PART 1: OVERVIEW

1  INTRODUCTION

Historic buildings provide a valuable link to Singapore’s heritage and conserving them is an important part of Singapore urban planning. So far, over 7,000 buildings have been gazetted for conservation. They are located mainly in the city centre and around its fringes, and comprise largely shophouses and bungalows.

CONSERVATION AREAS AND GUIDELINES

The majority of conservation areas in Singapore fall into four distinct categories, and the conservation guidelines vary for each of these categories. See Key Conservation Area Map. The four main categories are as follows:

Historic Districts

The Historic Districts, which include Boat Quay, Chinatown, Kampong Glam and Little India, are among the city’s oldest areas. Most of the buildings in these areas are still intact, and the entire building has to be retained and restored.

Residential Historic Districts

The Residential Historic Districts at Blair Plain, Cairnhill and Emerald Hill are residential areas which developed close to the city centre. A new rear extension lower than the main roof can be built for greater flexibility in adapting the building for modern living.

Secondary Settlements

The Secondary Settlements such as Geylang and Joo Chiat are areas which developed later when people started to move out of the crowded city to live at the fringe. These are typically areas where there are already many new developments so emphasis is placed on retention of the streetscape. In these areas, a new rear extension up to the maximum height allowed for the area can be built.

Bungalows

The bungalows are detached buildings which come in a variety of architectural styles and are predominantly for residential use. For bungalows, only the main house needs to be kept. The outhouse can be demolished to make way for new extensions to the main house. Large sites can be subdivided for additional new developments. For a site where flat or condominium housing development can be built, the bungalow can be used for residential purpose or as a clubhouse to serve the development.
FACILITATING RESTORATION EFFORTS
The Government provides various forms of assistance to encourage private owners to restore their buildings. They include:

- waiver of development charge and car park deficiency charge, where applicable; and
- waiver of the need to provide car park lots where applicable.

Technical guidelines and standards are also drawn up to guide owners and professionals in restoring their buildings. Publications on conservation are produced to assist private owners to better understand the conservation principles and guidelines.

In addition, the government builds infrastructure and utilities to improve the environment of the conservation areas. Examples of these include pedestrian malls at Boat Quay to allow spillover of activities from the conserved buildings to liven up the areas.

2 CONSERVATION PRINCIPLES

Singapore’s architectural history is the story of skilled craftsmen and architects who have invested in quality places for work and play. Old and new skills, past knowledge and current technologies all combine to bring the past back to productive life.

Quality restoration is more than just preserving a facade or the external shell of a building. It retains the inherent spirit and original ambience of historic buildings. It requires an appreciation and understanding of the architecture and structure of historic buildings, good practice and management.

2.1 THE “3R” PRINCIPLE

The fundamental principle of conservation applicable to all conserved buildings, irrespective of scale and complexity, is maximum Retention, sensitive Restoration and careful Repair - the “3R”s. Selective replacement should be considered only when absolutely necessary. Total reconstruction goes against accepted international conservation practices.

Conserved buildings are to be restored in accordance with the conservation guidelines. All original structural and architectural elements are to be retained and restored. In the event that such elements have to be repaired or replaced, their features are to be retained.

When upgrading and adapting a building to new uses, the existing structure is to be retained by strengthening and repairing the structural elements. Any alteration or strengthening to structural elements is to be done in the most sympathetic and unobtrusive way, using original methods and materials wherever possible.

Before any conservation work commences, a thorough research and documentation is to be carried out on the conserved building to ensure that
restoration work is faithfully carried out. At every stage of the conservation work, the technical aspects and process of the various activities are to be documented.

### 2.2 APPLICATION TO THE VARIOUS CONSERVATION AREAS

In the Singapore context, conservation guidelines are applied in different degrees to the different groups of conservation areas taking into consideration their historical significance, the context of the surrounding developments and the long-term planning intention for each area. The extent of the building to be conserved and the degree of adaptation allowed are shown in Figure 1.

The four main groups of conservation areas are:

* The Historic Districts of Boat Quay, Chinatown, Kampong Glam and Little India;
* The Residential Historic Districts of Blair Plain, Cairnhill and Emerald Hill;
* The Secondary Settlements of Balestier, Beach Road, Geylang, Jalan Besar, Jalan Jurong Kechil, Joo Chiat, Mount Sophia, River Valley, Tanjong Katong and Tiong Bahru; and
* The Bungalow Areas of the Good Class Bungalow Areas and Fringe (Chatsworth Park Conservation Area, Holland Park/Ridout Road Conservation Area and Nassim Road/Whitehouse Park Conservation Area) and the Mountbatten Road Conservation Area.

#### 2.2.1 Historic Districts

In the **Historic Districts**, the entire building is to be conserved. Change of use to commercial or residential use is permitted in these historic districts. The strictest form of conservation is practised in these districts.

#### 2.2.2 Residential Historic Districts

The **Residential Historic Districts** are smaller areas mainly for residential use. In view of the restriction in building uses, an extension at the rear lower than the main roof is permitted to make the terrace houses more attractive and liveable to suit the needs of the individual owners.

#### 2.2.3 Secondary Settlements

Conservation within the **Secondary Settlements** is on a streetscape basis as the conserved buildings are adjacent to new developments. In these areas, the owners may choose to conserve the entire building or have a new rear extension up to the maximum height allowable for the area.

#### 2.2.4 Bungalow Areas

Conservation of bungalows is on a highly selective basis. They represent the architectural styles of different eras.

For conserved bungalows located within a site which is allowed for flat or condominium development, the bungalow may be strata-subdivided into apartment units or converted to a clubhouse. In these areas, the owner may choose to conserve the entire building, including the outhouse, or just the main building to suit his needs and to optimise the use of land.
3 ADAPTIVE REUSE OF SHOPHOUSES

Traditionally, shophouses are designed to provide for business premises on the ground floor and residential accommodation on the upper storeys; terrace houses and bungalows are designed purely for residential use. Structurally speaking, the original use is always the best use for a conserved building.

However, old buildings may often have to be restored and upgraded to meet modern living needs or to accommodate new uses. In restoring and adapting a conserved building to new uses, it is important to adhere to the conservation principle in order to retain the intrinsic character and historical value of the building. Alterations or strengthening of the building structure is to be done in the most sympathetic and unobtrusive way, using the original methods and materials wherever possible.

The restoration and adaptation of conserved buildings to new uses require an understanding of the behaviour of traditional buildings, traditional building construction methods, and how the buildings hold themselves together by the intricate interaction of the various elements.

4 UNDERSTANDING THE SHOPHOUSE

4.1 KEY ELEMENTS OF THE SHOPHOUSE

The conservation guidelines for shophouses and terrace houses relate to the key elements of the typology of the building. Constructed between 1840 and 1960, these simple buildings are two- to three-storeys high, built in contiguous blocks with common party walls.

The design and material of the shophouses and terrace houses vary according to the architectural style of the building. Singapore shophouses fall into six styles. They are the Early Shophouse, the First Transitional Shophouse, the Late Shophouse, the Second Transitional Shophouse, the Art Deco Shophouse and the Modern Shophouse.

In conserving a shophouse, the key elements to be respected are (See Figure 2 and Figure 3):

(a) **Roofs**

   Roofs are pitched and finished with overlapping V-profile or flat natural colour unglazed clay tiles, laid on timber battens and bonded with mortar. Where the tiles end at the edge of the front and rear shophouse roofs, they are often covered with a timber fascia complete with galvanised iron gutters and downpipes. Roofs are waterproofed using bituminous asphalt, galvanised iron flashing and copings.

(b) **Party Walls**

   Party walls are principal load-bearing walls which demarcate one shophouse from its neighbour. The party walls normally protrude
approximately 30cm above the roof of the shophouse and break the continuous length of the shophouses into individual lots.

Party walls are constructed of bricks laid out in continuous stretcher bond courses. The internal surfaces of the party walls are usually unpierced and unadorned. To ensure structural stability, the base of the party wall is thickened to transfer the dead-load to the base of the foundation.

(c) **Timber Structural Members**
The timber structural members include the main timber beams, the secondary timber beams, the timber floor boards and the timber rafters. The main timber beams are key horizontal structural members that run parallel to the facade, spanning from one party wall to the other. They are usually made of chengal, a hardwood timber which is resistant to the dead-load transferred from upper floors.

The secondary timber beams supporting the timber floor boards for the upper floors serve as horizontal structural members to evenly distribute the dead and live load from the upper floors to the party walls. The timber floor boards are thin horizontal structural members laid horizontally on the secondary beams and joined to one another by the traditional tongue and groove method. Timber rafters are inclined structural members supporting the pitched roof. They are in turn supported by timber purlins or roof beams spanning between the party walls.

(d) **Airwells**
Airwells are positioned between sections of the tiled roofs. They open directly to the sky to provide natural ventilation and lighting to the interior. The airwells lend interest to the spatial experience of shophouses by offering alternating naturally-lit spaces.

(e) **Rear Court**
The rear court is an open space at the back of the shophouse bounded by the rear boundary wall, the service block, the rear facade of the main part of the shophouse and the party wall. The juxtaposition of these elements produces several different rear court configurations.

The windows in the walls facing the rear court allow light to penetrate into the interior of the shophouse. They are normally casement windows of a design compatible with the windows on the front facade. The existing doors on the rear facade are either timber doors or original metal (mild steel) doors.

(f) **Timber Windows**
Shophouse windows include the timber windows of a French or casement design. French windows, found on the upper storey facade, are full-height, side-hung and double-shuttered, and may feature transom windows or fanlights above them. The timber post and rail or cast iron balustrades are part of the original design of the French windows. Casement windows are only half the height of French windows, with openings starting at the balcony rail height. Casement
windows on the first storey, unlike those on the upper storeys that swing outwards, always open inwards and are recessed to allow for installation of security devices.

(g) **Timber Staircase**
Internal staircase arrangements vary between shophouses and range from straight and dog-leg designs to curved quarter and half-turn designs. Balusters and newel posts are often ornately detailed and reflect early Dutch influences. Handrails are made of polished hardwood. The retention and restoration of the original staircase is encouraged.

(h) **Front Facade**
The shophouse facade has five distinct elements:

The **Upper Floor** that projects over the five-foot way to form a covered pedestrian arcade.

The **Columns** at the front of the building that form the five-foot way colonnades and support the upper floors.

The **Five-foot Way** which serves as a sheltered space for social activities and for circulation. It is an important element that contributes to the experience of walking through a conservation area. The elements that contribute to the experience are the floor, colonnade, residential or shopfront and the ceiling. In order to retain the traditional character of the five-foot way, the original height of the covered walkway, the design and size of the columns are to be retained.

The retention or reintroduction of the traditional materials and finishes of the five-foot way is encouraged. Traditional finishes for the five-foot way floors include cement screed, terra cotta tiles, clay tiles, cement terrazzo, mosaic, marble-chip terrazzo or granite slab. The five-foot way often features granite edging parallel to the road side drain and granite steps. Tile patterns used on the five-foot way are sometimes repeated on the front wall of the shophouse either ending as a skirting or under the window to form a decorative wall.

Where the existing floor finishes are not original, traditional materials are to be considered. The selection of the floor finishes preferably matches the architectural style of the shophouses. For instance, it is common for Early Style shophouses to have red-coloured cement screed with gridded rope indentations and granite edge slabs. Art Deco shophouses may have marble-chip terrazzo finish in a variety of colours or mosaic finish. It is untraditional for five-foot ways to be finished in ceramic tiles or slate.

The **Timber Windows** on the upper storeys are evenly spaced across the facade and are either French windows or casement windows with timber shutters, louvred shutters are hinged on the timber window frames.
The **Roof** is finished with natural colour unglazed V-profile or flat clay tiles complete with a timber fascia and galvanised iron gutters and downpipes. The pitched roofs are supported by timber purlins which are set onto the load-bearing party walls.

The Shophouse Styles comprise the Early Shophouse Style, First Transitional Shophouse Style, Late Shophouse Style, Second Transitional Shophouse Style and the Art Deco Shophouse Style. The shophouse facade features one of these five basic styles. Within each of these styles, the first storey may be a residential front or an open shopfront.

Shophouses with residential fronts at first storey level are characterised by a double-leafed timber door flanked on both sides by timber casement windows, or by two double-leafed timber doors and a timber casement window. The main door often has a pair of half-doors, known as ‘pintu pagar’, which are often intricately carved. The timber-framed windows usually have timber-panelled shutters, which open inwards and vertical iron security bars.

Shophouses with shopfronts at the first storey level have a range of traditional features including demountable timber shutter boards, timber or metal sliding and folding doors, or glass display cases. Access doors are incorporated into the shopfronts and these may be single or double-leafed, glazed or timber-panelled, louvred or of rail and stile design. In restoring the shopfront, the use of one of these traditional options is encouraged.

Some residential terrace houses also feature a **Forecourt**. The forecourt is an important feature that gives spatial and green relief to the usual narrow street that is lined with traditional houses. Where it exists, it is to be retained and restored. The proportion and ornamentation of the wall and gate of the forecourt are preferably to be restored to their original expression. These include the coping, lamps, gate posts and entrance canopy.

The conservation guidelines advocate retention, restoration and repair of these main features so as to retain the key characteristics of the traditional shophouse. In adapting the building to suit modern day needs, in some areas, the rear of the building has to be set back for the reinstatement or introduction of the rear service lane and a new rear extension may be permitted.
5 UNDERSTANDING THE BUNGALOW

5.1 KEY ELEMENTS OF THE BUNGALOW

The conservation guidelines for bungalows are directly related to the typology of the building.

Large bungalows, the majority of which were built prior to World War II, are a significant part of Singapore’s heritage. Bungalows are independent dwelling units which are usually one- or two-storeys high. They were first introduced into Singapore and Malaya by the British in the 1830s. They tend to be located in serene and wooded environments away from the hustle and bustle of the city.

Quality restoration of a bungalow requires an appreciation and understanding of the architecture of the building.

Bungalows in Singapore normally consist of the main building which houses the main living and dining areas and the bedrooms. An outhouse is normally part of the original design. It is linked back to the main building and houses the kitchen, toilets and servants’ quarters.

In conserving a bungalow, the key elements to be respected are as follows:

(a) **Roofs**
(b) **Structural Members**
(c) **The Facades of the Building**
(d) **Doors and Windows**
(e) **Significant Interior Features Including Staircases, Decorative Mouldings, Double Volume Spaces, etc**

The design and material of the bungalows vary according to the architectural style of the building. Singapore bungalows fall into five styles. They are the **Early Bungalow**, the **Victorian Bungalow**, the **Black & White Bungalow**, the **Art Deco Bungalow** and the **Modern Bungalow**.

The conservation guidelines relate to the main features of each bungalow type with the intention of retaining the key characteristics of the conserved bungalow. In adapting the building to suit present day needs, the outhouse may be demolished and new extensions may be permitted for additional floor area and greater flexibility of use of the building and the site.