8 WASTE CONTROL MEASURES

Site Clearance Waste

8.1 Vegetation cleared from the site to facilitate construction works would be collected and stored on site wherever possible. For any non-reusable vegetation, they would be disposed of at landfills operated by the EPD. General refuse from site clearance would also be disposed of at landfills.

Excavated Material

8.2 Excavated materials would be segregated from other wastes to avoid contamination thereby ensuring acceptability for internal reuse or tipping at public filling areas or reclamation sites and avoiding the need for disposal at landfill.

8.3 Prior to the reuse or disposal of inert excavated material, it would need to be appropriately handled to avoid air quality (dust generation) and water quality (run-off) impacts. Procedures to be followed during the storage of excavated materials would include:

- Wetting the surface of stockpiles as necessary, particularly during dry periods;
- Minimise disturbance to stockpiles by enclosing and covering, particularly during prolonged wet, dry or windy periods; and
- Separate stockpiles from, and install silt traps into, the surface water drainage system.

8.4 Excavated material would be transported within the site by trucks. During truck loading and waste transportation, consideration would be given to potential environmental impacts caused by fugitive dust emissions. Accordingly, prior to transfer and transport, waste would be dampened and / or covered as necessary.

8.5 For each and every vehicular trip transporting surplus excavated material off-site, a Construction and Demolition Material Disposal Delivery Form (DDF) would be produced and completed in duplicate. A specimen of the Form is contained in Appendix B.

8.6 The original of the Construction and Demolition Material Disposal Delivery Form and the trip ticket from the disposal site would be submitted to the ER. The copy of the Form and the trip ticket would also be maintained by the HS&E Engineer.

C&D Material

8.7 Careful design, planning and good site management would be maintained to minimise over-ordering and waste of raw materials such as ready mixed concrete, mortars and cement grouts.

8.8 The formwork would 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 would be considered for repetitive areas to increase the potential for reuse.
8.9 C&D material would be, as far as practicable, separated into reusable items and materials to be disposed of or recycled. It would be conducted at the immediate working area to avoid loss or leakage during handling.

8.10 All C&D materials arising from or in connection with the construction work would be sorted on site and be separated into different categories for disposal at landfills and public filling areas, or reuse and recycle as appropriate. The tentative location of the sorting facility is provided in Figure 8.1.

8.11 If C&D materials generated from the Project is to be reused as filling or for site formation works at another site (other than Public Filling Area), the Contractor must obtain written agreement from the relevant third party and notify the ER of such action. Information on the amount and suitability of re-using the material, and the assessment results of potential environmental impact of such action would be submitted to EPD for approval.

8.12 Useful materials such as timber, rubble and steel/metal would be segregated for reuse. For example, formwork and timber would be cleaned for reuse, off-cuts of reinforcement would be sorted into usable lengths and short off cuts stacked for scrap metal. Where it is no longer usable, steel and metal items and paper/cardboard would be sent as scrap for recycling.

8.13 The remaining non-reusable C&D materials would be sorted on site into public fill (inert) and C&D waste (non-inert). The public fill would be dumped to public filling areas whilst the “C&D waste” containing no more than 30% by weight of inert content would be tipped at the WENT Landfills by licensed waste haulier. Appropriate air quality and water quality mitigation measures (same as those for excavated materials) would be implemented for the storage and handling of C&D wastes sending to public fill. C&D waste would be disposed of at landfills operated by the EPD.

8.14 A trip-ticket system would be established in accordance with Environment, Transport and Works Bureau Technical Circular (Works) No. 21/2002 to monitor the disposal of public fill, excavated material and solid wastes at public filling facilities and landfills, and to control fly-tipping.

8.15 For each and every vehicular trip transporting public fill and C&D waste off-site, a Construction and Demolition Material DDF would be produced and completed in duplicate. A specimen of the Form is provided in Appendix B.

8.16 The completed DDF shall be sent to the Engineer’s Representative by fax within two working days and followed by post within two weeks after the vehicular trip. The copy of the DDF and the trip ticket would also be maintained by the HS&E Engineer for reference.

**Chemical Waste**

8.17 Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, would be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes as follows:

*Packaging*

8.18 Chemical waste would be packed and held in containers of suitable design and
construction so as to prevent leakage, spillage or escape of the contents under normal conditions of handling, storage and transport.

8.19 Containers used for the storage of chemical wastes would 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 specifications have been approved by the EPD; and
- Displaying a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations.

**Labelling**

8.20 Every container of chemical waste would bear an appropriate label, which would contain the particulars details. The waste producer would ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste.

**Storage**

8.21 The Contractors would provide a suitable area for temporary storage of chemical waste. The storage area would be specially constructed and bunded, and located close to the source of waste generation as far as is practicable. The tentative location of the chemical waste storage area is provided in Figure 8.1.

8.22 The storage area for chemical wastes would:

- Be clearly labeled and used solely for the storage of chemical waste;
- Be enclosed on at least 3 sides;
- Have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest;
- Have adequate ventilation;
- Be covered to prevent rainfall entering (water collected with the bund must be tested and disposed of as chemical waste if necessary); and
- Be arranged so that incompatible materials are adequately separated.

**Disposal**

8.23 Chemical waste would be disposed:

- Via a licensed chemical waste collector;
- To a facility licensed to receive chemical waste such as the Chemical Waste Treatment Centre; and
- To a reuser of the waste, under the approval from the EPD.
Prior approval from the EPD would be sought by the Contractor prior to disposal of chemical waste to landfill. Trip tickets issued for every chemical waste collection made by the licensed waste collector would be copied to the ER and the original would be maintained by the HS&E Engineer for reference.

Site personnel involved in chemical waste handling would be instructed and be familiar with the waste handling procedures and guidelines.

Records of maintenance, such as cleaning and repair of chemical storage area, would be completed for each designated area and maintained by HS&E Engineer for future reference.

Chemical waste would be disposed at landfill site; however, EPD would be informed by the Contractor on the final disposal of chemical waste.

**Spill Response**

A Spill Response Plan was developed to include prevention and precaution, response actions, clean up and disposal procedures of spillage. This plan would be implemented to deal with any accidental spillage of chemical/chemical waste on site. The spill response plan is provided in Appendix C.

A flowchart showing the reporting procedures for all emergency event/accident, which is also applicable for large-scale spillage, is also provided in Appendix C. The large-scale spillage defines the spillage, which would cause casualties, damage of utilities, serious contamination of an area or risk of extensive pollution. In case of any small-scale spillage, it should be reported to the Foreman in charge of the works area and trained persons should be delegated to clean up the spillage area in accordance with the Spill Response Plan.

A schematic flow diagram is also provided in Appendix C to illustrate the response actions for both large scale and small-scale spillage event.

**General Refuse**

General refuse generated on-site would be stored in enclosed bins or compaction units separate from construction and chemical wastes. A licensed waste collector would be employed to remove general refuse from the site, separately from construction and chemical wastes, on regular basis to minimise odour, pest and litter impacts. The burning of refuse on construction sites is prohibited by law and would not be undertaken.

General refuse is generated largely by food service activities on site, so reusable rather than disposable dishware would be used if feasible. 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 would be provided if feasible.

Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme would be considered if one is available. In addition, waste separation facilities for paper, aluminium cans, plastic bottles etc., would be provided.
Asbestos Waste

8.34 Asbestos waste, as defined by Registered Asbestos Consultant, would be temporary stored on site and be properly handled before disposal according to the “Code of Practice on Handling, Transportation and Disposal of Asbestos Waste” issued by EPD.

Warning Notices and Signs

8.35 Warning notices and signs worded in English and Chinese characters would be displayed around the working area, on the temporary partitions, at entrances of decontamination units and in areas for asbestos waste storage. Warning notices to be posted would comply with the requirements as specified in the “Code of Practice on Asbestos Control” prepared by EPD. Segregation and warnings would remain throughout the abatement work.

Temporary Storage Area

8.36 The registered asbestos contractor would remove the asbestos waste off-site as soon as it is generated. Where immediate collection and disposal are not possible, the asbestos waste would be temporarily stored in a secure area designated by the registered asbestos contractor. The temporary storage of the asbestos waste would comply with the Code of Practice on the Packaging, Labelling and Storage of Asbestos Wastes published by the Secretary for Planning, Environment and Lands (SPEL). In particular, type 1/2 waste would not be mixed with type 3 waste which requires a different colour-code packaging. No person would be allowed to eat, drink or smoke in the asbestos waste storage area. As a minimum requirement, the storage area would:

- bear warning notices outside;
- be water resistant and rigid;
- be isolated from the rest of the work area;
- be kept clean and free from obstruction; and
- be lockable and restricted to the access of authorized persons which are directly involved in the asbestos abatement work and properly protected from asbestos fibres including the registered asbestos contractor and licensed waste collector.

8.37 All asbestos wastes in the storage area would be packed in colour-coded bags/containers and labelled according to the asbestos waste type. Bags would not be stacked over 3 bags high.

8.38 The temporary storage area would be approved by the Registered Asbestos Consultant prior to accepting asbestos waste. The Registered Asbestos Contractor would also maintain the temporary storage during the course of asbestos abatement work.

Disposal

8.39 Asbestos wastes would be disposed of in accordance with the “Code of Practice on the Handling, Transport and Disposal of Asbestos Waste” issued by the Environmental Protection Department and only at the appointed disposal site designated by the Environmental Protection Department.

8.40 The Registered Asbestos Contractor would obtain the necessary permit and arrange a licensed collector for the dumping of the asbestos waste to the Government appointed disposal site.