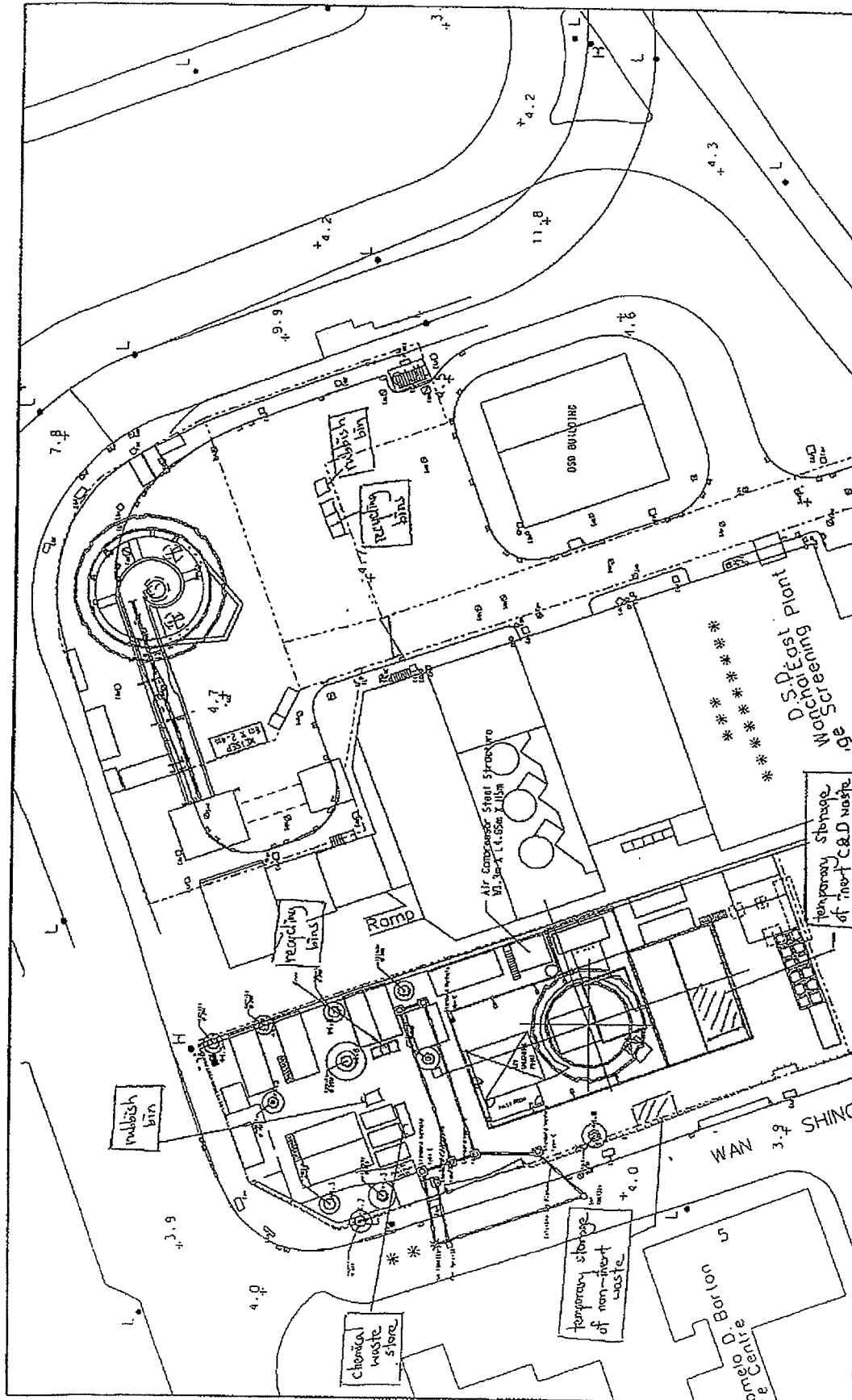
CONTRACT NO. 007211/03
WORKS AND FACILITIES TO BE PROVIDED FOR THE
CONSTRUCTION OF THE DSP PLATFORM AND
PULPING FACILITIES AND PENSTOCKS
FROM BRAIN POINT TO TRANSCENTERS BUILDING

WATSON
Robert S. Eady - Project Supervisor



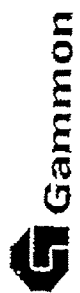
INITIAL SUBJECT AT BRAIN POINTS
(ONP-5467)

DATE	11/10/03
BY	FBI SUFFOLK
FOR	0322-5402
SCALE	A

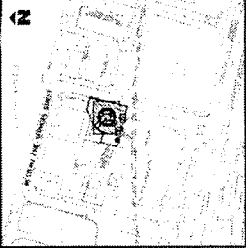


Rev.	Description	Proposed	Date	Sketch No. J3282-SK-001	Rev. 0
		Approved		REF. Drawing No.: HK	Package No.: HA
Sketch Title:		WAN CHAI EAST SITE LAYOUT PLAN			
DRAWING SCALE: 1:200 @ A1					

J3282
 Contract No. DC/2007/23
 Harbour Area Treatment Scheme Stage 2A
 Construction of Sewage Conveyance System
 from North Point to Stonecutters Island



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LOCATION PLAN
 SCALE 1:2000

NOTES

- ALL DIMENSIONS IN METRES, UNLESS OTHERWISE STATED.
- THE SIGN O.D. 2.4M STEEL CASING WILL NOT BE SHOWN AS PART OF THE PROPOSED PAVEMENT.
- THE EXISTING AND PROPOSED SURFACE GEOMETRICS, INCLUDING THE PROPOSED DRIVEWAYS, SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF UNDERGROUND WORK.
- THE PROPOSED DRESS OVERLAP SHALL BE INSTALLED WITH THE SURFACES.

No.	FOR COMMENT	DATE	BY	CHK
1	FOR COMMENT	20/06/10	...	...
2	FOR COMMENT	24/02/10	...	...
3	FOR COMMENT	22/01/10	...	...
4	FOR COMMENT	26/11/09	...	...
5	FOR COMMENT	07/07/09	...	...
6	FOR COMMENT	20/06/09	...	...

DRAINAGE SERVICES DEPARTMENT
 HARBOUR AREA TREATMENT SCHEME OVERSIGHT
 CONTRACT NO. DS 1387-03
 HARBOUR AREA TREATMENT SCHEME STAGE 2A
 CONSTRUCTION OF SEWAGE COMPLIANCE SYSTEM
 FROM NORTH POINT TO STONECUTTERS ISLAND

AECOM

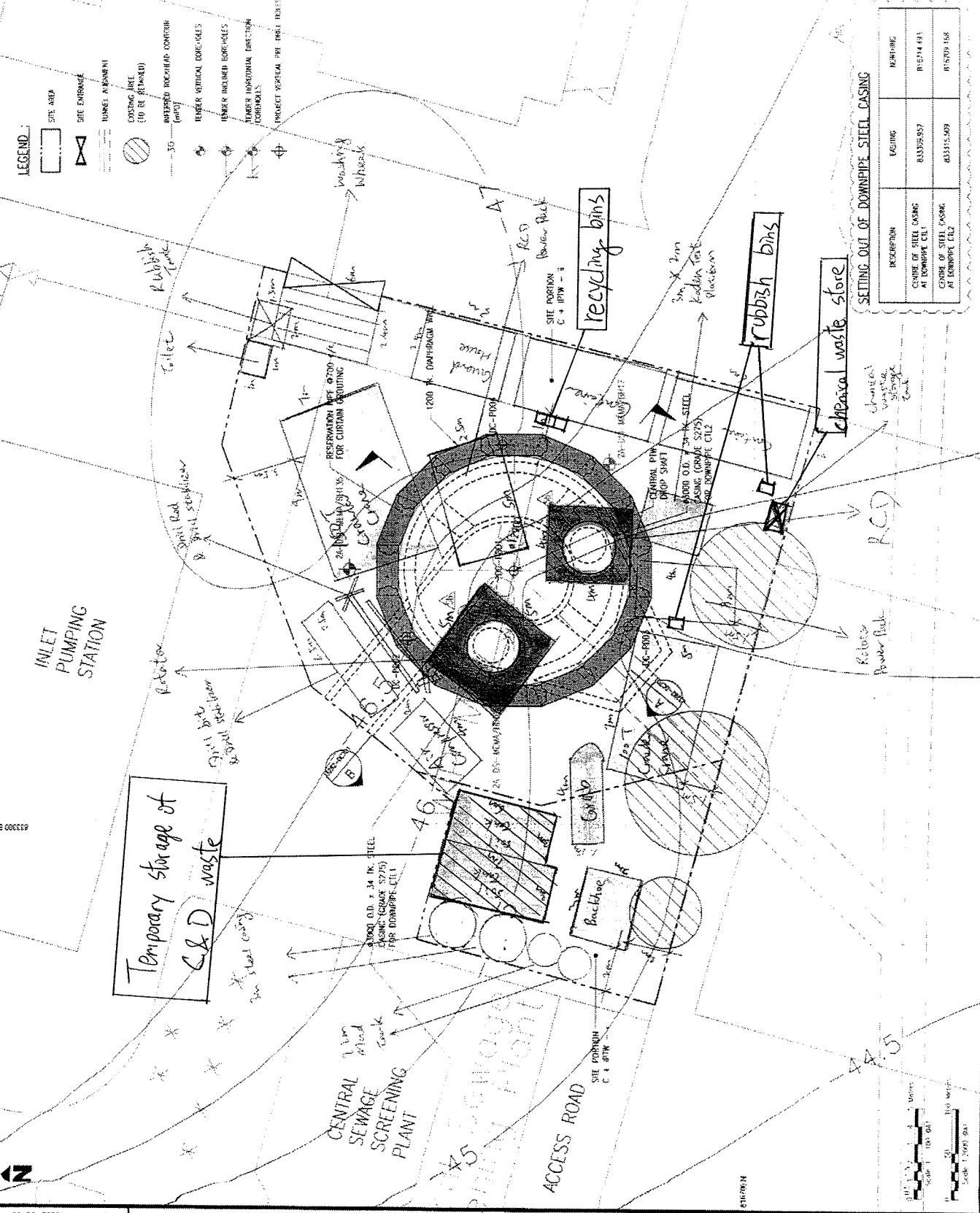
Gammon

LAMBETH

Norconsult

FOR COMMENT

Drawn	J. L. ...
Checked	...
Approved	...
Project No.	1387-03
Sheet No.	28



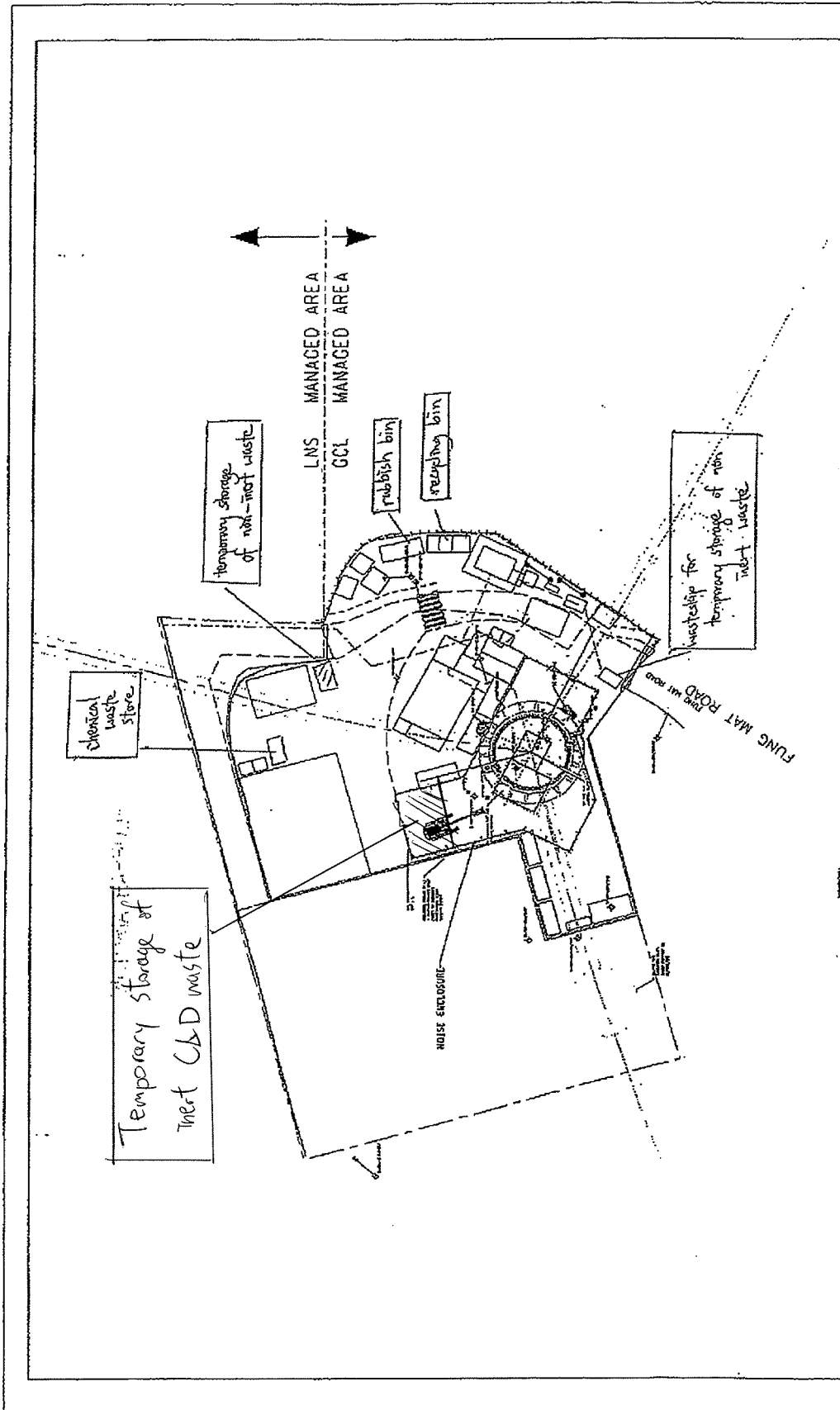
SETTING OUT OF DOWNPIPE STEEL CASING

DESCRIPTION	LOCATION	MARKING
CORNER OF STEEL CASING AT DOWNPIPE CELL	R33395.557	R-E-114.433
CORNER OF STEEL CASING AT DOWNPIPE CELL	433315.609	R-N-209.158

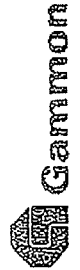
Scale 1:500 (2x)

North Arrow

0m 10m 20m

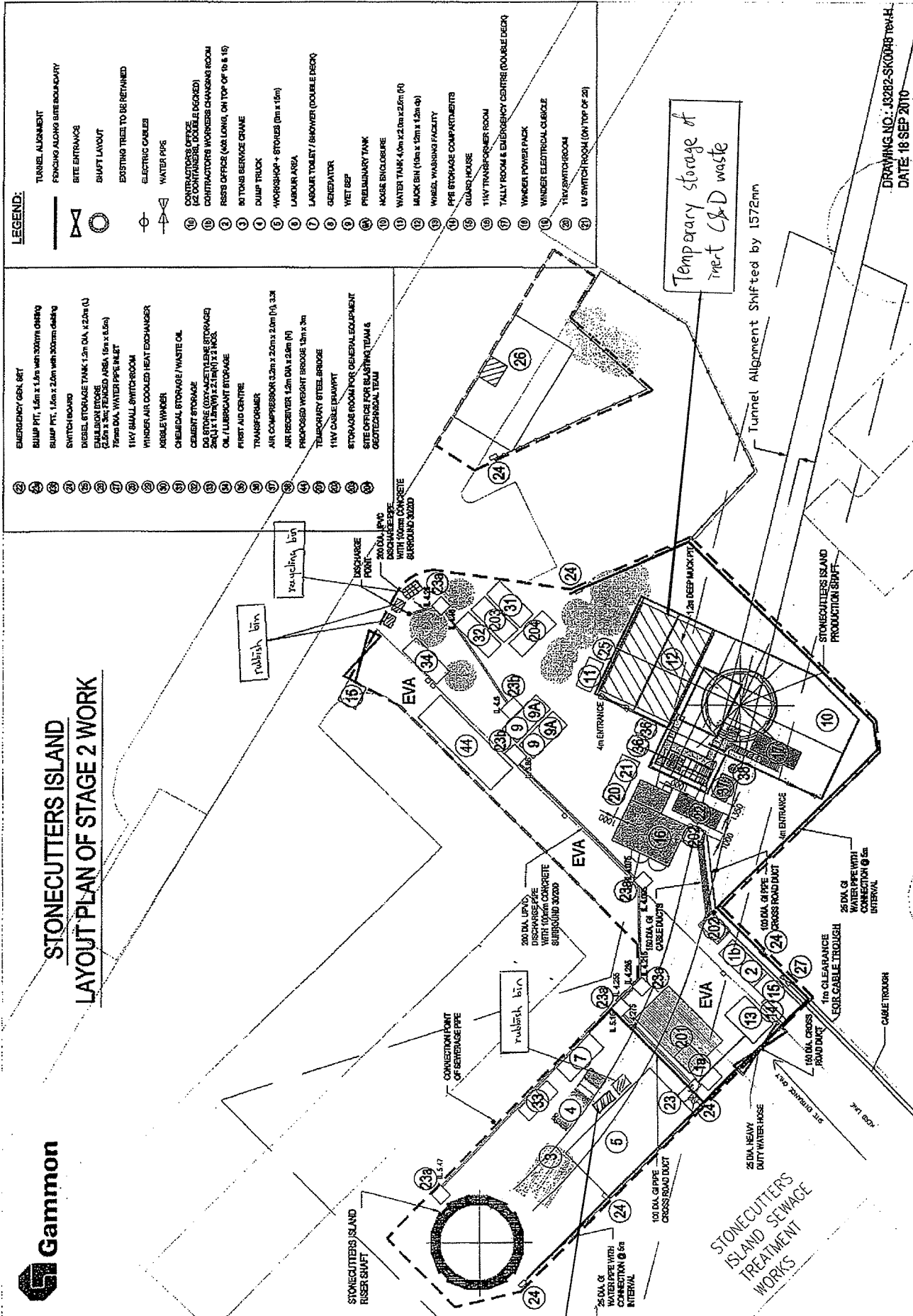


J3282 Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island	sheet No. 10410114 Ref. Drawing No. E05005-C&D-MISC-055- Sketch Title:	Rev. 0 Page No. 1
	Date: _____ Prepared: _____ Checked: _____ Approved: _____	Proposed Electric Wire at Sai Ying Pun Layout Plan (Stage 2) DRAWING SCALE: 1:500 (A1 & A3)	Page No. 1





STONECUTTERS ISLAND LAYOUT PLAN OF STAGE 2 WORK



LEGEND:

- TUNNEL ALIGNMENT
- FENCING ALONG SITE BOUNDARY
- BITE ENTRANCE
- SHAFT LAYOUT
- EXISTING TREES TO BE RETAINED
- ELECTRIC CABLES
- WATER PIPE

- EMERGENCY GEN. SET
- BUMP PIT, 1.5m x 1.5m with 300mm ceiling
- BUMP PIT, 1.5m x 2.0m with 300mm ceiling
- SWITCH BOARD
- DIESEL STORAGE TANK 1.2m DIA, H 2.2m (1)
- EXHAUSTION STORE
- 2.5m x 3m FENCED AREA (10m x 8.0m)
- TEMP DIA. WATER PIPE INLET
- 11KV SMALL SWITCH ROOM
- WINDER AIR COOLED HEAT EXCHANGER
- AGGREGATE WINDER
- CHEMICAL STORAGE / WASTE OIL
- COMBUST STORAGE
- 200 LITRE (1000 L) OIL STORAGE
- 200 LITRE (1000 L) OIL STORAGE
- OIL / LUBRICANT STORAGE
- FIRST AID CENTRE
- TRANSFORMER
- AIR COMPRESSOR 0.2m x 2.0m x 2.0m (1A, 3A)
- AIR RECEIVER 1.2m DIA x 2.0m (1)
- PROPOSED WEIGHT BRIDGE 10m x 3m
- TEMPORARY STEEL BRIDGE
- 11KV CABLE DRAINAGE
- STORAGE ROOM FOR SPECIAL EQUIPMENT
- SITE OFFICE FOR BLASTING TEAM & GEOTECHNICAL TEAM

- CONTRACTORS OFFICE
- (2 CONTRACTORS, DOUBLE DECKED)
- CONTRACTORS WORKERS CHANGING ROOM
- RESTS OFFICE (400 LONG, ON TOP OF 16 & 17)
- 90 TONS SERVICE CRANE
- DUMP TRUCK
- WORKSHOP + STORES (0m x 15m)
- LABOUR AREA
- LABOUR TOILET / SHOWER (DOUBLE DECK)
- GENERATOR
- WET DEP
- PRELIMINARY TANK
- MOBILE ENCLOSURE
- WATER TANK 4.0m x 2.0m x 2.0m (1)
- MUCK BIN (10m x 12m x 1.2m deep)
- WHEEL WASHING FACILITY
- PPF STORAGE COMPARTMENTS
- GLASS HOUSE
- 11KV TRANSFORMER ROOM
- TALLY ROOM & EMERGENCY CENTRE (DOUBLE DECK)
- WINNER POWER PACK
- WINNER ELECTRICAL OFFICE
- 11KV SWITCH ROOM
- 11KV SWITCH ROOM (ON TOP OF 20)

Temporary storage of inert C&D waste

Tunnel Alignment Shifted by 1572mm

Chemical Waste Store