

**LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS**

**Supplementary Information Note on
Management of Construction and Demolition Materials**

Introduction

At the meeting on 7 November 2000, Members asked for supplementary information regarding the management of construction and demolition (C&D) materials. This note provides the information requested.

Demand for Public Filling Capacity

2. Following the current trend, the annual demand for public filling capacity in the next five years will be approximately 10 million tonnes (5.5 million cubic metres). We have set out in LC Paper No. CB(2)181/00-01(04) proposed actions to manage construction and demolition materials. We are examining the feasibility of additional measures to deal with the anticipated shortfall in public filling capacity starting from mid-2002. We will brief Members when we have more information on these measures.

Statistics

3. Based on today's practices, the current composition of *all* C&D materials produced during construction activities is -

59% are earth, rocks and slurry that can be reused as public fill in reclamation or site formation works;

25% are hard materials that can be recycled as aggregates in concrete or asphalt production, or as granular materials in road sub-base and drainage bedding layers; and

16% are wastes that should be treated as municipal waste.

4. These figures are a breakdown of the ***overall*** total volume of C&D materials created by ***all*** construction activities combined today. They do not necessarily correspond with the types of materials that will be produced at any one particular site. For instance, civil works may produce relatively more public fill whereas demolition works are likely to produce a higher percentage of hard materials. While Government would like to reuse or recycle all inert materials in a most suitable manner, such as recycling all the hard materials produced today, the figures do ***not*** represent a static target at which Government is aiming. In other words, the target figures will change as the composition of C&D materials changes.

Other Information Requested

Progress of measures discussed at the Panel Meeting on 2 March 2000

5. Measures taken by the Buildings Department and Housing Department are at Annexes A and B respectively.

Timetable for Various Facilities

6. Annex C is the timetable for providing barging points as well as sorting and recycling facilities.

Environmental Report of the Hong Kong Housing Authority

7. The Report is attached.

Conclusion

8. Members are invited to note the above information.

Green Initiatives of the Buildings Department to Reduce C&D Materials

Introduction

At the meeting of the Legislative Council Environmental Affairs Panel on 2 March 2000, the Buildings Department (BD) set out its initial views (in paper CB(2) 1232/99-00(04)) on the 'empty shell' concept for new buildings in order to reduce construction waste. The purpose of this paper is to update Members on this and other measures to reduce construction waste. The paper on Green Buildings (CB(1) 181/00-01(02)) prepared for the meeting of the Legislative Council Panel on Planning, Lands and Works on 21 November 2000, which includes proposed incentives for the adoption of green construction methods and materials that will help to reduce waste.

Empty Shell Concept

2. There has been concern about the waste of resources when purchasers of new units dispose of fitments, particularly sanitary ware, on first occupation. As a response to this concern, BD has reviewed the feasibility of reducing the fitments required to be installed before the issue of an occupation permit for the building – this is the 'empty shell' concept. As reported to Members on 2 March 2000, the problem of discarded sanitary fitments in new private buildings is not serious, as revealed from surveys of 10 private developments. BD has, however, agreed to the non-provision of sanitary fitments in new buildings at the time of issuing an occupation permit on the merits of individual case. Examples include:

- premises such as restaurants and hotels for which extensive renovation and fitting out of the sanitary fittings by a restaurant or hotel operator will only be carried out after the issue of an occupation permit and any sanitary fitting installed prior to the issue of an occupation permit would be dismantled in the course of such renovation work;
- a developer has offered to provide fitments to individual purchaser's choice.

3. So far, the department has agreed to waive the requirement for the installation of sanitary fitments in a hotel development, prior to the issue of an occupation permit. It has also allowed the kitchens of 3 restaurants not to be provided with wall finishes at the building completion stage. The developer of a residential project has offered to provide sanitary fitments at the purchasers' choice.

4. Recently, an authorized person has proposed to fit out only the core of a prestigious office building at the completion stage. Fitting out work for the rental areas, including raised floorings for housing of services fittings, is to be deferred to wait for the tenants' specifications. The floor area of the development for rental is about 41,000 m² and the volume of the raised floorings is estimated to be in the region of 6,100 m³. BD has agreed to the proposal, noting its contribution towards waste minimization.

5. BD has disseminated its policy on the 'empty shell' concept to the building professionals through Practice Note for Authorized Persons and Registered Structural Engineers (PNAP) 245 issued in July 2000.

Waste Minimization

6. In June 2000, BD issued PNAP 243 to encourage building professionals to identify opportunities to minimize waste at every stage of development. At the planning and design stage, measures advocated in the practice note include the use of precast and prefabricated components, balancing cut and fill, and the use of pulverized fuel ash in concrete. Also strongly advocated is the production of a Waste Management Plan for construction sites.

Planning and Lands Bureau
November 2000

**Measures Implemented by the Hong Kong Housing Authority
To Reduce C&D Materials**

PURCHASERS CHOICE ARRANGMENT

The "Purchasers Choice" arrangements were endorsed by the Housing Authority's Building Committee and Home Ownership Committee in late March 2000. It has been agreed to make two choices available to future HOS purchasers, a "Basic Shell" and a fully fitted option. These choices were proposed after the survey that was discussed in the meeting.

2. Three pilot schemes will proceed to cover the two main types of HOS block currently in use, the Concord Block and the New Cruciform Block (NCB). The Concord Scheme was tendered in June 2000 and the tender was awarded in September 2000. The cost impact as a result of the purchasers' choice proposal is currently being evaluated but it was not significant at tender reporting stage. The two other pilot schemes will proceed to tender in early 2001.

3. The pilot schemes will be evaluated at several stages, at tender, in 11/00 and in mid 2001, at flat selection in mid 2002, at hand-over in late 2003 and post completion to assess decoration works, in early 2004. The expansion of the scheme to other pilot projects may be considered at any stage and does not have to wait until the overall completion of the projects.

4. The survey of the earlier purchasers choice of colour scheme at the Tin Shui Wai project is under planning.

SUBCONTRACTING

5. Sub-contracting has been included in the Quality Housing: Partnering for Change Consultative Document and is currently under-way. The status so far is that proposals for reforms of the sub-contracting of Piling Works have been addressed and Control Measures on Subcontracting of Piling Works have been endorsed by the Housing Authority's Building Committee in July 2000

6. We will also develop similar reform measures for building, ground investigation and building services works. Sub-contractors

associations were among those organisations who were consulted in early 2000 through a series of meetings with the chairman of the Housing Authority and with the Housing Department. At this time we are establishing a database of sub-contractors for reference.

Housing Department
November 2000

**Timetable for Providing Sorting Facilities and Barging Points and
Other Measures to Reduce C&D Materials**

Measures	Progress
Encourage sorting of inert C&D materials from C&D wastes and put in place off-site sorting facilities	<ul style="list-style-type: none"> • Tseung Kwan O temporary facility commissioned in August 2000 • Tuen Mun temporary facility will be commissioned in mid-2001 • Detailed design for long-term facilities at Chai Wan and Kwai Chung would commence shortly
Putting in place a network of conveniently located barging points to minimize travel distance of dump trucks	<ul style="list-style-type: none"> • Temporary barging points at Quarry Bay, Sai Ying Pun, Tseung Kwan O, Shatin and Tuen Mun already in operation • Planning for long-term facilities at Apleichau, Chai Wan and Kwai Chung in progress • Plan to commission the long-term facilities by 2004/05 • Site search for more barging points in progress
Providing fill banks to regulate short-term mismatch in demand and supply of public fill	<ul style="list-style-type: none"> • Will continue to stockpile public fill, wherever practicable, on newly reclaimed land • Site search for large-scale fill bank(s) in progress • Plan to make available fill bank(s) before mid-2002
Putting in place recycling facilities to facilitate recycling of inert C&D materials	<ul style="list-style-type: none"> • Will commission a study in early 2001 to examine the feasibility, traffic and environmental impacts etc of establishing a pilot recycling facility at Kai Tak • Plan to modify the temporary sorting facilities at Tseung Kwan O and Tuen Mun to enable them to carrying out recycling activities by mid-2001 and mid-2002 respectively • Site search for more facilities in progress

Measures	Progress
Encourage wider use of recycled construction materials	<ul style="list-style-type: none">• Specifications to allow the use of recycled aggregates in Government housing, building and civil engineering contracts have been prepared• Performance testing for the use of recycled materials in concrete production and road sub-base will be carried out in 2001

Environment and Food Bureau
November 2000