

## **THE HONG KONG HOUSING AUTHORITY**

### **Memorandum for the Building Committee**

#### **The INTEGER Hong Kong Pavilion**

#### **PURPOSE**

The purpose of this paper is to seek Members endorsement for a contribution by the Housing Authority towards the cost of the INTEGER Hong Kong Pavilion.

#### **BACKGROUND**

2. There is a growing interest and awareness in Hong Kong in the protection and conservation of the natural environment both in the local context and in the context of global issues. This interest is now being shown in a wider appreciation in the community of the issues that arise from land and building development in Hong Kong.

3. There is regular debate amongst the public and the organisations actively involved in development work in Hong Kong and more demands are being made to shape new developments to reflect the changes taking place in the community. There is a concern that the community is not conscious of its responsibility to plan for the future. Our efficient use of resources, respect for the neighbourhoods in which we build and forward planning to achieve truly sustainable development goals in Hong Kong, are now being closely observed.

4. Changes are taking place gradually in the construction industry. The 1999 Policy Address placed greater emphasis on the environment. There are now a number of Industry wide forums who are looking at the way that the industry works, its practices and procurement methods both in design and in site operations. The Housing Department with the co-operation of the contractors has been very active in promoting new and environmentally conscious methods.

5. The Housing Department has gradually built up links with various sectors of the industry and with Academic institutions and has been very actively involved in several of the industry wide forums on environmental issues. These include –`

- The Construction Industry Review Committee (CIRC) and its various sub-committees
- The Waste Reduction Task Force for the Construction Industry (WRTFCI)
- The Waste Reduction Task Force for Public Housing (WRTFPH)
- The Construction Efficiency and Environment Committee (CEEC) of the Buildings department
- The Task Force on Lift and Escalator Energy Code under the Energy Efficiency and Conservation Sub-committee of the Energy Advisory Committee
- The HK BEAM Steering Group
- Sub-committee on Sustainable Architecture of the HKIA

6. The adjustments in the property market that have taken place and the demands for greater efficiency have led some developers to consider alternative methods of construction, to work towards a sustainable approach. The Building Committee has for example, been briefed on two occasions in the last year on innovative construction methods in Singapore and Australia by representatives of Henderson Land.

## **INTEGER**

7. The name “INTEGER” is derived from “Intelligent and Green” and was established in the United Kingdom with funding from the Housing Forum, the organisation founded by the UK Government two years ago to implement the findings of the EGAN report (Rethinking Construction) within the housing sector.

8. The Housing Forum depends upon demonstration projects to validate innovation proposals, and INTEGER is a key contributor to this process. Funding for all public housing in the UK, (the term social housing is commonly used) is managed by the Housing Corporation, which is supporting INTEGER in several ways.

- (a) Funding for the INTEGER research and communication programmes through their Innovation and Good Practice Programme.
- (b) Funding for the incremental costs associated with radical innovation in specific INTEGER housing projects and research into the productivity of the construction processes.
- (c) Facilitating a wide range of communications events to demonstrate the INTEGER principles and the benefits of housing innovation.

9. The INTEGER concepts include –

- Life-time performance
- Life-cycle costing
- Intelligent home systems
- Sustainable construction
- Dry construction methods
- Factory production methods
- Low energy use
- Recycling and waste minimisation

### **The BRE Demonstration Project**

10. A demonstration INTEGER house has been built at the Building Research Establishment (BRE) at Garston in Hertfordshire in the United Kingdom. This building was completed in 1998 and has since been used by Government, local authorities, housing associations, the construction industry and the public as a housing innovation reference site and has stimulated debate

on the wide-ranging social, economic and financial benefits of radical housing innovation.

11. The principles shown in the demonstration project have since been applied in a number of housing projects in the UK. INTEGER housing projects include Sandwell Metropolitan Borough Council, Westlea Housing Association, Harlow District Council, and Maidenhead Housing Association.

## **INTEGER IN HONG KONG**

12. The INTEGER Project in Hong Kong developed from a seminar on Intelligent Buildings held at the Centre for Environmental Technology (CET) on 8/11/99. Personnel from INTEGER participated in the seminar and it was so well supported that it was extended for a further day. Following the seminar, INTEGER considered that there was scope in HK for a similar project to that built in UK and the UK Government agreed to sponsor such an enterprise through its export promoter, Trade Partners UK.

13. An approach was made to the Hong Kong SAR Government and a series of fact finding seminars were held in May and July 2000 at the British Consulate to gather support.

14. INTEGER is now working through the British Consulate General and Trade partners UK to bring the ideas to Hong Kong and promote them through a demonstration project in Hong Kong. In order to achieve this they have sought to establish a UK and HK partnership of progressive housing organisations from all sectors of the industry, including developers, designers, construction companies, suppliers, academia and Government.

15. Similar to the UK INTEGER Project, the intention is to encourage debate and to bring together all of the major organisations involved in the design and procurement of housing in Hong Kong. The project will seek to –

- (a) Involve and educate the public to lift their expectations of housing design
- (b) Encourage innovative ideas in housing and in products used in housing

- (c) Identify and address new education issues and skills requirements in the housing industry both now and in the future.
- (d) Demonstrate the benefits to the community of innovation in housing design, procurement and management.
- (e) Raise the public's awareness of environmental issues as they relate to land use and development in Hong Kong.

## **THE INTEGER HONG KONG PAVILION**

16. The INTEGER Hong Kong Pavilion Design team is –

- INTEGER Project Managers
- Cole Thompson Associates, Architects (UK) Design Architects
- Leigh and Orange Executive Architects/AP
- WPS Consultants Structural Engineers/AP  
Building Services Engineers
- Franklin Andrews QS/Cost Consultants
- I & I Ltd. Information Technologist

17. The Government has agreed to make a part of the Tamar site in Central available for the Hong Kong project on a temporary basis for a period of up to 18 Months.

18. The pavilion will be a high-profile ‘landmark’ building in order to attract the required publicity and attendance and sponsorship from suppliers whose products and systems will be incorporated. Please see **Annex 1** to the paper with some illustrations of the proposed INTEGER Hong Kong Pavilion.

19. The pavilion will comprise of a permanent exhibition space to display environmental problems and their solutions; demonstration flats, one completed and the other to show the construction methods with pre-cast concrete modules, prefabricated bathroom and kitchen modules and movable partitions. A ramped route to the upper level; overlooking the exhibition area will culminate in the finished demonstration flat.

20 Construction is to be 'lean' and 'dry', using fast track methods and sustainable materials throughout which are capable of being re-cycled. The pavilion is to be designed to be de-mountable to be able to be relocated to an alternative site in 2003 when the Tamar site is required for development.

## **Programme**

21. The project is due to commence on site in January 2001 and to be completed for exhibition opening in April 2001. The official opening will be on World Environment Day on 5 June 2000.

## **FINANCIAL BACKING**

22. The project has required an initial input of \$30 Million and has therefore sought major business partners in order to commence the publicity work to attract the interest of the Hong Kong Industry and to eventually design and build the Hong Kong demonstration pavilion.

## **THE HONG KONG LEAD PARTNERS**

23. A number of organisations in Hong Kong have agreed to become the major partners in this project. They are –

- INTEGER UK
- Swire Properties
- Gammon Construction
- China Light and Power

24. In addition to the Lead Partners there are two main Sponsors –

- The Hong Kong SAR Government
- The British Consulate General – Trade partners UK

25 All of the Lead Partners and the sponsors are to contribute their knowledge and expertise in the local industry and a share of the funding. The INTEGER team are currently inviting the participation of major material, equipment and component suppliers in this project.

26. It is proposed that the Housing Authority also become one of the Sponsors and that a contribution of \$3 Million be made towards the cost of the project.

### **THE HOUSING AUTHORITY CONTRIBUTION**

27 The Housing Authority will be one of the sponsors of the project and as such will have a role in a steering group to control the project.

28. The pavilion will be a communication and exhibition centre and the HA's main contribution will be the \$3 Million to assist in its construction and operational expenses and to participate in exhibitions and displays on housing design, construction and use. The HA will also share in the benefits of the research associated with this project.

29 The HA has the strong links with the industry and has taken a leading role in collaboration with the HKCA in innovation in the construction of housing. As a result, the HA would also facilitate and participate in exhibitions, seminars and workshops that may be organised from time to time.

### **THE BENEFITS TO THE HOUSING AUTHORITY**

30 The HA is committed to research and has stated its clear intention to increase its research and development work in the industry in the consultative document "Quality Housing – Partnering for Change". The HA is entering a new phase in its provision of Public Housing and it must respond more effectively to changes in demand patterns and adopt a more flexible approach in design and construction. In parallel it must improve its awareness of developments in communication and technology to meet residents needs in the future. The demonstration project will be of benefit in these areas and the HA will share the research results.

## **MANAGEMENT OF THE PROJECT**

31 The Lead Partners will register a company in Hong Kong, The INTEGER Pavilion Hong Kong Ltd, to carry out the project and will designate Members to serve on the board of the company. The Sponsors along with the Lead Partners will enter into a Sponsorship Agreement and a steering group will be formed to manage and direct the board of the company in Hong Kong. The Housing Authority, as one of the Sponsors, will be represented in the steering group.

## **FUNDING**

32 In paper number HA24/2000 on “Enhancing Public Housing Quality-Implementation Plan” the Housing Authority has stated its intention to “To promote research within the building industry”. (paragraph 7.3b of the consultative document “Quality Housing Partnering for Change”)

33 The Authority has confirmed that it will set up an HA Research Fund to encourage and assist research. Initially it will set aside \$20 million for this purpose. Prior to the establishment of the HA Research Fund, funding of the proposed \$3 Million contribution towards the cost of the INTEGER Hong Kong Pavilion at paragraph 26 above will be made available by virement.

## **RECOMMENDATION**

34 It is recommended that Members endorse the contribution of \$3 Million towards the costs of the INTEGER Hong Kong pavilion.

## **DISCUSSION**

35. At the next meeting of the Building Committee to be held on 19 October 2000, members will be invited to approve the recommendations in paragraph 34.

## **ANNEX**

**Annex 1** Illustrations of the INTEGER Hong Kong Pavilion

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