APPENDIX F

Traffic Technical Memorandum

Prepared by Cardno

dated 15 October 2019

Technical Memorandum

Title	**Flinders Neighbourhood 3a & 3b** **Review of Road Hierarchy Compliance with Infrastructure Master Plan (IMP)**

Client	Morton's Urban Solutions	**Project No**	CEB06678
Date	15 October 2019	**Status**	Final
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Reviewer	Brian Schapel	**Office**	Brisbane

1.1 Background

Cardno has been commissioned by Morton's Urban Solutions (MUS) to undertake a review of the proposed plans for Neighbourhoods 3a and 3b of the Flinders Lakes Development, located at Lot 3 on S311896. This entailed a review of plans and cross sections provided by MUS to confirm that the development plans conform to the requirements of the Infrastructure Master Plan (IMP) which addresses the Greater Flagstone Development Scheme, providing infrastructure as outlined in the Whole of Site Material Change of Use Development Application (DEV2017/844) in relation to the delivery of the Movement Network.

1.2 References

The following documents have been referenced, in preparation of this traffic report:

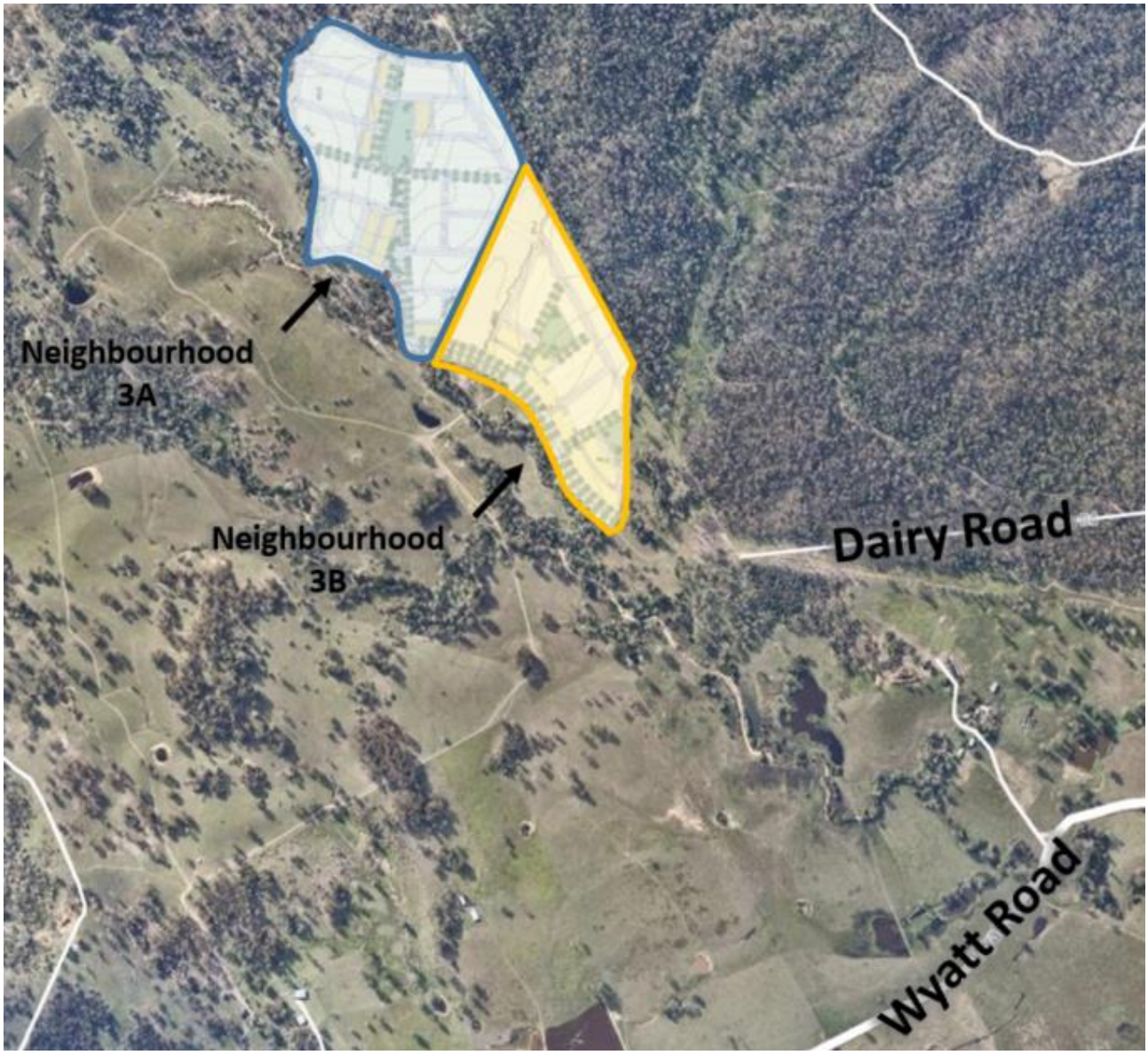
- Infrastructure Master Plan: Movement Network – Endorsed 14th June 2019
- Plans of Development:
  - 23301-NH3A-POD001, Amend C;
  - 23301-NH3A-PP01, Amend C;
  - 23301-NH3A-PP02, Amend C;
  - 23301-NH3A-PP03, Amend C;
  - 23301-NH3B-POD001, Amend C;
  - 23301-NH3B-PP01, Amend C;
  - 23301-NH3B-PP02, Amend C;
  - 23301-NH3B-PP03, Amend C; and
- Management Lots and Staged Road Reserve Plan, 23300-ROL-001, Amend C;
- Department of Transport and Main Roads (DTMR) - TN 128 – Selection and Design of Cycle Tracks;
- Concept Roadworks Roundabout Detail Plan Sheet 01, 23301-SPR-SK001, Amend A;
- Concept Roadworks Roundabout Detail Sketch Sheet 01, 23301-SPR-SK002, Amend A;
- Entry Road Concept Roadworks Overall Key Plan, 23301-SPR-SK003, Amend A;
- Entry Road Concept Roadworks Plan, Sheet 01, 23301-SPR-SK004, Amend A;
- Entry Road Concept Roadworks Plan, Sheet 02, 23301-SPR-SK005, Amend A;
- Entry Road Concept Roadworks Plan, Sheet 03, 23301-SPR-SK006, Amend A;
- Entry Road Concept Roadworks Plan, Sheet 04, 23301-SPR-SK007, Amend A;
- Entry Road Concept Roadworks Plan, Sheet 05, 23301-SPR-SK008, Amend A;

- Entry Road Concept Roadworks Plan, Sheet 06, 23301-SPR-SK009, Amend A;
- Entry Road Concept Roadworks Plan, Sheet 07, 23301-SPR-SK010, Amend A;
- Entry Road Concept Super Lots Typical Sections, 23301-SPR-SK012, Amend A;
- Economic Development Queensland's (EDQ) conditions of approval for DEV2017/844; and
- Economic Development Queensland (EDQ) Street and Movement Network PDA Guideline no. 06 DRAFT February 2018.

1.3 Site Location

Figure 1-1 illustrates the site location and the road network surrounding the proposed site.

Figure 1-1 Site Location



Source: Nearmap

2 Compliance Assessment

2.1 Compliance Scope

All roads within the precincts have been cross checked against the following sections of the IMP:

- Section 4.1 Road Hierarchy;
- Section 4.2 Active Transport Hierarchy, with reference to Attachment 4 - Bicycle Strategy;
- Section 4.3 Public Transport Network;
- Section 4.4 Intersection Treatments; and
- Section 4.5 Proposed Road Cross-Sections and Design Standard.

2.2 Road Hierarchy Assessment

Whilst some of the road network does not precisely mirror that shown in Figure 5: Road Hierarchy Plan, particularly in relation to the black lines that represent Local Access type 3D, the dimensions shown on the plans of development, which reflect the road hierarchical use, are consistent with those depicted in the road hierarchy cross sections contained in Section 4.5 of the IMP. The interim and ultimate road layouts shown on the "Entry Road Concept Roadworks Plans" along Flinders Lakes Drive also conform to the dimensions depicted in Figure 4: External Road Cross-Sections in the IMP. Therefore, the road hierarchy proposed for both neighbourhoods 3a and 3b is considered to conform to the requirements of the IMP.

2.3 Active Transport Hierarchy Assessment

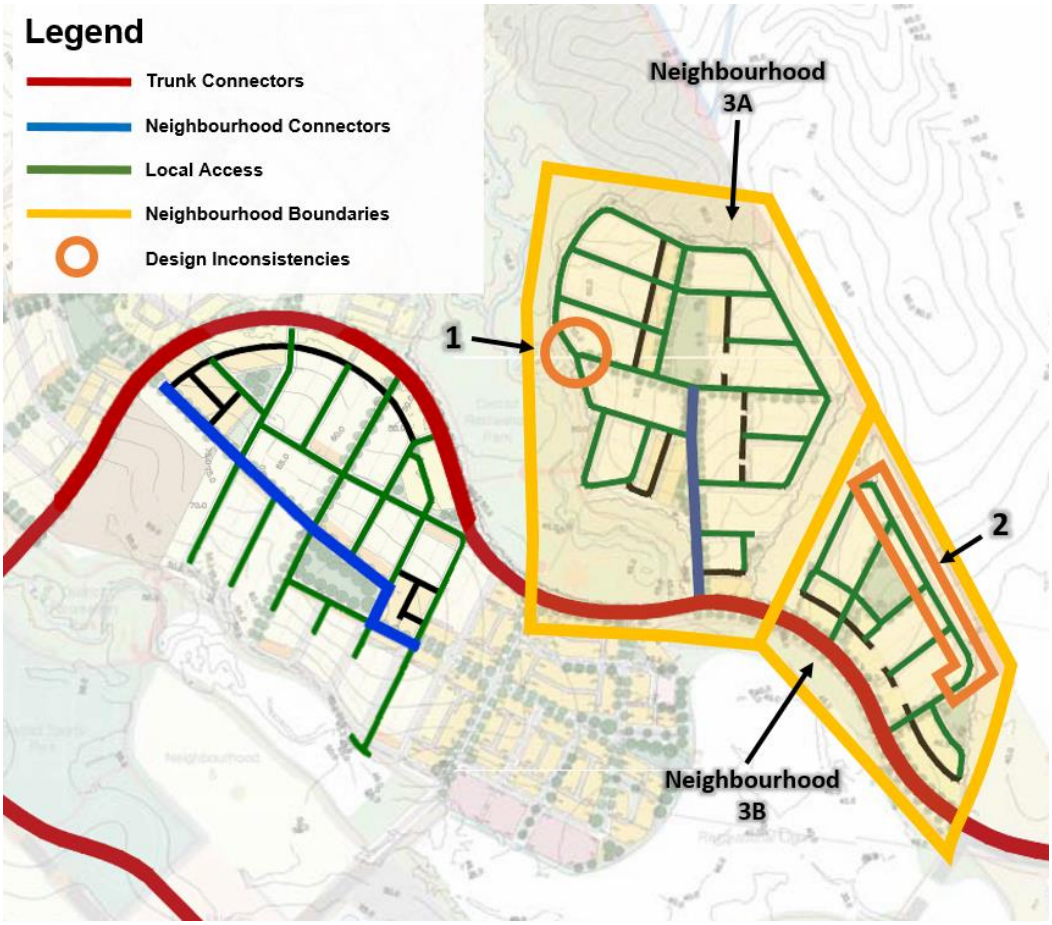
2.3.1 Dedicated Cycle Facilities

The separated cycleway shown on the "Entry Road Concept Roadworks Plans" along the northern side of Flinders Lakes Drive conforms with the active transport hierarchy shown in Figures 6 and 7 of the IMP.

2.3.2 Pedestrian and Shared Footpath Facilities

The footpath/shared path network is generally consistent with the active transport hierarchy shown in Figure 7 of the IMP, however there are some variances noted below. Figure 2-1 shows the locations of issues identified.

Figure 2-1 Locations of footpath design inconsistencies



Source: Infrastructure Master Plan

Issue 1 – Footpath adjacent to Parkland

The road section highlighted in Figure 2-1 has a footpath on one side of the road only.

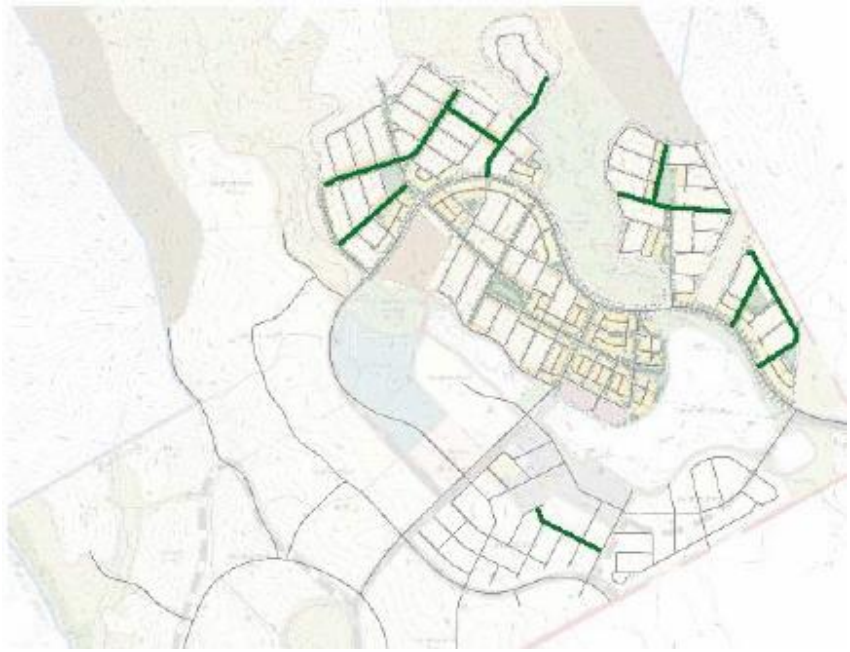
Figure 2-2 Issue 2 –Footpath one side of the road with parkland location

Source: 23301-NH3A-POD001, Amend C

This road is considered a “Local Access Type 3B” connector as described in 4.5.3 of the IMP with locations and design criteria in 5.2 of the Bicycle Strategy. “Flinders Proposed” as described in Table 5.2 of the Bicycle Strategy states 2 x 1.5m pedestrian paths (both sides) are required.

The locations of “Local Access Type 3B” connectors and the design criteria proposed by Flinders is shown in Figure 2-3 and Figure 2-4.

Figure 2-3 Locations of Local Access Type 3B footpaths



Source: Bicycle Strategy

The road connector does not have a path on the south side at the western end of the segment. Figure 2-2 shows the road connector spanning all the way to the western end of the park and thus possessing the same characteristics.

However, links classified as “Local Access Type 3C” connector as described in 4.5.3 of the IMP with locations and design criteria in 5.3 of the Bicycle Strategy are only required to have a footpath on one side, as park lands exist on one side. This connector is labelled as “Local Access Type 3B” but the design and location is consistent with “Local Access Type 3C” connectors. “Local Access Type 3C” roads only require 1 x 1.5m footpath (one side) when adjacent to parkland, as shown in Figure 2-4, therefore the provision of a footpath on the south-western side only at this location is considered to be conforming.

Figure 2-4 Flinders Proposed design requirements for Local Access Type 3C footpaths

Design Consideration	EDQ Demonstration Example (7A)	Flinders Proposed	Discussion
Traffic Lanes	2 x 3.75m traffic lanes	2 x 3.75m traffic lanes	
Median	Nil	Nil	
Breakdown Lane	Nil	Nil	
Parking	Informal on street	Informal on street	
Cycle	Nil	Nil	
Pedestrian	1 x 1.5m footpath (one side)	1 x 1.5m footpath (one side)	
Verge	2 x 4.0m (both sides)	1 x 4.0m (one side) 1 x 2.0m (one side)	Adjacent to park
Road Reserve	15.5m	13.5m	Adjacent to park

Source: Bicycle Strategy

Issue 2 – Footpath adjacent to Parkland

The road lengths identified in Figure 2-5 show there is a footpath on the south-western side of the road adjacent to parklands.

Figure 2-5 Issue 3 – Footpath one side of the road with parkland location

Source: 23301-NH3B-POD001, Amend C

This road is considered a “Local Access Type 3B” connector as described in 4.5.3 of the IMP with locations and design criteria in 5.2 of the Bicycle Strategy. “Flinders Proposed” as described in Table 5.2 of the Bicycle Strategy states 2 x 1.5m pedestrian paths (both sides) are required.

The road connector does not have a path on the north-eastern side of the road length shown in Figure 2-5, however, links classified as “Local Access Type 3C” connector as described in 4.5.3 of the IMP with locations and design criteria in 5.3 of the Bicycle Strategy are only required to have a footpath one side, as park lands exist on one side. This connector is labelled as “Local Access Type 3B” but the design and location is consistent with “Local Access Type 3C” connectors. “Local Access Type 3C” roads only require 1 x 1.5m footpath (one side) when adjacent to parkland, as shown in Figure 2-4, therefore the provision of a footpath on the south-western side only at this location is considered to be conforming.

2.4 Public Transport Network Assessment

The bus stops shown on Drawing Number 23301-SPR-SK006, Amend A, appear to be consistent with the design requirements shown in Figure 9: Example Bus Stop of the IMP.

2.5 Intersection Treatments Assessment

Raised platforms are provided at priority intersections fronting Neighbourhoods 3A and 3B. These intersections are classified as “two-way cycle track with footpath at side road” with respect to TN 128 guidelines. Therefore, intersection treatments are considered to be conforming to the requirements of the IMP.

2.6 Proposed Road Cross-Sections and Design Standard Assessment

Cross section dimensions for internal roadways for neighbourhoods 3a and 3b conform to the requirements of the IMP. With regard to the design of Flinders Lakes Drive, the IMP contains External Typical Cross Sections in Attachment 2. The dimensions shown on Drawing Number 23301-SPR-SK012, Amend A, at approximate chainage 7300, which is adjacent to 3a and 3b developments, generally accord with the requirements of the IMP Attachment 2. The dimensions are also consistent with those shown in the IMP Attachment 4 Bicycle Strategy, Figure 3-6 for a Trunk Connector Type 1C.

Therefore, the cross-sections and design standards conform to the requirements of the IMP.

3 Summary

Review of the provided plans of transport infrastructure servicing neighbourhoods 3a and 3b confirms that all transport considerations, including: road hierarchy, active and public transport networks, intersection treatments and proposed road cross-sections are compliant with the requirements contained in the IMP.