



# SUPPLEMENTARY REQUIREMENTS TO THE INFRASTRUCTURE DESIGN MANUAL

Version (No1)

Council Endorsement Date: (4 June 2018)

Review Date: (1 July 2022)

## DOCUMENT CONTROL

Responsible GM	General Manager Infrastructure and Recreation	
Division	Infrastructure and Recreation	
Last Updated (who & when)	Kevan Delaney, Manager Infrastructure Development)	March 2018
<b>DOCUMENT HISTORY</b>		
Authority	Date	Description of change
LCC	February 2018	RMP V1.0 Review for Engagement
LCC	April 2018	Consider designer and developer feedback
References	Refer to Section 8 and 9 of this policy	
Next Review Date	(TBD)	
Published on website	(Yes)	
Document Reference No		

## INTRODUCTION

This addendum (or supplementary requirement) outlines Latrobe City's specific requirements in relation to the Guidelines for the design and development of infrastructure within the Latrobe City.

The information in this document is to be read in conjunction with the Infrastructure Design Manual (IDM), Version 5.10, released January 2018.

Where this information conflicts with the standard clauses of the IDM, the information in this addendum shall take precedence.

This addendum plus the Infrastructure Design Manual provides a set of Standards to be used by developers, consultants and designers in the planning of new infrastructure and for the rehabilitation of existing infrastructure. These standards are a minimum and alternatives will be considered upon application.

It is intended that the addendum will be updated on a regular basis and comment and feedback on the contents is welcomed.

## LATROBE CITY SUPPLEMENTARY REQUIREMENTS TO THE INFRASTRUCTURE DESIGN MANUAL

### TABLE OF CONTENTS

Clause 2 Definitions .....	4
Qualified Engineer .....	4
Clause 6 Documentation .....	4
6.3.3 Datum .....	4
6.3.6 Existing Conditions Survey .....	4
6.7 Permanent Survey Marks .....	5
Clause 7 Construction Phase .....	5
7.6 As Constructed Information .....	5
Clause 8 Defects Liability Period for Developers .....	5
8.8 Maintenance of Subdivision Works .....	5
8.9 Maintenance of WSUD Works .....	6
Clause 12 Design of Roads .....	6
12.3.2 Urban Roads .....	6
12.4 Rural Roads .....	8
Selection Table 12.4.2(a) For Rural Living Collector Roads .....	8
Selection Table 12.4.2(b) For Low Density Residential Collector Roads .....	8
Selection Table 12.4.2(c) For Rural Access .....	9
12.7.2 Flexible Road Pavements .....	9
12.7.6 Minimum Pavement Thickness – Residential Streets .....	9
12.7.7 Minimum Pavement Thickness – Industrial and Commercial Streets .....	10
12.7.8 Minimum Pavement Thickness – Intersections .....	10
12.7.16 Pavement Wearing Course .....	10
Clause 13 Mobility and Access Provisions .....	12
13.3 Requirements .....	12
Clause 16 Urban Drainage .....	12
16.8.3 Minimum Pipe Cover .....	12

## LATROBE CITY SUPPLEMENTARY REQUIREMENTS TO THE INFRASTRUCTURE DESIGN MANUAL

### Clause 2 Definitions

#### *Qualified Engineer*

Insert the following sentence as in the paragraph defining a Construction Engineer

A Qualified Engineer for the purposes of Latrobe City Council is an person registered in good standing with Engineers Australia or the Institute of Public Works Engineers Australasia as an engineer competent for the engineering in question.

### Clause 6 Documentation

#### *6.3.3 Datum*

Insert the following paragraph after the first paragraph of 6.3.3 Datum with the following paragraph

Unless otherwise agreed by **Council**, survey data shall be coordinated GDA94 or the MGA94 Zone 55 horizontal datum:

#### *6.3.6 Existing Conditions Survey*

Add new clause after Clause 6.3.5 Drawing Numbers

The existing conditions survey conducted prior to design shall ensure that the following features are located, particularly where proposed works abut existing works that are the responsibility of Latrobe City Council. These features must include:

- Building/property lines, veranda's (within road reserves), fences, gates.
- Title pegs, reference marks, permanent marks, TBM's.
- Footpaths, kerb and channel, table drains, vehicle crossings, perambulator crossings, edge of pavement, edge of seal, edge of formation, shoulders, centre of bitumen/formation/pavement, line of crown, line and lane markings.
- Stormwater pits and pipes including invert levels of existing pits and invert levels of inlet and outlet pipes, pipe sizes.
- Culverts, end-walls, wing walls, property inlets, house drains, outfall structures, watercourses, dams, ponds, lakes, high and low water marks (shore lines).
- tops and toes of banks, changes of grade, batters.
- trees, shrubs, other significant vegetation.
- road furniture, signs, guide posts, bollards, letterboxes, guard rails.
- buildings, bridges, retaining walls, bus shelters, bike racks, seats.

- service poles, guys, pits, covers, manholes, hydrants, valves, conduits, cable.
- railway lines and fixtures

### 6.7 Permanent Survey Marks

Insert new clause after Clause 6.6 Information to be shown on Plans

Standard permanent survey marks are to be placed at a maximum spacing of 300 m in urban areas and 1 km in rural areas, and at other locations as determined by the Manager Infrastructure Development. A Permanent Mark sketch plan as approved under the Survey Co- ordination Act shall be completed and registered with Land Victoria. Such registration shall be deemed not to have taken place until notarised advice has been forwarded to Latrobe City Council

## Clause 7 Construction Phase

### 7.6 As Constructed Information

Replace Clause 7.6 As-Constructed Information with the following Clause

Following the completion of civil works in a subdivision or development, , “As Constructed” information that details all design information and highlights any deviation from the approved design plans shall be prepared by a registered surveyor and/or a **Qualified Engineer** for all infrastructure that will become a Council asset.

**Council** will expect these plans to be endorsed by representatives of the **Developer** and the **Contractor** and submitted to **Council’s Engineering Department** prior to lodging a request for Statement of Compliance as follows.

- AutoCad DWG and PDF format.
- ESRI or MapInfo GIS ready format complying with A-Spec data specifications, levelled to the Australian Height Datum and coordinated to the Map Grid of Australia (MGA94 or GDA94)
- Certification by a licensed surveyor in respect of the registration of all constructed Permanent Survey Marks

## Clause 8 Defects Liability Period for Developers

### 8.8 Maintenance of Subdivision Works

Insert new Clause after Clause 8.7 Release from Defects Liability

Unless otherwise required by another section of the IDM or this addendum, in accordance with the Subdivision Act 1988 s17(4) the **Developer** is responsible for the maintenance of completed subdivisional works in good condition and repair for 3 months or any other period which is agreed between the **Developer** and the Council.

After the expiry of the maintenance period, maintenance of the works becomes the responsibility of the **Council**.

## 8.9 Maintenance of WSUD Works

### Insert new Clause

The Developer is responsible for the maintenance of all completed water sensitive urban design (WSUD) works for a period of two (2) years. The maintenance period shall commence on the date of Council's Acceptance of Works for the WSUD works. The maintenance of WSUD works must include full routine maintenance works including monthly, quarterly and annual inspections, weed removal, sediment clean out, litter management and remedial works as prescribed in the approved WSUD maintenance plan.

The Developer must provide copies to the **Council's Engineering Department** within 1 calendar month of each inspection of all maintenance inspection forms completed for each inspection, any defects identified, and the date and time rectification works were completed. Any defects occurring during the maintenance period shall be rectified to the satisfaction of **Council**.

## Clause 12 Design of Roads

### 12.3.2 Urban Roads

Replace Table 2 Urban Road / Street Characteristics with the following Table

Table 2 Road / Street Characteristics

Street Type	Indicative Maximum Traffic Volume (vehicle s/ day)	Carriageway Width	Minimum Reserve Width See Note 5 & 6	Minimum Verge Width	Parking Provision within Carriageway	Pedestrian / Cycle Provision within Road Reserve See Note 7	Kerbing
Access Lane (second road frontage)	300	5.5m See Note 6.	As determined by turning movements	None	Yes one side appropriately signed	No footpath	Nil if concrete road with central drain or SM2 or modified SM2. See Note 3.
Access Place	300	<b>7.3 m</b>	16.0m	3.5m See Note 2.	Yes (both sides)	Footpath both sides. No separate cycle provision except for LDRZ(S) see Note 8	B2, SM2 or modified SM2. See Note 3.
Access Street (Minor)	1000 - 2500	7.3m	16.0m	4.0m See Note 2.	Yes (both sides)	Footpath both sides. No separate cycle provision except for LDRZ(S) see Note 8	B2, SM2 or modified SM2. See Note 3
Access Street	1000 -	7.3m	18.0m	4.5m	Yes	Footpath both	B2, SM2 or

(Major)	2500			See Note 2.	(both sides)	sides. No separate cycle provision except for LDRZ(S) see Note 8	modified SM2. See Note 3
Collector/ Connector Street Level 1	2500 - 6000	11.0m	24.0m	6.0m at intersection s and pedestrian crossing points	Yes (Both sides) unless exempted from kerb and channel. See Note 9	Shared path both sides	B2 Kerb outstands or splitters required required at intersections and pedestrian crossing points
Urban Link Road <sup>a</sup>	6,000 – 15,000	7.0 m (6.0 m median may be considered)	25.0 m	6.0 m minimum	Limited indented with kerb outstands	Footpath both sides.  Shared path both sides	Barrier B2
	>15,000	2 x 7.0 m + 6.0 m median	34.0 m	6.0 m minimum	None	Footpath both sides.  Shared path both sides	
Residential Court Bowl	n/a	10.0m radius	28.0m	3.5m See Note 2	n/a	Footpath both sides. No separate cycle provision	SM2 or modified SM2. See Note 3.
Commercial Street	n/a	22.0m	32.3m	5.0m	Yes (both sides)	Footpath both sides. Cycle provision where directed	Barrier B2
Industrial Street	n/a	12.5m See Note 1 below	25.0m	6.0m See Note 4	Yes (both sides)	Footpath both sides	Barrier B2
Industrial Court Bowl	n/a	15.0m radius	37.0m	3.5m	See Note 2 n/a	Yes	Barrier B2

Note 1 : Higher traffic volumes and other intended use/s of carriageway may require greater **Carriageway** widths.

Note 2 : **Council** will expect the **Design Engineer** to demonstrate that verge widths are sufficient to accommodate all services required to be located there.

Note 3 : Selection Table 12.3.2 shows the kerb profiles used by municipalities:

Note 4 : Verge widths may be reduced to 3 metres in the following situations:

- Court bowls less than 100m in length.
- Where access gates are set back from the property boundary by 3 metres.

Note 5 : The minimum width of the road reserve cannot be calculated by adding the minimum distances of the components within the road reserve.

Note 6 : **Council** will expect the **Design Engineer** to ensure that the road reserve width adopted complies with the requirements of the following documents and requirements:

- Department of Transport - *Public Transport Guidelines*.
- Any applicable pedestrian and bicycle strategies

- CFA requirements (the minimum **Carriageway** width to be 7.3m unless parking is restricted to one side).
- Where service vehicles use access lanes the minimum carriageway width will be 6m.

Note 7: Where a Council has a bicycle strategy/policy/plan that requires on-road bicycle lanes then the Council may agree to reduce the number of shared paths required from two to one, to reflect the provision of those lanes. In such cases, the minimum pavement width for each relevant carriageway will be increased to the width required by Austroads and VicRoads guidelines.

Note 8: No separate provision for cycle traffic is required in Access Places and Access Streets. In LDRZ(S) developments, **Council** will expect a footpath or a shared path to be provided on at least one side of each category of street to which this note applies, unless the **Developer** can demonstrate to the satisfaction of **Council** that there is no existing or reasonably foreseeable future external pathway to which such a footpath or shared path could connect.

## 12.4 Rural Roads

Replace Table 6 Urban Road / Street Characteristics with the following table

Table 6 Rural Road Characteristics

ROAD CLASS	Lane width (m)	Shoulder width (m)	Sealed shoulder (m)	Total seal (m)	Pavement width (m)	Road reserve width (m)
Rural Access	5.5	0.5	0.0	5.5	6.5	15.0
Rural Collector	2 x 3.0	1.0	0.5	7.0	8.0	20.0
Rural Link	2 x 3.5	2.0	1.5	10.0	11.0	20.0

*Selection Table 12.4.2(a) For Rural Living Collector Roads*

Delete Selection Table 12.4.2(a) For Rural Living Collector Roads

*Selection Table 12.4.2(b) For Low Density Residential Collector Roads*

Delete Selection Table 12.4.2(b) For Low Density Residential Collector Roads



*Selection Table 12.4.2(c) For Rural Access*

Delete Selection Table 12.4.2(c) For Rural Access

*12.7.2 Flexible Road Pavements*

Replace the first paragraph of Clause 12.7.2 Flexible Road Pavements with the following paragraph

**Council** will expect flexible road pavement designs to be undertaken in accordance with the Austroads *Guide to Pavement Technology, 2010*. Pavement design should be carried out using equivalent standard axle loadings based on an average traffic generation rate of 10 vehicles per day per residential lot and a 25 year design life for residential and commercial roads.

Pavement design for industrial roads should be based on an average traffic generation rate of 45 vehicles per day per industrial lot and a 50 year design life. For rural roads and Rural Living **Developments**, it may be appropriate to use the Austroads publication *Pavement Design for Light Traffic 2006*.

*12.7.6 Minimum Pavement Thickness –Residential Streets*

Replace Clause 12.7.6 Minimum Pavement Thickness –Residential Streets with the following Table

The minimum pavement thicknesses acceptable to Latrobe City Council are shown in the table 12.7.6 below:

Table 12.7.6 Minimum Pavement Thickness

<b>Road Classification</b>	<b>Treatment</b>
Access Lane, Access Place, Access Street, in residential and rural living areas	- Subbase–200 mm thick Class3 FCR - Base – 100 mm thick Class 2 FCR
Collector/Connector Street Level 1 or Collector/Connector Street Level 2 in residential and rural living areas	- Sub Base–300 mm thick Class3 FCR - Base – 150 mm thick Class 2 FCR
Commercial Street	- Subbase–300 mm thick Class 3 FCR - Base – 150 mm thick Class 2 FCR
Industrial Street or Industrial Court Bowl	- Subbase –350 mm thick Class 3 FCR - Base – 200 mm thick Class 2 FCR

Roundabouts or intersections with traffic lights in residential areas or rural living areas	<ul style="list-style-type: none"> <li>- 200 mm compacted depth of 3% by weight cement treated 20 mm Class 3 FCR</li> <li>- 120 mm compacted depth of 20 mm Type SI hot mix asphalt and</li> <li>- 30 mm thick wearing surface</li> </ul>
Roundabouts or intersections with traffic lights in industrial and commercial areas	<ul style="list-style-type: none"> <li>- 200 mm compacted depth of 3% by weight cement treated 20 mm Class 3 crushed rock</li> <li>- 150 mm compacted depth of 20 mm Type SI hot mix asphalt and</li> <li>- 40 mm thick wearing surface</li> </ul>

**Note:**

1. Refer clause 12.7.16 for details of wearing surface requirements.
2. Subgrades with a CBR <5 must be stabilised insitu with lime and/or cement at a minimum depth of 200 mm to achieve a minimum CBR of 5.
3. Subgrades in areas such as Churchill and & Hazelwood North where there are expansive clays are required to be stabilised insitu at a minimum depth of 200mm and a lime distribution of 3% by weight.

**12.7.7 Minimum Pavement Thickness – Industrial and Commercial Streets**

Delete Clause 12.7.7 Minimum Pavement Thickness – Industrial and Commercial Streets. Refer to Table 12.7.6

**12.7.8 Minimum Pavement Thickness – Intersections**

Delete Clause 12.7.8 Minimum Pavement Thickness – Intersections. Refer to Table 12.7.6

**12.7.16 Pavement Wearing Course**

Replace Clause 12.7.16 with the following Clause

**Council** will expect pavements to be proof-rolled and density-tested, at the expense of the **Contractor**, immediately prior to priming. The number of density tests should be in accordance with AS 3798 and AS 1289 *Geotechnical Testing*, unless otherwise agreed by **Council**.

Pavements should be trimmed to shape, swept and have a surface consistency suitable for priming. Adequate protection against over-spray during priming or tack coating should be provided for signs, concrete edgings, and traffic control devices. The details of the bituminous wearing surface are shown in table 12.6.16 below:

Table 12.7.16 – Wearing Course

Road Classification	Treatment
Access Lane, Access Place, Access Street, Collector/Connector Street Level 1 or Collector/Connector Street Level 2 in residential areas	<ul style="list-style-type: none"> <li>- Size 7 mm emulsion primer-seal</li> <li>- 30 mm thick Size 10 mm Type H hot mix asphalt overlay*</li> </ul>
Access Lane, Access Place, Access Street, Collector/Connector Street Level 1 or Collector/Connector Street Level 2 in rural living areas	<ul style="list-style-type: none"> <li>- Size 10 mm primer-seal</li> <li>- Size 7 mm final seal applied 12 months after the primer-seal.</li> </ul>
Commercial Street	<ul style="list-style-type: none"> <li>- Size 10 mm emulsion primer-seal</li> <li>- 30 mm thick Size 10 mm Type H hot mix asphalt overlay</li> </ul>
Industrial Street or Industrial Court Bowl	<ul style="list-style-type: none"> <li>- Size 10 mm emulsion primer-seal</li> <li>- 40 mm thick Size 10 mm Type</li> <li>- SMAN stone mastic asphalt overlay</li> </ul>
Roundabouts or intersections with traffic lights in residential areas or rural living areas	<ul style="list-style-type: none"> <li>- 30 mm thick</li> <li>- 10 mm Type H hot mix asphalt overlay**</li> </ul>
Roundabouts or intersections with traffic lights in industrial and commercial areas	<ul style="list-style-type: none"> <li>- 40 mm thick 14 mm Type HP hot mix asphalt overlay**</li> </ul>

**Note:**

1. Refer clause 12.7.6 for minimum pavement thicknesses.
- \* For pavement rehabilitation works the asphalt wearing surface must be applied twelve months after the application of the emulsion primer-seal or primer-seal.
- \*\* The pavement must consist of a deep lift asphalt base with a cement bound sub-base.

## Clause 13 Mobility and Access Provisions

### 13.3 Requirements

Replace Bullet No 4 with the following Clause

- New footpaths shall be 125mm minimum depth throughout. Renewal of footpath can match existing depth and reinforcement.

## Clause 16 Urban Drainage

### 16.8.3 Minimum Pipe Cover

Replace Clause 16.8.3 Minimum Pipe Cover with the following Clause

Council's minimum pipe cover requirements are as follows:

In easements      0.40 m

In road reserves   0.75 m

The minimum cover requirements listed above allow for Telstra, water and gas mains and conduits to be installed over stormwater drains. Additional cover should be provided wherever crossings with large sized services are anticipated, and pipe classes should be determined having regard to the proposed cover and to the anticipated live loads.

In all cases the minimum cover should be in accordance with the manufacturer's recommendations.

Wherever an external area contributes to the system, the drain shall be designed at a depth and capacity sufficient to serve the total upstream area as if fully developed.

The **Design Engineer** should discuss any proposed exceptions to the minimum cover requirements with **Council's Engineering Department** prior to submitting documents for approval of the functional layout. Higher strength pipes may then be considered.