Construction and Demolition Waste

Introduction

The landfills used for disposal of solid waste are being filled up at an alarming rate. Of particular concern is the increasing amount of construction and demolition (C&D) materials being dumped at the landfills. More than one quarter of the total solid waste disposed of in landfills is generated from building construction. Careful consideration given to waste generation and management at the planning stage of a building development will lead to less waste later on for disposal at landfills.

Waste Minimization

2. Waste prevention not only reduces the need for landfill space, but also conserves natural resources and reduces pollution. Opportunities to prevent waste can be identified during both the project planning and design stage as well as construction stage. Measures may include:

Planning and Design

i) Precast and prefabrication including modular design, precast façade, precast staircase, precast slab, prefabricated external elements, precast bridge-decks or footbridges, precast blocks for pavement paving, prefabricated kitchen or bathroom accessories, proprietary doorset and partition wall;

ii) Sprayed plaster;

iii) Balancing cut and fill;

iv) Use of pulverised fuel ash in concrete for substructure, superstructure and streetwork;

v) Combine services trenches to reduce excavation;

vi) Purchasers’ choice for finishes and fittings;

vii) Minimised use of timber from non-sustainable sources; and

viii) System formwork.

Construction and Site Management

i) Waste Management Plan;

ii) Non-timber hoarding;

iii) Metal formwork and metal falsework;

iv) On-site sorting of C&D materials;

v) On-site water conservation;

vi) Recycling of concrete for use as fill or hardcore;

/vii).....
Waste Management Plan

3. As a Waste Management Plan (the Plan) is a useful tool in ensuring that measures are taken during the construction stage to reduce C&D materials, it is recommended that you advise your client to require the contractor to submit such a plan to you for agreement. The following are the areas that may be covered in the Plan:

   i) the types of waste and their estimated quantities;
   ii) the timing of waste arising;
   iii) measures for reducing waste generation;
   iv) on-site waste separation;
   v) on-site and off-site material reuse;
   vi) areas for waste storage;
   vii) quantities of waste requiring off-site disposal;
   viii) disposal outlets;
   ix) monitoring and auditing programme;
   x) organisation structure for waste management;
   xi) a list of materials to be reused or recycled with estimated quantities;
   xii) implementation of the trip ticket system (see paragraph 5 below for reference);
   xiii) method of processing, storing and disposal of hazardous waste; and
   xiv) method of dealing with packaging material.

4. For projects that produce more than 300,000 cu.m. of construction and demolition material, the Director of Environmental Protection has indicated that he is prepared to offer advice to you prior to your acceptance of the Plan. The Public Fill Committee of Civil Engineering Department is also prepared to offer advice to AP & RSE on the management and beneficial reuse of C&D material.

Trip Ticket System

5. The problem of illegal dumping has attracted adverse publicity and most illegally dumped materials are generated from construction activities. For more effective control, the Works Bureau has established a Trip-ticket System in public works contracts for the proper disposal of construction and demolition (C&D) material at public filling facilities or landfills. This policy is promulgated under the Works Bureau Technical Circular (WBTC) No.5/99, which is effective on 1 July 1999. The policy is that all public fill (being the inert portion of C&D material) shall be disposed of at designated public filling facilities managed by Civil Engineering Department (CED), and all C&D waste (being the non-inert portion of C&D material) shall be disposed of at designated landfills managed by Environmental Protection Department (EPD). A brief description of the Trip-ticket System is described in Appendix A.
6. The system has been adopted by the Housing Authority and the Works Departments. The same system could be applied to the disposal of C&D material in private sector projects. The project administrators for private developments could apply, through CED and EPD, for designated public filling facilities and landfills for the disposal of the public fill and C&D waste respectively. The Building Authority strongly recommends that the system be implemented in private sites for better control of the C&D material disposal.

7. For details of the WBTC No.5/99, please go to the web site of Works Bureau @ http://www.wb.gov.hk. For details on the disposal of public fill, please refer to the web site of CED @ http://www.info.gov.hk/ced and the notes at Annex I of Appendix A.

(C M LEUNG)
Building Authority

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Trip Ticket System

(i) At the planning stage of a contract, the project officer seeks confirmation from CED (Public Fill Committee) whether public filling facilities are available for disposal of the public fill, and from EPD (Facilities Management Group) whether landfills are available for disposal of the C&D waste.

(ii) The project officer shall provide the following information to CED and EPD in the application for designated disposal outlets:

(a) Contract number and title;
(b) Site location;
(c) Anticipated quantities of disposal;
(d) Programme for disposal;
(e) Recommended disposal arrangement in Environmental Impact Assessment/Contamination Assessment Report, if any;
(f) Test results identifying the type and level of contaminants present, if any;
(g) Types of the public fill and/or C&D waste;
(h) Contact details of the project officer.

(iii) CED and EPD will designate the public filling facilities and landfills respectively for the project and advise the project officer the acceptance criteria of the respective facilities. As a general policy to conserve the limited landfill void space, public fill (such as soil, rock, concrete, bricks, bituminous materials etc.) should be delivered to public filling facilities instead of to landfills (see Annex I regarding disposal of public fill).

(iv) The project officer then specifies the names of the facilities and acceptance criteria in the tender documents.

(v) A trip ticket (i.e. a Disposal Delivery Form) is required for each truckload delivered to the public filling facilities and landfills. (Sample of the Form is shown in Annex II and also available in the WBTC No.5/99).

(vi) Upon commencement of construction, the Contractor shall carry the trip ticket (Disposal Delivery Form) issued by the project officer for every vehicular trip transporting the public fill and C&D waste to the designated public filling facilities and landfills respectively.

(vii) For each vehicular trip on arrival at the disposal facility, the Contractor shall present the Form at the entrance gate, proceed with the disposal operation and then obtain a receipt from the operator of the public filling facility or landfill at the exit gate. The Contractor is required to submit the original receipt to the Engineer’s/Architect’s Representative of the project office. The project office then approaches CED or EPD for a monthly report of the relevant transaction records and carries out the reconciliation for compliance checking.
Disposal of Public Fill

(a) For each truckload delivered to the public filling facilities a trip ticket (i.e. a Disposal Delivery Form) is required. Please see Annex II.

(b) The dump trucks should also have valid Dumping Licences issued by CED. Dump trucks without Dumping Licences will be rejected.

(c) Application form for Dumping Licence and the associated conditions as stipulated in the Dumping Licence can be collected from the Port Works Division, 5/F., Civil Engineering Building, 101 Princess Margaret Road, Homantin, Kowloon or downloaded from CED’s web site at [http://www.info.gov.hk/ced/](http://www.info.gov.hk/ced/). A sample is at Annex III.

(d) The inert construction and demolition (C&D) materials to be delivered to the public filling facilities should be in accordance with the conditions as stipulated in the Dumping Licence (copy attached).

(e) The normal opening hours of the public filling facilities will be from 8:30 a.m. to 12:00 noon and then from 1:00 p.m. to 6:00 p.m.

(f) All public filling facilities are open to the public free of charge for land delivery of inert construction and demolition material by vehicles.
Construction and Demolition Material Disposal Delivery Form

Department: __________________________  Contract No.: _____________

Contractor:  ______________________________________________________

Contract Title:  ____________________________________________________

Location of Site:  ____________________________________________________

Location of Public Filling Facility/Landfill *: ___________________________

Vehicle Registration No.: _____________  Date: _________________

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

Remark:  ____________________________

____________________________________

____________________________________

____________________________________

____________________________________

Time of Departure: _________________  ____________________________

Authorised Chop of
Engineer’s Representative/
Architect’s Representative *

* Delete whichever inappropriate
APPLICATION FOR DUMPING LICENCE (ONE LICENCE FOR EACH VEHICLE)

1. PARTICULARS OF REGISTERED OWNER OF THE VEHICLE

<table>
<thead>
<tr>
<th>English Name</th>
<th>Chinese Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name in English:</td>
<td>Name in Chinese:</td>
</tr>
</tbody>
</table>

2. APPLICATION

- [ ] Full replacement of the dumping license for the above-mentioned vehicle

3. DECLARATION

- [ ] I certify that the enclosed copy of the Vehicle Registration Document is a true copy of the original document which is still valid on the date of this application.

Signature of Applicant (and Company/ Depot, if applicable): ____________________________

Name of Issue is: ____________________________

Date: ____________________________

* Please stick the appropriate box

Note: The completed application, together with a copy of the valid Vehicle Registration Document of the vehicle duly signed by the applicant, should be returned to Port Works Division, Civil Engineering Department at BF, Civil Engineering Engineering Building, 101 Princess Margaret Road, Kowloon.

For Official Use Only

Date received: ____________________________

License No.: ____________________________

Date Dispatched: ____________________________
The conditions as stipulated in the Dumping Licence

1. The licensee shall not deposit anyone else’s waste.

2. The licensee shall ensure that all waste is deposited properly, including segregation of different types of waste.

3. The licensee shall not use the facility for any unauthorized purpose.

4. The licensee shall ensure that all waste is deposited properly, including segregation of different types of waste.

5. The licensee shall not use the facility for any unauthorized purpose.

6. The licensee shall not use the facility for any unauthorized purpose.

7. The licensee shall not use the facility for any unauthorized purpose.

8. The licensee shall not use the facility for any unauthorized purpose.

9. The licensee shall not use the facility for any unauthorized purpose.

10. The licensee shall not use the facility for any unauthorized purpose.

11. The licensee shall not use the facility for any unauthorized purpose.

12. The licensee shall not use the facility for any unauthorized purpose.

13. The licensee shall not use the facility for any unauthorized purpose.

14. The licensee shall not use the facility for any unauthorized purpose.

15. The licensee shall not use the facility for any unauthorized purpose.

16. The licensee shall not use the facility for any unauthorized purpose.

The licensee’s driver shall not leave the premises without the permission of the超级监察官.