

## **Legislative Council Panel on Housing**

### **New Initiatives for Barrier Free Access in New Public Housing Estates**

#### **PURPOSE**

This paper informs Members of the implementation of new initiatives for barrier free access in new public rental housing (PRH) estates by the Hong Kong Housing Authority (HA) in accordance with the obligatory design requirements of the Design Manual: Barrier Free Access 2008 (the Design Manual).

#### **BACKGROUND**

2. Since 2002, the HA has been implementing a universal design concept in new PRH estates to provide a harmonious living environment for people with different physical abilities.

3. In November 2008, the Buildings Department (BD) promulgated an updated version of the Design Manual, which has been put into the Buildings Ordinance (BO) and is applicable to new projects with consent to commencement of works issued after 1 December 2008. Although the HA is exempted from the control of the BO, the design requirements under the BO have been implemented for all new public housing developments. The HA has been involved in the development of the Design Manual, and has studied the new requirements and the implications of these for the design of new PRH estates, with a view to formulating effective implementation plans.

4. Most of the new requirements such as accessible parking spaces, accessible urinal, unisex toilets etc. have already been incorporated in the PRH estates. In addition, innovative design solutions including tactile guide path system with multi-sensory map and new lighting design are also being adopted, having regard to environment-friendliness and to enhance universal accessibility.

#### ***Tactile Guide Path System with Multi-sensory Map***

5. The Design Manual requires that access routes for certain categories of buildings<sup>1</sup> be provided with tactile guide path from lot boundary

<sup>1</sup> The categories of buildings in Table 2 of the Design Manual are department store, shopping complex, cinema, theatre, concert hall, stadium, museum, theme park, purpose-built family amusement centre, school, college, university, public library, sports complex, public swimming pool complex, hospital, purpose-built clinic, residential home for the elderly, welfare centre, transport station and interchange passenger terminal.

to main entrance of a building, and from the main entrance to an accessible lift. Although this is not an obligatory design requirement for domestic buildings, we have studied the provision of tactile guide path system in new PRH estates under the universal design approach.

6. To assist visually impaired persons to travel independently within the PRH estates, tactile guide paths are provided to connect the main estate entrances to the entrances of domestic blocks, estate management offices and other major estate facilities such as commercial centres, community centres, bus terminals etc. In 2006, we developed multi-sensory maps, the first of their kind, and install these maps at strategic locations in the new PRH estates to assist people to orientate and identify the tactile guide path leading to the domestic blocks and the major estate facilities. The multi-sensory maps provide visual, tactile and voice messages to provide directions for all people, regardless of their age or quality of vision. Details of the multi-sensory maps are set out in **Annex 1**. Pilot projects for tactile guide path systems with multi-sensory maps include the Redevelopment of Shek Kip Mei Phase 1 and Kwai Chung Estate.

### *New Lighting Design*

7. The Design Manual mandates the minimum illumination level at designated areas of a domestic building, which is generally higher than the standard adopted by the HA before December 2008 and would consume more energy. Details of the two standards are as follows:

	HA standard (before December 2008)	Design Manual Requirement
Ground floor entrance lobby	150 lux	120 lux
Lift lobby of upper floors	85 lux	85 lux
Corridors, accessible paths	50 lux	85 lux
Staircases	40 lux	85 lux

8. To strike a balance between energy conservation and mandatory illumination, we have developed a lighting control system for use in new projects since December 2008. The illumination level in lift lobbies will be maintained at 50 lux and that of the corridors and staircases at 30 lux around the clock to meet the need of most people. Triggered by users entering these areas, the illumination level will increase to 85 lux, zone by zone, for a pre-determined period of time. Operation details are set out in **Annex 2**.

9. This innovative design is practicable, cost effective and environment-friendly. The estimated annual energy saving for a typical 40-storey cruciform domestic block with 800 flats is approximately 121 000 kWh, which is about 30% of the total consumption for the lighting system without such control. Tung Tau Estate Phase 9, which is due for completion in November 2011, is the first project with this new lighting design.

## **WAY FORWARD**

10. As a caring organization, we will continue our efforts to enhance the universal design provisions in PRH estates to foster a community in which people with different physical abilities can live in harmony. Members are invited to note the latest HA new initiatives for barrier free access in new PRH estates.

**Transport and Housing Bureau  
May 2010**

## Multi-sensory Map

Multi-sensory maps are installed at strategic locations such as main estate entrances in the new housing estates to assist people to orientate and identify the tactile guide path leading to their destinations.

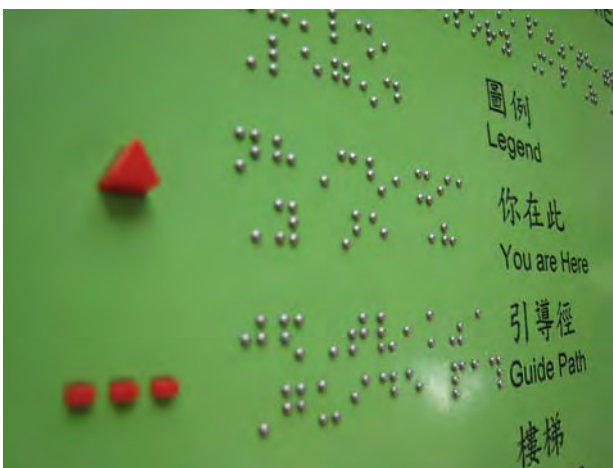
The multi-sensory maps provide visual, tactile and voice messages to provide directions for all people, regardless of their age or quality of vision -



(a) Conventional map layout easily read by people with normal vision



(b) High contrasting colour display for the low vision

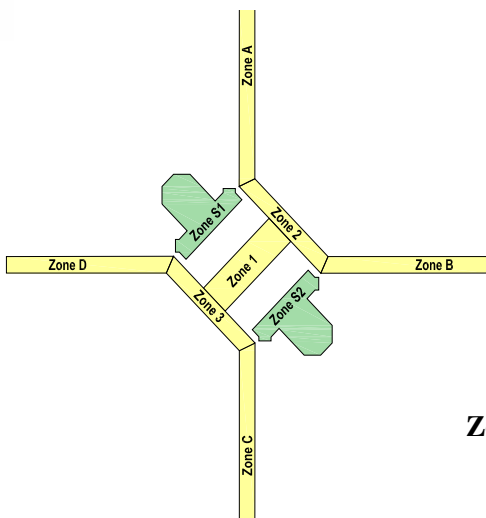
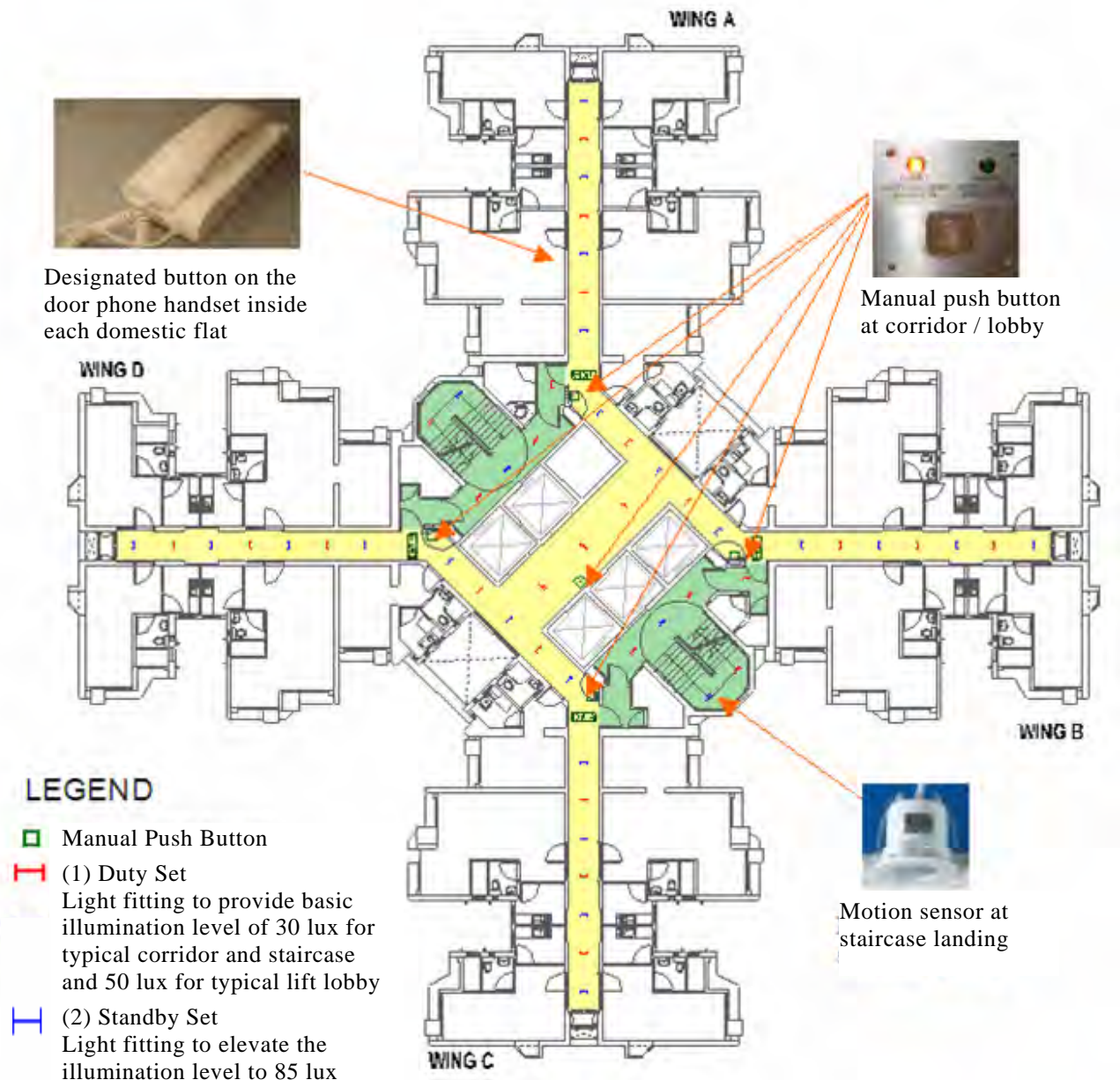


(c) Tactile and Braille message for people with no vision



(d) Voice messages activated by pressing the button to indicate the route of tactile guide path to major estate facilities for people who cannot read Braille

## Typical Domestic Floor Lighting Layout Plan



**Zone Arrangement of Lighting at Typical Domestic Floor**

## **New Lighting System**

### **Two Sets of Lightings**

Two sets of lights are provided in the communal areas, i.e. lift lobby, corridor and staircase-

- (1) one duty set is constantly powered to provide a minimum illumination level of 30 lux for typical corridor and staircase, and 50 lux for typical lift lobby (the red light fitting as shown in the layout plan).
- (2) the other standby set is normally switched off in standby mode (the blue light fitting as shown in the layout plan).

### **Operation of the New Lighting System**

Users in need of a higher illumination level of 85 lux can switch on those standby lightings for a pre-determined period of time (e.g. 10 minutes) as depicted below-

- (a) For persons coming out from lifts on their way to domestic flats, they can press the manual switch in the lift lobby to turn on the standby lightings in the lift lobby area i.e. Zones 1, 2 & 3 and then press another manual switch at the entrance of corridor to turn on the standby lighting in the corridor i.e. either one of Zones A, B, C or D to light their way to the designated flat units.
- (b) For persons leaving domestic flats, they can turn on the standby lighting of the corresponding corridor and lift lobby by pressing a designated push button on the door phone handset inside the domestic flats.
- (c) For the control of staircase lighting i.e. Zones S1 or S2, motion sensors will be provided on the standby lighting fittings to turn on the fitting upon detecting any persons entering the covered zone.
- (d) Persons coming out from staircases can press the manual switch installed at each staircase entrance to turn on the necessary lighting on their way to the designated domestic flats.