

For information

Legislative Council Panel on Environmental Affairs
Progress on the Management of
Construction and Demolition Materials

PURPOSE

This paper aims to update Members on the management of the construction and demolition (C&D) materials, including in particular the delivery of surplus public fill to the Mainland for beneficial reuse.

BACKGROUND

2. C&D materials are a mixture of inert and non-inert materials arising from construction, excavation, renovation, demolition, and roadworks. Over 80% of the C&D materials so generated are inert materials (also known as public fill). The majority of the public fill is soft inert materials such as soil and earth, the only productive outlet of which is to be used as fill materials in reclamation and earth filling works. As for the remaining hard materials such as rocks, broken concrete and bricks, some of them can be reused for seawalls in reclamation while others can be recycled as aggregates for concrete production or as granular materials for road sub-base.

MANAGEMENT OF PUBLIC FILL

3. Our primary objective in managing public fill is to minimize its generation and maximize its reuse as far as possible. While there were sufficient reclamation projects in the past to accommodate the public fill generated, the generation of public fill has been exceeding demand in recent years due to the suspension of almost all reclamation projects. Since October 2002, we have been relying on two temporary fill banks at Tseung Kwan O Area 137 and Tuen Mun Area 38 to stockpile the surplus

public fill temporarily for later beneficial reuse. A number of measures have also been in place to reduce fill generation at source and promote its reuse as far as possible –

(a) Avoiding and minimizing C&D materials in public works

We have been promoting to avoid and minimize public fill generation at source. The Public Fill Committee, chaired by the Director of Civil Engineering and Development, is responsible for vetting public works projects to determine if the generation of C&D materials is minimized and the use of public fill is maximized. Works departments are required to draw up and implement a C&D material management plan for each project generating more than 50 000m³ of C&D materials or requiring imported fill in excess of 50 000m³. All contractors of Government works contracts are required to prepare and implement waste management plans in accordance with our specifications. In particular, they need to minimize generation of C&D materials at construction works and carry out on-site sorting of the materials.

(b) Processing/Recycling hard inert materials

Good quality rock from the public fill have either been reused as seawall foundation or delivered to local quarries for processing to produce aggregates for use by local construction industry. Since 2002, about 16 million tonnes of rock which were generated from developments near Choi Wan and Jordan Valley and Route 9 projects have been reused or recycled. In addition, crushing facilities have also been installed at the two temporary fill banks to produce recycled aggregates. A total of 1.1 million tonnes of recycled aggregates have been produced for reuse in public works projects.

(c) Reusing soft inert materials in East Sha Chau

Some 5.9 million tonnes of soft inert C&D materials had

been used to replace dredged mud for capping of contaminated mud pits at East Sha Chau. The backfilling operation was under close monitoring under the Dumping at Sea Ordinance (DASO) to avoid environmental problems.

(d) Construction Waste Disposal Charging Scheme

The introduction of construction waste disposal charging in December 2005 provides economic incentive for developers and construction contractors to minimize the generation of all types of C&D materials. By the end of 2008, the amount of C&D waste disposed of at landfills was reduced by about 52%, while the overall disposal of C&D waste was reduced by about 26%.

4. Despite all these measures, we have continued to be facing a problem of surplus public fill. As at end 2008, the fill banks had a remaining capacity of about 7.7 million tonnes only¹. Additional measures would be necessary to address this problem.

REUSING SURPLUS PUBLIC FILL IN RECLAMATION PROJECTS IN THE MAINLAND

5. The signing of the Cooperation Agreement between the Administration and the State Oceanic Administration (SOA) in 2004 has provided a foundation for the delivery and reuse of our surplus public fill in Mainland waters. A further agreement was reached with the South China Sea Branch of the SOA (SOA(SCSB)) in 2005 on the implementation details in respect of material specifications, delivery requirements, inspection and control measures to ensure that the public fill would be delivered and reused in an environmentally sound manner. In 2006, SOA(SCSB) designated a trial reclamation site in Guanghaiwan (廣海灣) of Taishan (台山) to receive public fill from Hong Kong. Following the appointment of the contractor and other necessary preparation work, the trial delivery started in July 2007. As at end 2008, about 12 million tonnes of public fill were delivered to Taishan for

¹ The total design capacity of the fill banks is about 19.2 million tonnes.

beneficial reuse.

6. The trial scheme has demonstrated that the delivery of public fill to the Mainland is an environmentally sound and mutually beneficial arrangement in dealing with our huge volume of public fill. In particular, the delivery arrangement has helped alleviate our pressure in accommodating surplus public fill, in the absence of which the fill banks would have been filled up by mid-2008 and any surplus public fill would have to be disposed of at our fast depleting landfills. Furthermore, the delivery arrangement has enabled our public fill to be put into beneficial reuse in the Mainland. In view of the success of the trial, the SOA has agreed to continue the delivery of public fill to Taishan as a standing arrangement. About 10 million tonnes of public fill is expected to be delivered in 2009.

7. In November 2006, a contract was awarded through open tender at a sum of \$768 million for the management of the public fill reception facilities in Hong Kong and the trial delivery to Taishan. Taking into account the mobilization period required if a new contractor is to be appointed, and to avoid any disruption to the operation of the public fill reception facilities and the delivery arrangement, the existing contract has been extended to the end of 2009 at a value of \$735 million. With the agreement of the SOA to continue the delivery arrangement to Taishan, we plan to invite tenders for a new contract to manage the public fill reception facilities and to deliver public fill to the Mainland in around mid-2009, with a view to commencing the new contract in January 2010.

WAY FORWARD

8. As foreshadowed in the 2007-08 Policy Address, a number of major infrastructure projects to promote economic growth are expected to be launched within the next few years. These will add further pressure upon our public fill management. Based on the latest public fill generation and demand forecast, a total of 94.1 million tonnes of surplus public fill is expected to be generated between 2009 to 2013 (**Annex A**).

9. In face of this challenge, we will continue to reuse surplus public

fill in major public works projects as far as possible. In particular, it is expected that major projects such as Tuen Mun Chek Lap Kok Link and the Hong Kong-Zhuhai-Macao Bridge will absorb a net amount of about 13.6 million tonnes² of public fill in the next five to six years. We will work closely with the project proponents concerned so as to maximize the volume of public fill being reused. We will also explore other suitable outlets for surplus public fill. In addition to the delivery arrangement to Taishan, the SOA has agreed to explore the feasibility of providing additional sites in the Guangdong Province to receive our surplus public fill.

10. Members are invited to note the progress of implementing measures to manage C&D materials.

Environmental Protection Department
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² Net of public fill generation of about 8.4 million tonnes for the two projects.

Forecast of Generation and Demand of Public Fill from 2009 to 2013

Projected generation and demand of public fill from 2009 to 2013 are set out below:–

Year	2009	2010	2011	2012	2013	Total
Total Generation of Public Fill (million tonnes)	17.3	15.2	26.3	18.9	16.4	94.1
Total Demand of Public Fill (million tonnes) (Note)	1.1	1.7	6.4	8.5	8.3	26.0
Total Surplus of Public Fill (million tonnes)	16.2	13.5	19.9	10.4	8.1	68.1

Note:

The delivery of public fill to the Mainland has not been included.