

“What you need to know about covered linkway proposals”

***Presented by
Architectural
Division***

Scope of Presentation

1. Objectives
2. Architectural Design Criteria (ADC)
for covered linkway
3. Submission procedure
4. Reference
5. Conclusion

Difference between Covered Linkway and Covered Walkway



**Example of
Covered Linkway**



**Example of
Covered Walkway**

Objectives

- To assist consultants in the design and submission process of linkway proposals
- To highlight some common mistakes made by consultants

Architectural Design Criteria for Covered Linkway

- Outlines specific requirements and minimum standards acceptable
- Acts as a form of guide to assist the consultants in their submission
- Not intended to restrict the consultants' creative solutions

Architectural Checklist for Covered Linkway

Architectural Checklist For Covered Linkway

(Canopies either attached to the face of building or as independent structures)

(✓) Tick the appropriate box for all items

Standard Requirements	Complied	Not Complied	Remarks
1. General			
1.1 The route of the covered linkway shall be level as far as possible. If there is a level difference, it has to be addressed by ramps or steps. Ramps are preferred over steps. In cases where the linkway forms part of the access route for handicapped users, ramps shall be provided.	<input type="checkbox"/>	<input type="checkbox"/>	
2. References			
2.1 Roof and surface drainage shall comply with PUB requirements. There shall be no ponding.	<input type="checkbox"/>	<input type="checkbox"/>	
2.2 E&M provisions shall comply with E&M Design Requirements (ADC Section 4.2).	<input type="checkbox"/>	<input type="checkbox"/>	
2.3 Ramps, steps and handrails shall comply with the "Code On Barrier-Free Accessibility In Buildings".	<input type="checkbox"/>	<input type="checkbox"/>	
2.4 All materials and finishes shall comply with the LTA Architectural Material and Workmanship (M&W) Specification for Shelters	<input type="checkbox"/>	<input type="checkbox"/>	
2.5 Floor finishes shall comply with the Floor Finishes Checklist (ADC Section 6.3) which shall be completed and submitted together with this checklist.	<input type="checkbox"/>	<input type="checkbox"/>	
3. Detailing			
3.1 The direction of fall is to be indicated on the plan.	<input type="checkbox"/>	<input type="checkbox"/>	
3.2 The shelter shall provide adequate weather protection, including against radiant heat, with appropriate overhang.	<input type="checkbox"/>	<input type="checkbox"/>	
3.3 The drainage design shall not allow: - stagnation, - ponding, - or splashing into the commuters sheltered area.	<input type="checkbox"/>	<input type="checkbox"/>	
3.4 The lateral clearance between the outer edge of the road kerb and any element shall be minimum 0.6m.	<input type="checkbox"/>	<input type="checkbox"/>	
3.5 Polycarbonate or Teflon roof material shall not be used.	<input type="checkbox"/>	<input type="checkbox"/>	

(✓) Tick the appropriate box for all items

Standard Requirements	Complied	Not Complied	Remarks
3.6 Linkways connecting to MRT / LRT stations or other high traffic routes identified by the Authority shall have: - Minimum clear width - 3.0m - Minimum clear headroom - 2.1m All other linkways shall have : - Minimum clear width - 1.5m - Minimum clear headroom - 2.1m	<input type="checkbox"/>	<input type="checkbox"/>	
3.7 Columns shall be placed on the far side away from the carriageway.	<input type="checkbox"/>	<input type="checkbox"/>	
4. Interfaces			
4.1 Road reserve line is to be indicated on the plans, elevations and sections.	<input type="checkbox"/>	<input type="checkbox"/>	
4.2 The design of the interface between the linkway and the adjacent facility shall prevent rainwater from flowing & splashing onto the commuters' sheltered area.	<input type="checkbox"/>	<input type="checkbox"/>	
4.3 There shall be no structural connection to any existing facility.	<input type="checkbox"/>	<input type="checkbox"/>	
4.4 Bus shelter code number (eg B01-12349) of any affected bus shelter shall be indicated on plan.	<input type="checkbox"/>	<input type="checkbox"/>	
4.5 The linkway connection shall not obstruct any bus shelter address plate, bus stop pole or taxi pole.	<input type="checkbox"/>	<input type="checkbox"/>	
4.6 The covered linkway is preferred to be connected at the rear of the bus/taxi shelter so as to maintain minimum encroachment into the road reserve.	<input type="checkbox"/>	<input type="checkbox"/>	

Note:

- The QP shall state the reasons for not complying with items that are marked "Not Complied".

Name Of Qualified Person

Signature Of Qualified Person

Date

Item 1.1 – The route of the covered linkway shall be levelled as far as possible



Covered Linkway

- Item 2.1 – Roof and surface drainage shall comply with PUB requirements**
- Item 2.2 – E&M provisions shall comply with E&M Design Requirements (ADC Section 4.2)**
- Item 2.3 – Ramps, steps and handrails shall comply with the ‘Code on Accessibility in the Built Environment 2007’**
- Item 2.4 – All materials and finishes shall comply with LTA Architectural Materials and Workmanship (M&W) Specifications**

Item 2.5 - Floor Finishes Checklist

Floor Finishes Checklist

Pursuant to The Street Works Act and its Regulations

Material Used :

(eg granite, homogeneous tiles etc)

(✓) Tiek the appropriate box for all items

Standard Requirements		Complied	Not Complied	Remarks
1.	The proposed finished floor shall provide a safe and hazard free environment. Any potential risks with appropriate mitigating measures shall be identified.	<input type="checkbox"/>	<input type="checkbox"/>	
2.	Submit full information on the proposed material for open walkways to be maintained by LTA. (brand/ country of origin/name of manufacturer & supplier/ brochures/ product reference etc.)	<input type="checkbox"/>	<input type="checkbox"/>	
3.	Comply to Slip Resistance (Coefficient of friction for dry & wet.) SS485:2001 for "Slip resistance classification of public pedestrian surface material".	<input type="checkbox"/>	<input type="checkbox"/>	
4.	The material selected shall be stain resistant and shall not react chemically under prolonged moist and wet conditions.	<input type="checkbox"/>	<input type="checkbox"/>	
5.	Comply to surface hardness according to Moh's scale 7.	<input type="checkbox"/>	<input type="checkbox"/>	
6.	The material selected shall comply to the respective water absorption and compressive strength test requirements of a recognised regulatory body, eg SPRING Singapore.	<input type="checkbox"/>	<input type="checkbox"/>	
7.	The material selected shall have joints that are adequately spaced to cater for movement to prevent debonding.	<input type="checkbox"/>	<input type="checkbox"/>	
8.	Submit a digital image of the proposed material taken with the existing neighbouring tiles (for open walkways to be maintained by LTA only).	<input type="checkbox"/>	<input type="checkbox"/>	
9.	The material selected shall comply with any applicable URA Development Control requirements for the particular location.	<input type="checkbox"/>	<input type="checkbox"/>	

Notes :

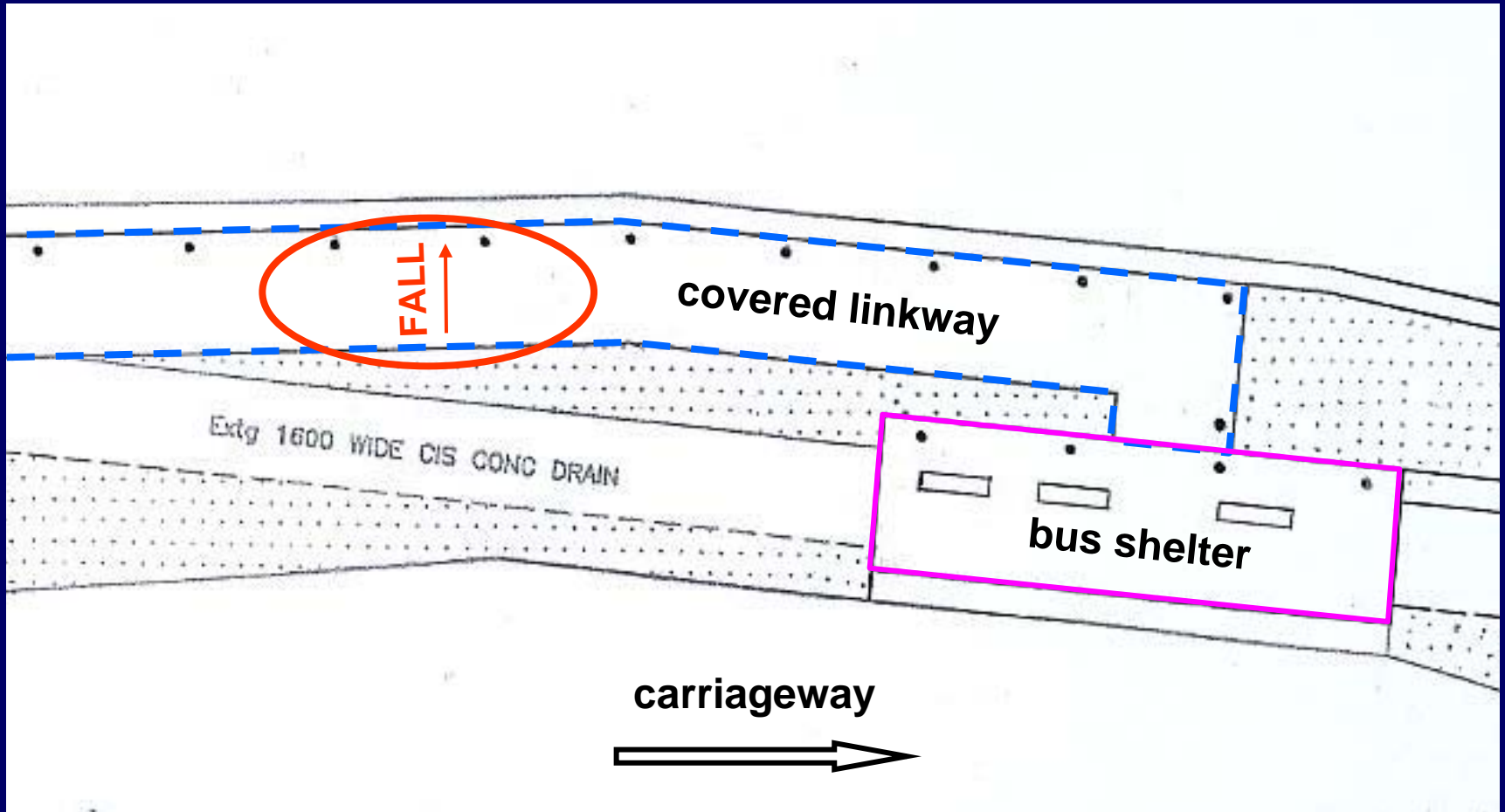
- The QP shall state the reasons for not complying with items that are marked "Not Complied".
- A separate checklists shall be completed and submitted for each separate material.
- Nothing shall be construed to exempt any person from otherwise complying with the provision of the Street Works Act and its Regulations, the rules made thereunder and all other written laws for the time being in force.
- Any standard used for compliance must be recognised by SPRING Singapore.
- Test reports of building materials are not required to be submitted

Name Of Qualified Person

Signature Of Qualified Person

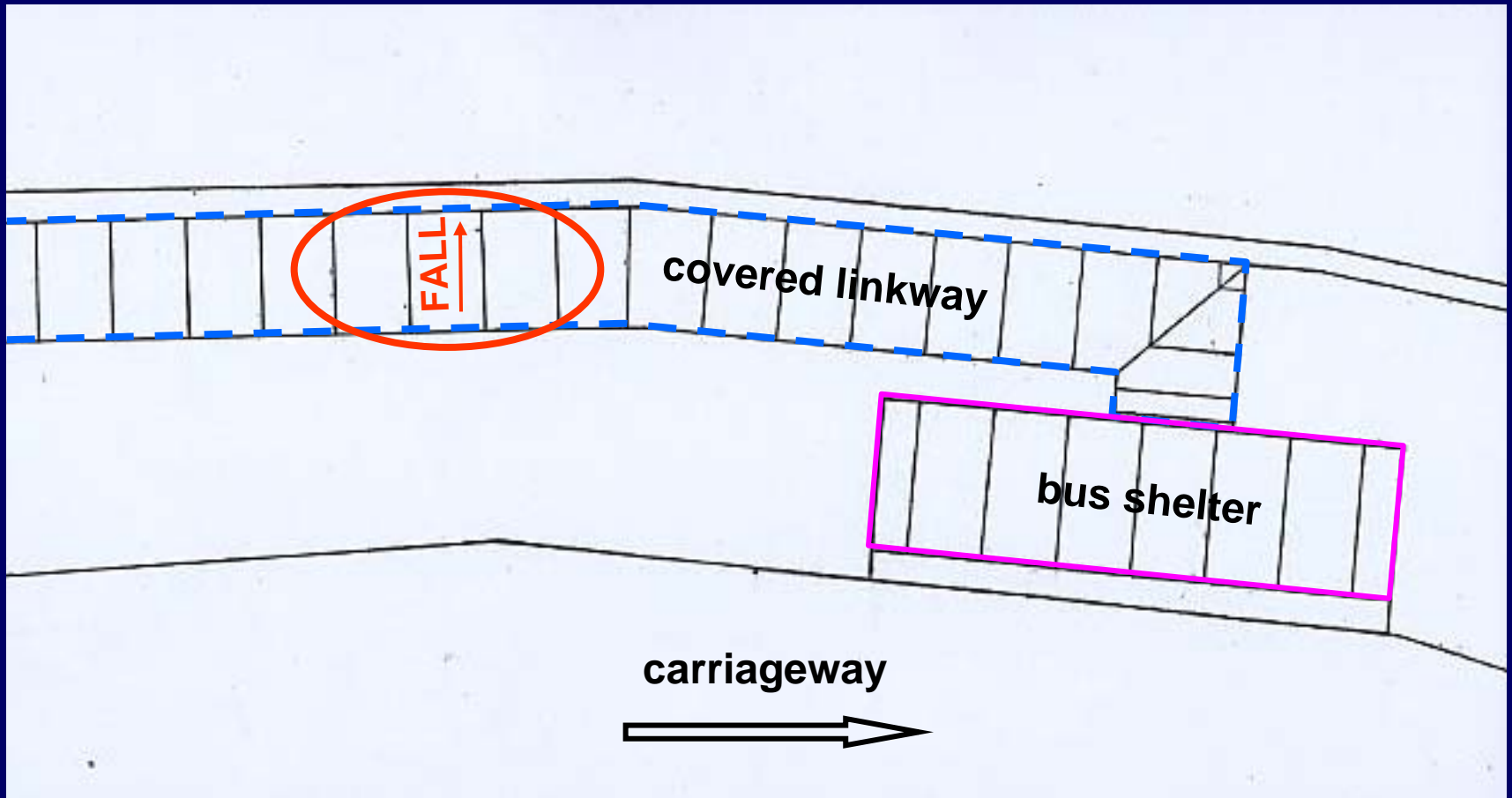
Date

Item 3.1 - Direction of fall is to be indicated on the floor plan



Typical Floor Plan of Covered Linkway

Item 3.1 - Direction of fall is to be indicated on the roof plan



Typical Roof Plan of Covered Linkway

Item 3.2 - The shelter shall provide adequate weather protection, including against radiant heat, with appropriate overhang



Example of covered linkway with adequate overhang



Example of glass linkway where it acts as an extension of the bus shelter

**Item 3.3 - The drainage design shall not allow :
stagnation, ponding or splashing into
the commuters' sheltered area**



**Example of ponding at
covered linkway**



**Example of proper drainage
measure provided at covered
linkway**

Item 3.4 - Lateral clearance between the outer edge of the road kerb & any element shall be minimum 0.6m



Covered Linkway

Item 3.5 - Polycarbonate or Teflon roof material shall not be used



Example of polycarbonate covered linkway



Example of teflon covered linkway

Item 3.6 - Minimum clear width & headroom clearance of covered linkway



**Typical Covered Linkway
at MRT Stations**

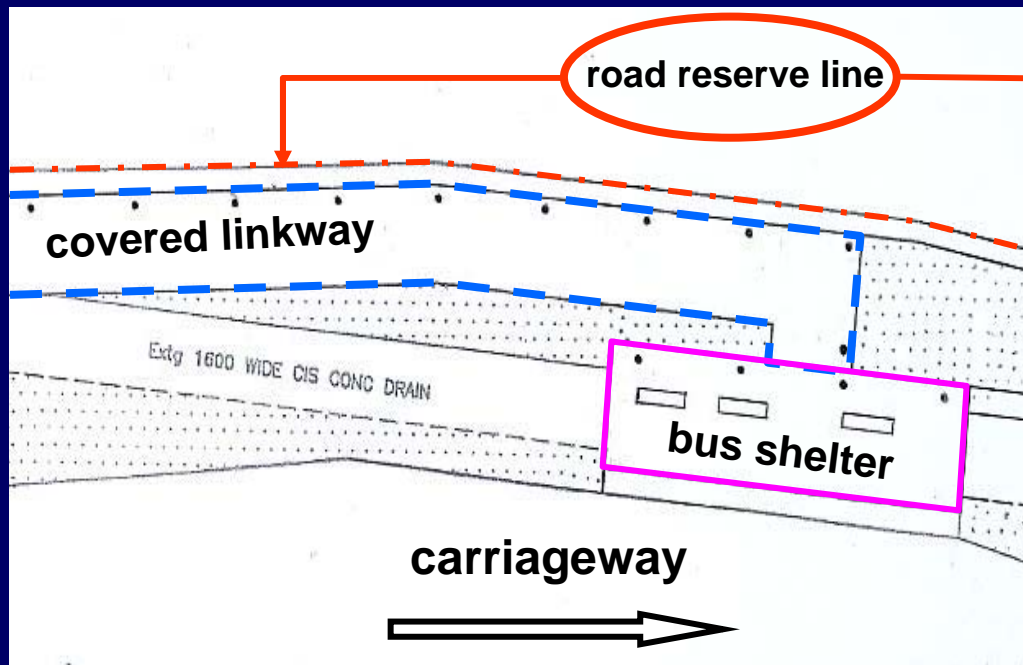
Typical Covered Linkway

Item 3.7 - Columns shall be placed on the far side of the carriageway

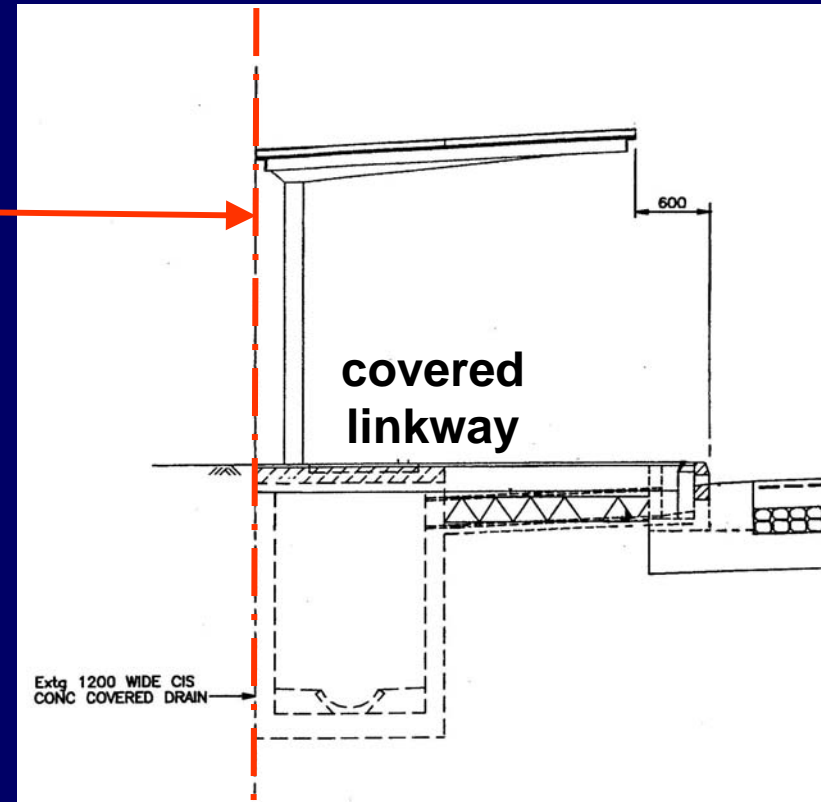


Covered Linkway

Item 4.1 - Road reserve line is to be indicated on plans, elevations & sections



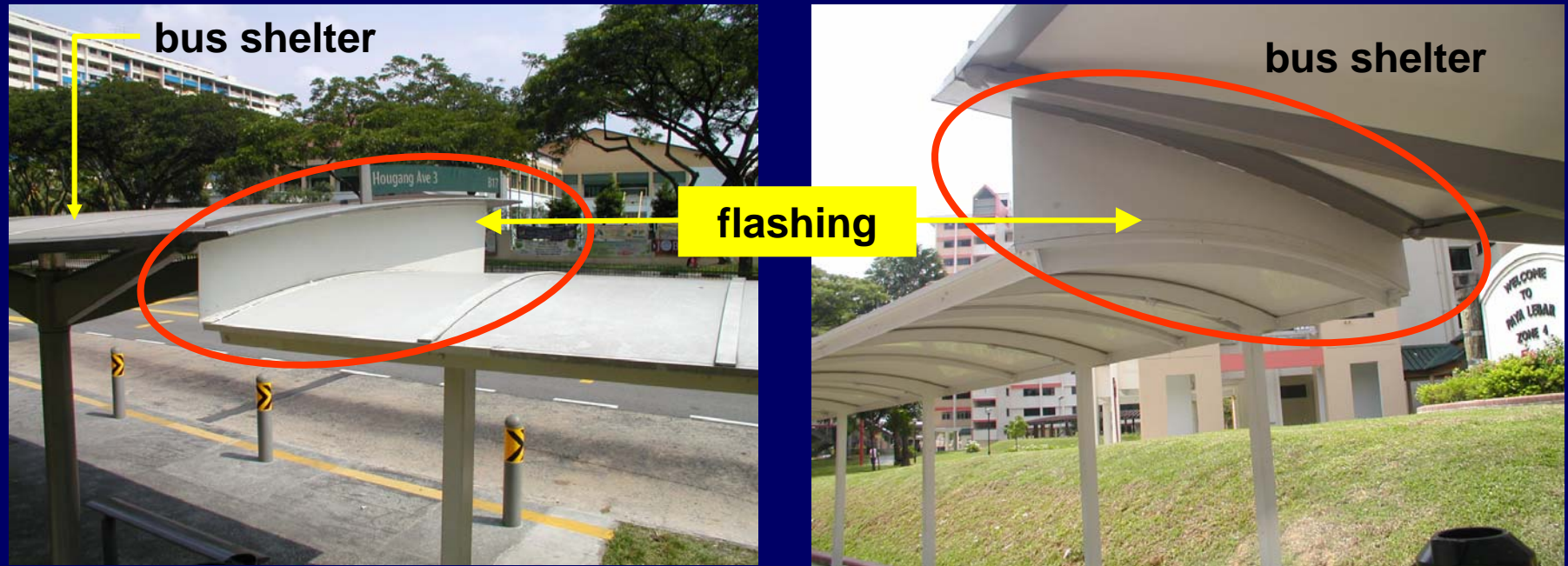
Typical Floor Plan of Linkway



Typical Elevation / Section of Linkway

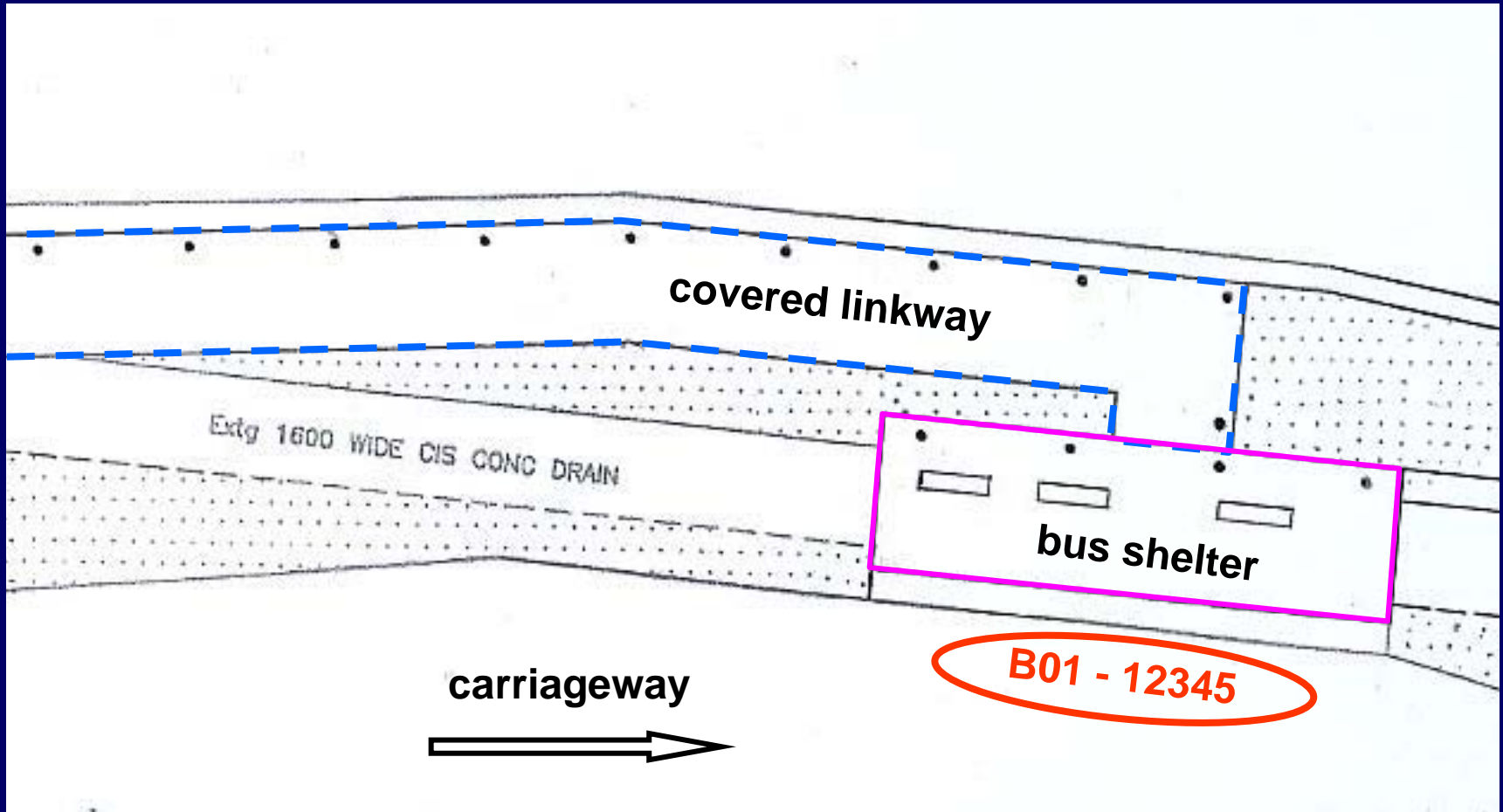
Item 4.2 - Interfacing detail between linkway & adjacent facility

Item 4.3 - There shall be no structural connection to any existing facility



Example of interfacing detail between covered linkway & bus shelter

Item 4.4 - Bus shelter code number shall be indicated on the floor plan



Typical Floor Plan of Covered Linkway

Bus Stop Number

bus shelter
address plate



Bus Shelter (Type A)



Bus Shelter (Typical)

Bus Stop Code



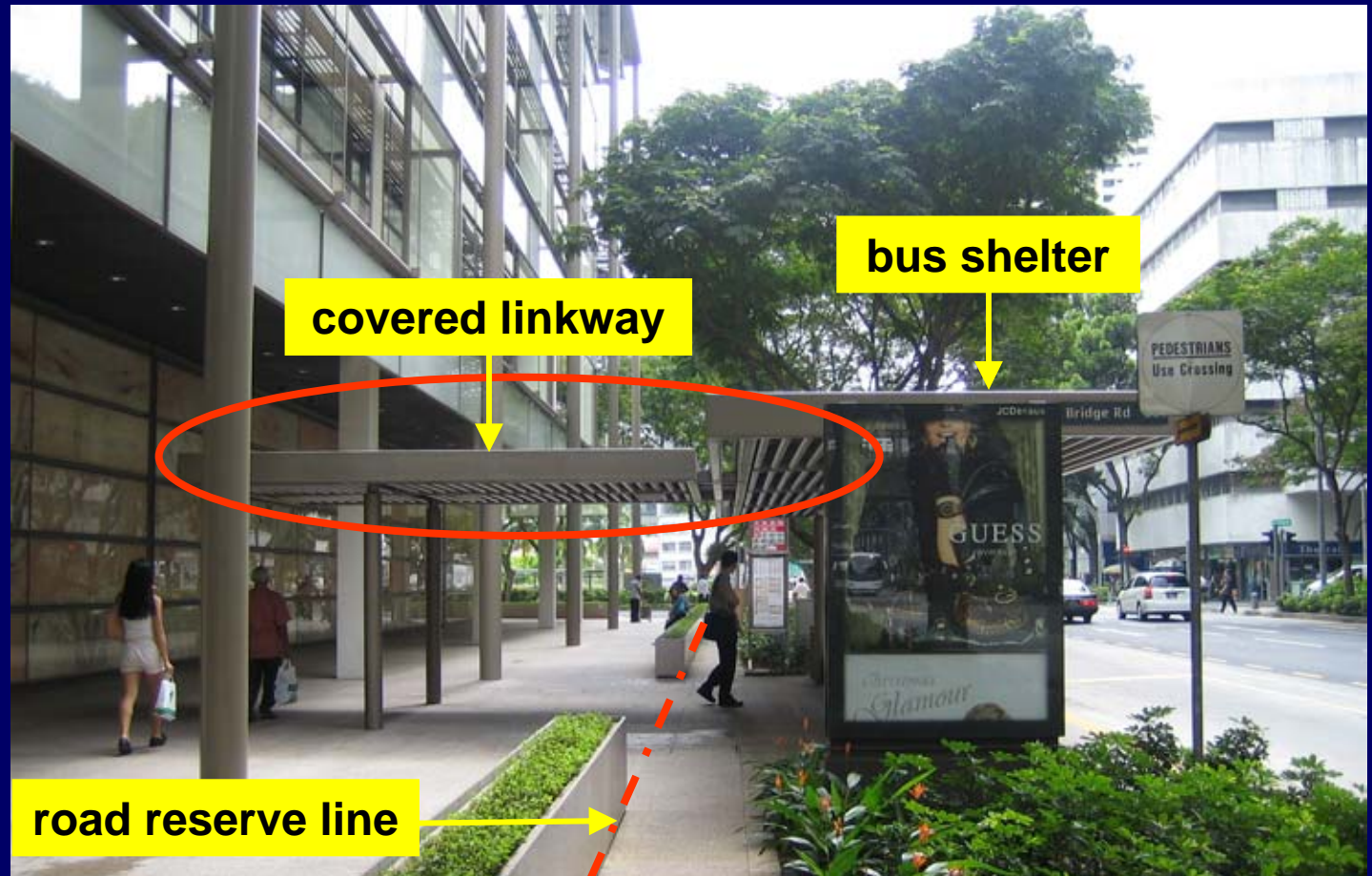
Item 4.5 - Linkway connection shall not obstruct any bus shelter address plate, bus stop pole or taxi pole

bus shelter
address plate

bus stop pole



Item 4.6 - The linkway is preferred to be connected at the rear of the bus / taxi shelter to minimise encroachment into the road reserve



Submission Procedure

- All linkway proposals are to be submitted to LTA, Development & Building Control Division
- The drawings required for submission are:
 - a) Site / Location Plan
 - b) Floor Plan
 - c) Roof Plan
 - d) Elevation of entire linkway
 - e) Section/s if there are different linkway heights
 - f) Enlarged interfacing details
- Checklist forms required:
 - a) Architectural checklist for covered linkway
 - b) Floor finishes checklist if floor tiles are proposed for the covered linkway

Reference

The Architectural Checklist for Covered Linkway and the Floor Finishes Checklist are available in the LTA website :

**www.lta.gov.sg/dbc/index_dbc_other.htm
or www.corenet.gov.sg**

Web Page to Architectural Standards

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- » **Code of Practice for Traffic Control at Work Zone**
- This Code of Practice sets out the guidelines and procedures for traffic control at work zones.
- » **Civil Standards**
- These standards set out the civil design and the materials and workmanship specifications.
- » **Guidelines on the use of skips for loading and unloading activities on Public Streets**
- These guidelines provide the necessary requirements for the proper placement of skips along public roads to ensure safety and minimise obstructions and inconvenience to road users.
- » **Architectural Standards**
- These standards set out the architectural design and the materials and workmanship specifications.
- » **Standard Details of Road Elements**
- These standards set out guidelines for common road elements such as drains, kerbs and pavement as a reference for road construction.
- » **Heavy Motor Vehicles Movement Notification**
For FAQs on the Heavy Motors Vehicle Movement Notification.

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Website link to the checklist forms

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the materials & workmanship specifications currently in use.

- » **Architectural Design Criteria (Revision A8, Mar 2008)**
This is a compilation of all the architectural design requirements for the design of transport facilities for the Land Transport Authority.
 - [ADC RevA8 - Title Page](#)
 - [ADC Section 1 - Introduction](#)
 - [ADC Section 2 - Architectural Design Requirements](#)
 - [ADC Section 4 - Commuter Facilities Design Requirements and Checklist Forms](#)
 - [Attachments to Section 4.2 - CF E&M](#)
 - [Attachments to Section 4.3 - Bus Interchange](#)
 - [Attachments to Section 4.4 - Bus Shelter](#)
 - [Attachments to Section 4.5 - Taxi Shelter](#)
 - [Attachments to Section 4.6 - Pedestrian Overhead Bridge](#)
 - [Attachments to Section 4.7 - Pedestrian Underpass](#)
 - [ADC Section 5 - Support Design Guidelines](#)
 - [ADC Section 6 - Support Criteria](#)

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***Thank
You!***