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for information

RECLAMATIONS IN THE HARBOUR

PURPOSE

1. This paper has been prepared in response to Members' request at the ACE meeting on 10.7.1995 for information on reclamations in the harbour and their justifications. A brief commentary on the general planning context for reclamations in the harbour is also provided.
2. Details of the background of and rationale for reclamation proposals, their landuse planning; environmental; hydrological; marine safety; and land production implications, and the reasons why development of the New Territories is not an alternative to harbour reclamations can be found in a pamphlet entitled 'The Quest of Land', respectively attached at Annex A.

BACKGROUND

3. Hong Kong is a 'land hungry' place and, from the early days of development, has had to rely heavily on reclamations to satisfy the growing housing, community, port activities and other economic needs. Reclamation in the harbour area started before 1887. As a means of land production, reclamation has also been used extensively in the development of our new towns.
4. Over the past 20 years, Hong Kong has experienced rapid population and economic growth. New town development programmes have been launched to provide adequate housing for the growing population. In parallel, comprehensive studies have been carried out to assess the need for, and identify the locations of, reclamations and other potential development areas to sustain economic growth.
5. Comprehensive studies undertaken by the Government in relation to proposals for reclamation include:

* the Study on Harbour Reclamations and Urban Growth (SHRUG, 1983) which, inter alia, examined the impacts

on water quality, tidal flows and port operations by further reclamations at West Kowloon, Green Island, Southeast Kowloon and Central and Wanchai;

- * the **Territorial Development Strategy (TDS, 1984)** which was formulated based on the recommendations of SHRUG and other sub-regional studies;
 - * the **Port and Airport Development Strategy (PADS, 1989)**, which made use of a **Water Quality and Hydraulic Model (WAHMO)** to verify the hydraulic impacts of reclamations before making recommendations on the relocation of the airport and port expansion; and
 - * **Metroplan (1991)** which, identified opportunities for harbour reclamations as a prerequisite, inter alia, for restructuring of obsolete and congested urban areas.
6. Prior to implementing individual reclamation schemes, further detailed studies are undertaken on such aspects as engineering feasibility, land-use planning, transport, environmental impacts and marine impacts, to ensure that no unacceptable adverse impacts are produced and that all necessary mitigation measures are incorporated in the design and implementation of the reclamation works.
7. Essential details of current and proposed reclamation schemes can be found in the tables of Annex A.

PLANNING CONTEXT FOR RECLAMATIONS

8. The above-mentioned studies have established that new reclamations are required to respond to the following needs:
- (a) To Accommodate Population Growth - Existing and committed developments have the capacity to accommodate about 6.5 million people, and land is required to accommodate an additional population of between one to 1.6 million in the long term.
 - (b) New Transport and Infrastructure - The road/rail transport networks of the Territory have to be extended to meet demands arising from daily commuter traffic flows, economic growth in the Pearl River Delta and the related development of new port and

airport facilities. Many new links are also required to serve the Metro area and reclamations are needed for that purpose. New reclamations are sometimes required to accommodate strategic infrastructure, e.g. the Kowloon Bay Reclamation Phase I is required to accommodate a trunk sewer proposed in the South Kowloon Sewerage Master Plan and the Phase II reclamation is required to accommodate a sewage treatment plant under the Strategic Sewage Disposal Scheme. The alternative would be for new transport facilities and infrastructure to force their way through built up areas, which would be physically extremely difficult, environmentally undesirable, socially disruptive and financially very costly.

- (c) Meeting New Land Use Needs - Whilst the intention remains to continue with the new town development programmes, additional land has to be provided around Victoria Harbour for the growth of hub functions (such as the expansion of business activities), the development of new tourist and cultural facilities, and the development of new housing located in convenient proximity to the main employment centres.
- (d) Restructuring the Metro Area - At present, about four million people live in the Metro area which also provides about 80% of all jobs. Large parts of this area still have very high population densities, and such places as Mongkok and Yaumatei have become obsolete and worn out over many years. A basic aim of Metroplan is to 'thin out' such areas and restructure the city, with action being taken by such bodies as the Housing Authority, the Housing Society, the Land Development Corporation and private developers. To create a better organised city and minimise disruption to social and economic ties, the provision of nearby solution spaces is essential.
- (e) Clearing Up Environmental Black Spots - Certain newly proposed reclamations have the potential for eliminating highly polluted 'black spots' in areas where there are weak tidal flows, e.g. Kowloon Bay and Tsuen Wan Bay.
- (f) Westward Shift of Port Activities - New port facilities need to be constructed on reclamations at Kwai Tsing and North Lantau to keep pace with the demands

generated by economic growth. Consequently, port operations will shift westwards. The inner harbour from Central to Lei Yue Mun Gap will, apart from areas used for domestic navigation and shipping purposes, become primarily a water amenity zone, providing an attractive setting for adjoining city areas.

(g) New Waterfront Promenades - A basic principle of Metroplan is that we should 'bring the city to the harbour and the harbour to the city'. Many parts of the harbour are currently inaccessible to people due to the obstruction of access to the waterfront by various kinds of development. The new reclamations will correct this situation by making it possible to progressively develop up to 33 km of well landscaped waterfront promenades, associated civic squares and uniquely designed large 'Gateway Parks'.

(h) Improving City Design - Hong Kong is becoming well known as a "City of Vision" based on the development of new buildings of bold design. All the new reclamations have been planned to create new layouts of comprehensive design offering yet more opportunities for developers and architects to reinforce the visual appeal of the city along broad stretches of the harbour, thus enhancing the image of Hong Kong as a leading world city.

9. Notwithstanding the above, concerns have arisen from various quarters over the extent of new harbour reclamations on the basis that it would be preferable to encourage more development in the New Territories. This is a matter that is being addressed in the current review of the Territorial Development Strategy (TDS) and, for the purpose of this paper, suffice it to say that the development potential both of suitable land-based sites in the New Territories and on harbour reclamations will be required over the long term to meet forecast needs arising from an additional 1.0 - 1.5 million people.
10. In this context, it needs to be more widely appreciated that many of the urban land needs (e.g. Grade A offices) and many of the problems involved in restructuring the Metro area cannot be met by development in other parts of the territory; and, equally, resolution of the growth needs and problems of non-Metro area cannot be achieved by

means of harbour reclamations. It is considered that the most logical perspective to take is to address future needs and problems on a territorial wide basis having regard to relative development priorities, resource availability and other pragmatic considerations. This is the approach that has been adopted in the Territorial Development Strategy Review which is expected to be completed by early 1996.

RECLAMATIONS AND THE ENVIRONMENT

11. Reclamations have the potential to affect the environment in a number of ways. Taken together, they may reduce the water exchange in an area and, if appropriate mitigating measures are not adopted, lead to a decline in water quality. Individually, reclamations may lead to a local decline in water quality either brought about by the reclamation activity (that is, by the dumping of "fill" at the reclamation site), or because semi-enclosed water bodies, in which pollutants become trapped, are created.
12. Reclamations may also have various knock-on effects on the environment. For example, the extraction of reclamation "fill" from the sea-bed may have a cumulative impact on fishing grounds or the marine ecology. Equally, the removal of contaminated mud to make way for a reclamation, which is sometimes necessary, has considerable potential for severe environmental impact. The dredging and subsequent disposal of this mud needs to be carefully managed.
13. Detailed studies at both the strategic and specific project levels have been conducted since the early 1980s to ensure that potential environmental impacts of reclamations are minimized and appropriate mitigation measures are taken where necessary.
14. At the strategic level, the cumulative water quality impacts have been assessed in the context of the Territorial Development Strategy, the Port and Airport Development Strategy and Metroplan. There have been some concerns that reclamations will cause water quality problems because they would reduce the flow of water through the harbour. However, the principal way to deal with this is to remove the polluting loads through the implementation of the Strategic Sewage Disposal Scheme

(SSDS) and associated Sewerage Masterplans. Stage 1 of the Strategic Sewage Disposal Scheme is expected to be completed by mid-1997. By that time, 70% of the sewage will be treated before entering the harbour.

15. At the specific project level, it is the general practice for environmental impact assessments to be carried out to examine in detail the water quality, dust and noise impacts during and after the construction. Mitigation measures are designed and implemented to keep the impacts within acceptable limits. These include good site practice (e.g. spraying water to keep dust levels to a minimum), provision of quiet road surfaces to reduce noise levels, specification and use of appropriate dredging and dumping techniques (e.g. silt curtains and sealed grabs) and diversion of sewage away from the temporary embayments formed.
16. In general terms then, reclamations may reduce the volume of water flow to some degree. Provided action is taken to remove existing polluting loads, appropriate infrastructure is provided to cater for the sewage the incoming population will generate, and the works themselves are carried out carefully (incorporating appropriate environmental protection measures), reclamations can be formed in a way to avoid adverse, long-term impacts on the environmental quality of our inshore waters. Indeed, it is government's position that no reclamation projects should be allowed to proceed until it has been established that the projects would be environmentally acceptable. The Advisory Council on the Environment and District Boards have a key role to play on this account.

CONCLUSION

16. Members are invited to note the content of this paper.

PLANNING DEPARTMENT
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