



## 1.0 Objectives of Covered Linkways

The use of covered linkway plays an important role in achieving sheltered connectivity for pedestrians and commuters. Properly designed covered linkways enable weatherproof pedestrian connectivity between developments to transport nodes like bus stops and train stations. Conversely, inadequate design of covered linkway can lead to inconvenient situations for the public.

This quick guide helps Architects, Engineers and Builders to identify the critical design elements for various types of covered linkways including both low and, high covered linkways and the interfaces, better appreciate the principles behind the requirements and avoid common mistakes found.

## 2.0 Low Covered Linkway

### 2.1 Typical Plan Presentation for a Low Covered Linkway

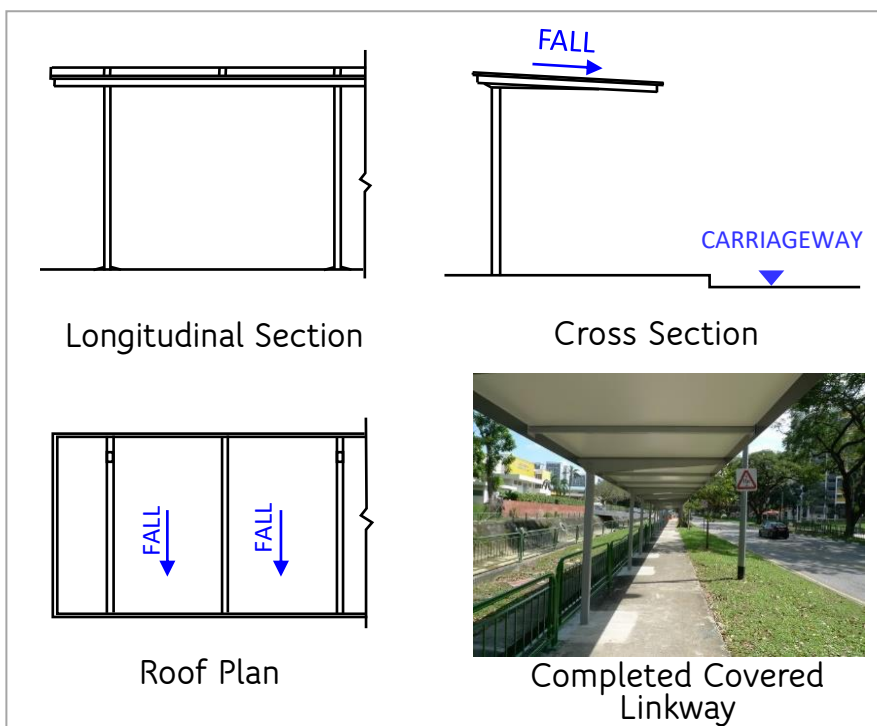


Figure 1- Typical Plan Presentation for Low Covered Linkway Plan

### 2.2 Critical Design Elements for Low Covered Linkways

The key design criteria for low covered linkways are as follows:

S/N	Design Criteria	Criteria to meet
1.	Headroom clearance	Minimum 2.4 metres
2.	Width (roof eave to roof eave)	Minimum 2.4 metres
3.	Roof gradient (slope towards carriageway)	Minimum 3 degrees No false ceiling
4.	Lateral clearance between outer edge of road kerb to linkway element	Minimum 0.6 metres
5.	Gradient of footpath/Granolithic platform underneath shelter	Minimum gradient 1:40 towards carriageway

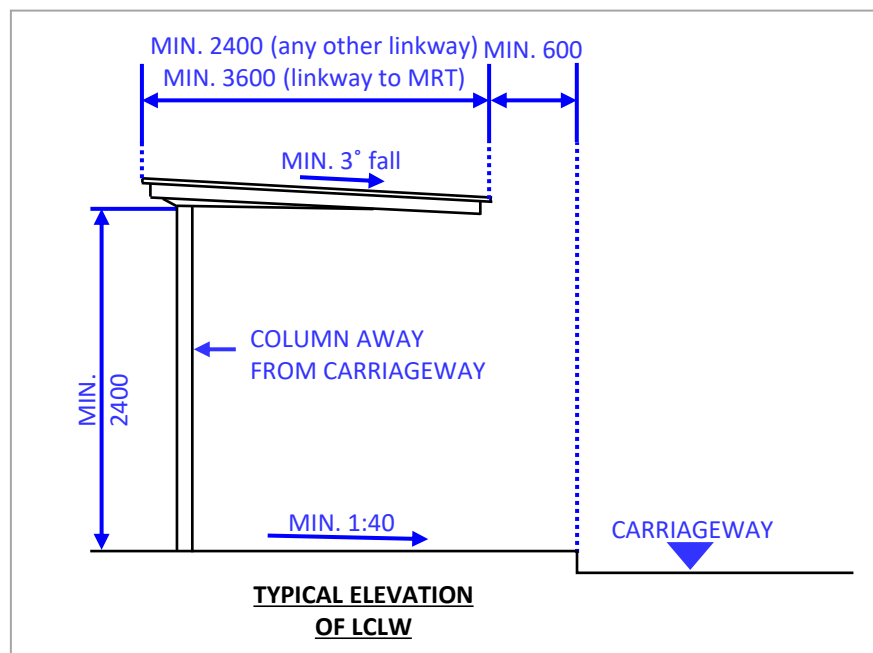


Figure 2 - Pictorial representation for Design Criteria S/N 1-5 for Low Covered Linkways

- 6. The route of the covered linkway shall be as levelled as much as possible.
- 7. The Architectural Checklist in LTA Architectural Design Criteria (ADC) "Section 4.8 - Architectural Checklist for Covered Linkway" shall be submitted to LTA DBC at DC Stage.

### 2.3 Common Mistakes in Low Covered Linkways

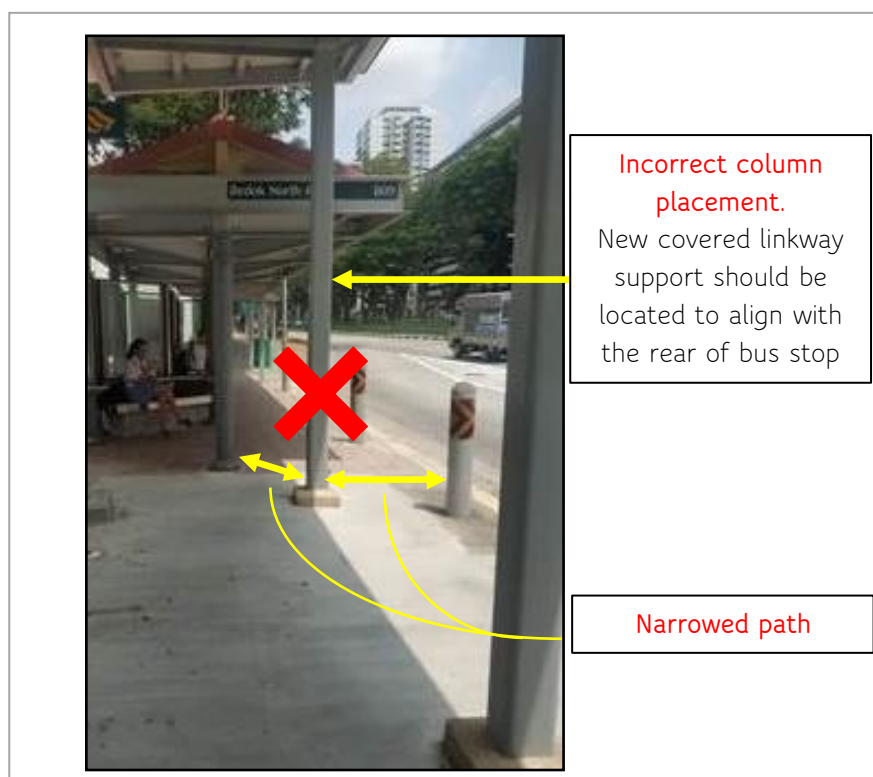


Figure 3 - Common Mistake: The design of the covered linkway should accommodate existing infrastructure and avoid creating obstructions for commuters

## 2.3 Common Mistakes in Low Covered Linkways (cont.)

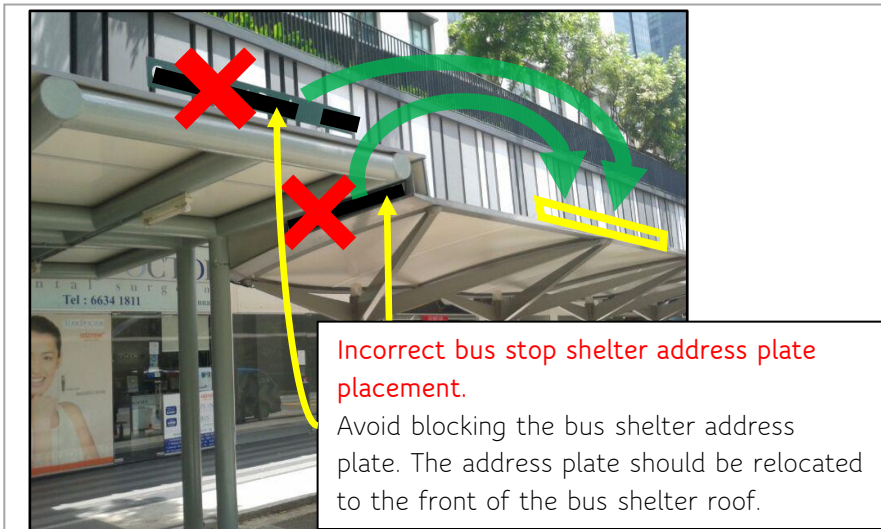


Figure 4 - Common Mistake: For covered linkways connecting to bus stops from the side, avoid blocking the bus stop address sign. Incorrect placement of bus stop signs will confuse commuters

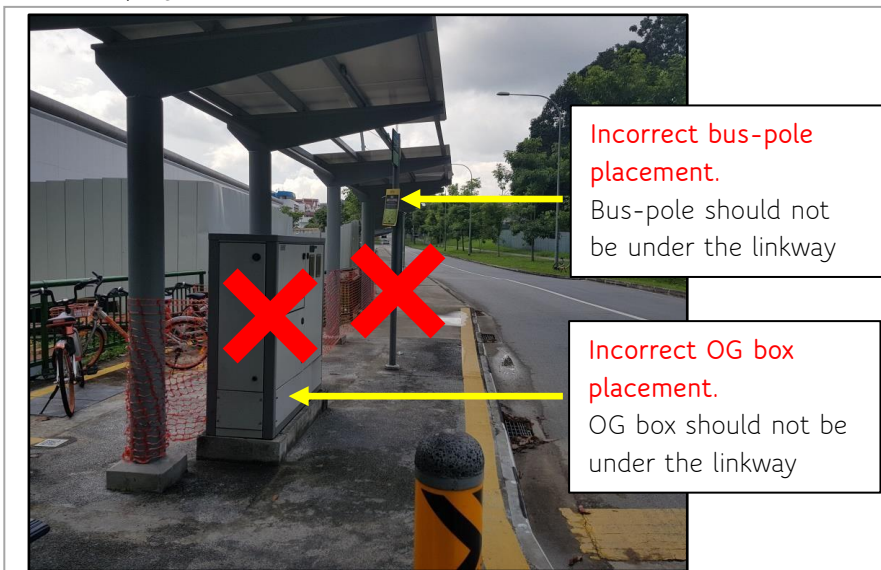


Figure 5 - Common Mistake: The pathway below the covered linkway should be free of obstructions such as OG boxes and bus poles to avoid creating hazards for commuters.

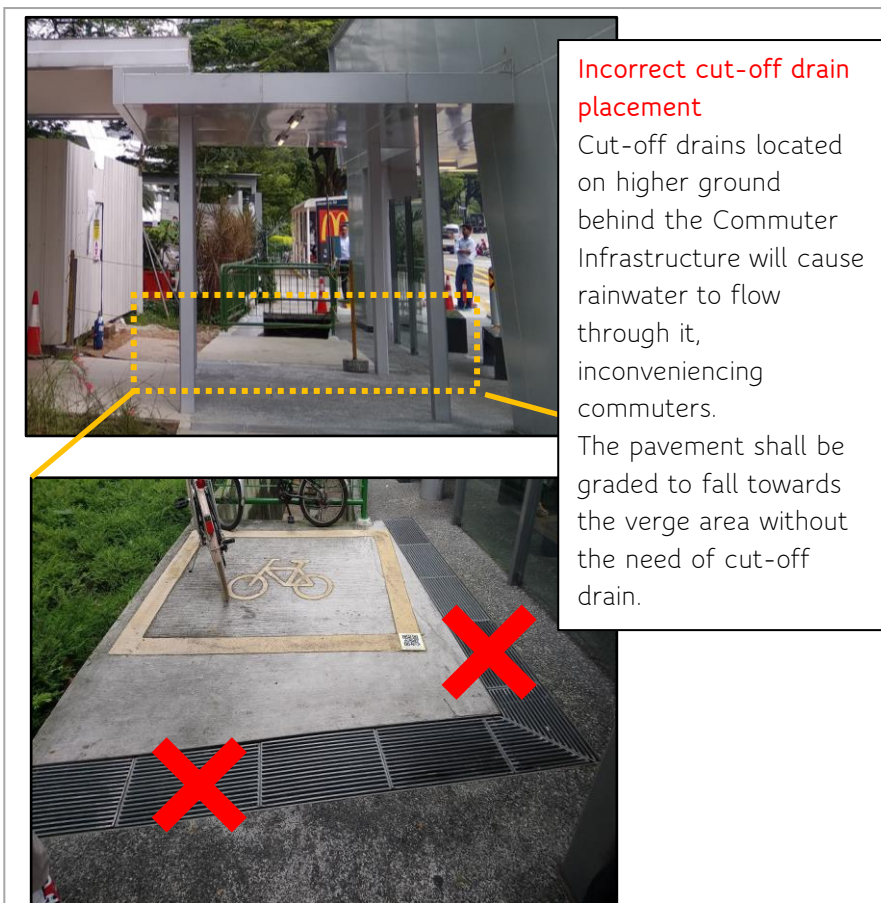


Figure 6 - Common Mistake: No cut-off drains shall be proposed within the Road Reserve

## 3.0 High Covered Linkway

### 3.1 Plan Presentation for a typical High Covered Linkway

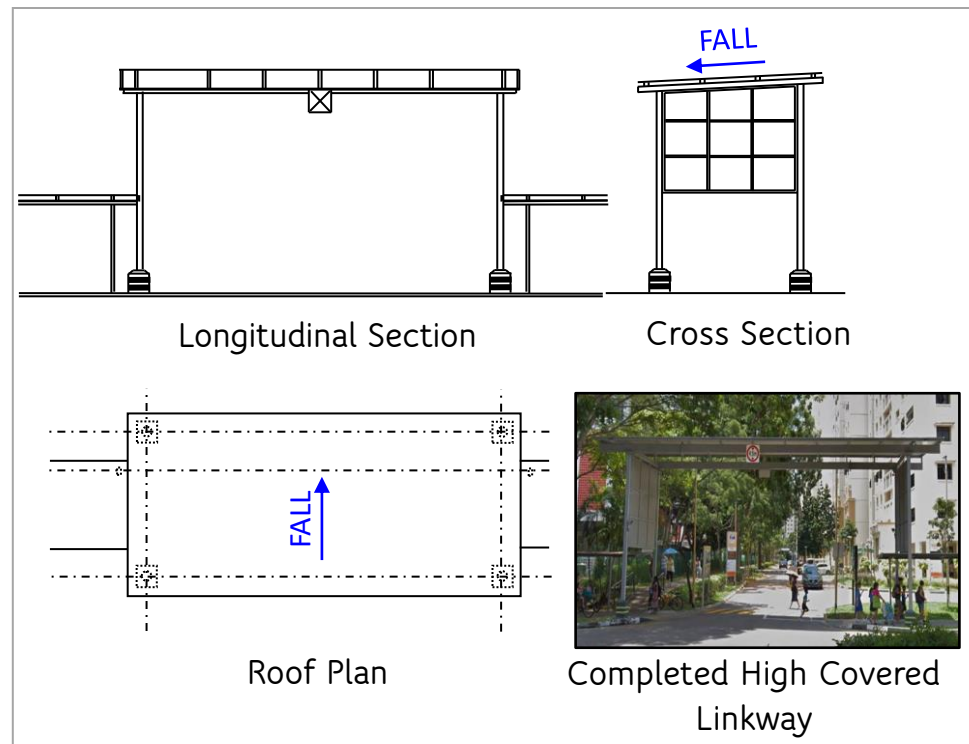


Figure 7- Plan Presentation for a Typical High Covered Linkway

### 3.2 Critical Design Elements for High Covered Linkways

The key design criteria for high covered linkways (i.e. linkways provided across entrance access points or across minor public roads) are as follows:

S/N	Design Criteria	Criteria to meet
1.	Headroom clearance	Minimum 5.7 metres
2.	Width (roof eave to roof eave)	Shall be widened in proportion to the height increase
3.	Roof gradient	Minimum 3 degrees No false ceiling
4.	Lateral clearance between outer edge of road kerb to linkway column	Minimum 1.2 metres

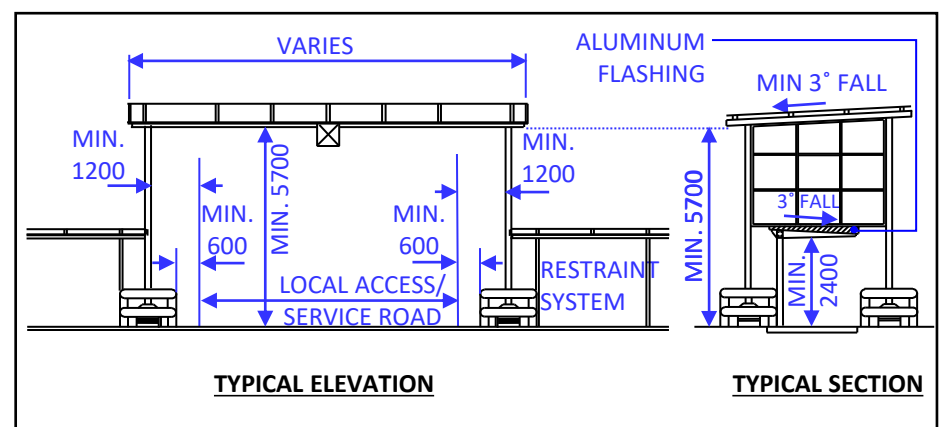


Figure 8 - Pictorial representation for Design Criteria S/N 1-4 for High Covered Linkways with Vehicle Restraint System

N.B.: Vehicle Restraint Systems are required for all high covered linkways spanning across public streets. They are not required for linkways spanning across accesses to developments.

### 3.2 Critical Design Elements for High Covered Linkways (cont.)

5. Refer to typical RC stump details for high covered linkway in Figure 9.

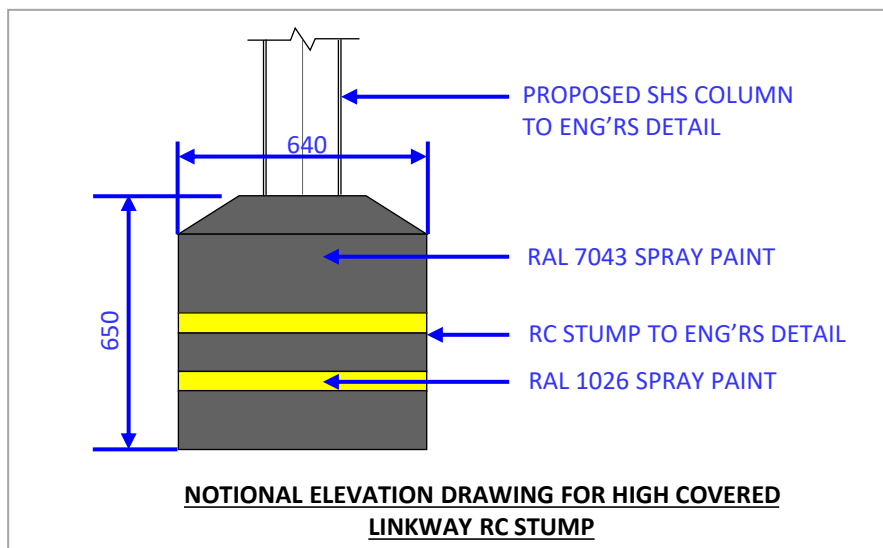


Figure 9 - Pictorial representation for Design Criteria S/N 5 for High Covered Linkways

6. The Architectural Checklist in LTA Architectural Design Criteria (ADC) "Section 4.8 - Architectural Checklist for Covered Linkway" shall be submitted to LTA DBC at DC Stage.

### 3.3 Common Mistakes for High Covered Linkways

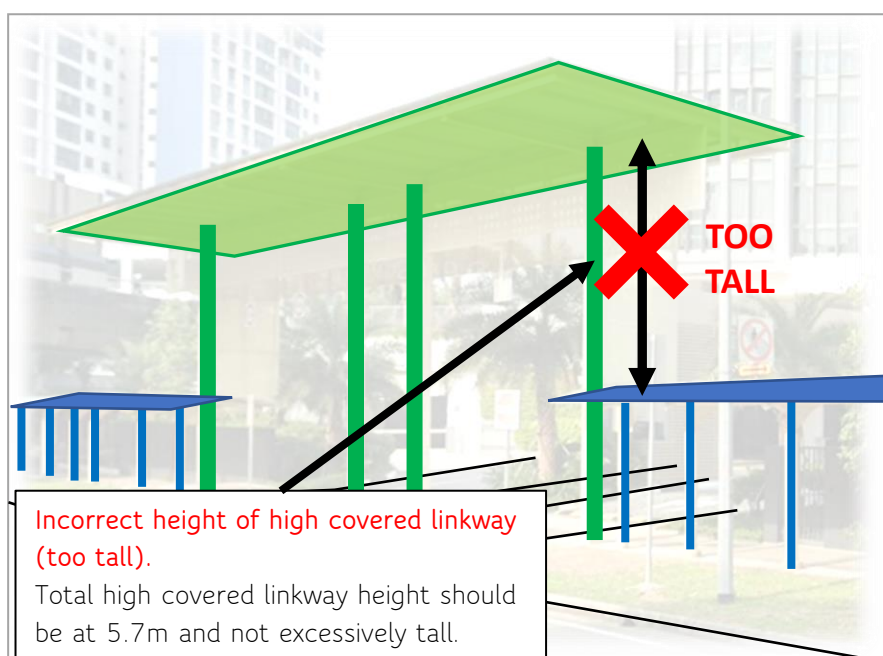


Figure 8 - Common Mistake: Incorrect height of covered linkway leading to ineffective weather protection for pedestrians

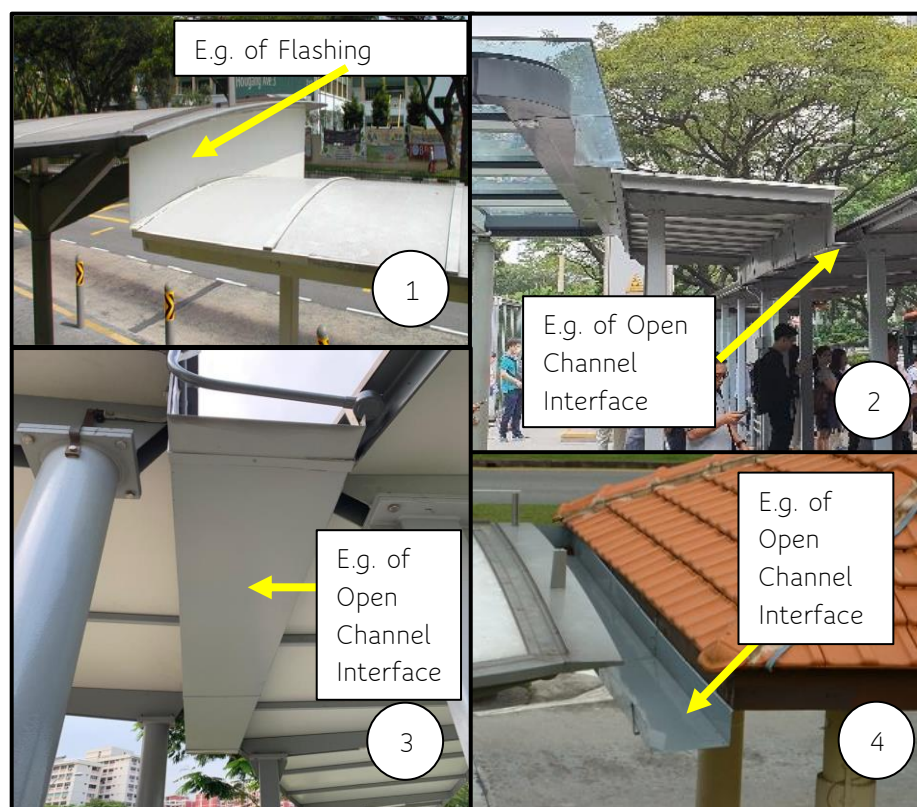
## 4.0 Interfaces for Covered Linkways

### 4.1 Critical Design Elements for Interfaces

Key design criteria for covered linkways' interfaces:

1. Flashings shall be provided to prevent rainwater from flowing & splashing onto the commuters' sheltered area.
2. There shall be no structural connections to any existing facility. Silicone gel shall be applied to seal off the 1mm gap between the flashing (if any) and roof of future facility.
3. An open-end channel shall be provided at the rear connection of covered linkway to the bus shelter, for rainwater to drain towards the rear of bus shelter.
4. To close gaps so as to prevent rainwater from spilling into bus shelter.

### 4.2 Typical Interfacing Details between Covered Linkway and Bus Shelter



### 4.3 Typical Interfacing Details between High & Low Covered Linkways



# 5.0 M&E Lightings

## 5.1 General Criteria for Light Fittings & Wirings

General criteria for light fittings:

1. Lighting units shall be concealed, with light fitting exposed partially out of the rafters.
2. Light fittings shall be provided at every 6m.

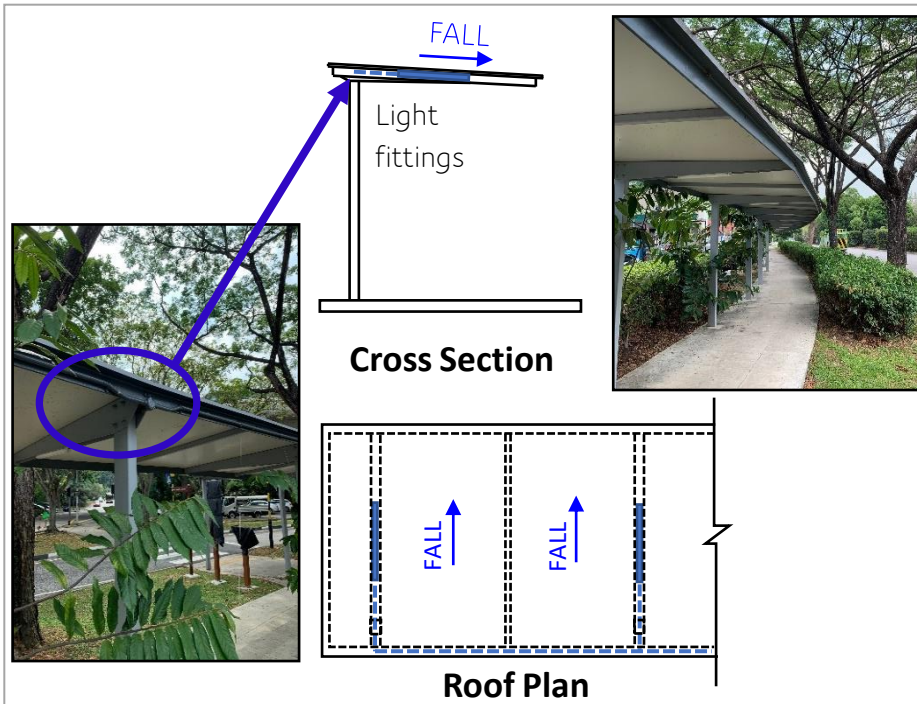


Figure 10 - Pictorial representation for General Criteria S/N 1-2 for Light Fittings & Wirings

3. The illuminance shall be of 10 lux with a uniformity of 0.25.
4. The M&E Checklists in RT COP V2.0 "Appendix 1C - M&E Checklist for Bus Shelter, Taxi/Passenger Pick-up Shelter, Pedestrian Overhead Bridge (POB) and Covered Linkway" and "Appendix 1D - M&E Checklist for Covered Linkway" shall be submitted to LTA DBC at BP Stage.

## 5.2 Common Mistakes for M&E Lightings at Covered Linkways

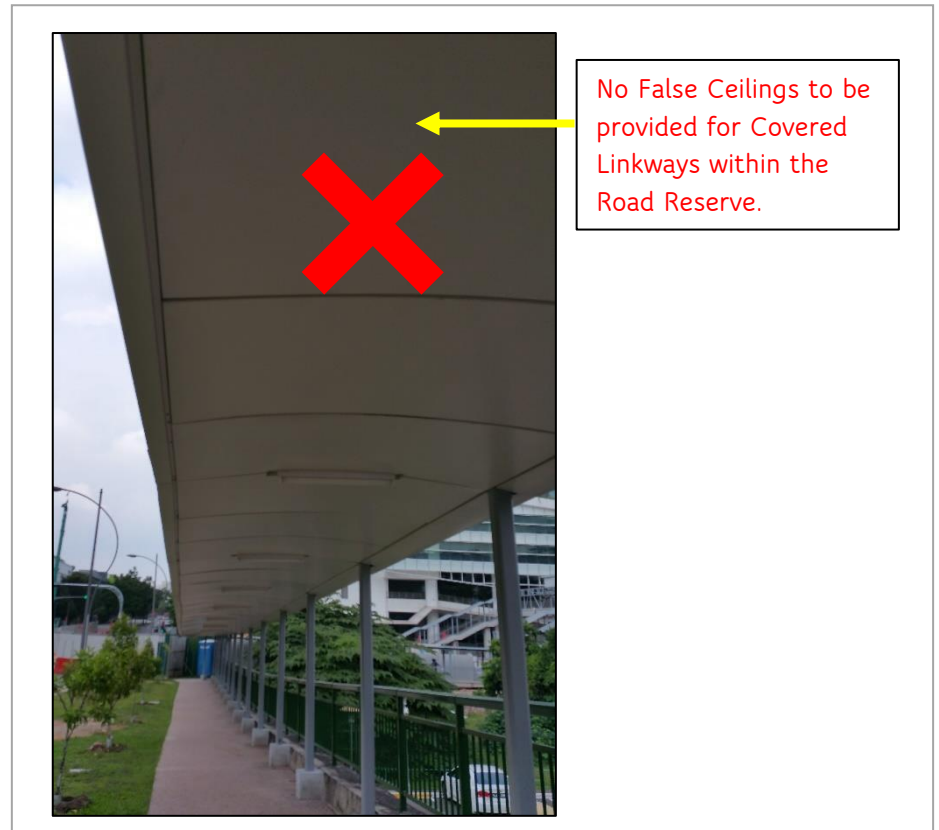


Figure 11 - Common Mistake: No false ceilings to be provided for covered linkways within the Road Reserve, as it would be difficult to monitor the health of internal structural members covered by the cladded roof and false ceilings (i.e. corrosion).

## About this series

With effect from April 2020, LTA will periodically publish a series of quick guides to broaden and consolidate understanding of LTA's building plan regulations and processes. The guides feature an in-depth explanation of the principles behind specific requirements, coupled with examples of good practices & common mistakes.

The first issue focused on the correct design of tactile indicators to facilitate safe travel on public streets. Subsequent topics are carefully curated based on LTA's observations of prevailing trends. All publications are made available at LTA's corporate website, under: Who We Are > Statistics & Publications > Journals & Newsletters > Quick Guides for Development Proposals.

Do look out for our future issues of Quick Guides.

