

Steering Committee on Review of the Urban Renewal Strategy

Report on the Building Conditions Survey

Background

The conditions of old buildings and associated living conditions are of prime concern to all, and will be an important consideration in the future urban regeneration strategy planning. Detailed surveys and investigations to assess the conditions of older buildings have been conducted in the past. These include two comprehensive studies by the Buildings Department (BD) in the 1990's which involved detailed investigation of buildings constructed over the period 1946-58 and over the period 1959-80. It is considered useful and timely to update such data to support future urban regeneration planning and to assist in the ongoing Urban Renewal Strategy (URS) Review.

2. The Urban Renewal Authority (URA), in conjunction with BD, conducted a desktop Building Conditions Survey Phase I between December 2008 and May 2009, and kicked off the Phase II Building Inspection Survey Consultancy in June 2009. Implementation of the study and the survey forms an integral part of the overall urban planning strategy. It will enable the collection and review of data on the current condition of buildings. It will also support the URS Review – Stage 2 (Public Engagement) which will end in December 2009.

Phase I Building Conditions Survey

3. Phase I of the building conditions survey was a desktop study based on the data collected under the two mid-1990's BD surveys on buildings constructed over the period 1946-58 and 1959-80 respectively; that is, on buildings of 30 years old or more. While these surveys provide comprehensive data on the conditions of all such private buildings in Hong Kong (totalling about 18,000 with about 4,300 from the earlier lot, and 13,000 from the other), the data available are more than 10 years old.

4. Phase I of the study concentrated on those buildings within the URA Areas (about 7,500), comprising the older urban areas of Hong Kong where

relevant data were extracted and studied. Using the collected data and the building age, the consultant (who was involved in the two mid 1990's BD surveys mentioned above) made some projections to account for the likely worsening of the building conditions, having identified as the prime concern of deterioration the corrosion of steel reinforcement mainly through the continuing processes of carbonation and chloride contamination.

5. Analysis and projection of the earlier Buildings Department survey results suggest that today, on average 20% or more of the older building population may be in poor condition. While some buildings have undergone some repairs, the extent and quality of rehabilitation work cannot be accurately determined. It is common practice that only the most economical and short-term repairs will be made. The improvement works may only last three to four years after which time additional repairs will again be required. This approach reflects a lack of understanding of the deterioration processes involved and can result in significant recurrent expenditure on the part of the building owners without any substantial improvement in living condition or the durability performance of the structure.

6. A clear relationship exists between building age and building deterioration. Generally speaking, the older the building, the more likely it is to be in poor condition. Only a small percentage of buildings constructed in the late 1970's were believed to be in poor condition. In contrast, up to 30% of those constructed in the 1950's may be in poor condition. There are also significant differences in the condition of buildings across the different urban areas of Hong Kong.

7. All the available data, research and experience have confirmed that buildings made from reinforced concrete (of which almost all Hong Kong buildings are) have a finite life. Many of the older buildings in Hong Kong contain low strength concrete. As a result, they are more prone to rapid deterioration than the buildings constructed nowadays making use of significantly stronger and more durable concrete. Furthermore, the earlier buildings had not been constructed with a design life in mind. On the contrary, modern buildings are designed with a design working life of 50 years (according to the current Code of Practice of Hong Kong). It is likely because of the improved design standard and the properties of the materials used today, they could last considerably longer without showing the pronounced deterioration seen in many of Hong Kong's older buildings.

Phase II Building Inspection Survey

8. Phase I of the survey was only a desktop analysis and projection. Accordingly, the results obtained are preliminary. It should be further refined and confirmed by sampled inspections. Hence, a Phase II Survey which would include visual inspections and social surveys had been discussed and agreed amongst the Development Bureau, BD and the URA in April 2009. Due to the volume of work to be involved, it was agreed that Phase II would cover the buildings within the URA Areas (as priority), plus an extended desktop study to cover buildings in the whole of Hong Kong. The survey sample would be on private buildings constructed on or before 1980.

The Consultancy will cover the following four main tasks:

- Engineering Assessment (EA) - technical evaluation of the conditions of approximately 3, 000 buildings constructed in or before 1980 and prioritization and screening to identify those that are in the worst condition.
- Social survey (SS) - this specifically relates to buildings that have been identified during the EA stage as being in the worst condition. The purpose is to ascertain the living environment and conditions of those living in these buildings, and to examine the social circumstances and the quality of life of residents occupying up to 500 buildings in the worst condition.
- Economic Valuation (EV) - this comprises cost/benefit analysis and commercial evaluation of the cost-effectiveness of rehabilitation, replacement or preservation of up to 50 typical/representative building samples identified and selected by the Consultant as agreed with the URA.
- Extended Desk Study (EDS) - desktop data screening of the existing BD information. This study will be similar to the Original Desk Study (Phase I). It will use the same methodology for assessment and will cover all the buildings described in the two past consultancies carried out by BD.

9. Analyses of the collected information would include some ranking based on scoring schemes. The URA will work as an agent to facilitate and manage this consultancy with full support from the Government. Expression of Interest was called in early May. Five qualified consultants

were shortlisted for submission of technical and fee proposals in mid May. Through standard tendering procedures based on a 80:20 (technical: fees) assessment scale, AECOM (previously Maunsells) was selected and awarded the Consultancy which was kicked off on 1 June 2009.

10. The work to be involved is significant and will require a total of 18 months to complete with full report. In order to support the Stage II of the URS Review, an Interim Scoping Report (ISR) will be provided by late October 2009 as a project milestone. The ISR will report on the results from the then completed EDS and provide data collected from the other tasks as much as possible. The target is to provide a further refined scenario (from the Phase I Study) on the old and dilapidated buildings in Hong Kong – including building conditions, social living conditions and some materials for discussion on rehabilitation compared to redevelopment.

11. The Consultants have commenced work on the methodologies. Pilot calibration inspections would commence in July with full scale visual inspections etc to follow. We would report further at a later stage on the progress of this Consultancy.

Urban Renewal Authority
30 June 2009