Addendum to Urban Design Report
124 Newbridge Road Moorebank

28 August 2018
Urban Design Report - Addendum

This Report is an addendum to the Planning Proposal Urban Design Study prepared by ae design partnership dated 5 June 2017 for the site No. 124 Newbridge Road Moorebank. Council engaged Tract to conduct a combined peer review of planning proposals lodged for 124 Newbridge Road and 146 Newbridge Road Moorebank.

This addendum provides design strategies considered by ae design partnership in the original Urban Design Concept lodged in June 2017. The design strategies are included in Part 1 of this report.

The addendum also includes ae design partnership’s comments on the Tract Study in Part 2.

An Amended Urban Design Concept is included in Part 3 of this report. The original Urban Design Concept (June 2017) has been amended based on the comments received at the Council Meeting on 13 July 2018. The amended concept also incorporates the recommendations made by the Tract Study.

The addendum includes the following 3 parts:

1.0 Design Strategies for the original Urban Design Concept (lodged June 2017)

1.1 Urban Design Concept (lodged June 2017)

Concept:
The following forms ae design partnership’s vision for the subject site:
1. Create a medium to high density development on the site as an infill site with significant potential to activate Georges River foreshore, create a vibrant community and contribute to Liverpool housing.
2. Create a balance of residential, employment, retail and recreation uses to capitalise on access to the Georges River;
3. Create a vibrant and a walkable network of streets, pathways and open spaces connecting to the Georges River foreshore;
4. Offer a greater diversity and choice for housing;
5. Extend and revitalise the natural habitat along Georges River; and
6. Incorporate high level landscaped spaces into the future urban blocks.

Public Domain:
1. The public domain concept creates a fine grained network of streets and pathways connecting to the Georges River foreshore.
2. Landscaped courtyards, pocket parks, the wedge-shaped park located at the end of main street and a series of interconnected spaces along the River foreshore offer a high level permeability and amenity for the future residential population.
3. 40% of the site area is proposed for open space including 24% for public use and an additional 16% for semi public use.
4. The proposed streets, parks and walkways have a north-south orientation to maximise solar access to public domain.
5. Integrated stormwater management with landscape design through provision of pocket parks, tree pits, landscaped medians and other water sensitive urban design treatments, including features for water recycling, bioretention basis and pollution treatment tanks.
6. The public domain integrates with the future Georges River pedestrian and cycle route proposed by Council and aims to continue connection to the adjacent Marina Bay.

Built Form:
The built form concept considers dimensions, shape, depth, internal layout of the buildings and their relationship with the public domain. Different building typologies are used to enable a diversity in dwelling types.
1. Shop top buildings: The commercial use along Newbridge Road are retained in the concept through 6 storey buildings which will mitigate amenity issues between the Chippington North Industrial Area and the future residents to south.
2. Courtyard apartments: The courtyard apartment buildings in the middle of the subject site have heights ranging from 5 to 8 storeys. The buildings create more emphasis on the landscape.
3. Slab apartments: The buildings located along the Georges River foreshore are 8 storey slab buildings used for formation of a continuous built form edge which is desirable along the curving east-west street and along the River foreshore. The future apartments within these building will have opportunity to have a dual aspect.
4. The proposed heights provide a transition in built form to the low density residential area proposed on No. 146 Newbridge Road.
1.2 Rationale for Height and Density

The proposed density is based on physical design, appearance and user experience of the place, rather a one-dimensional approach of restricting the number of dwellings per hectare. The Urban Design Concept (lodged June 2017) includes a range of heights from 5 to 8 storeys provided with adequate separation distances and built form transition to the adjacent site.

**Good Streets, Parks:**

1. The building heights along with separation distances based on Great Streets, Allan B. Jacobs, MIT 1993, and the SEPP 65 Apartment Design Guide determine the proportion and scale of streets and open spaces.
2. The proposed heights and separation distances ensure adequate daylight, solar access, visual amenity and privacy is achieved in the proposal. The building separation distances are increased proportionally to increase in building heights which achieves a desirable amenity for future residents.

**Built Form Transition:**

1. The proposal steps down from a height of 8 storeys to 5 storeys with top storey setback along the western edge located at boundary between two height zones.
2. The stepping of height is proposed to create a built form transition to the adjacent medium density residential area which has a height of 2 storeys + attic.
3. Note that building separation distance of 21 metres at the western boundary exceeds the SEPP 65 ADG - Part 3F.5 visual privacy requirement of 15 metres, a 12 + 3 metres at zone transition. (ADG Page 63 Figure 3F.5)

**Capitalising on the River Foreshore:**

1. Tallest buildings with 8 storeys are proposed along the southern edge to capitalise on the River foreshore location, the available views and proximity to the high quality public domain.
2. These buildings are provided with greater building depths to enable dual aspect apartments to enable a greater residential density along the River.
1.3 Compliance with the SEPP 65 ADG

The proposed built form is carefully tested against compliance with primary controls of the SEPP 65 ADG such as building depth, building separation and setbacks.

Testing of the built form ensures that the proposed residential density, heights and massing is accommodated without compromising sunlight and daylight access, overshadowing, natural ventilation, visual and acoustic privacy, ceiling heights, communal open space, public domain interface.

Building Depth:
The proposed building envelopes comply with the SEPP 65 ADG Part 2E Apartment Depth (ADG Page 35). The envelopes ensure that an appropriate apartment depth of 15 metres can be achieved for courtyard apartments and 18 metres can be achieved for slab buildings with dual aspect.

Building Separation:
The proposed building separation distances range between 12 metres to 42 metres to ensure solar access to habitable areas and open spaces. The separation distances comply with the following requirements under the SEPP 65 ADG Part 2F Building Separation (ADG Page 37):
- 18m between habitable areas;
- 12m between habitable and non-habitable areas; and
- 9m between non-habitable area.

The proposed building separation distances are greater at most instances to achieve a high level amenity and visual privacy for future residents.

Built Form Transition:
Based on Part 3F of the ADG (ADG Page 63, Figure 3F.5), the building separation distance is required to be increased by an additional 3 metres at the boundary between change in zone from apartment buildings to a lower density area.

The proposed building separation distances of 21m, 26m and 43m from 146 Newbridge Road exceed the ADG requirement.

Building separation distances proposed within a range of 12 metres to 42 metres exceed the SEPP 65 ADG requirement. The increased separation distances ranging from 21 metres to 43 metres from 146 Newbridge Road exceed the SEPP 65 ADG Part 2F and 3F requirements.
1.4 Overshadowing

The proposal demonstrates compliance with the SEPP 65 ADG Objective 3B-2 Overshadowing of Neighbouring Properties (ADG Page 49):

1. Mid-winter overshadowing drawings on page 6 demonstrate how the proposed heights, massing and orientation on the subject site ensures that the solar access to 146 Newbridge Road is not obstructed for more than 1 hour at mid-winter.

2. The drawings confirm that the solar access to the private open spaces of the dwelling houses on 146 Newbridge Road is obstructed 9am to 10am at mid-winter. The adjoining dwelling houses would still achieve 5 hours solar access at mid-winter.

The additional building separation distance and an upper level setback for the fifth storey ensures 5 hours of solar access is achieved across the private open spaces of the future dwelling houses of No. 146 Newbridge Road.
2.0 Comments on the Tract Study

2.1 Residential Density Scenarios

Density and Urban Design:
The Tract Study overtly emphasises on dwellings per hectare. We are of the opinion that:
1. Density measures are only numerical indicators. Achieving a certain residential density does not mean that a ‘good’ design outcome is achieved because density numbers are not design tools.
2. Understanding of the physical design, appearance and user experience of the place is more significant rather than controlling the density outcome of a place.
3. The viability and identity of a place depends on design factors such as urban structure, activities, building typologies, street design, quality and quantity of public domain and level of amenity, as these factors directly contribute to the user experience.

Net Residential Density:
1. The Tract Study does not list assumptions regarding whether the densities included in the scenarios were calculated on net, gross or site density basis.
2. As per the Australian Model Code for Residential Development (AMCORD) definition, the Net Residential Density is the ratio of the number of dwellings to the area of land they occupy including internal public streets, plus half the width of adjoining access roads that provide vehicular access to dwellings. AMCORD identifies that net residential density is used in evaluating options for street design and built form typologies. And for understanding of precincts/neighbourhoods.
3. Based on the above definition the net residential for the subject site No. 124 Newbridge Road equates to 97 dwellings per hectare. The net residential density for No. 146 Newbridge Road equates to 51 dwellings per hectare.

Anomaly in Tract’s Methodology:
1. The dwelling type tested by Tract in Scenarios 2 and 3 are categorised as “Medium Density”. The Tract scenarios make reference to the Medium Density Design Guide, NSW DoPE 2016 on Page 14. We find this irrelevant to the subject site since this guide only applies to low rise medium density residential development such as terraces, villas and townhouses.
2. A net density of 25-45 dwellings per hectare is considered in Tract’s Design Scenarios, based on the Medium Density Design Guide.
3. The above 2 aspects of the Tract Study completely are odds to our proposed Vision for the subject site.
4. “Medium Density” scenarios will restrict diversity in dwelling type and size in the area. Creating a diversity in dwelling types is essential to cater to a wider range of household types. For example - apartment buildings can accommodate a variety of housing types catering to – singles, adults with or without children, elderly, disabled, lower income groups and short stay accommodation like serviced apartments.

Blanket Control:
1. The density scenarios tested by Tract use a uniform density control across a collective net area of 36.26 hectares. Such blanket approach will result in a monotonous urban design outcome for the area with similar building types that have less variations resulting in a relatively flat and an uninteresting urban form.
2. We prefer variations in built form to add interest and create uniqueness in a place. For example - the urban design concept proposed by ae design partnership proposes the tallest buildings along the River foreshore to create a continuous built form edge to the river and the curving east-west street which is the built form highlight on the concept. It is also desirable to capitalise on the River foreshore location with the available views and proximity to the high quality public domain.
2.2 Built Form

Built Form Transition:

1. The Tract’s review of ae design partnership’s urban design concept (lodged June 2017) recommends a built form transition to No. 146 Newbridge Road provided through stepping-down in building heights.

2. Note that the ae design partneship’s concept as shown in Section AA already incorporates the stepping down in heights in order to minimise overshadowing of No. 146 Newbridge Road.

3. At all instances the proposed building separation distances exceed the SEPP 65 ADG Part 2 - Building Separation and Part 3F.5 - Zone Transition requirements.

Heights:

1. Tract’s review of ae design partnership’s urban design concept (lodged June 2017) finds an imbalance in height and density. The proposal recommends that a balanced height and density to be distributed across the area.

2. The proposed heights are provide with setbacks, building separation distances and transition requirements compliant with the SEPP 65 Apartment Design Guide as described in Part 1.3 of this report.

3. The proposed massing and heights demonstrate compliance with the SEPP 65 ADG Objective 3B-2 Overshadowing as shown on Page 6 of this report. The proposed heights, massing and orientation of buildings ensure that solar access to No. 146 Newbridge Road is not obstructed for more than 1 hour at mid-winter, and the future adjoining dwellings would still receive 5 hours solar access at mid-winter.

Section AA shows a built form transition from the existing height 30 metres within the Chippington North Industrial Area to 24 and 15 metres proposed on the subject site. The 15m height provides transition to the 8.5m height proposed for 146 Newbridge Road.

A building separation distance of 21m to 146 Newbridge Road exceeds the SEPP 65 ADG - Part 3F.5 visual privacy requirement of 15 metres, a 12 + 3 metres at zone transition. (ADG Page 63 Figure 3F.5).

Section BB

The building sections shown in the Tract Study are not drawn to a correct scale and do not accurately describe the building separation distances, heights and depths proposed by ae design partnership.
3.0 Amended Urban Design Concept

We consider that the original Concept lodged in June 2017 achieves the best urban design outcome for the subject site. However, the Addendum provides an Amended Urban Design Concept on without prejudice basis. The amendments are made to incorporate recommendations made by the Tract Study and comments made by Council at the 13 July 2018 meeting.

The Amended Urban Design Concept further ensures that:

1. The western site access is aligned with Pat Devlin Close;
2. The centre site access is aligned with Riverside Road, with the potential to close access to Davy Robinson Drive from Newbridge Road;
3. An addition of a new open space 5,105m² in area to the east addresses flooding concerns;
4. An increase in the proposed open space to 49% of the site area, including 32% for public use and an additional 17% for semi private & private use. Note that the original submitted concept proposed 40% of open space, which included 24% for public use and 16% for semi private & private use;
5. Amendments in the proposed density and heights:
   • 6 storeys along Newbridge Road to provide height transition from the existing 30m height limit north of Newbridge Road within Chipping Norton Industrial area;
   • 8 storeys along the southern edge to capitalise on the River foreshore location, the available views and proximity to the high quality public domain;
   • 3 storeys with a fourth storey setback along the western boundary which addresses the low density interface with no overshadowing impacts to No. 146 Newbridge Road; and
6. The proposed FSR is now reduced to 0.99:1. The original urban design concept lodged in June 2017 had a FSR of 1.23 : 1.
3.1  Amended Heights, Setbacks and Yield

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<td>Residential GFA</td>
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<td>Serviced Apartments GFA</td>
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<td>Shop Top Commercial GFA</td>
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<td><strong>% of Open Space</strong></td>
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<tr>
<td>Semi Private &amp; Private Open Space</td>
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3.2 Improvement in Built Form Transition

1. The revised concept further improves the distribution of heights across the area by stepping down building heights from 30m (Chipping Norton Industrial area) to 24m to 17m to 14m to 8.5m (No. 146 Newbridge Road) - Refer to Section AA - Amended Concept.

2. The proposed heights ensure there is no overshadowing impacts on No. 146 Newbridge Road.

3. The proposed heights are provided with setbacks, building separation distances and transition requirements compliant with the SEPP 65 Apartment Design Guide as described in Part 1.3 of this report.

Originally Submitted Concept (June 2017)

Section AA of the originally submitted concept shows a built form transition from the existing height 30 metres within the Chippington Norton Industrial Area to 24 metres and 17 metres proposed on the subject site.

Amended Concept

Section AA of the amended concept shows a built form transition from the existing height 30 metres within the Chippington Norton Industrial Area to 24 metres to 17 metres and 14 metres proposed on the subject site. The proposed heights ensure there is no overshadowing impacts on No. 146 Newbridge Road.
3.3 No Overshadowing Impact

1. The revised concept ensures that there is no shadowing impact to 146 Newbridge Road compared to the original submitted concept on page 6 which impacted 146 Newbridge Road by 1 hour at mid-winter.

2. The drawings confirm that the solar access to the private open spaces of the dwelling houses on 146 Newbridge Road will not be obstructed 9am to 10am at mid-winter compared to the original submitted concept and would achieve 6 hours solar access at mid-winter.

Amended Concept

The additional building separation distance and an upper level setback for the fourth storey ensures 6 hours of solar access is achieved across the private open spaces of the future dwelling houses of No. 146 Newbridge Road.
Overshadowing diagrams of the Amended Urban Design Concept at mid-winter 21 June:

9am
10am
11am
12pm

146 Newbridge Road

146 Newbridge Road

146 Newbridge Road

146 Newbridge Road

146 Newbridge Road

146 Newbridge Road

Extent of overshadowing on No. 146 Newbridge Road at Mid-winter. See impact at 9am and 10am on the proposed shopping centre.

There is no overshadowing impact to the private open spaces of the future dwelling houses of No. 146 Newbridge Road between 9am to 3pm at mid winter.