



# STATEMENT OF ENVIRONMENTAL EFFECTS

STAGED TORRENS TITLE RESIDENTIAL SUBDIVISION

CNR NEW ENGLAND HIGHWAY & WYNDELLA ROAD, LOCHINVAR

LOCHINVAR DEVELOPMENTS PTY LTD  
MAY 2023



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# Document Control Sheet

Issue No.	Amendment	Date	Prepared By	Checked By
A	Draft to Client	17/04/2023	JBAY/SVD	SVD
B	Final	16/05/2023	JBAY/SVD	SVD

## Limitations Statement

This report has been prepared in accordance with and for the purposes outlined in the scope of services agreed between ADW Johnson Pty Ltd and the Client. It has been prepared based on the information supplied by the Client, as well as investigation undertaken by ADW Johnson and the sub-consultants engaged by the Client for the project.

Unless otherwise specified in this report, information and advice received from external parties during the course of this project was not independently verified. However, any such information was, in our opinion, deemed to be current and relevant prior to its use. Whilst all reasonable skill, diligence and care have been taken to provide accurate information and appropriate recommendations, it is not warranted or guaranteed and no responsibility or liability for any information, opinion or commentary contained herein or for any consequences of its use will be accepted by ADW Johnson or by any person involved in the preparation of this assessment and report.

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# Executive Summary

This Statement of Environmental Effects ("SEE") has been prepared by ADW Johnson to accompany a development application ("DA") with Maitland City Council for a residential subdivision at Lochinvar.

## Application Details

<b>Applicant:</b>	Lochinvar Developments Pty Ltd
<b>Development:</b>	262 lot Torrens Title Residential Subdivision in 10 stages
<b>Site Description:</b>	Lots 2, 3, 4, 5, 6 & 9 DP747391; Lots 11-13 DP1219648; Lot 2 DP818314; and Lot 1 DP65706 Corner of New England Highway and Wyndella Road, Lochinvar.
<b>Owner:</b>	Lochinvar Developments Pty Ltd
<b>Development Cost:</b>	\$24,607,818

## Development Standards/Controls

<b>Zone:</b>	R1 General Residential
<b>Definition:</b>	Subdivision
<b>Permissibility:</b>	Permissible with Consent (Maitland Local Environmental Plan (LEP) 2011 – Clause 2.6)
<b>Minimum Lot Size:</b>	450m <sup>2</sup> (LEP – Clause 4.1)
<b>Urban Release Area:</b>	Lochinvar Urban Release Area (LURA)

## External Referrals

**Rural Fire Service (RFS):** Residential Subdivision in bushfire prone area - Integrated

### Natural Resources

**Access Regulator (NRAR):** Development within waterfront land - Integrated

**Transport for NSW (TfNSW):** Traffic Generating Development (200 or more lots)

**Ausgrid:** Development likely to affect an electricity transmission or distribution network

## Summary

The proposed residential subdivision achieves all LEP planning controls.

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## 1.0 Introduction

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ADW Johnson has been engaged by Lochinvar Developments Pty Ltd to prepare and lodge a Development Application (DA) with Maitland City Council (Council) for a 262 lot staged residential subdivision over Lots 2, 3, 4, 5, 6 & 9 DP747391; Lots 11-13 DP1219648; Lot 2 DP818314; and Lot 1 DP65706, at the corner of the New England Highway and Wyndella Road, Lochinvar.

This SEE has been prepared pursuant to the Environmental Planning and Assessment Act 1979 (EP&A Act) and accompanying regulations, and addresses the necessary issues that require assessment to assist Council in making a determination on the subject application.

The proposed development involves the creation of 262 residential lots; two (2) local park lots; two (2) riparian corridor lots; and one (1) basin lot. Lots range in size from 450m<sup>2</sup> to 1,345m<sup>2</sup> and will be delivered in 10 stages.

As part of this application, consent is also sought for the construction of roads, vegetation removal, bulk earthworks/regrading, and landscaping. Water, sewer, stormwater, power and telecommunication services will also be provided under the proposal. Plans of the proposed subdivision are provided within **Appendices 1** and **2** and further details are provided within **Section 3**.

The subject residential allotments are located within the *R1 General Residential Zone* (R1 zone) where subdivision is permissible with consent and where a minimum lot size of 450m<sup>2</sup> applies. All residential allotments have been designed to achieve this requirement.

The land forms part of the Lochinvar Urban Release Area (LURA), which was rezoned in October 2011. Accordingly, Part F9 of the Maitland Development Control Plan 2011 applies to the site. The proposed development has been designed having regard to the specific requirements outlined in the DCP for the LURA, which were informed by the LURA Structure Plan.

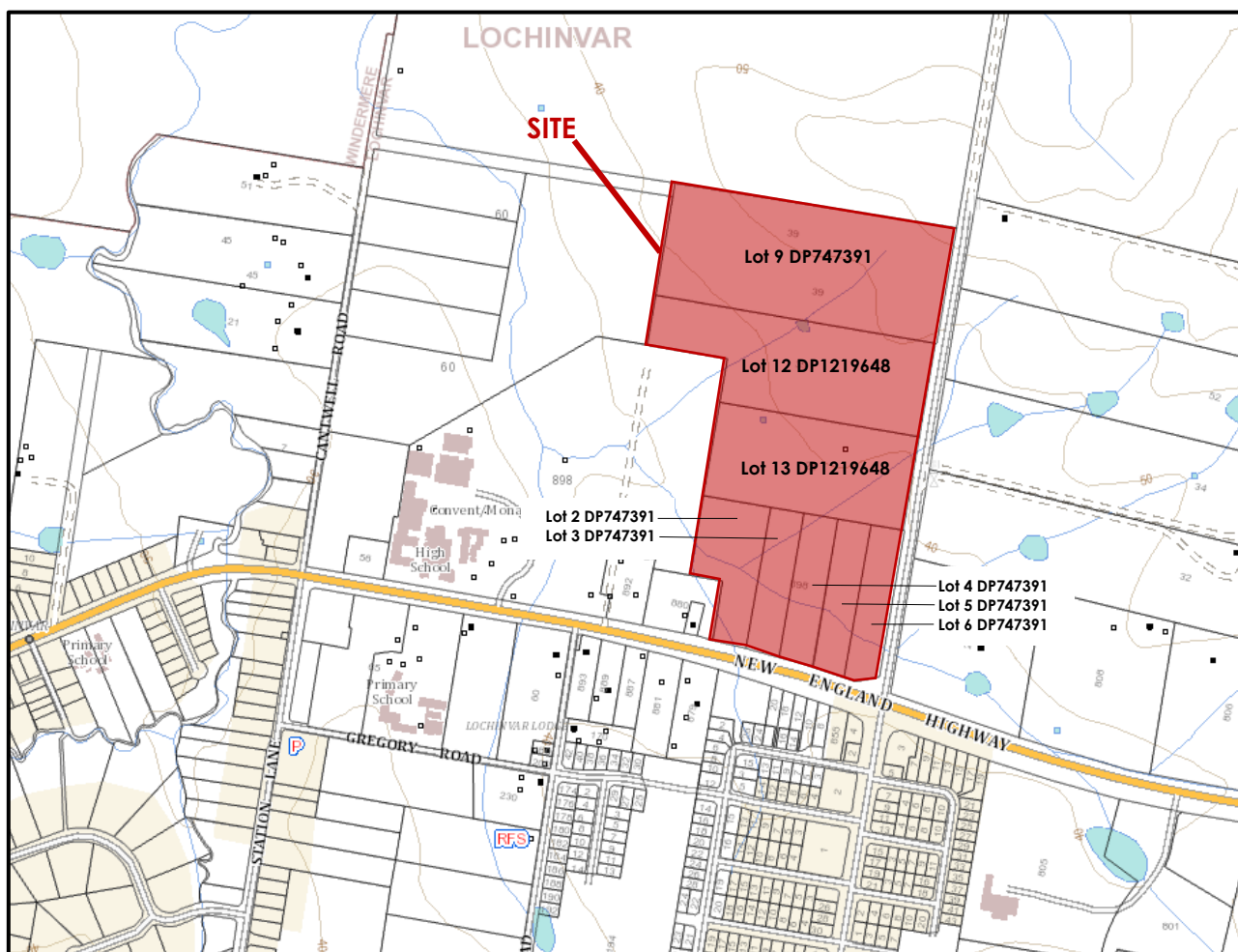
Overall, the proposed development complies with all relevant provisions of the Maitland Local Environmental Plan 2011 (LEP) as well as the relevant aims and objectives of the DCP. Where variations are proposed to DCP principles, they have been supported with evidence to ensure the objectives of the control continue to be achieved.



## 2.0 The Site

### 2.1 LOCATION

The site is located in the small village of Lochinvar on the northern side of the New England Highway. Lochinvar is in the Lower Hunter Region of New South Wales and is part of the Maitland Local Government Area (LGA). The site is approximately 10km to the west of Maitland Town Centre and less than 1km east of Lochinvar local centre. The site location can be seen below in **Figure 1**.



**Figure 1: Locality Map.**

### 2.2 LAND TITLE

The site is identified as eight (8) parcels of land being:

- Lot 2 DP 747391
- Lot 3 DP 747391
- Lot 4 DP 747391
- Lot 5 DP 747391
- Lot 6 DP 747391
- Lot 9 DP 747391
- Lot 12 DP 1219648
- Lot 13 DP 1219648

The site benefits from two easements for drainage that enable legal points of discharge for the northern and southern catchment. Lot 13 DP1219648 is burdened along the western boundary by an easement for drainage which benefits Lot 12 DP1219648, with this to be released as part of the proposed development. Lot 11 DP1219648 is burdened by a drainage easement which benefits Lot 12 DP 1219648 which provides a legal point of discharge. Lot 13 DP1219648 is burdened along the southern boundary by a pipeline easement benefiting Hunter Water for two rising mains. This constraint was required to be incorporated within the masterplan and therefore has been positioned partly within MC04 and partly within the front setback of the northern lots fronting MC04.

Copies of the Deposited Plans are provided in **Appendix 3A**.

Minor works are also required along the boundary of the site on the following adjoining properties:

- Lot 11 DP 1219648;
- Lot 2 DP 818314; and
- Lot 1 DP 65706.

An agreement with the adjoining owner has taken place which enables minor works along the shared boundaries with Lot 1 DP 65706 and Lot 11 DP 1219648. A shared road is centred on the common boundary of the site and Lot 2 DP818314. An agreement is in place with the adjoining land owner for the construction, subdivision and dedication of this road to Council.

Copies of the Deposited Plans are provided in **Appendix 3B**.

## 2.3 OWNERSHIP

All eight (8) parcels of land comprising the site are owned by Lochinvar Land Pty Ltd, whose consent to the lodgement of this DA is provided as a letter of authority attached to the development application.

Minor works are also required along the boundary of the site on Lot 1 DP 65706, Lot 11 DP1219648 and Lot 2 DP818314. Lot 1 is owned by The Trustees of the Sisters of St Joseph, Maitland. Lots 11 and 2 are owned by The Trustees of the Roman Catholic Church for the Diocese of Maitland-Newcastle. Consent for these minor works will be provided by the Applicant.

Copies of the Certificates of Title are provided in **Appendix 4A** and **4B**.

## 2.4 PHYSICAL DESCRIPTION

### 2.4.1 Site

The site consists of cleared rural grazing land and has previously been used for farming. There are agricultural structures consisting of an open shed and scattered rubble piles throughout the paddocks. The land contains minimal vegetation, with only small pockets of scattered remnant vegetation located in the north and south west corners of the site.

The site is bound by vacant rural land to the north and west. The south boundary is adjacent to the New England Highway (NEH) and the western boundary is adjacent to Wyndella Road. The surrounding land uses include residential and vacant farming land.

The site has an area of approximately 22.54ha with a frontage of 235m to NEH and 658m to Wyndella Road.

An aerial image of the site is shown in **Figure 2**.



**Figure 2: Aerial image of Site.**

The following photographs provide an appreciation of the site characteristics and surrounding land uses.



**Photo 1: View of Site Looking South from Wyndella Road.**



**Photo 2: View on Site Looking Southwest.**



**Photo 3: View on Site Looking East.**



**Photo 4: View of Site Looking North.**



**Photo 5: View of Watercourse on Site.**



**Photo 6: View of Site Looking North from NEH.**

#### **2.4.2 Access**

Access to the site is via Wyndella Road which extends along the eastern boundary. This is an unformed bitumen road from the intersection with NEH before transitioning to a dirt track as shown in **Photographs 7** and **8**. Currently it carries very light traffic, mostly of rural-residential and infrequent in nature.



**Photo 7: View of Wyndella Road Looking South.**



**Photo 8: View of Wyndella Road looking North.**

The site is accessed in a broader context via the New England Highway. The village of Lochinvar is split by the highway with development to the north and south of it. The highway provides connectivity to Singleton located inland and Newcastle/Sydney located on the coast to the east.

### 2.4.3 Topography and Drainage

The site is located within gentle to moderate undulating topography. The highest point on the site is located in the north eastern corner at a height of RL 62m AHD. The site gently descends to RL 25m AHD at the lowest point on the site located in the south west corner.

This site is mostly positioned on the south-west mid to lower slopes of a spur formation. The north-eastern corner of the site is positioned on the upper slopes, with slopes measured to be in the order of 5° to 7°. Slopes in the order of 3° to 5° were observed on the mid to lower slopes, with some locally steeper slopes on the edges of dams, mounds and locally steeper areas on the edges of drainage depressions. Site contours are identified in **Figure 3**.

Lochinvar Creek exists along the southern boundary of the site, draining across the site in a north-west direction. The watercourse receives water from multiple overland paths, as well as a multi-pipe culvert which crosses beneath Wyndella Road near the southeast corner of the site. **Figure 4** below provides the Waterfront Land e-Tool Strahler ordering of hydrolines; however, groundtruthing undertaken by Anderson Environmental Planning (AEP) determined that several mapped hydrolines did not meet the definition of a watercourse. This led to an updated Strahler hierarchy of watercourses, as shown in **Figure 5**. A copy of the Riparian Assessment Report is provided within **Appendix 18**.

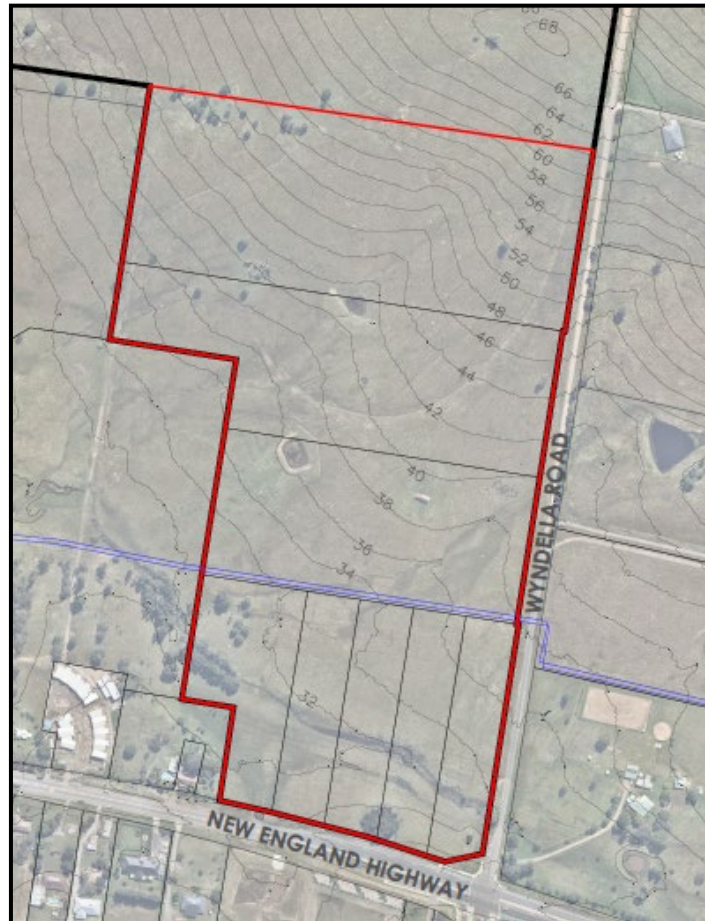


Figure 3: Site topography.



Figure 4: Waterfront Land e-Tool Strahler stream order.





**Figure 5: AEP Ground-truthed Strahler stream order.**

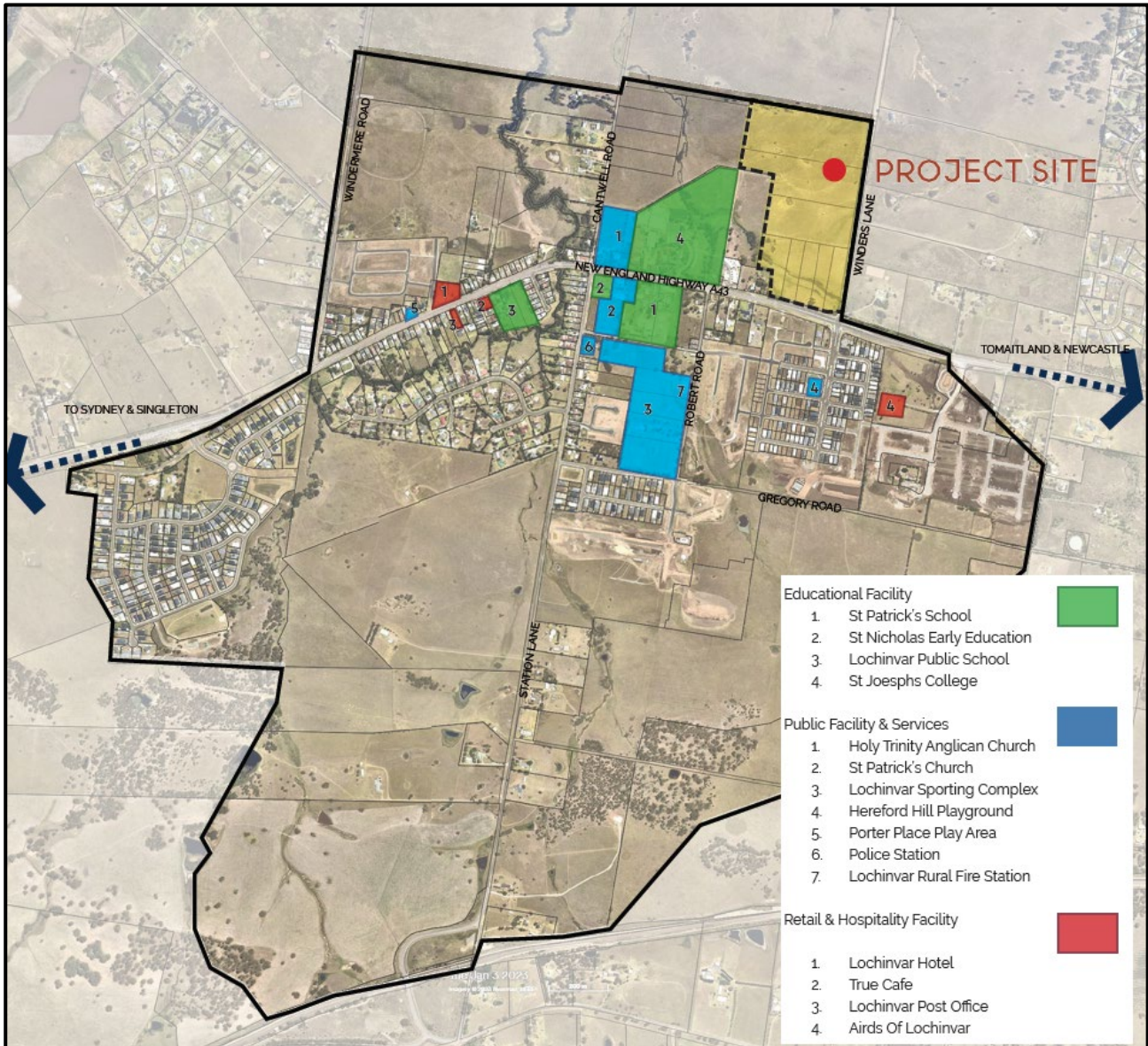
#### 2.4.4 Vegetation

The site comprises generally cleared land that has been used for grazing. It is not mapped as containing Biodiversity Values. The vegetation is dominated by pasture grasses, exotics and weeds with scattered trees as shown within **Figure 2**.

#### 2.4.5 Context

The site is located within the north-east corner of the Lochinvar Urban Release Area (LURA). The LURA comprises a total of 650 hectares of land, with an approximate residential yield of 5,000 lots, representing a regionally significant development area.

The proximity of the LURA to regional transport systems, including the Main Northern Railway Line, the New England Highway and the Hunter Expressway, are key elements to the identification of this area for urban development. Other contextual advantages for the site include its close proximity to education, community and retail facilities, with these demonstrated within **Figure 6**.




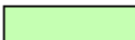
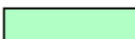
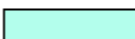






**Figure 6: Local Context Plan.**

## 3.0 Description of the Proposed Development

### 3.1 PROPOSED DEVELOPMENT

The proposed development comprises 262 Torrens Title Residential lots as follows:

	STAGE 1 - 35 LOTS
	STAGE 2 - 17 LOTS
	STAGE 3 - 25 LOTS
	STAGE 4 - 38 LOTS + BASIN
	STAGE 5 - 33 LOTS
	STAGE 6 - 19 LOTS + PARK
	STAGE 7 - 23 LOTS
	STAGE 8 - 27 LOTS
	STAGE 9 - 35 LOTS
	STAGE 10 - 10 LOTS + PARK & 2 RIPARIAN CORRIDORS

The development will also include:

- Demolition of all existing structures onsite;
- Road construction including a central distributor road and local roads;
- Construction of 1.5m wide footpaths along all local roads;
- Construction of 2.5m shared paths along the central distributor road;
- Construction of a combined 4.5m wide shared pathway and emergency access;
- Construction of stormwater infrastructure including bio-retention basins, swale drain, and drainage works;
- Bulk earthworks including importing, spreading, benching and/or retaining;
- Stockpiling of fill as required;
- Provision of underground water, sewer, stormwater, electrical and communication servicing throughout;
- Removal of vegetation;
- Establishment of Asset Protection Zones (APZs);
- Landscape buffer along the New England Highway (NEH), street tree planting, planting of bio-retention basins, supplementary planting to riparian corridor and entry feature; and
- Creation of any necessary easements.

The proposed development also includes the following offsite works:

- Upgrade to Wyndella Road including 2.5m wide shared path, drainage infrastructure and connection to NEH;
- Earthworks batters extending into Lot 1 DP65706, Lot 2 DP818314, and Lot 11 DP1219648; and
- Half road over Lot 2 DP818314.

The following is noted with regards to the above:

- Lots 620 and 1011 will be dedicated to Council for the purposes of local parks. No park embellishment works are proposed under this DA;

- Lots 1012 and 1013 will be dedicated to Council as a riparian corridor;
- Lot 439 will be dedicated to Council as a drainage reserve; and
- Road widening has been accommodated for the future construction of Wyndella Road as a Primary Distributor, and the future signalized intersection of NEH and Wyndella Road.

Development Plans and Concept Engineering Plans including full details of the proposed subdivision have been provided in **Appendix 1** and **2** respectively.

### 3.2 DESIGN CONSIDERATIONS

The following design considerations informed the master plan and proposed subdivision layout:

- Provision of distributor road as per Lochinvar Structure Plan, positioned to capture stormwater off Wyndella Road;
- Provision of perimeter roads for bushfire access;
- Provision of a road (MC04) positioned to accommodate an existing sewer main which traverses the site;
- Retention of the riparian corridor;
- Provision of basins at low points of the catchment and placement of roads to accommodate drainage;
- Orientation of roads to reduce batters/retaining with road reserves (i.e. in steeper areas roads are position to cross the contours rather than follow them);
- Inclusion of an open space lot on the key entry corner including retention of large mature tree;
- Provision of a centrally located open space lot ensuring all lots within 400m;
- Provision of deep lots adjoining NEH to accommodate 30m visual and acoustic buffer;
- Provision of generally north/south and east/west roads for optimum solar access;
- Provision of generally minimum 30m deep lots/60m deep blocks for optimum dwelling design flexibility without wasting land for un-used backyard space;
- Provision of larger corner lot sizes to account for dual road frontage setbacks; and
- Site bulk earthworks to accommodate existing sewer infrastructure, to minimise fill import and accommodate drainage.

As a result of the above, there are some minor areas of non-compliance with Council's DCP which are discussed within **Section 4.3.1**.

A full assessment of site constraints, analysis and design response is provided within the Urban Design report within **Appendix 14**.

### 3.3 CONSTRUCTION PHASING

In terms of construction, the works will likely be undertaken in the following phases:

- Clearing of trees/vegetation and bulk earthworks over all stages; including spreading and stockpiling fill as required;
- Civil works for Stage 1; including construction of roads, footpaths, landscaping, and services;
- Civil works for Stage 2; including construction of roads, footpaths, landscaping, and services;
- Civil works for Stage 3; including construction of roads, footpaths, landscaping, and services;
- Civil works for Stage 4; including construction of roads, footpaths, landscaping, and services. Basin 1 will be delivered as part of Stage 4;

- Civil works for Stage 5; including construction of roads, footpaths, landscaping, and services;
- Civil works for Stage 6; including construction of roads, footpaths, landscaping, and services;
- Civil works for Stage 7; including construction of roads, footpaths, landscaping, and services;
- Civil works for Stage 8; including construction of roads, footpaths, landscaping, and services;
- Civil works for Stage 9; including construction of roads, footpaths, landscaping, and services; and
- Civil works for Stage 10; including construction of roads, footpaths, landscaping, and services. Riparian and drainage corridor will be delivered as part of Stage 10.

Depending on market conditions, the sub-stages may be delivered separately or at the same time. The proposed sub-staging gives flexibility to respond to market conditions.

Each stage will be delivered to ensure all appropriate access and services are provided.

### 3.4 COUNCIL CONSULTATION

The project has been the subject of ongoing consultation between the Applicant and Maitland City Council over the past twelve months, including multiple meetings and ongoing correspondence. This section describes the key meetings and conclusions.

#### 3.4.1 16 November 2022

A meeting was held with Council on 16 November 2022 to present the proposed masterplan. The following key points were raised, and have been addressed in the documentation lodged with this DA, where appropriate:

- Visual amenity: Visual impacts to the ridgeline from NEH to be addressed via the inclusion of a site section detailing the lot benching levels and provision of indicative future dwelling heights and maximum RL construction limits.

Addressed: This has been provided within **Appendix 2** and is discussed in greater detail within **Section 5**.

- Northern Perimeter Road: A northern perimeter road to be included, with Council supportive of a reduced 2m verge width.

Addressed: This has been provided within **Appendix 2**.

- North West Perimeter Road (half road): North-western perimeter road to include full width construction.

Addressed: This has been provided along Road MC01 within **Appendix 2**, with half road over Lot 2 DP818314 and with owners consent being obtained.

- Four-way intersections: Council confirmed four-way intersections were only appropriate on local roads.

Addressed: Only one (1) four-way intersection has been proposed between Roads MC04/07/09 (all local roads) within **Appendix 2**.

- Wyndella Road – Access: Council advised lots should not front Wyndella Road given its anticipated 11,000 vehicle trips per day (vtpd); however, up to 6,000 vtpd, or 7,500 vtpd if a central median provided.

Addressed: The proposed development and the inclusion of the LURA would not generate more than 6,000 vtpd.

- Wyndella Road – Shared Pathway: A shared pathway is required along Wyndella Road.

Addressed: A 2.5m wide shared pathway has been provided along Wyndella Road (see **Appendix 2**).

- Small Lot Housing (SLH): Council outlined concerns surrounding provision of SLH.

Addressed: SLH is not proposed under this development application. All lots comply with the minimum lot size of 450m<sup>2</sup>.

- Upstream Catchments: Concern raised with the existing culvert located on Wyndella Road and how this would be dealt with if it intersects proposed lots rather than road.

Addressed: Flows from an existing upstream catchment are conveyed under Wyndella Road via a culvert crossing and continue through the site via an existing gully. Routing this catchment through the development site is not preferable owing to the commingling of clean and untreated stormwater runoff. Instead, it is proposed that Wyndella Road will be regraded such that all runoff reports southwards to the Lochinvar Creek Tributary. Piped drainage, combined with the overland flow within Wyndella Road, will be sized to accommodate the 100-year ARI design flow from the subject catchment. The existing (northern) culverts under Wyndella Road would be rendered obsolete, negating any potential issues that could arise were the culverts to intersect with proposed lots rather than road.

- Overland flows from the northern RUI zoned land needs to be addressed.

Addressed: A swale has been provided along the northern boundary to divert the overland flows around the development (see **Appendix 2**).

- Hereford Hill - proposed swale: Concern raised with overland flow path from Hereford Hill being within Lots and with a 90 degree bend.

Addressed: A vegetated swale is proposed to direct the upstream Hereford Hill catchment along the site's western boundary and into the Lochinvar Creek Tributary. It is proposed that the channel would be incorporated as drainage reserve to mitigate the concerns that arise should the flowpath be located within lots. A circular bend has been provided to avoid sharp changes in flow direction. The hydraulic capacity of the swale has been confirmed through HECRAS modelling.

- Temporary Basin: Council requested clarification regarding the temporary basin.

Addressed: The northern basin has been designed as a permanent device; however, it is expected that future development of the western (downstream) lot would be supported by additional Water Sensitive Urban Design (WSUD) infrastructure, thereby facilitating its removal.

- Bushfire: Council advised the following with regards to bushfire:
  - Parking is to be provided outside of minimum widths required under Planning for Bushfire Protection 2019;
  - Asset Protection Zones (APZs) to be provided on plans;
  - Basins to be treated as unmanaged land; and
  - No street trees on outer edge of perimeter roads.

Addressed: Discussion on roads and APZs is provided within the Bushfire Assessment Report. No APZs are proposed over the basins (see **Appendix 9**). No street trees have been provided on the outer edge of perimeter roads (see **Appendix 6**).

- Local Parks: Two (2) parks are provided for within the Lochinvar Contributions Plan (CP).

Addressed: Lots 620 and 1011 will be dedicated to Council for the purposes of local parks, i.e. no park embellishment works are proposed. This is discussed further within **Section 5**.

A copy of the minutes from this meeting are provided within **Appendix 19**.

### 3.4.2 29 August 2022

Council provided written correspondence providing advice regarding the content for the required masterplan/urban design report including provision of a site analysis; vision; design principles; structure/framework; concept plan; landscape; and street sections. To address these requirements, the DA includes Subdivision Plans; Concept Engineering Plans; Landscape Plans; and Urban Design Report (see **Appendix 1, 2, 6 & 14** respectively).

### 3.4.3 4 November 2022

A pre-lodgement meeting was held with Council on 4 November 2022, following which formal minutes were provided. A table addressing the points raised within the meeting is provided within **Appendix 20**. In summary, all matters raised by Council have been addressed. It is noted that the subdivision layout currently proposed, was that presented at the pre-lodgement meeting, and no issues were raised regarding the road configuration or lot layout.

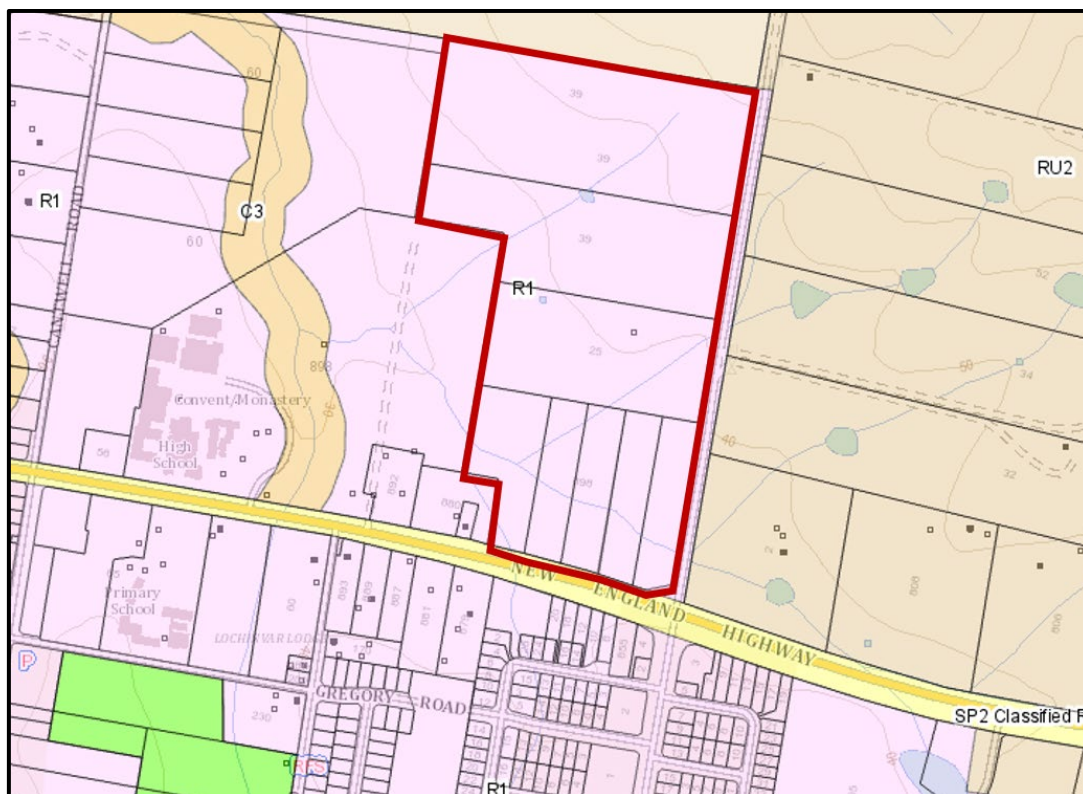
## 4.0 Planning Controls

### 4.1 ENVIRONMENTAL PLANNING INSTRUMENT (S4.15(1)(A)(I))

#### 4.1.1 Maitland Local Environmental Plan 2011

##### Zoning

The site is located within the R1 General Residential Zone as shown in **Figure 7**.



**Figure 7: Zoning Map (Planning Portal Mapping).**

The proposed development, which is defined as a “subdivision”, is permissible with the consent of Council pursuant to Clause 2.6 of the LEP under all zones. It is also noted that “roads” are permissible with consent under the R1 zone.

##### Land Use Table

Clause 2.3 of the LEP stipulates that the consent authority must have regard to the objectives for a development in a zone when determining a development application in respect of land within the zone.

The proposed residential lots are located with the R1 zone, where the following relevant objectives have been addressed:

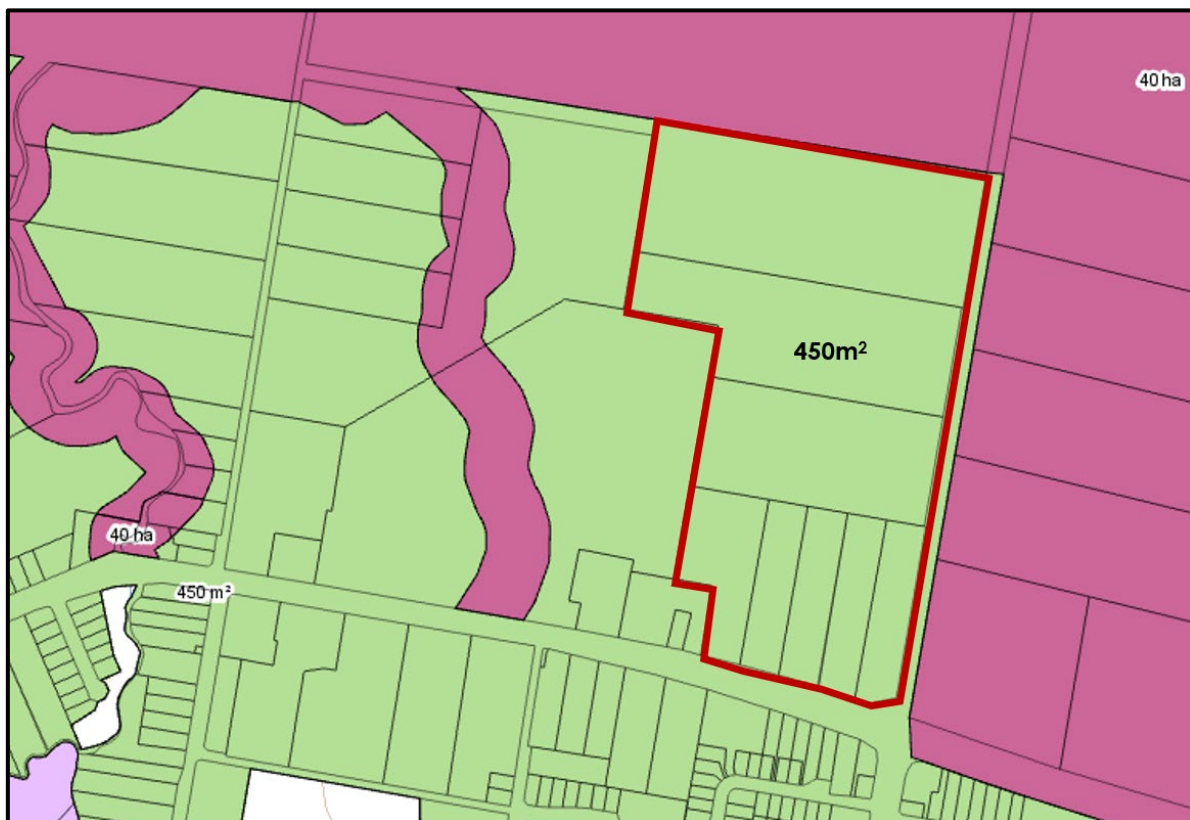
- To provide for the housing needs of the community.
- To provide for a variety of housing types and densities.
- To enable other land uses that provide facilities or services to meet the day to day needs of residents.



The proposed subdivision will create residential allotments in a logical pattern, including a variety of lot sizes, within an area specifically planned for growth. For these reasons, the development is considered to achieve the objectives of the R1 Zone.

#### Clause 4.1 – Minimum Subdivision Lot Size

A minimum lot size of 450m<sup>2</sup> applies to the site (see **Figure 8**). All proposed residential allotments will have an area of 450m<sup>2</sup> or greater.



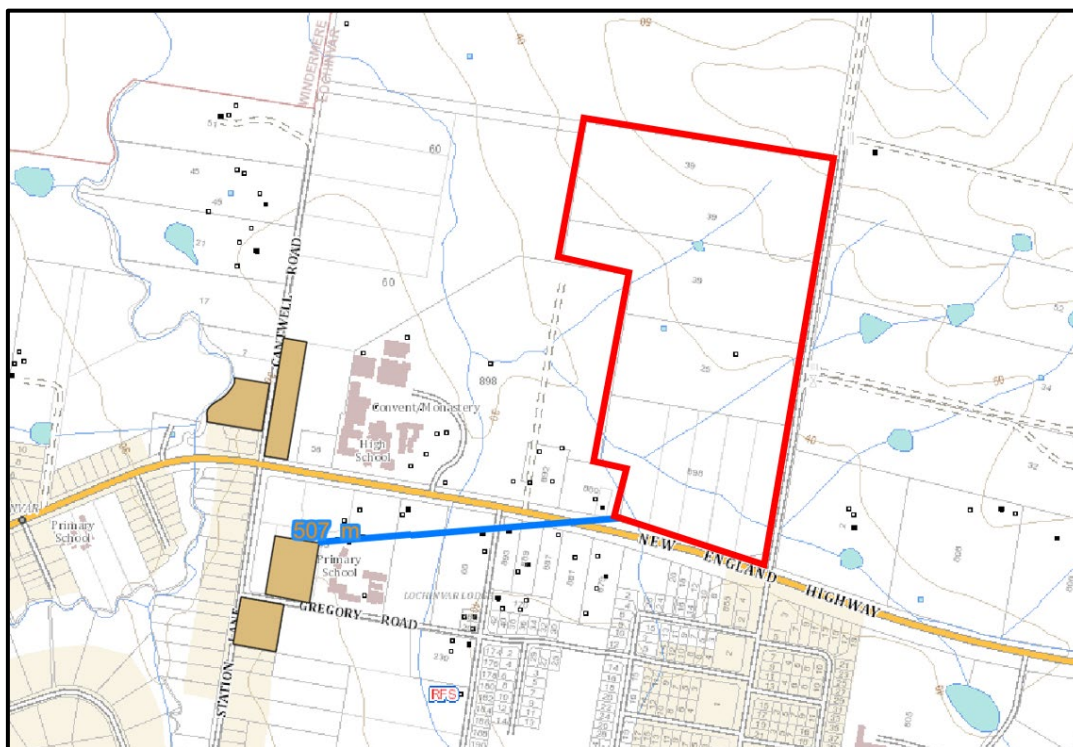
**Figure 8: Lot Size Map (Planning Portal Mapping).**

#### Clause 5.1A – Development on land intended to be acquired for public purposes

N/A - The site is not identified on the Land Reservation Acquisition Map.

#### Clause 5.10 – Heritage Conservation

The site is not identified as containing, or being adjacent to a heritage item, nor as being located within a heritage conservation area. The nearest heritage item is approximately 500m from the site, as shown in **Figure 9** below. Further consideration under this clause is not required with respect to historic heritage.



**Figure 9: LEP Heritage Map (Planning Portal Mapping).**

Aboriginal heritage investigations undertaken as part of the Lochinvar rezoning revealed a number of Aboriginal sites within the locality.

An Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared to support this DA, which confirms these findings and concludes that an Aboriginal Heritage Impact Permit (AHIP) will be required prior to construction commencing over existing sites and further investigation is required within a potential archaeological deposit (PAD).

An AHIP is only able to be sought following the issue of a development consent, and as such, it is assumed Council will condition the development accordingly. Further details in this regard are provided within Section 5 and the ACHAR in **Appendix 7**.

### **Clause 5.21 – Flood Planning**

The subject site is partially flood affected by overland flow in a 100-year event. How the development responds to the requirements of Clause 5.21 is provided below:

(2) *Development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development—*

(a) *is compatible with the flood function and behaviour on the land, and*

All proposed lots have adequate freeboard to the 100-year ARI flood. The most affected lot has approximately 0.9m of freeboard to the 100-year ARI flood which substantially exceeds Council's minimum requirement of 0.5m representing the Flood Planning Level (FPL).

(b) *will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties, and*

Flood modelling has been undertaken as part of the Stormwater Management Plan (SWMP) which concludes that no additional impacts will be felt by other properties as a result of the development.

*(c) will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood, and*

All roads and lots will remain flood-free during the 100-year ARI flood, including both NEH and Wyndella Road. Emergency access has been provided for the lots located south of the tributary watercourse. Lots located to the north of the tributary watercourse will have access to Wyndella Road as a rising escape route.

*(d) incorporates appropriate measures to manage risk to life in the event of a flood, and*

All allotments will be built above the FPL to ensure there is no risk to property in the event of the 100-year ARI flood. All lots were found to be outside of the Lochinvar Creek tributary's PMF envelope, with the exception of seven lots which were classified as low hazard.

*(e) will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.*

Provision of erosion and sedimentation controls, along with the proposed basins and general stormwater management systems will ensure that the development will not impact on the environment.

*(3) In deciding whether to grant development consent on land to which this clause applies, the consent authority must consider the following matters—*

*(a) the impact of the development on projected changes to flood behaviour as a result of climate change,*

Noting that the lowest site is 0.9m above the 100-year ARI flood, being 0.4m above the FPL, this is considered appropriate to accommodate additional flooding as a result of climate change.

*(b) the intended design and scale of buildings resulting from the development,*

The intended development of the site for residential purposes has been under investigation for many years and conceptually accepted by Council and Department of Planning and Environment (DPE) through the rezoning. The final residential zone footprint was informed by flooding investigations and accepted by all relevant State Government agencies.

*(c) whether the development incorporates measures to minimise the risk to life and ensure the safe evacuation of people in the event of a flood,*

As discussed above, the development has been designed to ensure all lots and roads remain flood free during the 100-year ARI flood and that safe, flood free evacuation routes are provided if required.

*(d) the potential to modify, relocate or remove buildings resulting from development if the surrounding area is impacted by flooding or coastal erosion.*

N/A

Taking the above into consideration, the proposed development adheres to the requirements of Clause 5.21.

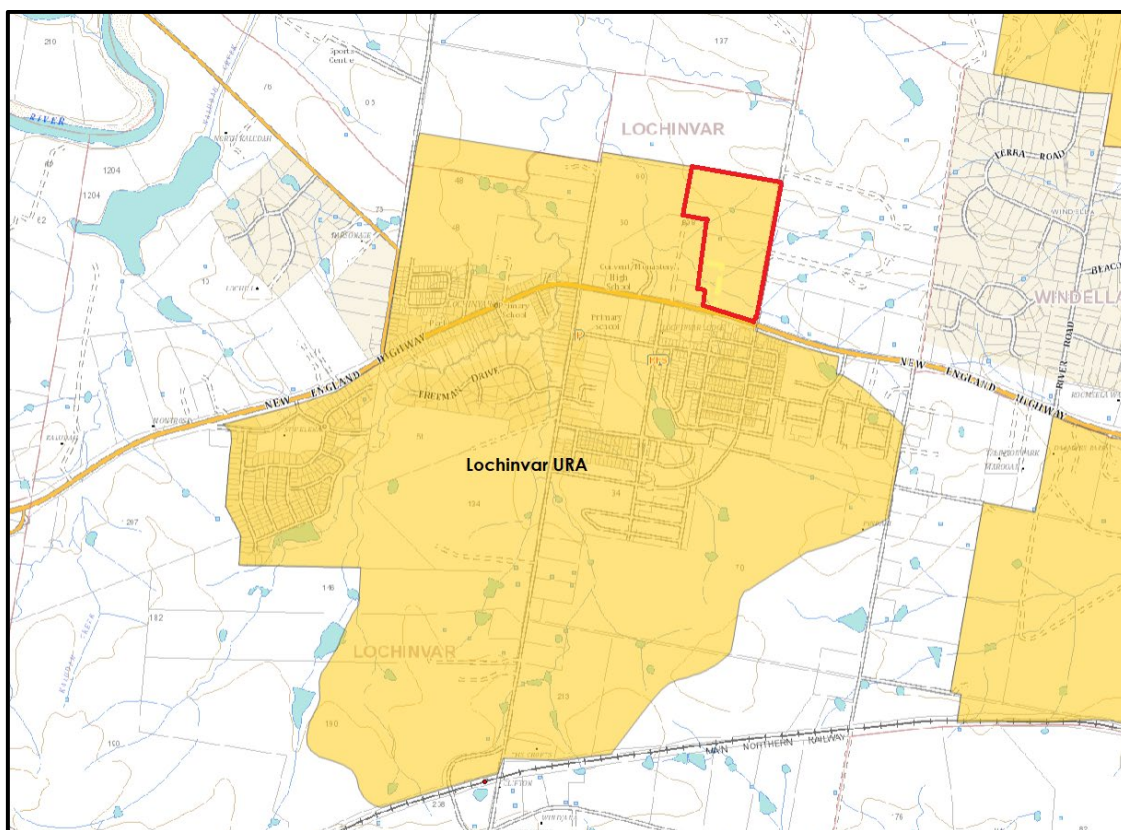
Further details in this regard are provided within **Section 5** and the SWMP within **Appendix 5**.

### Clause 6.1 – Arrangements for Designated State Public Infrastructure

The objective of Clause 6.1 is to require satisfactory arrangements to be made for the provision of designated State Public Infrastructure for the subdivision of land in an urban release area. In this regard, Clause 6.1 states:

*(2) Development consent must not be granted for the subdivision of land in an urban release area if the subdivision would create a lot smaller than the minimum lot size permitted on the land immediately before the relevant date, unless the Director-General has certified in writing to the consent authority that satisfactory arrangements have been made to contribute to the provision of designated State public infrastructure in relation to that lot.*

The site is located within the Lochinvar Urban Release Area (see **Figure 10**). Following the lodgement of this DA, the Proponent will consult with DPE regarding an appropriate method to satisfy the above requirements. Written confirmation from DPE will be provided to Council prior to development consent being granted, to confirm satisfactory arrangements have been made in accordance with this Clause.



**Figure 10: Lochinvar URA (Planning Portal Mapping).**

## Clause 6.2 – Public Utility Infrastructure

Clause 6.2 states:

- (1) *Development consent must not be granted for development on land in an urban release area unless the Council is satisfied that any public utility infrastructure that is essential for the proposed development is available or that adequate arrangements have been made to make that infrastructure available when it is required.*

Adequate arrangements have been made for the provision of all services to all residential allotments within the subdivision and as such, the proposal adheres to the provisions of Clause 6.2. Further information with regards to servicing is provided within Section 5 and the servicing plans provided in **Appendix 2**.

The proponent has also been in consultation with Hunter Water with regards to necessary offsite infrastructure upgrades, as well as the existing sewer mains which traverse the site. Details surrounding these matters are provided within the Preliminary Servicing Advice in **Appendix 8**, along with a copy of the Hunter Water stamped plan.

Taking the above into consideration, adequate arrangements have been or will be made for the provision of all services to all residential allotments within the subdivision and as such, the proposal adheres to the provisions of Clause 6.2.

## Clause 6.3 – Development Control Plan

Clause 6.3 states:

- (2) *Development consent must not be granted for development on land in an urban release area unless a development control plan that provides for the matters specified in subclause (3) has been prepared for the land.*
- (3) *The development control plan must provide for all of the following:*
- (a) *a staging plan for the timely and efficient release of urban land, making provision for necessary infrastructure and sequencing,*
  - (b) *an overall transport movement hierarchy showing the major circulation routes and connections to achieve a simple and safe movement system for private vehicles, public transport, pedestrians and cyclists,*
  - (c) *an overall landscaping strategy for the protection and enhancement of riparian areas and remnant vegetation, including visually prominent locations, and detailed landscaping requirements for both the public and private domain,*
  - (d) *a network of active and passive recreation areas,*
  - (e) *stormwater and water quality management controls,*
  - (f) *amelioration of natural and environmental hazards, including bush fire, flooding and site contamination and, in relation to natural hazards, the safe occupation of, and the evacuation from, any land so affected,*
  - (g) *detailed urban design controls for significant development sites,*
  - (h) *measures to encourage higher density living around transport, open space and service nodes,*
  - (i) *measures to accommodate and control appropriate neighbourhood commercial and retail uses,*
  - (j) *suitably located public facilities and services, including provision for appropriate traffic management facilities and parking.*

Following the rezoning of the Lochinvar URA, Chapter F9 was adopted into the Maitland DCP which addresses the above items and thereby adheres to Clause 6.3.

### Clause 7.1 – Acid Sulfate Soils

Clause 7.1 states:

- (3) *Development consent must not be granted under this clause for the carrying out of works unless an acid sulfate soils management plan has been prepared for the proposed works in accordance with the Acid Sulfate Soils Manual and has been provided to the consent authority.*

The subject site contains only Class 5 ASS. It is not within 500m of Class 1 – 4 lands. Accordingly, the provisions of this clause do not apply.

### Clause 7.2 – Earthworks

Clause 7.2 states:

- (3) *Before granting development consent for earthworks, the consent authority must consider the following matters—*
- (a) *the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality,*
  - (b) *the effect of the proposed development on the likely future use or redevelopment of the land,*
  - (c) *the quality of the fill or the soil to be excavated, or both,*
  - (d) *the effect of the proposed development on the existing and likely amenity of adjoining properties,*
  - (e) *the source of any fill material and the destination of any excavated material,*
  - (f) *the likelihood of disturbing relics,*
  - (g) *the proximity to and potential for adverse impacts on any watercourse, drinking water catchment or environmentally sensitive area.*

In response to Clause 7.2 of the LEP, the following is provided:

- a) The earthworks have been designed in a holistic manner in coordination with the stormwater design to ensure there is no disruption or impacts on existing drainage patterns and soil stability;
- b) The earthworks will provide lots with building areas suitable for future dwellings and therefore only improves the land for its future use/redevelopment;
- c) Any fill will be clean engineering fill compacted under Level 1 supervision;
- d) The earthworks will ensure a smooth transition to adjoining allotments (i.e. site will not be artificially higher/lower than neighbouring sites). Minor construction based disruption would be expected but can be controlled through standard conditions of consent;
- e) It is likely fill will be required, which will be sourced offsite where it cannot be sourced from the excavation within the site. To reduce costs, this will be sourced from local areas where possible;
- f) All matters pertaining to heritage have been addressed above; and
- g) Appropriate mitigation measures, including erosion and sediment control and stabilisation works, will be implemented to mitigate impacts to the watercourse on site.

Based on the above, the proposed earthworks are consistent with the requirements of Clause 7.2.

### Clause 7.4 – Riparian Land and Watercourses

Clause 7.4 applies to land identified as “Watercourse land” on the Watercourse Map, and land within 40m of the top of the bank of a watercourse identified as “Watercourse land” on the Watercourse Map. As the site contains land identified as “Watercourse land” (as identified on **Figure 11** below), Clause 7.4 applies.



**Figure 11: Watercourse Land (Planning Portal Mapping).**

A response to the list of items that the consent authority must consider under this clause is provided below.

*(3) Before determining a development application to carry out development on land to which this clause applies, the consent authority must consider whether or not the development—*

*(a) Is likely to have any adverse impact on the following –*

*(i) The water quality and flows within the watercourse;*

The accompanying concept engineering plans and stormwater management plan provide for soils and erosion management during construction and satisfy Council's relevant water quality targets.

*(ii) Aquatic and riparian species, habitats and ecosystems of watercourse;*

The proposed development is unlikely to have any adverse impact on aquatic or riparian species, habitats or ecosystems given the condition of the watercourses. Rehabilitation works are proposed which will provide the opportunity for biodiversity improvements.

(iii) *The stability of the bed, shore and banks of the watercourse;*

Appropriate setbacks are provided from the bed, shore and banks of the watercourse, ensuring ongoing stability.

(iv) *The free passage of fish and other aquatic organisms within or along the watercourse;*

The proposal includes one road crossing (MC08) which includes large culverts allowing free fish passage.

(v) *Any future rehabilitation of the watercourse and its riparian areas; and*

Revegetation works are proposed within the riparian corridor, as demonstrated in the Landscape Plans.

*(b) Is likely to increase water extraction from the watercourse.*

The proposal will not increase water extraction from the watercourse.

Based on the above, the consent authority can be satisfied that the proposed development has been designed, and sites will be managed to avoid any significant adverse environmental impact. Further details surrounding the rehabilitation of this watercourse are provided within the Landscape Plans within **Appendix 6**.

#### **4.1.2 SEPP Transport and Infrastructure 2021 (TISEPP)**

##### **Subdivision 2: Development likely to affect an electricity transmission or distribution network**

Section 2.48 of the TISEPP requires a consent authority to refer certain development applications to electricity supply authorities, for the purpose of seeking comments about potential safety risks.

Overhead transmission lines exist along the Wyndella Road and NEH frontages. Due to proposed road works along Wyndella Drive, the proposal will penetrate ground within 2m of an electricity distribution pole and likely to involve the placement of power lines underground, referral to Ausgrid is required under clauses (1)a) and (d).

##### **Subdivision 2: Development in or adjacent to road corridors and road reservations**

#### **2.119 Development with frontage to classified road**

Section 2.119 states:

- (2) *The consent authority must not grant consent to development on land that has a frontage to a classified road unless it is satisfied that—*
- (a) *where practicable and safe, vehicular access to the land is provided by a road other than the classified road, and*

The site has a frontage to NEH; however, access to the subdivision will be obtained via Wyndella Road.

- (b) *the safety, efficiency and ongoing operation of the classified road will not be adversely affected by the development as a result of—*



- (i) the design of the vehicular access to the land, or
- (ii) the emission of smoke or dust from the development, or
- (iii) the nature, volume or frequency of vehicles using the classified road to gain access to the land, and

A Transport Impact Assessment (TIA) has been prepared which concludes that the intersection of Wyndella Road and NEH has sufficient capacity to cater for the development. This is discussed in greater detail within **Section 5** and **Appendix 12**.

- (c) the development is of a type that is not sensitive to traffic noise or vehicle emissions, or is appropriately located and designed, or includes measures, to ameliorate potential traffic noise or vehicle emissions within the site of the development arising from the adjacent classified road.

A landscaped earth mound will separate the proposed allotments from NEH to ameliorate potential visual, noise and emissions issues. Dwellings within 120m of NEH will also include building controls for future dwellings to ensure a compliant internal acoustic amenity. Full details in this regard are provided within **Section 5**, the Landscape Plans in **Appendix 6**, and the Noise Impact Assessment in **Appendix 15**.

### 2.122 Traffic-generating development

Section 2.122 of the SEPP provides that any development listed within Schedule 3 is classified as "traffic generating development". Schedule 3 identifies subdivisions with 200 or more allotments where the subdivision includes the opening of a public road.

As the subdivision proposes 262 allotments and includes the opening of a public road, the development is classified as Traffic Generating Development.

Prior to determining a development application for traffic generating development, the consent authority must notify TfNSW and take into consideration any submission it provides within 21 days of receiving the notice.

The consent authority must also consider:

- (ii) the accessibility of the site concerned, including –
  - (A) the efficiency of movement of people and freight to and from the site and the extent of multi-purpose trips, and
  - (B) the potential to minimise the need for travel by car and to maximise movement of freight in containers or bulk freight by rail, and
- (iii) any potential traffic safety, road congestion or parking implications of the development.

A TIA has been prepared to inform the development application, and provided at **Appendix 12**. The assessment considers the impact of additional traffic on the road network, parking and demonstrates that suitable and safe access to the site will be provided through the development. The proposal also includes pedestrian and cyclist facilities, to encourage active transport and potentially minimizing the need for car travel.

It is considered that the proposal is acceptable on traffic related grounds, and the consent authority can be satisfied it meets the requirements of Section 2.122.

#### 4.1.3 SEPP (Planning Systems) 2021

The proposed development does not constitute State Significant Development under this SEPP and hence, the provisions relating to same are not relevant.

As the proposed development does not have a capital investment value (**CIV**) exceeding \$30 million and the subdivision is not located within the coastal zone, it is not identified as Regionally Significant Development under Schedule 6. A Cost Estimate Report is provided in **Appendix 17** providing further details in this regard.

As such, the consent authority is Maitland City Council.

#### 4.1.4 SEPP (Biodiversity and Conservation) 2021

##### Chapter 4 – Koala Habitat Protection 2021

Chapter 4 of the SEPP applies to all local government areas (LGAs) listed in Schedule 2, which includes Maitland LGA and therefore the subject site.

The aim of the Chapter is “to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline”. The Chapter requires that development be consistent with an approved koala management plan that applies to the site, or where there is no such plan, make an assessment as to whether it is likely to have any impact on koalas or koala habitat.

An Ecological Assessment Report (EAR) has been prepared by AEP which notes that there were no records of koalas within 10km of the site and no evidence of this species on site following two (2) nights of nocturnal searches. AEP also noted the site had a lack of suitable habitat, and as such conducted a Tier 1 Assessment which concluded that koala populations were unlikely to be impacted by the proposed development.

Full details in this regard are provided within the EAR in **Appendix 11**.

#### 4.1.5 SEPP (Resilience and Hazards) 2021

##### Chapter 2 – Coastal Management

Chapter 2 of the SEPP aims to promote an integrated and coordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the *Coastal Management Act 2016*. Chapter 2 applies to land within the coastal zone which includes coastal wetlands and littoral rainforests area, coastal vulnerability areas, coastal environment areas and coastal use areas. The subject development is not located within any of these areas.

##### Chapter 4 – Remediation of Land

Section 4.6 (2) of the SEPP states:

*Before determining an application for consent to carry out development that would involve a change of use on any of the land specified in subsection (4), the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines.*

Section 4.6(3) of the SEPP states that:

*The applicant for development consent must carry out the investigation required by subsection (2) and must provide a report on it to the consent authority. The consent authority may require the applicant to carry out, and provide a report on, a detailed investigation (as referred to in the contaminated land planning guidelines) if it considers that the findings of the preliminary investigation warrant such an investigation.*

As the proposed development seeks to develop the land for residential purposes, and potentially contaminating activities have occurred on the site due to past agricultural uses, a contamination assessment has been carried out to inform the DA.

The assessment confirms that the land is contaminated; however, it will be suitable after remediation for the purposes of residential development. The assessment recommends that a Remediation Action Plan (RAP) is prepared and implemented. The requirement to prepare the RAP prior to works commencing, and implement it during works, can be imposed as a consent condition, which will ensure that the land will be remediated before the land is used for residential purposes.

Full details in this regard are provided within the Contamination Assessment in **Appendix 13**.

## 4.2 DRAFT ENVIRONMENTAL PLANNING INSTRUMENTS (S4.15(1)(A)(II))

There are no draft SEPPs applicable to this type development in this area.

## 4.3 DEVELOPMENT CONTROL PLANS (S4.15(1)(A)(III))

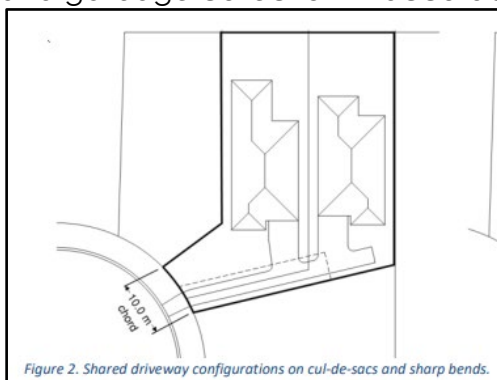
### 4.3.1 Maitland Development Control Plan 2011

A complete assessment against the DCP is provided within a compliance table located within **Appendix 10**. The following section, provides greater detail with regards to areas of non-compliance as well as Chapter F.9 Lochinvar Urban Release Area.

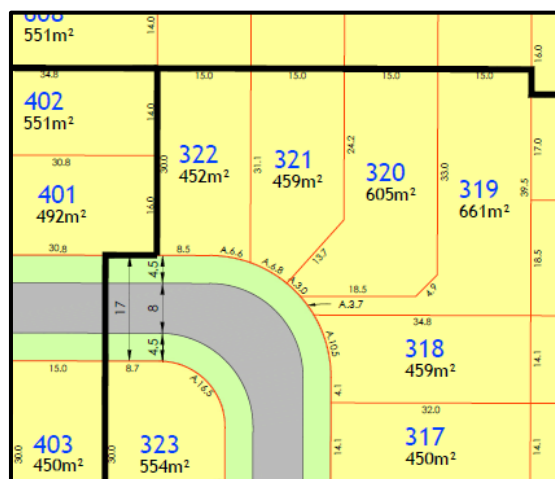
## Chapter C.10 Subdivision

### DC.1 Lot Size and Dimension

*Minimum lot frontage of 10.0m chord length around sharp bends and cul-de-sacs to provide for access, service and garbage collection in accordance with Figure 2.*



Lots 320 and 321 do not meet the above control (see **Figure 12**).



**Figure 12: Lots in Contravention of DC.1.**

The DCP allows for variations to the above control, if the development can demonstrate that it nonetheless achieves the objectives of the control. The following objective is relevant in this case:

- *To ensure all new lots have a size and shape appropriate to their proposed use, and to allow for the provision of necessary services and other requirements.*

Lots 319 and 320 exceed the minimum lot size by over 100m<sup>2</sup> and are also of a generally regular shape allowing for a wider variety of housing in accordance with the R1 zoning. The lots will likely be serviced by a 3.5m wide shared driveway crossing (and potentially shared driveway with reciprocal easement).

This control is largely for the ability to service garbage collection of the lots.

Sufficient space will be available along the frontage of Lot 318, which is directly to the south, to accommodate kerbside garbage collection for Lots 319 and 320, as well as Lot 318. This is on the basis that there will be a maximum of six bins each week (@ 0.55m wide each) and Council specifies a minimum of 0.5m spacing is required between bins. Assuming the six bins are grouped together, 6.8m would be required along the kerbside.

Given Lot 318 has a total frontage of 14.6m (arched), and it is likely the future driveway will be positioned on the southern (lower) side of the lot (assuming 3m pavement with 0.9m offset to boundary), there will be approximately 10.7m kerbside frontage for Lot 318. Given only 6.8m is required to accommodate kerbside bins, this is considered ample space and a logical location.

Taking the above into consideration, a variation to the above control continues to achieve the relevant objective, and as such, is worthy of support.

### **DC.6 Roads & Access, Pedestrian & Cycleways**

- *DC.6.22 Intersection spacing shall follow best practice including:
 
  - *minimum 40m stagger of intersections on opposing sides, 60m on same side*
  - *minimum 100m stagger on opposing sides, 120m on same side for trunk roads on trunk road,**

Intersecting roads with the distributor road do not meet the above control (see **Figure 13**).



**Figure 13: Distributor Road.**

The DCP allows for variations to the above control, if the development can demonstrate that it nonetheless achieves the objectives of the control. The following objectives are relevant in this case:

- To provide a distinctive and hierarchical network of roads with clear physical distinctions between each type of road, based on public safety, function, capacity, traffic volumes and vehicle speeds;
- To provide a safe and appropriate level of access to all new lots created;
- To provide acceptable levels of access, safety and convenience for all road users, including pedestrians and cyclists;
- To provide access for emergency and service vehicles to all lots and enable the establishment of efficient and accessible bus/public transport routes; and
- To accommodate public utility services and drainage systems.

The location of the distributor has been set by the Lochinvar Structure Plan, with local streets feeding off this in locations required to accommodate site drainage and minimise the need for large batters/retaining within road reserves.

All roads are provided with sufficient verge widths to accommodate public utilities and drainage in accordance with MOES.

Appropriate traffic controls (i.e. priority give way signage/speed limits), can be detailed as part of the SWC to ensure achievement of public safety, function, capacity, traffic volumes and vehicle speeds.

All lots have been configured to allow for safe ingress/egress with adequate sight distances.

Taking the above into consideration, a variation to the above control continues to achieve the relevant objectives, and as such, is worthy of support.

#### Residential Subdivisions

- DC. 6.23 Street block lengths shall be a maximum length of:
  - 180m for residential streets running parallel against trunk roads

One block which runs parallel to the distributor road does not meet the above control (see **Figure 14**).



**Figure 14: Block MC02/MC04/MC10/MC09.**

The DCP allows for variations to the above control, if the development can demonstrate that it nonetheless achieves the objectives of the control. The following objectives are relevant in this case:

- To provide acceptable levels of access, safety and convenience for all road users, including pedestrians and cyclists;
- To provide access for emergency and service vehicles to all lots and enable the establishment of efficient and accessible bus/public transport routes;
- To minimise road construction costs, energy demand, risk exposure and maintenance costs without compromising other objectives.

The above block length is approximately 204m, 24m over the above control. This variation is considered minor and the inclusion of an additional road would remove two (2) allotments, which is considered an inefficient use of residentially zoned land. It would also add to the road cost, including ongoing maintenance for Council.

The desire lines for pedestrians and cyclists are likely to be along the shared pathways on the distributor road and Wyndella Road which are also likely to be the future bus route. The addition of a further road would not improve the attainment of convenience/access in this regard.

Taking the above into consideration, a variation to the above control continues to achieve the relevant objectives, and as such, is worthy of support.

### DC.8 Site Filling

- DC.8.3 An absolute maximum fill depth of 2m will be considered by Council.

Filling is proposed over 2m to fill two (2) natural depressions, removing potential pooling or flooding. The remainder of the site will generally be between plus or minus 1.5m of the existing natural surface.

The DCP allows for variations to the above control, if the development can demonstrate that it nonetheless achieves the objectives of the control. The following objective is relevant in this case:

- To ensure the environmental impact of site fill is properly assessed.

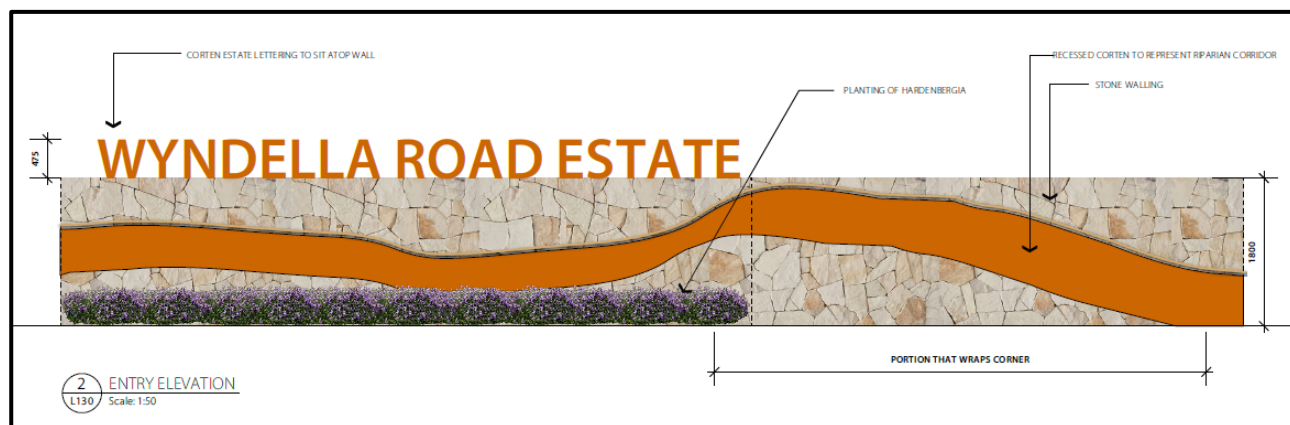
Filling will be required in some areas as part of the bulk earthworks; the earthworks design has been done to minimise the requirement for fill. The earthworks have been designed in a wholistic manner in coordination with the stormwater design to ensure there is no disruption or impacts on existing drainage patterns and soil stability. Any fill will be clean engineering fill compacted under Level 1 supervision, and appropriate mitigation measures will be implemented to mitigate impacts to the watercourse on site.

Taking the above into consideration, a variation to the above control continues to achieve the relevant objective, and as such, is worthy of support.

### IC.1 Entry Features

- *IC.1.6 Entry features for residential subdivisions shall be limited to a size of 20m<sup>2</sup> with a maximum height of 2m. The size of entry features for industrial and commercial estates will be considered on merit.*

The entry feature does not meet the above control with a height of 2.275m and length of approximately 30m (see **Figure 15**).



**Figure 15: Entry Feature.**

The DCP allows for variations to the above control, if the development can demonstrate that it nonetheless achieves the objectives of the control. The following objective is relevant in this case:

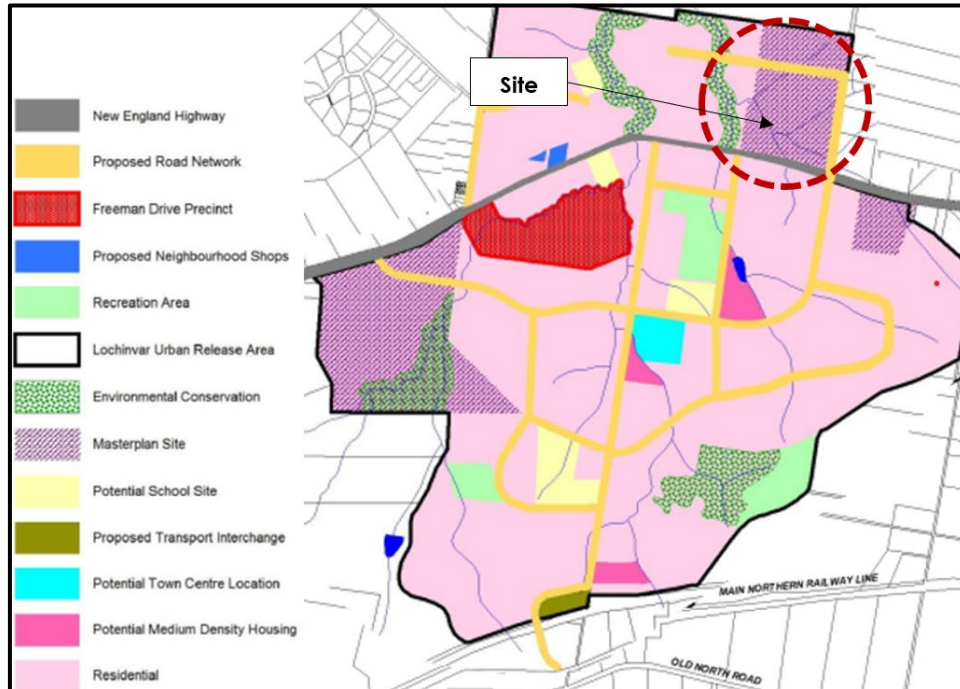
- *To ameliorate the potential cumulative visual impact of entry features and to regulate issues such as their location, size and life span.*

The only aspect of the entry feature over 2m is the estate naming which is designed to allow views to the background (which in this case would be dwellings). For this reason, the height is not consider to have a negative visual impact. The length of the entry feature is dictated by the corner lot configuration and the need to provide clear way finding from both approaches to the development from Wyndella Road. Further, the key part of the feature is a muted tone stone wall, of a similar size to retaining walls or decorative fencing commonly seen in modern subdivisions.

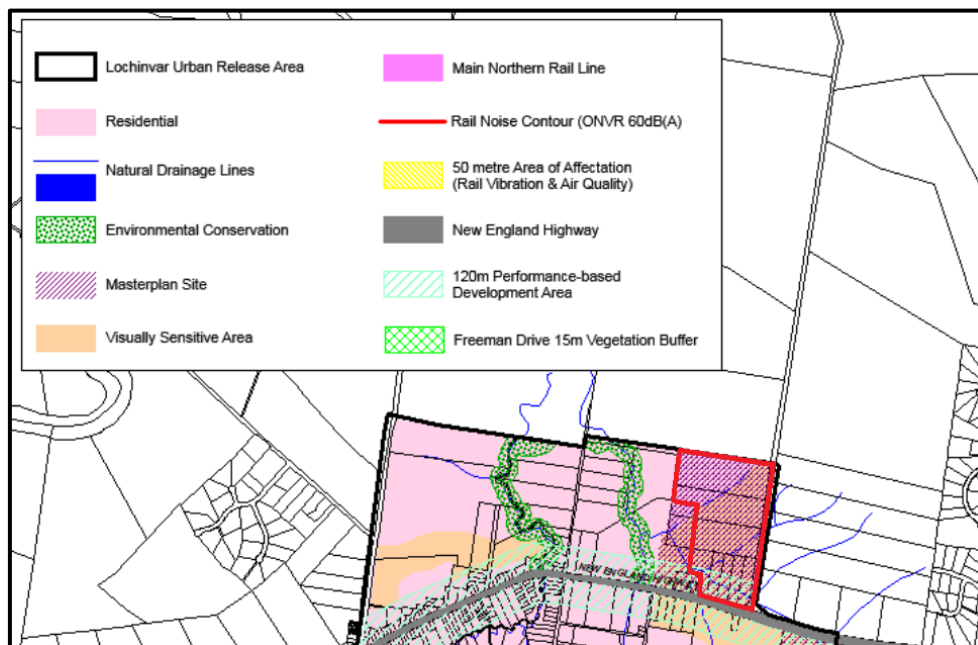
Taking the above into consideration, a variation to the above control continues to achieve the relevant objective, and as such, is worthy of support.

## Chapter F.9 Lochinvar Urban Release Area

The site is located within the Lochinvar Urban Release Area (LURA) where it is identified within Stage 3 as a master planned site providing residential development and portions of the major road network (see **Figure 16-20**).



**Figure 16: Lochinvar Area Plan (DCP Figure 55).**



**Figure 17: Lochinvar URA Constraints and Buffers (DCP Figure 56).**



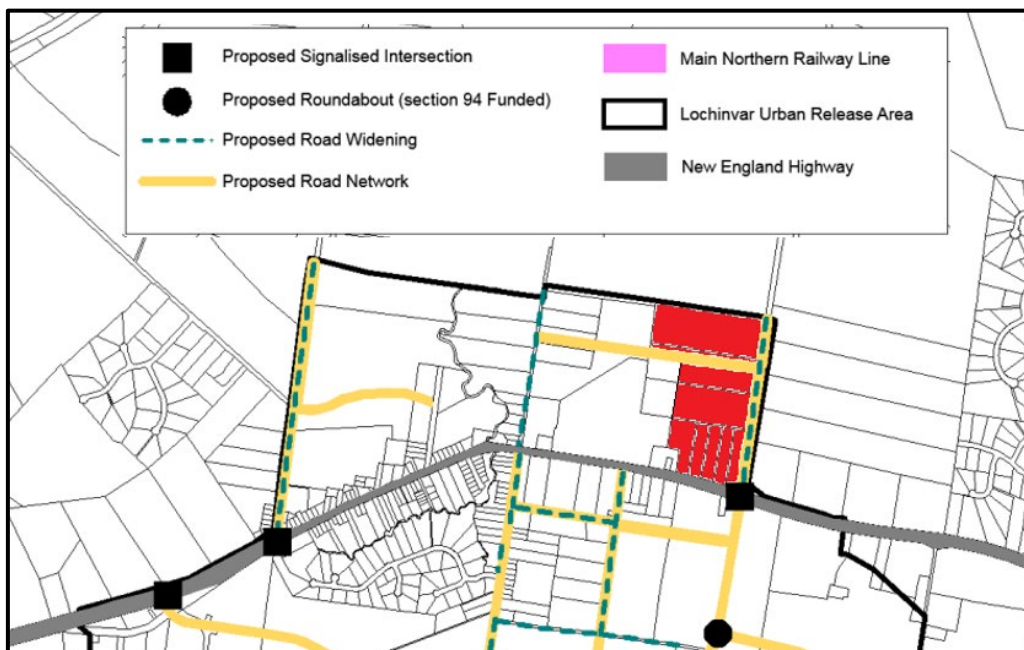


Figure 18: Lochinvar URA Proposed Road Network and Road Widening (DCP Figure 57).

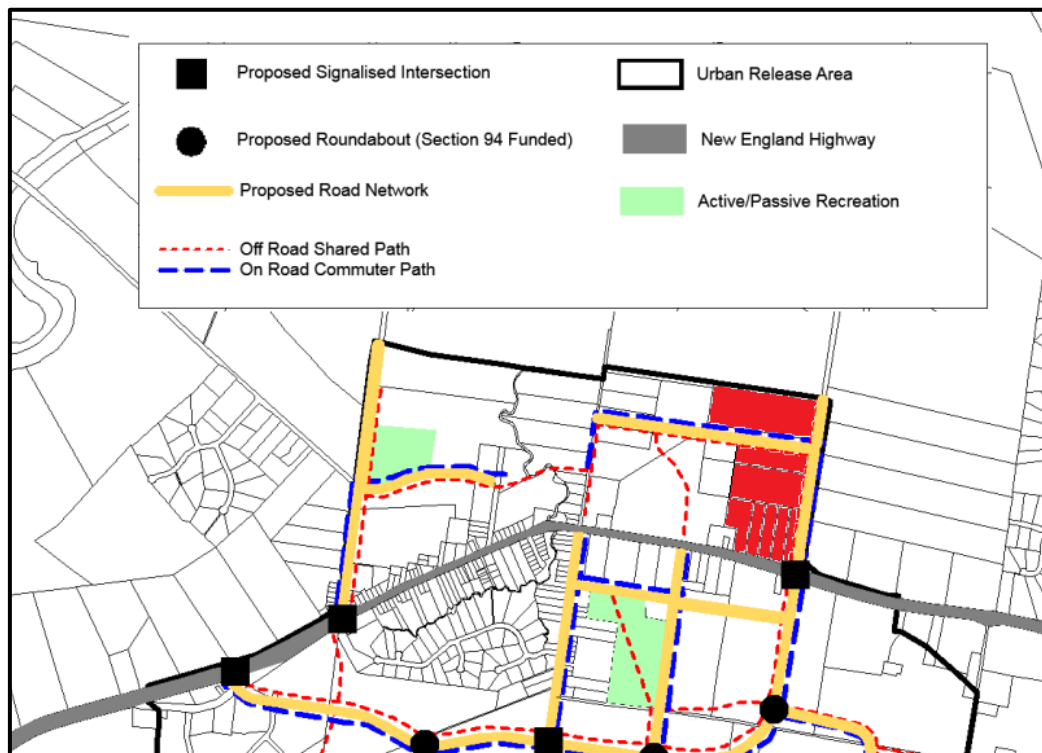
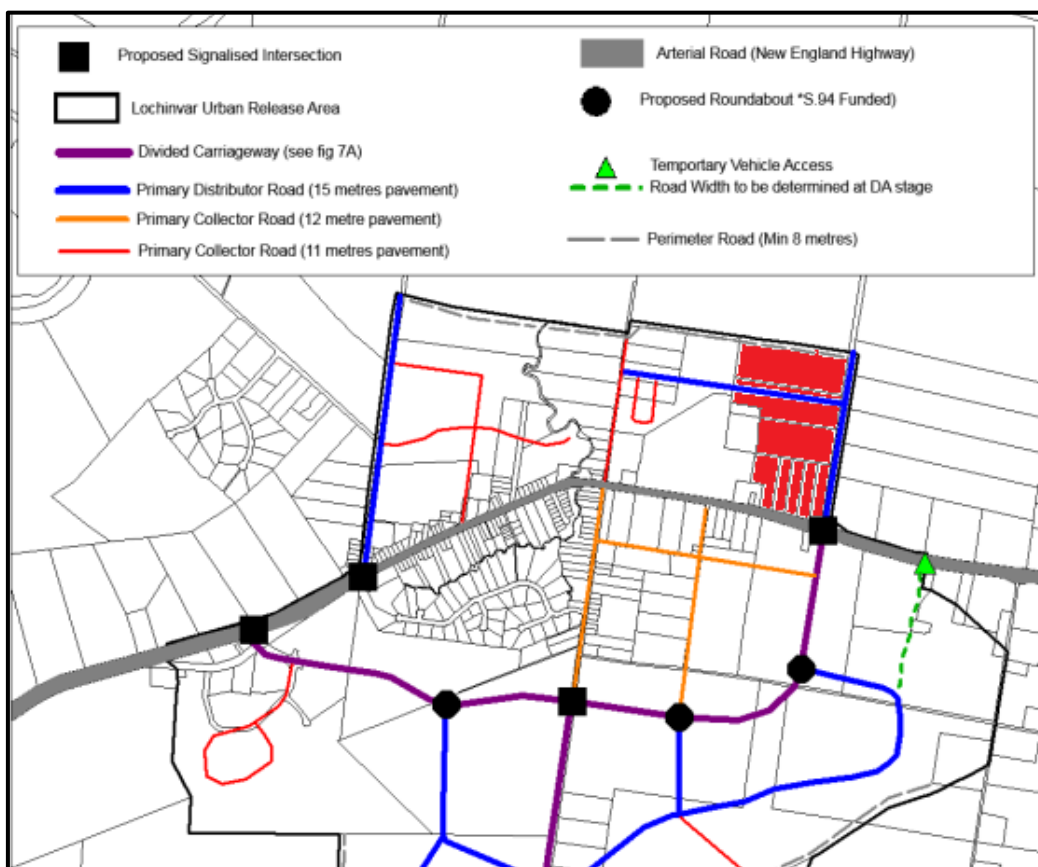


Figure 19: Lochinvar URA Pedestrian and Cycleway Networks (DCP Figure 59).



**Figure 20: Lochinvar URA Proposed Road Hierarchy and Bus Routes (DCP Figure 60).**

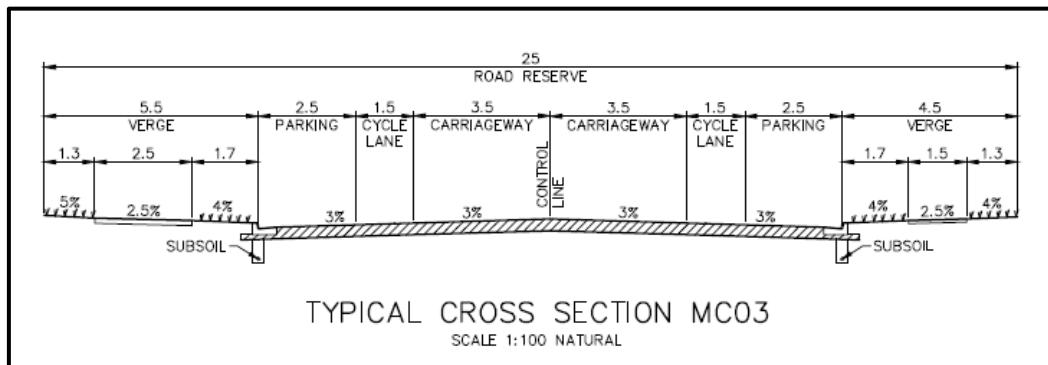
The proposed subdivision provides the following main elements, as depicted under the area plan provided for within Part F of the DCP:

### Staging Plan

The site is identified within Stage 3 of the Lochinvar URA Staging Plan. Although adjoining lands are identified as Stage 2, and yet to be developed, the DCP allows for out of sequence developments provided evidence of satisfactory arrangements from Hunter Water Corporation is provided. In this regard, Hunter Water has advised through their preliminary servicing advice, that water and sewer is available to the site following minor upgrades and lead-in works (see **Appendix 8**). This would be designed following consent and will be assessed under the Part 5 provisions of the Act, with this being standard within the Maitland Local Government Area.

### Transport and Movement

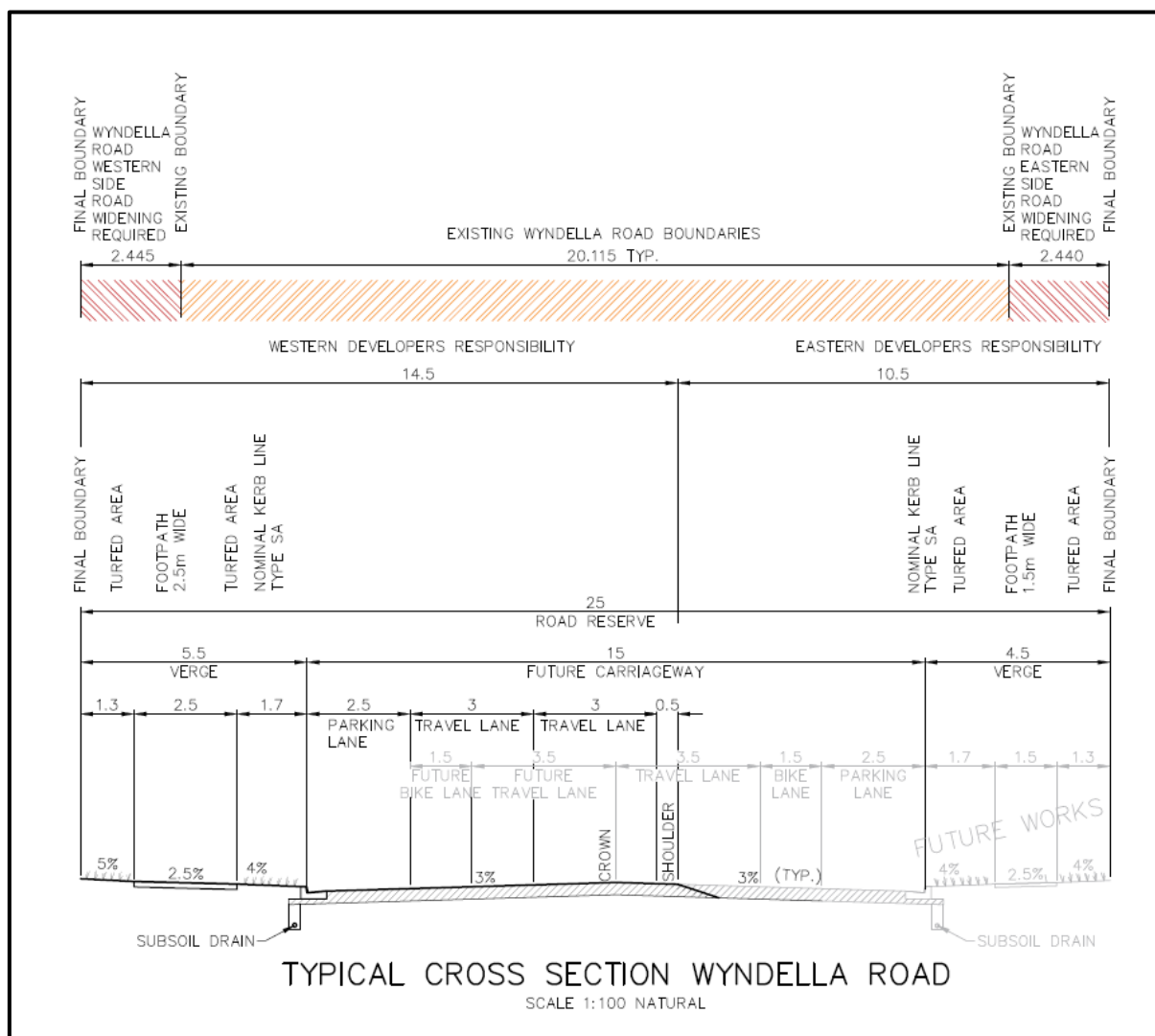
A primary distributor road has been provided in accordance with DCP Figure 60, running east/west through the site (MC03), which includes a reserve width of 25m and a pavement width of 15m (see **Figure 21**).



**Figure 21: Proposed Primary Distributor Road (MC03).**

Road widening along Wyndella Road has been provided to accommodate a future primary distributor road in accordance with DCP Figure 57. Noting the development ability on both sides of this road, 50% of the required road widening has been provided under the subject development, whilst the remaining 50% can be provided on the eastern side of Wyndella Road.

Further, the upgrades to the western side of Wyndella Road proposed under this DA have been designed to reflect the ultimate configuration for a primary distributor road. That is, the works have been designed to avoid rework along the western alignment as elements such as the shared path and kerb are designed to be in the final location. Refer to **Figure 22** for the proposed works and future allocations for Wyndella Road.



**Figure 22: Proposed Widening for Future Primary Distributor Road (Wyndella Road).**

Road widening has been accommodated for the future signalised intersection of NEH and Wyndella Road.

### Overall Landscaping Strategy

A Landscape Strategy has been prepared which details the treatment for the retained riparian corridor (see **Appendix 6**).

### Passive and Active Recreation Areas

On-road commuter lanes are accommodated within the proposed and future primary distributor roads in accordance with DCP Figure 59.

2.5m wide off-road shared pathways are provided on MC03 and Wyndella Road in accordance with DCP Figure 59.

Lots 620 (5,007m<sup>2</sup>) and Lot 1011 (5,004m<sup>2</sup>) have been provided to accommodate local parks in accordance with the Lochinvar Contributions Plan.

## Stormwater and Water Quality Management

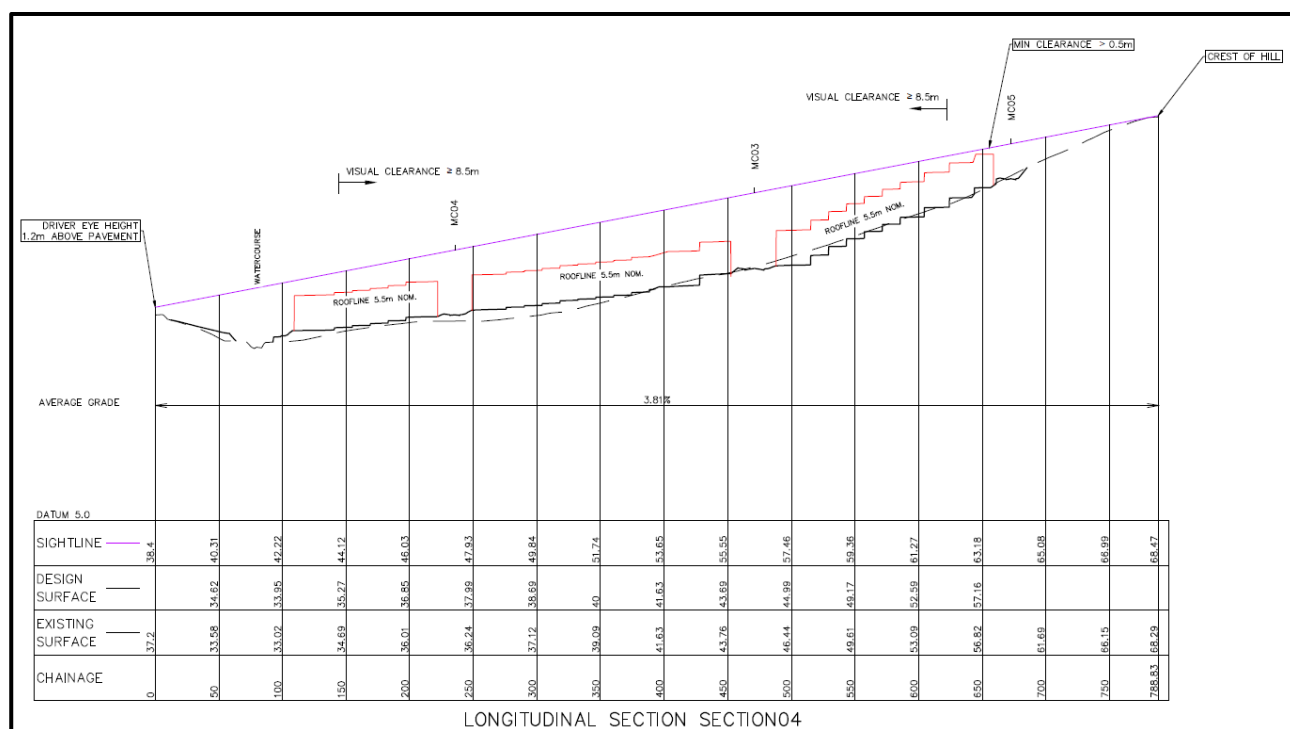
Two (2) stormwater basins and drainage upgrades along Wyndella Road have been provided in accordance with DCP Figure 64. This is discussed in greater detail within Section 5 and the Stormwater Management Plan (SWMP) in **Appendix 5**.

## Amelioration of Natural and Environmental Hazards

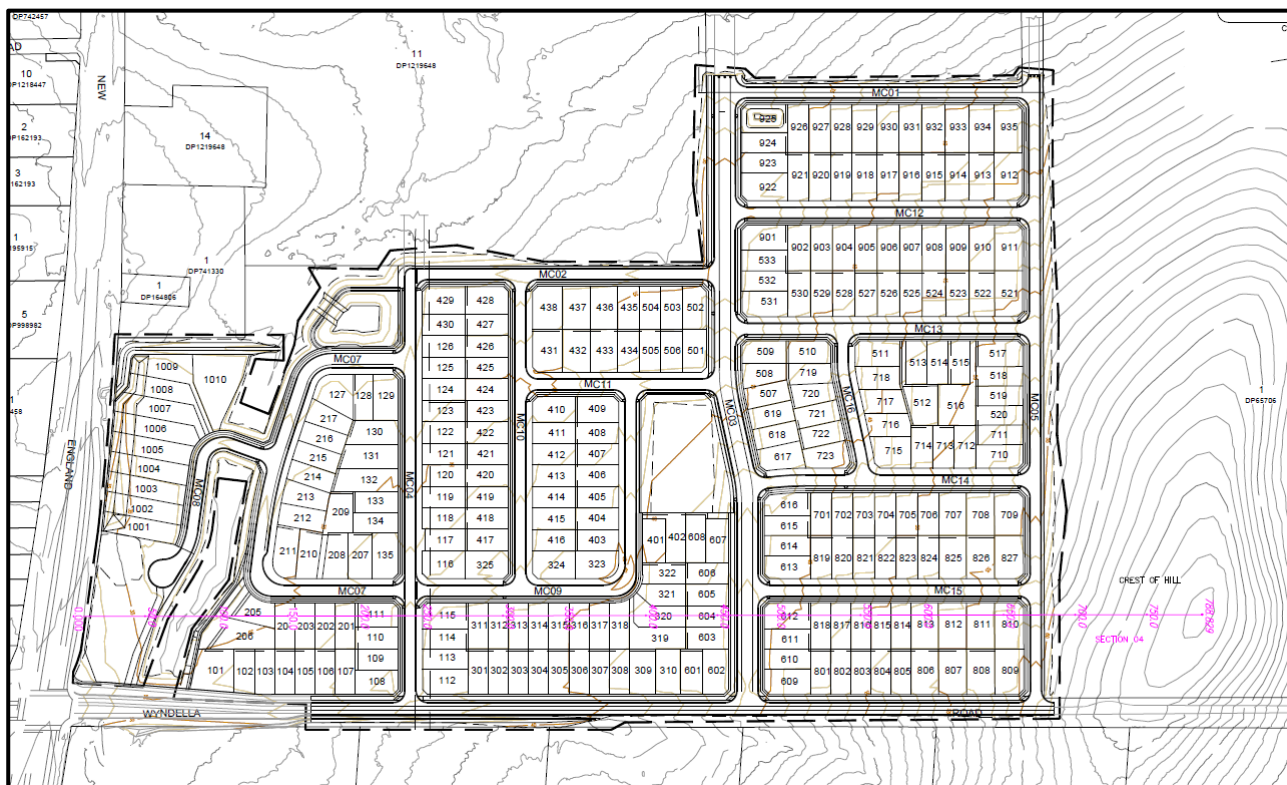
In accordance with DCP Figure 56, a noise impact assessment has been prepared by Spectrum Acoustics confirming the proposed development can achieve the required noise criteria through the separation distances between NEH and the future dwellings which is achieved through the 30m buffer.

This is discussed in greater detail within Section 5 and the Noise Impact Assessment in **Appendix 15**.

Further to the above, Figure 56 identifies the site as being partially within a visually sensitive area, owing to the prominent ridgeline which exists beyond the sites northern boundary. A visual impact analysis of how the development will sit within the landscape has been undertaken accounting for the proposed roads, lot levels and future dwelling development. The analysis shows that all proposed and future built form will continue to allow a clear view of the ridgeline from NEH (see **Figures 23** and **24**). To ensure this view line is maintained, controls can be placed on lots to be kept to an RL corresponding to the sightline identified within **Figure 23**.



**Figure 23: NEH View Corridor Site Section.**



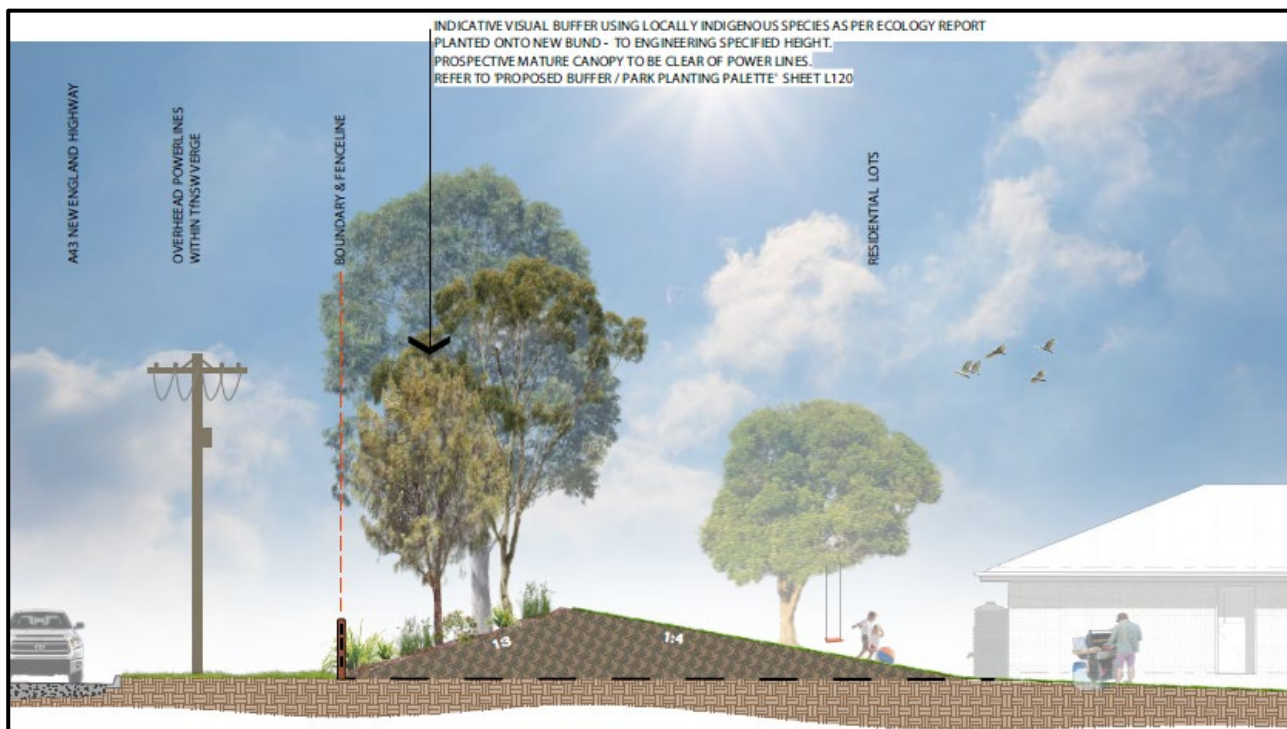
**Figure 24: View Corridor Site Section Plan.**

### Aboriginal and European Heritage

An ACHAR has been prepared in consultation with Local Aboriginal Land Councils which confirms that existing and likely artefacts across the site are of low scientific significance and whilst an AHIP will be required, this is unlikely to have any impacts to the proposed development layout. Further details in this regard are provided within Section 5 and the ACHAR in **Appendix 7**.

### Key Development Sites

Whilst not required for acoustic purposes, a landscaped mound is nonetheless proposed along NEH as demonstrated within **Figure 25** and as required by DCP Figure 62. The design is aimed to provide a consist landscape treatment and approach into Lochinvar in-conjunction with Hereford Hill.



**Figure 25: NEH Buffer Treatment.**

**4.4 PLANNING AGREEMENTS (S4.15(1)(A)(IIIA)) AND CONTRIBUTION PLANS**

The subject site is not affected by any Planning Agreements; however, the Lochinvar Contributions Plan 2014 is applicable to the site. Under the Lochinvar CP, a rate of \$28,696 per residential lot applies (current to 1 February 2024).

Works/land required under the CP on the subject site are shown within **Figures 26 – 28** and **Tables 1-3**. Details surrounding these items are provided below:

- L2 Local Neighbourhood Playground & L3 Local Neighbourhood Playground: Lot 620 (5,007m<sup>2</sup>) and Lot 1011 (5,004m<sup>2</sup>) are proposed to be dedicated to Council for the purposes of local neighbourhood playgrounds. It is assumed the land value identified will be applied as a credit under the consent.

The proposed development will seek an offset for the half road works or similar access works through a Works in Kind Agreement (WIK).

Embellishment of the local neighbourhood playgrounds are not proposed as part of this DA; however, the Applicant may enter into a WIK agreement in the future.

- L26 Intersection – Traffic Control Signals (NEH / Wyndella Road): Construction of the NEH/Wyndella Road intersection is not required as part of this DA; however, as part of the upgrade to Wyndella Road under this development, the boundaries are positioned to cater for the construction of the NEH/Wyndella Road intersection. It is assumed the land value identified will be applied as a credit under the consent for the land being dedicated for the future intersection.
- L41 Upgrade Existing Basin 19.03 – Wyndella Road South & L42 Upgrade Existing Basin 26 – Both were incorrectly described and this item refers to Culvert upgrade 19.03 and culvert upgrade 26 as per Figure 26. Wyndella Road North: Culvert and drainage infrastructure is proposed as part of item L42 for which an offset will be sought through a WIK. Wyndella Road South: Culvert and drainage infrastructure is proposed as part of item L41 for which an offset will be sought through a WIK.

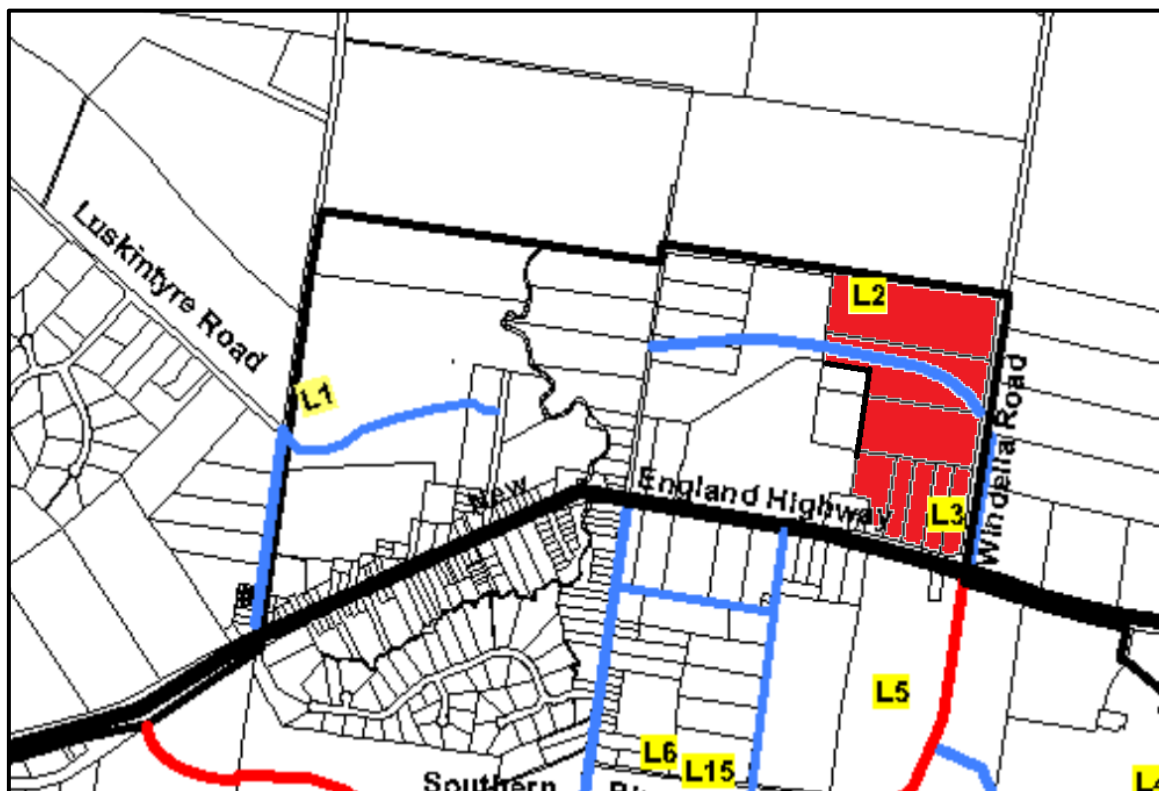


Figure 26: Recreation & Open Space and Community Facilities.

Table 1: Recreation and Open Space Facilities Works Schedule

RECREATION AND OPEN SPACE FACILITIES WORK SCHEDULE							
Services / Facilities	Approximate Location	Est. Capital Cost	Half width road construction	Est. Land Cost	Total Cost	Timing / Staging	
Local Neighbourhood Playground	L1	Northern catchment western precinct	\$931,649	\$237,999	\$604,377	\$1,774,025	Stage 2
	L2	Northern catchment eastern precinct	\$420,266	\$214,666	\$215,849	\$850,781	Stage 3
	L3	Northern catchment eastern precinct	\$420,266	\$214,666	\$215,849	\$850,781	Stage 3
	L4	Central catchment eastern precinct	\$420,266	\$214,666	\$215,849	\$850,781	Stage 1
	L5	Northern Catchment central precinct	\$420,266	\$214,666	\$215,849	\$850,781	Stage 1
	L6	Co-located with Sportsground Hub L15	\$315,380	\$0	\$0	\$315,380	Stage 1
	L7	Central catchment central precinct	\$420,266	\$214,666	\$215,849	\$850,781	Stage 2
	L8	Co-located with Neighbourhood Sportsground L17	\$315,380	\$0	\$0	\$315,380	Stage 3
	L9	Southern catchment central precinct	\$420,267	\$214,666	\$161,887	\$796,820	Stage 2
	L10	Co-located with Neighbourhood Sportsground L16	\$315,380	\$0	\$0	\$315,380	Stage 1



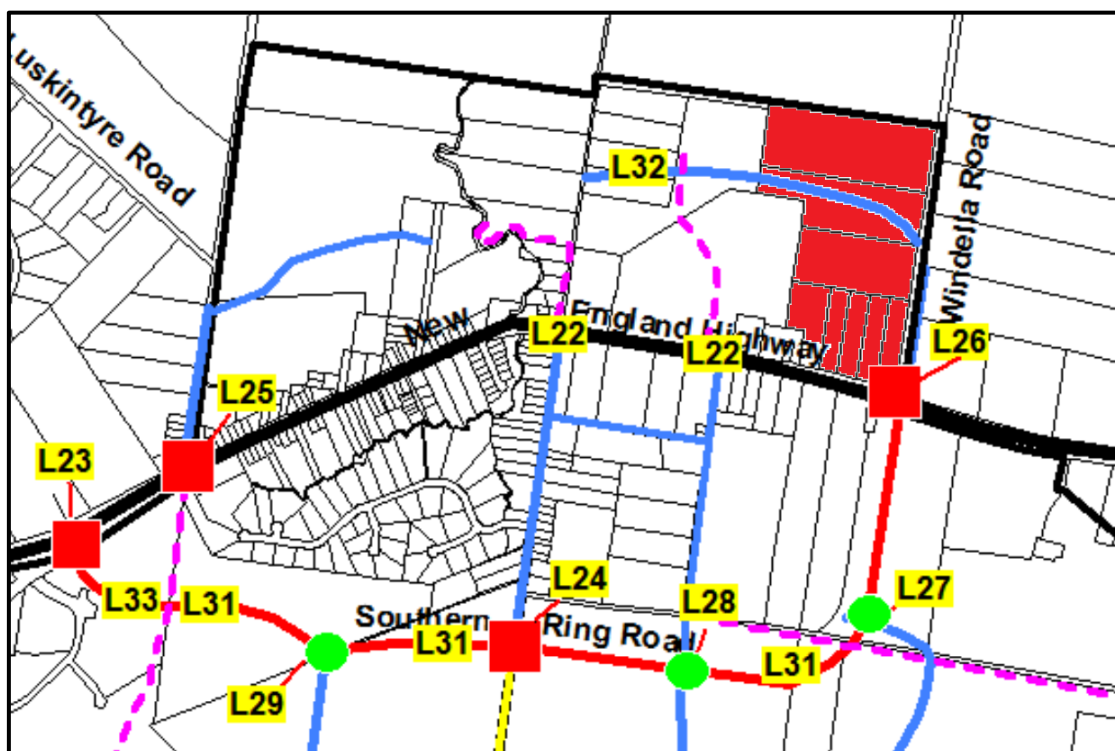
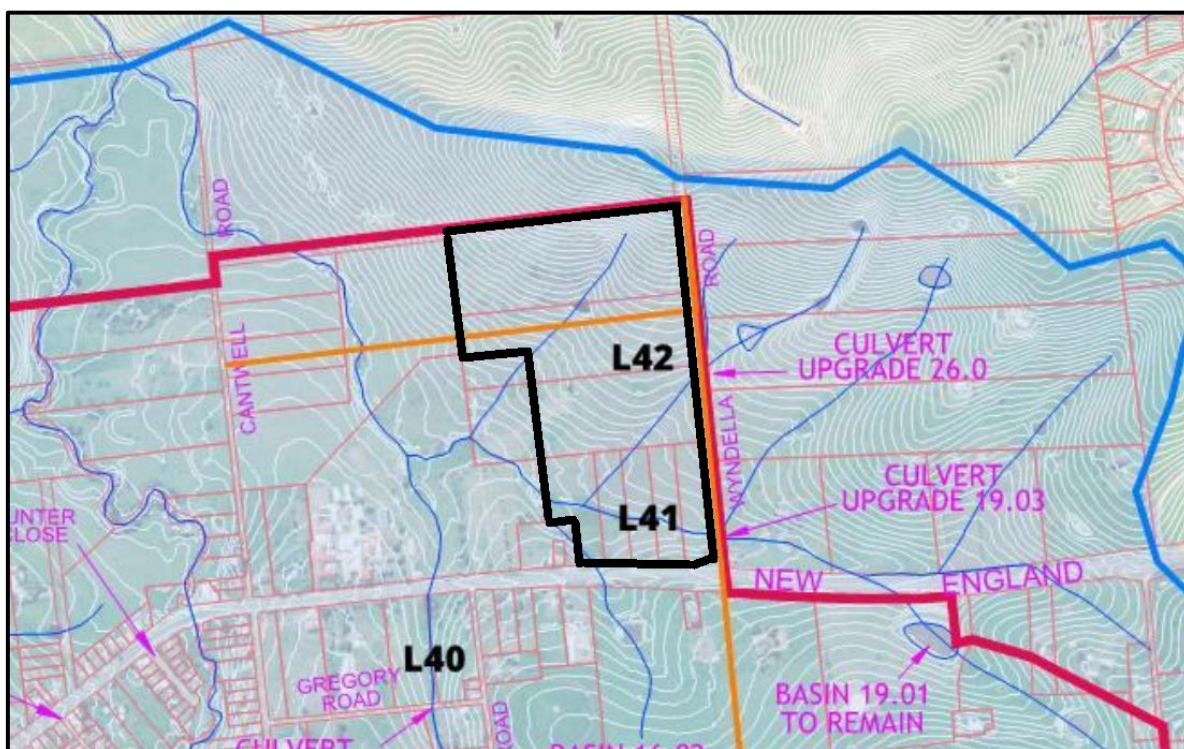


Figure 27: Road & Traffic Facilities.

Table 2: Roads and Traffic Facilities Works Schedule

ROAD AND TRAFFIC FACILITIES WORK SCHEDULE						
Services / Facilities	Location	Description	Est. Capital Cost	Est. Land Cost	Total Cost	Timing / Staging
Median Construction & Access Management Works	L20 Southern Ring Road	New England Highway to New England Highway	\$2,516,325	\$392,845	\$2,909,170	Various
Median Construction	L21 Station Lane	Southern Ring Road to Southern Collector Road	\$548,621	\$84,181	\$632,802	Stages 1/2
Restricted Median	L22 New England Highway	Minor Intersections with New England Highway	\$775,113	\$0	\$775,113	Stage 2
Intersections - Traffic Control Signals	L23 New England Highway	New England Highway West Intersection with Southern Ring Road	\$8,425,337	\$3,669	\$8,429,007	Stage 1
	L24 Southern Ring Road	At Station Lane	\$442,922	\$0	\$442,922	Stage 1
	L25 New England Highway	At Windermere Road	\$2,372,587	\$0	\$2,372,587	Stage 2
	L26 New England Highway	At Wyndella Road	\$4,098,869	\$501,131	\$4,600,000	Stage 1
Intersections - Roundabouts	L27 Southern Ring Road	East Intersection with Southern Collector Road	\$550,607	\$30,219	\$580,826	Stage 1
	L28 Southern Ring Road	Central Intersection with Southern Collector Road	\$550,607	\$30,219	\$580,826	Stage 1
	L29 Southern Ring Road	West Intersection with Southern Collector Road	\$550,607	\$30,219	\$580,826	Stage 2
Bus Stop Comfort Shelters	L30 Various		\$561,207	\$0	\$561,207	Various
Major Drainage Culverts	L31 Southern Ring Road x 3	New England Highway to New England Highway	\$1,727,395	\$0	\$1,727,395	Various
	L32 Northern Ring Road	Wyndella Road to Luskintyre Road	\$575,798	\$0	\$575,798	Stage 2
Road Construction	L33 Connection to St Helena	Southern Collector Road	\$1,386,450	\$0	\$1,386,450	Stage 2



**Figure 28: Stormwater Basins & Culvert Upgrades.**

**Table 3: Stormwater Management Facilities Works Schedule**

STORMWATER MANAGEMENT				
Service/Facility		Location	Total Cost	Timing/Staging
New Basin 9.01	L36	Station Lane South	\$1,966,950	Various
New Basin 9.04	L37	Station Lane Below Southern Ring Road	\$1,797,350	Various
New Basin 10	L38	Southern Collector Road	\$1,542,950	Various
Upgrade Existing Basin 16.03	L39	Robert Road	\$232,459	Various
Upgrade Existing Basin 16.04	L40	Gregory Road	\$232,459	Various
Upgrade Existing Basin 19.03	L41	Wyndella Road South	\$188,218	Various
Upgrade Existing Basin 26	L42	Wyndella Road North	\$143,976	Various
Upgrade Existing Basin 19	L43	Winders Lane	\$83,143	Various

#### 4.5 COASTAL ZONE MANAGEMENT PLAN (S4.15(1)(A)(IV))

The Hunter Estuary Coastal Zone Management Plan exists; however, it has not been gazetted and as such, is not a consideration under Section 4.15.

#### 4.6 INTEGRATED DEVELOPMENT

The proposed development is classified as "Integrated Development" under Section 4.8 of the Environmental Planning and Assessment Act 1979, as it requires the following separate approvals:

- Bushfire Safety Authority to be issued by the Rural Fire Service (RFS) under the Rural Fires Act 1997; and
- A Controlled Activity Approval to be issued by Natural Resources Access regulator (NRAR) under the Water Management Act 2000.

## 5.0 Environmental Assessment

### 5.1 THE LIKELY IMPACTS OF DEVELOPMENT (S4.15(1)(B))

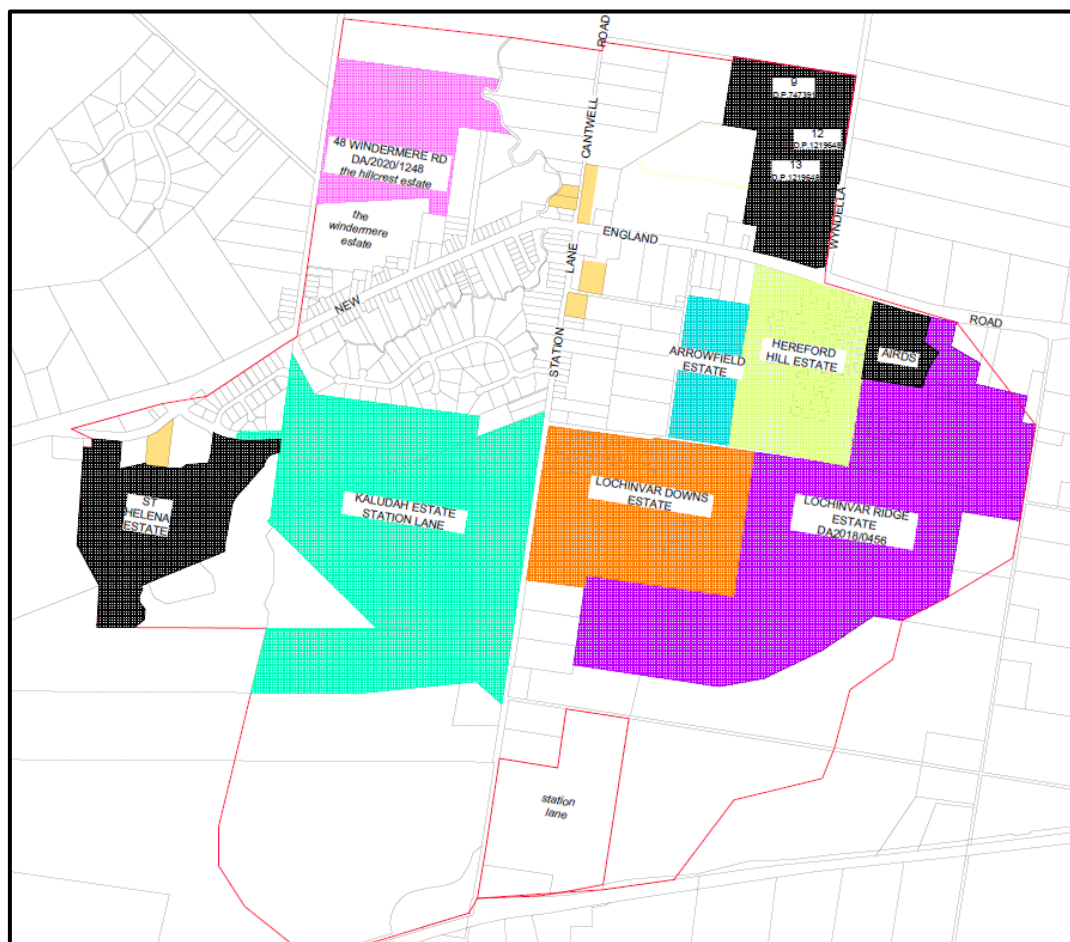
#### 5.1.1 Context and Setting

The site is located in the Lochinvar Urban Release Area (LURA) which is situated approximately 10km to the west of the Maitland Central Business District (CBD). The LURA comprises approximately 650 hectares of land, with an anticipated yield of around 5,000 residential lots.

The development of the LURA is proposed to build upon and enhance the existing Lochinvar Township by providing a new town centre; neighbourhood shops; recreation and open space facilities, including a regional sporting hub and potentially a new school.

The proximity of the LURA to regional transport systems, including the Main Northern Railway Line, the NEH and the Allandale Road interchange on the Hunter Expressway, are key elements that led to it being identified as a part of a committed growth area under the Hunter Regional Plan.

The subject site is located within Stage 3 of LURA. Whilst undeveloped sites exist within both Stage 1 and 2, the site is able to be adequately serviced with utilities and road connections and as such is able to be delivered independently of these. It is also noted that other developments in Stage 3 have been proposed. **Figure 29** below demonstrates the sites context with existing and proposed developments in the LURA.



**Figure 29: LURA Development Context.**

## 5.1.2 Access, Transport and Traffic

### Access

Access to the site will be provided via Wyndella Road from the intersection with the NEH. There is no access to be provided directly onto the NEH.

The TIA prepared for the development has confirmed that no upgrades are required to the NEH intersection with Wyndella Road.

### Internal Road Design

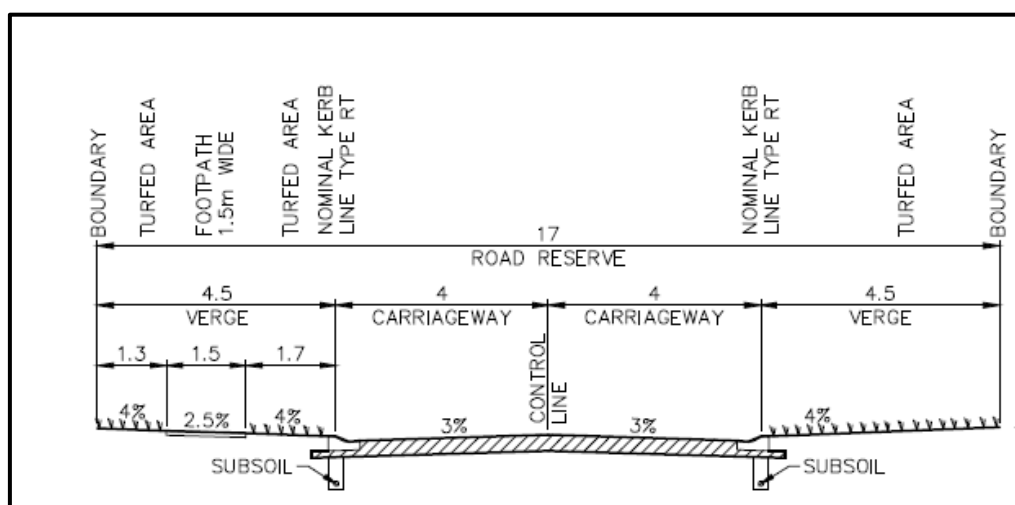
Under this DA, Wyndella Road is proposed to be upgraded to a Collector Road (Primary), which is appropriate to cater for the additional traffic generated by the proposed development. The only exception to this is the exclusion of the parking lane on the eastern side as there is no nexus for parking on the side of the road abutting rural zoned land.

Acknowledging that Wyndella Road will ultimately be constructed as a Primary Distributor Road to support the overall URA (if and when the demand arises as a result of other development), the proposed configuration has been designed to allow for the road widening and works necessary to facilitate its construction. As discussed earlier in this report, this includes an equitable split of the road widening required on the eastern and western sides of Wyndella Road, and works on the western side of Wyndella being constructed in a manner that will avoid rework in future when a Primary Distributor Road is required.

Refer to **Figure 22** for the proposed cross-section for Wyndella Road, which also identifies how the proposed works relate, and can accommodate, the future Primary Distributor Road.

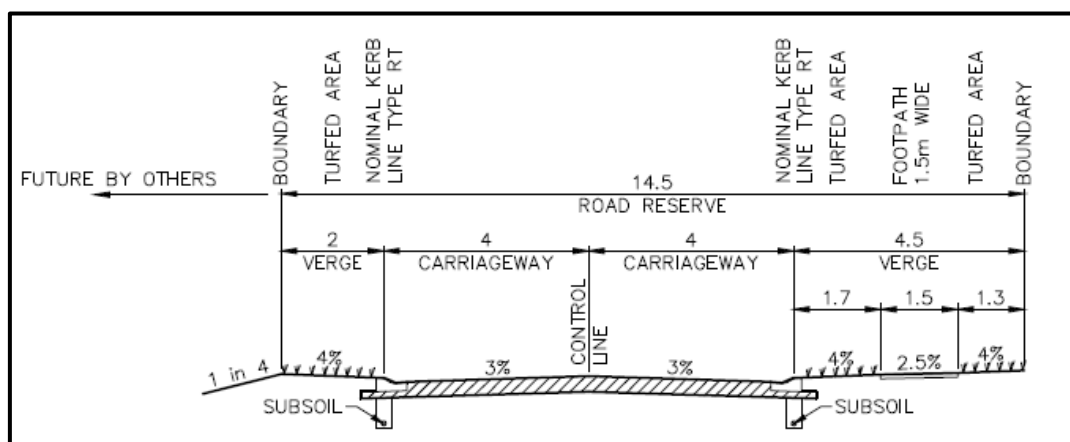
MC03 has been designed as a distributor road in accordance with the LURA (as discussed above).

Numerous new internal roads will be constructed as part of the proposed subdivision feeding off Wyndella Road. These will all act as local roads and have been designed in accordance with Council's Manual of Engineering Standards (MoES). A typical section for local roads is provided within **Figure 30**.

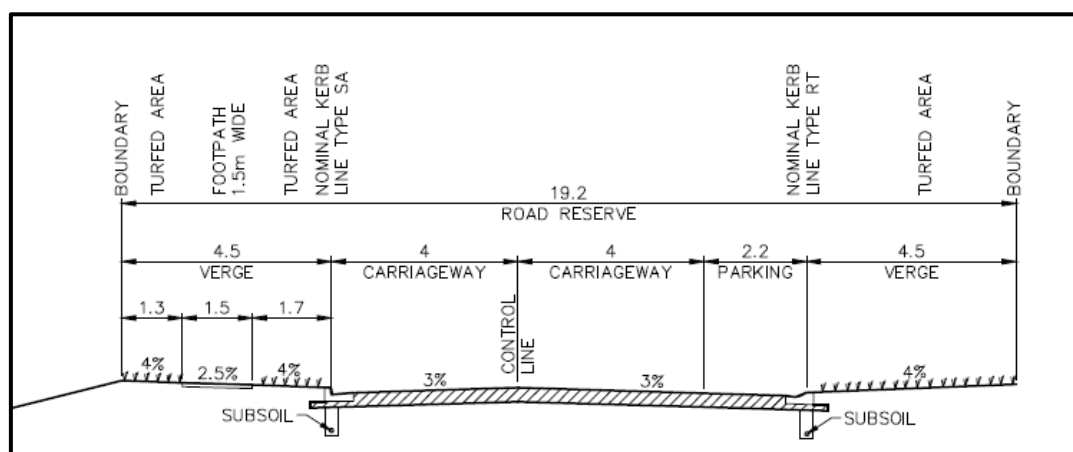


**Figure 30: Typical Local Road Section.**

The only exception to the above surrounds the perimeter roads (MC01, 02, 05 & 08), where Council have confirmed its acceptance to a reduced verge width (see **Figure 31**), and the road adjoining the riparian corridor (MC07), to accommodate a parking lane (see **Figure 32**).



**Figure 31: Typical Perimeter Road Section.**



**Figure 32: Road Section Opposite Riparian Corridor.**

### Traffic & Road Safety

The TIA prepared by SCT Consulting for the subject DA found that the proposed subdivision would generate an additional 1,775 vehicle trips per day. The TIA includes a growth analysis and modelling using a growth rate of 3% up to 2031 and concludes that the current configuration of the intersection of Wyndella Road, New England Highway and Springfield Drive performs at a satisfactory level with the additional development traffic with some spare capacity.

Full details with regards to the above are provided within the TIA within **Appendix 12**.

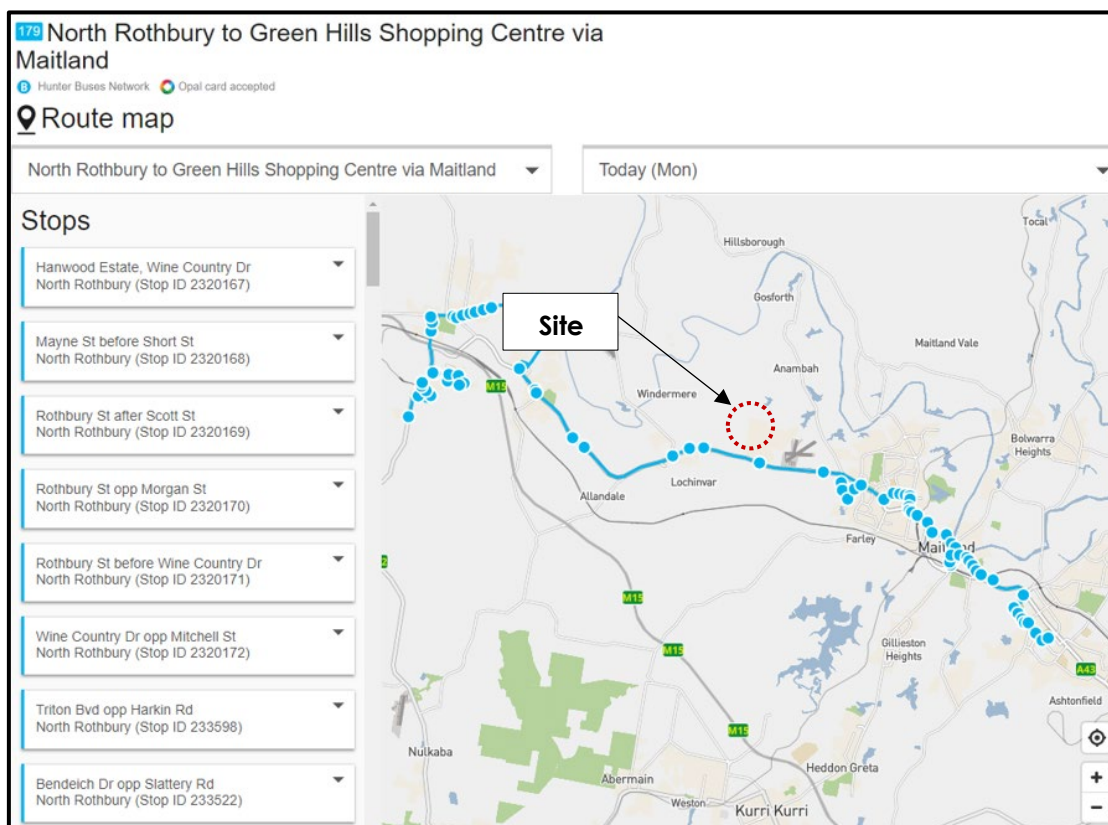
### Public Transport

The subject site is accessible by public transport, with Hunter Valley Buses operating *Route 179 North Rothbury to Green Hills' Shopping Centre* servicing the development site (see **Figure 33**). Route 179 runs along NEH with a bus stop located approximately 300m from the site.

The proposed development will generate additional public transport usage particularly in regard to school bus services.

With this in mind, once demand for school services has been established following further developments coming on line, some bus routes may need to be changed to accommodate the LURA.

Provision for a bus route via Wyndella Road and the distributor road has been provided ensuring all lots will be within 400m of a bus route.



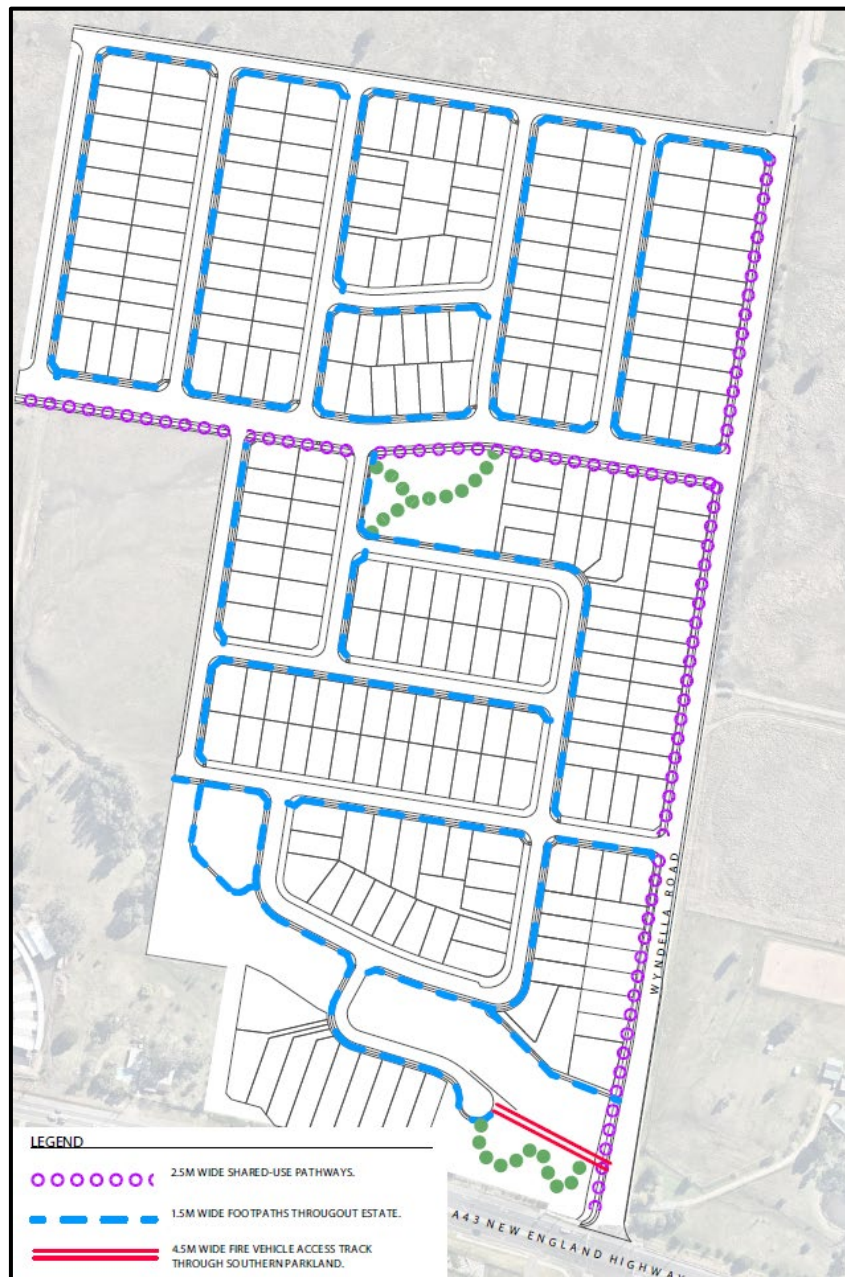
**Figure 33: Public Transport Plan.**

## Pedestrian and Cyclist Facilities

Significant pedestrian and cyclist facilities are accommodated through this development to allow connection to the existing infrastructure including:

- 1.5m wide footpaths on one side of all local roads;
- 2.5m wide off-road shared pathways along Wyndella Road and the distributor road; and
- Additional connection through southern open space lot.

See **Figure 34**.



**Figure 34: Pathway Plan. (Source: Terras 2023)**

### 5.1.3 Utilities

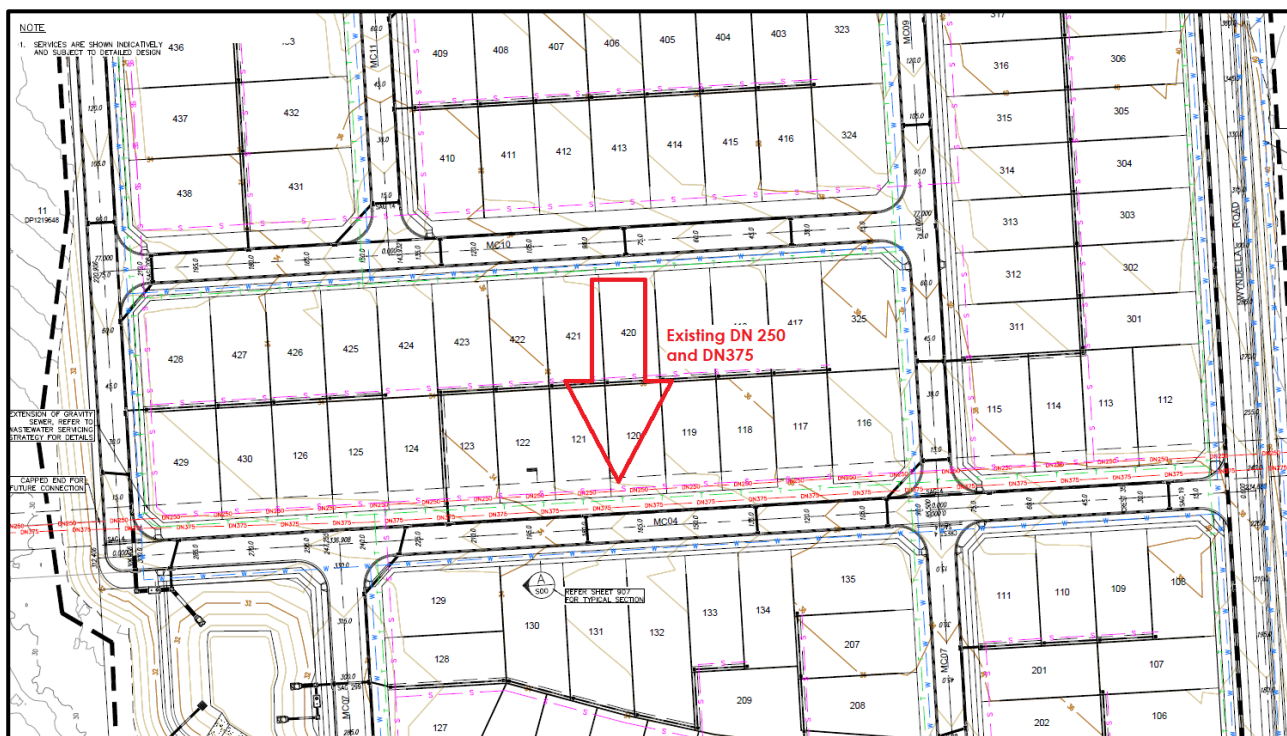
#### Water & Sewer

Water and sewer servicing requirements for the proposed development were outlined in the preliminary servicing advice provided by Hunter Water Corporation (HWC) dated 12<sup>th</sup> September 2022 (see **Appendix 8**). Key findings from this include:

- An existing DN300 watermain can supply the site with water from NEH. This is supplied by the Four Mile Creek 1 Reservoir which has sufficient capacity for the majority of the site (up to 52m AHD), with lots above this potentially requiring a water booster pump station;
- Security of supply water mains may be required making connections to Cantwell Road;
- Sewer is available to site from an existing service in Cantwell Road for up to 150 lots. Beyond this, downstream upgrades may be required; and
- Sewer from the site is likely to discharge to Lochinvar 1 wastewater pump station (WWPS), which has capacity to cater for the development.

Any upgrades or offsite infrastructure required from the above will be assessed separately with HWC under Part 5 of the Act. Fundamentally, it is clear the site is able to be provided with a water and sewer service, with any necessary upgrades, such as those listed above, being standard for URAs.

Further to the above, an existing dual sewer rising mains (DN250 and DN375) run west to east across the site. Consultation has occurred with HWC in this regard surrounding how these mains fit within the context of the development. This has resulted in placing one rising main partly within the verge and partly within the front setback of the residential lots (see **Figure 35**).



**Figure 35: Existing Dual Sewer Rising Mains.**

### Electricity/Telecommunications/Gas

Electricity, telecommunication and gas facilities to service the proposed allotments will be provided underground within the footpath reservation and connect to existing reticulation in the LURA.

### 5.1.4 Stormwater; Water Quality & Flooding

A detailed Stormwater Management Plan (SWMP) has been prepared to address stormwater, drainage, water quality and flooding.

The proposed development will drain to two legal points of discharge, being:

1. The Lochinvar Creek tributary which conveys through the site; and
2. The existing drainage easement within Lot 11 DP 1219648 benefitting the site.

The southern catchment will be serviced by a conventional pit-and-pipe system draining to a bioretention basin in the south-western corner of the site, ultimately discharging to Lochinvar Creek tributary.



The southern catchment's treatment train consists of a Gross Pollutant Trap (GPT) and bioretention basin in addition to rainwater tanks expected on each lot.

The smaller northern catchment's will be serviced by piped drainage reporting to a bioretention basin in the north-western portion of the site, ultimately discharging to the existing drainage easement. The southern catchment's treatment train consists of a GPT and bioretention basin in addition to rainwater tanks expected on each lot. This basin has been designed as a permanent device; however, it is expected that future development of the western (downstream) lot would be supported by additional Water Sensitive Urban Design (WSUD) infrastructure, thereby facilitating its removal.

The above methods ensure that stormwater leaving the site as a result of the development is less than or equal to the predeveloped state as well as meeting the water quality targets established within Council's Manual of Engineering Standards.

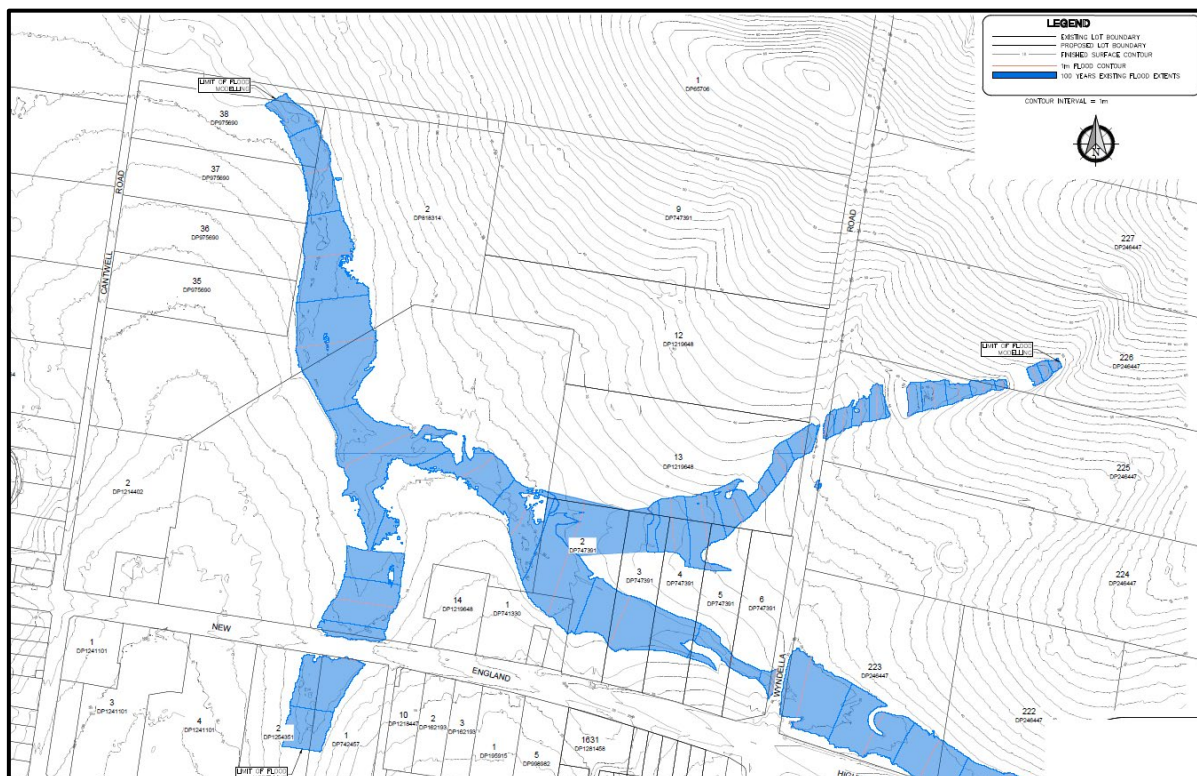
Further to the above, flows from an existing upstream catchment are conveyed under Wyndella Road via a culvert crossing and continue through the site via an existing gully. Wyndella Road will be regraded such that all runoff reports southwards to the Lochinvar Creek Tributary.

Flows from the existing upstream Hereford Hill catchment are conveyed through a culvert crossing beneath the NEH and discharge to the subject site in an uncontrolled manner. A vegetated swale is proposed to direct this catchment along the site's western boundary and into the Lochinvar Creek Tributary. It is proposed that the channel would be incorporated as drainage reserve.

The existing culvert crossing conveying the tributary watercourse beneath Wyndella Road will be upgraded as part of the development works to address the significant upstream catchment, facilitate vehicle access to the site and ensure adequate freeboard.

Finally, a cross-drainage structure is proposed beneath the proposed cul-de-sac road servicing Stage 10.

The site is subject to overland flow flooding where modelling confirmed that Wyndella Road's northern culverts are undersized and are overtopped during a 100-year ARI flood event. The existing DN525 culverts create a constriction which elevates upstream flood levels on Lot 225 DP 246447. Similarly, Wyndella Road's southern culverts were also found to overtop subject to a peak 100-year ARI design flow. This is shown in **Figure 36** below.

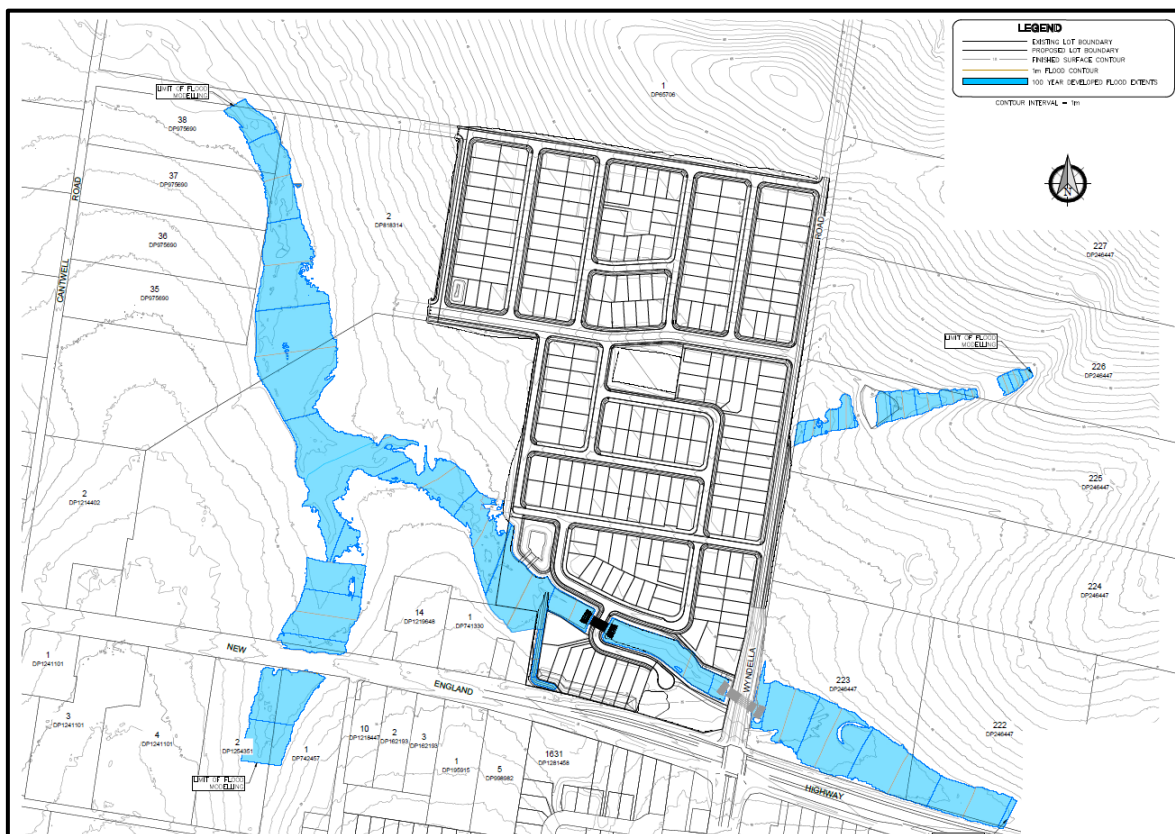


**Figure 36: Existing Flood Extents 100-Year ARI.**

To ensure the subject development is not subject to the 100-Year ARI event, the following infrastructure is proposed:

- Construction of a channel in the site's south; and
- Upgrade culverts under Wyndella Road (south).

**Figure 37** demonstrates the sites compatibility with the 100-year ARI event following development.



**Figure 37: Developed Flood Extents 100-Year ARI.**

These outcomes confirm that the proposed development is compatible with Maitland City Council's Manual of Engineering Standards and the NSW Floodplain Development Manual.

The SWMP details proposed erosion and sedimentation controls which will be implemented during the construction phase of the project. The proposed basins will be constructed to act as temporary sediment basins during construction and additional controls used to divert runoff to these points will include silt fencing, hay bale and geotextile fencing; kerb inlet controls; sandbag kerb inlet sediment traps; shaker ramp; and clean water diversion drains. The proposed erosion and sedimentation control methods will be further elaborated on as part of the SWC design for each stage.

Full details with regards to the above are discussed within SWMP located within **Appendix 5**.

### 5.1.5 Flora and Fauna

The majority of the site subject site contains non-native vegetation; however, small patches of native vegetation exist as described below:

- Plant Community Type (PCT) 1592 - Spotted Gum - Red Ironbark - Grey Gum shrub - grass open forest of the Lower Hunter and thus Lower Hunter Spotted Gum – Ironbark Forest in the Sydney Basin and NSW North Coast Bioregions;
- PCT 1594 - Cabbage Gum-Rough-barked Apple grassy woodland on alluvial floodplains of the lower Hunter; and
- PCT 1728 - Swamp Oak - Prickly Paperbark - Tall Sedge swamp forest on coastal lowlands of the Central Coast and Lower North Coast.

**Table 4** and **Figure 38** detail the impacts of the development on the above PCTs.

**Table 4: Threatened Plant Community Types Proposed for Removal and Retention**

Plant Community Type	Area proposed for removal	Retained and maintained under VMP
PCT 1592 (non-remnant)	0.021ha	0.24ha
PCT 1594	0.094ha	-
PCT 1728	0.126ha	0.11ha
<b>Total</b>	<b>0.241ha</b>	<b>0.35ha</b>



**Figure 38: PCT Impacts. (Source: AEP, 2023)**

The EAR makes the following conclusions with regards to the above:

- The subject site is not mapped as having high biodiversity value on the Biodiversity Values Map and the development does not trigger the clearing thresholds (0.25ha). For these reasons, the development does not trigger entry into the Biodiversity Offset Scheme under the Biodiversity Conservation Act 2016 (BC Act);
- The site contained no threatened flora or fauna species;
- The development will have no significant impacts upon threatened entities listed under the BC Act;
- The development is not likely to have a significant impact on Matters of National Environmental Significance pursuant to the *Environment Protection & Biodiversity Conservation Act 1999*; and
- In accordance with *Section 201 Dredge and Reclamation and 219 Blockage to Fish Passage of the Fisheries Management Act 1994 (FM ACT)*, a Permit is required to undertake the proposed works to construct a road crossing.

Various recommendations have been provided within the EAR which will be complied with and can be added as conditions of consent.

Full details with regards to the above are discussed within the EAR located within **Appendix 11**.

#### 5.1.6 Heritage

##### Aboriginal Heritage

An ACHA has been completed by McCardle Cultural Heritage P/L, in consultation with the Registered Aboriginal Parties (RAP). The ACHA has conducted an assessment of previous investigations across the site; previous recorded sites under the Aboriginal Heritage Information Management System (AHIMS), and a site walk over. These investigations identified that Site L1 and L4, and the associated Potential Archaeological Deposit (PAD), identified as AHIMS 37-6-2228, are located within the project area (see **Figure 39**).



**Figure 39: Aboriginal Sites. (Source: McCardle Cultural Heritage, 2023)**

L1 was an isolated artefact (silcrete flake) which was not relocated during the site walk over.

L4 included four (4) artefacts located in an exposure around a dam and included three (3) mudstone flakes and one (1) mudstone core. Of these, only one (1) mudstone flake was relocated during the site walk over.

The PAD is identified on slopes adjacent to the southern watercourse. Previous excavation results in this area found minimal artefacts in the low-lying high clay soils; however, further investigation is required to fully understand the archaeological potential of this PAD.

The ACHA has identified the need for an AHIP to destroy L1 and L4, and potentially the above PAD, depending upon the findings of further investigations. An AHIP can only be sought following consent and as such a condition of consent can be added requiring this prior to commencement of works.

Full details with regards to the above are provided within the ACHA located within **Appendix 7**.

### **European Heritage**

As discussed above, the site does not contain any items of heritage significance and is not located within a heritage conservation area.

## 5.1.7 Natural Hazards

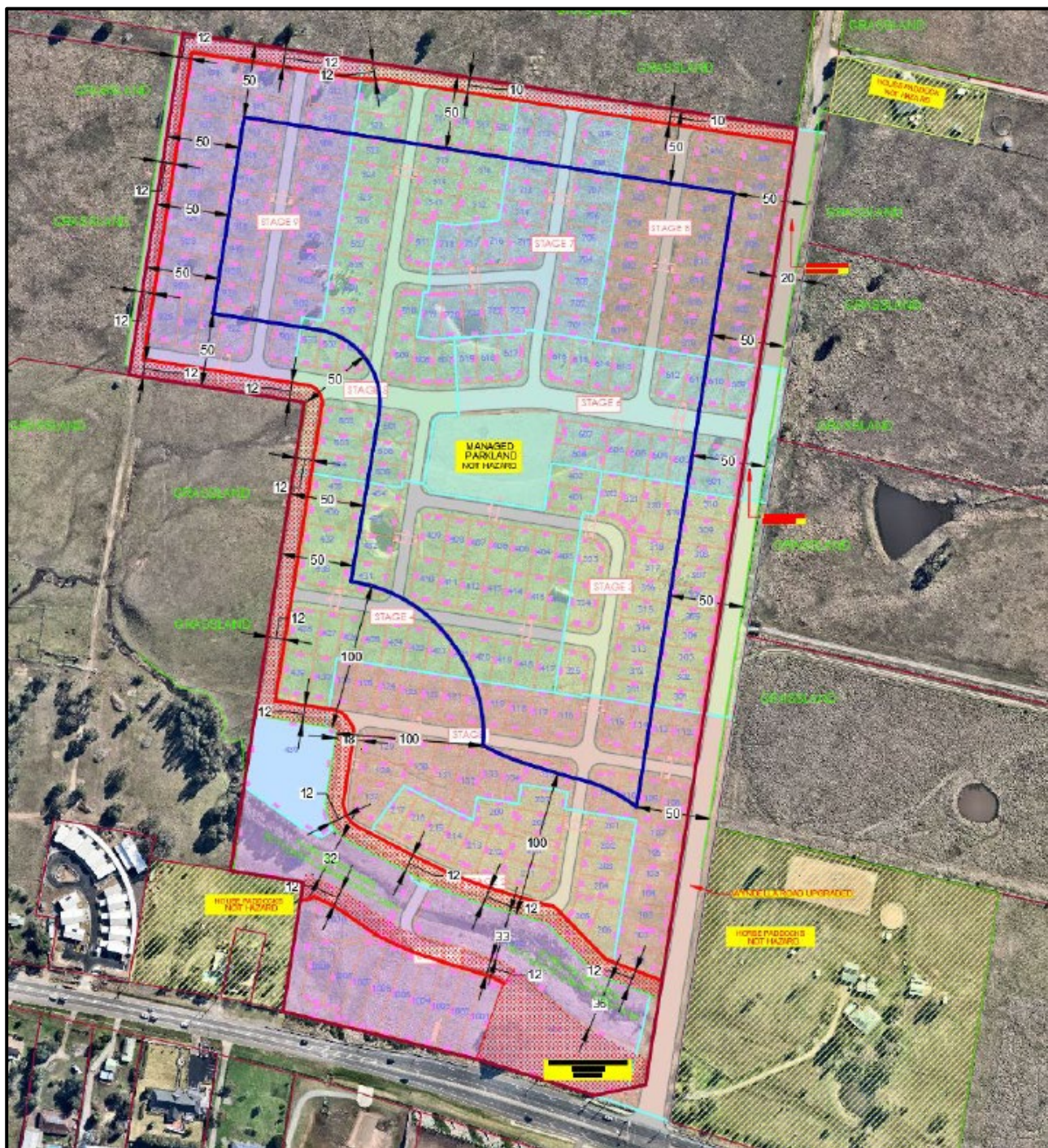
### Bushfire

As the site is identified as bushfire prone land, a Bushfire Assessment Report (BAR) has been prepared by Building Code & Bushfire Hazard Solutions (BCBHS), in accordance with the requirements of Planning for Bushfire Protection 2019 (PBP 2019). The assessment considers the hazards within and surrounding the development site, including slope and vegetation, and proposes a suite of bushfire protection measures to mitigate bushfire risk. These measures include:

- Establishment of Asset Protection Zones (APZ) within private lots;
- The use of perimeter roads at all external interfaces;
- Revegetation of riparian corridor using suitable species and composition to minimize bushfire hazard; and
- BAL ratings to be applied to future residential development.

See **Figure 40**.

Further to the above it is noted that RFS standards require a minimum "clear width" for road access, with 8m for perimeter roads and 5.5m for internal roads. The BAR has confirmed that this standard is not required for portions of the roads which are not bushfire prone i.e., greater than 50m from a grassland hazard and 100m of a bushfire hazard (see **Figure 40**). For those roads which are bushfire prone, parking restrictions can be applied to ensure a clear width is provided.



**Figure 40: APZs & BALs (Blue line: 50m & 100m BAL Low line, Red Line: Minimum APZ).**

It is considered that bushfire risk can be managed and will not present a constraint to the proposed development.

Full details with regards to the above are provided within the BAR within **Appendix 9**.

### Flooding

Discussed above.

### Mine Subsidence

The subject site is not located within a Mine Subsidence District and is not identified on the NSW Planning Portal maps as being affect by underground coal mining.



### 5.1.8 Noise and Vibration

As the site fronts the NEH, a Noise Impact Assessment has been prepared by Spectrum Acoustics. This identifies the potential level of traffic noise expected from this source (including background traffic growth of 35%) and the impact this may pose to future dwellings within the subdivision.

Section 2.120 of TISEPP advises that development must meet the following internal LAeq noise levels apply:

- Bedrooms: 35dB(A) between 10pm and 7am; and
- Other Areas: 40dB(A) at any time.

Spectrum have advised that the noise attenuation from standard dwelling construction will be sufficient for future dwellings along located along NEH when consideration is given to the required 30m dwelling setback.

Full details with regards to the above are provided within **Appendix 15**.

### 5.1.9 Social and Economic Impact

The proposal will generate a number of social and economic benefits to both new and existing residents, but also the broader Hunter region. These benefits include:

- The creation of 262 residential lots, ranging in size to provide housing choice and diversity for future residents;
- Land identified for road widening to accommodate regional transport linkages;
- Land for new parks, riparian corridor and a pathway network, providing significant benefits to the existing and new residents;
- Employment opportunities immediately associated with construction of the subdivision, as well as the construction of future dwellings;
- New capital investment from expenditure on housing, infrastructure and services;
- The release of residential land increases supply within the region, which can improve housing affordability;
- The development of community and social infrastructure relies on the support from a critical mass of users in a defined catchment. Surrounding communities will benefit from an increased population, on the basis that it is likely to improve the range of services available to local residents; and
- The development will contribute to local and State infrastructure through the payment of developer contributions.

The positive economic impacts from the residential development of the development are substantial. The subject development is likely to result in approximately \$114 million of investment in the local economy (\$24 million from subdivision construction and \$92 million in dwelling construction).

The subdivision will accommodate approximately 600 additional residents, with around half of these within the work force. This additional population will drive up demand for existing and proposed services and businesses within the area which will have a cyclical impact on job and wealth creation. In addition to this, significant local employment opportunities will exist during the construction process.

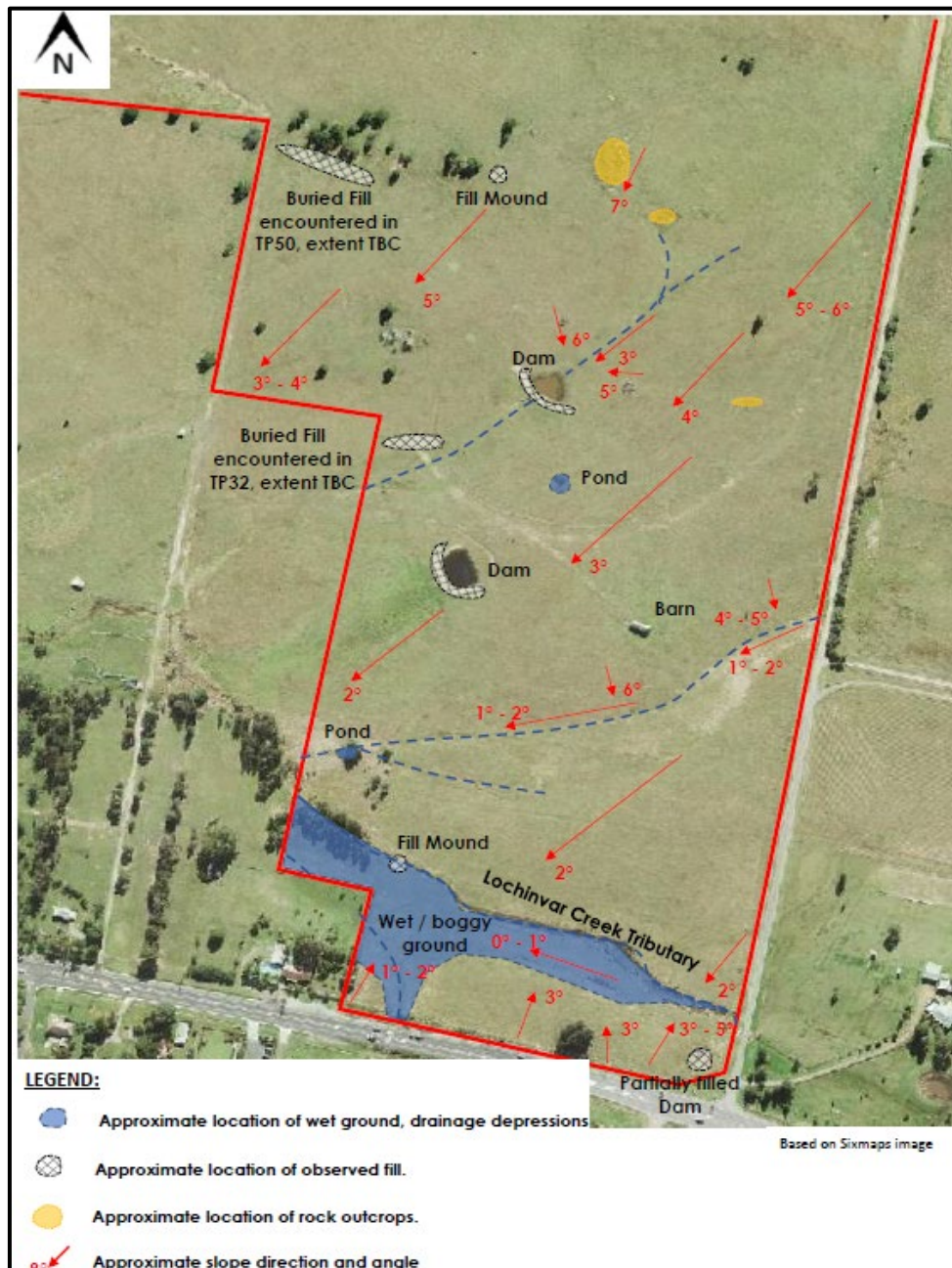
It is considered that the development will have an overall positive social and economic impact on the locality and broader region.

#### 5.1.10 Geotechnical Considerations

A Preliminary Geotechnical Assessment (PGA) has been undertaken by Qualtest to inform the DA. The site's geotechnical conditions are described in summary below:

- Soil depths were assessed to be variable, albeit generally in the range of approximately 0.2m – 2.0m on the mid to upper slopes, and generally greater than 2.0m on the lower to foot slopes;
- Localised areas of uncontrolled fill observed;
- No evidence of seepage was observed and the site generally appeared moderately to well drained, mostly by way of downhill surface runoff. Some water was ponded at the low points of drainage depressions. A relatively broad area of boggy ground and/or surface water was observed in the south to south-western areas. This included low lying areas alongside the primary watercourse, and the area in the south-western corner of the site receiving runoff from drains passing under the adjacent New England Highway formation;
- There are a number of farm dams and ponds located on the site, including two dams and two ponds;
- Rock outcrops were observed in the northern part of the site and in the southern parts of the site;
- No evidence of deep soil erosion was observed at the site at the time of the field work; and
- No obvious evidence of overall slope instability or significant damage attributable to ground movement was observed on or in the vicinity of the site during the field work.

**Figure 41** below provides an overview of the site features.



**Figure 41: Site Geotechnical Features. (Qualtest, March 2022)**

Qualtest have concluded that the site is suitable for residential development from a geotechnical perspective, provided that the development is carried out in accordance with sound engineering principles and good hillside practice, as set out in Appendix C of the PGA, and with respect to the constraints and recommendations of the report.

Refer to the PGA located within **Appendix 16** for further details and recommendations.

### 5.1.11 Contamination

A Contamination Assessment (CA) has been undertaken by Qualtest to inform this proposed development. Two areas of environmental concern (AEC) have been identified on the site, being:

1. Current and former buildings on the site, due to weathering of potentially hazardous materials (asbestos, lead paint, galvanised metals), use of pesticides and weedicides around buildings, and storage of machinery, vehicles, and oils; and

2. Agricultural use including imported fill/storage of waste in stockpiles and buried fill, potential use contaminated imported fill / storage and burying of farm waste (concrete, bricks, rock, tiles).

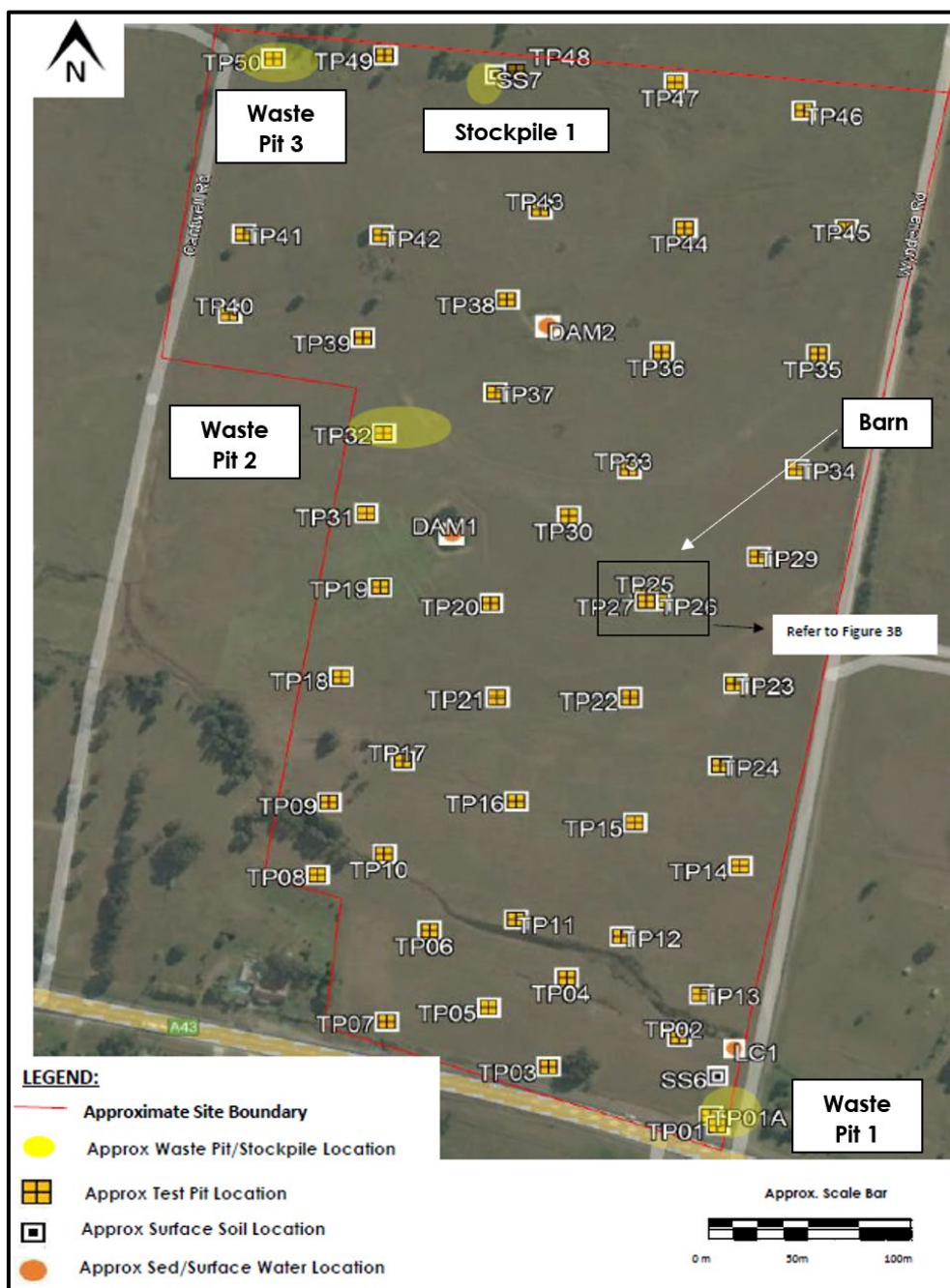
Soil sampling and analysis of surface and fill soils in the areas of the AECs above was carried out. The field investigations identified three waste pits on the site and concentrations of asbestos containing materials (ACM), and/or PAHs above the adopted human health and/or ecological criteria.

Surface water sampling identified metal concentrations including chromium, copper, and zinc, exceeded the adopted guidelines. Given the long history of farming in the region, the concentrations of metals in the surface water are considered to represent background conditions. No elevated concentrations were identified in the dam sediments assessed.

The identified soil contamination will require remediation and/or management as part of the proposed development. The following soil contamination will require remediation management:

- ACM above human health criteria and zinc above ecological criteria in surface soils surrounding the barn in the south eastern portion of the site;
- ACM above the adopted human health criteria in Waste Pit 2 and ACM and PAHs above human health and ecological criteria in Waste Pit 3; and
- Anthropogenic materials observed in Waste Pit 1 to Waste Pit 3 and Stockpile 1 will also require removal/management for aesthetic reasons.

Refer to **Figure 42** below which identifies the location of each remediation site.



**Figure 42: Waste Pit and Stockpile Locations. (Qualtest, 2022)**

Based on the results of the Detailed Contamination Assessment it is considered the site can be made suitable for the proposed residential development, with the following recommendations:

- Due to the volume of material observed in the waste pits, and the low sampling density additional soil sampling for Waste Pit 1 to Waste Pit 3 is recommended. This additional assessment can be included in the Remediation Action Plan for the site (see bullet point below);
- Preparation of a Remediation Action Plan (RAP) will be required to outline the remediation for the soil contamination identified; and
- Preparation of a Contaminated Land Management Plan for use during earthworks and construction of the development, which will include:
  - Guidance to the workers on identifying potentially contaminating materials such as slag impacted soil and asbestos containing material;
  - Unexpected Finds Procedure (UFP); and

- Procedures for handling, management and disposal/re-use of contaminated soil and surface water, if encountered.

Provided the recommendations made within this report are implemented, it is considered that the site could be rendered suitable, from a contamination point of view, for the proposed residential development.

A copy of the CA is provided as **Appendix 13**.

### 5.1.12 Landscaping/Public Domain

Landscaping/public domain elements proposed as part of this development include:

- Street tree planting along all proposed roads incorporating a mix of evergreen and deciduous species selected from Council's Preferred Species List and reaching mature heights varying between 6m and 12m;
- Feature landscaping along NEH including a 2m high mound with scattered trees and ground covers on the bank facing the road and rural-style timber fencing located along the common boundary;
- Seeding of disturbed areas surrounding basins;
- Riparian enhancement; and
- Entry Statement located on both sides of the entry (distributor road), comprising a mix of masonry walls (rendered and stone clad) and upright Xelerplate® steel panels with cutout lettering indicating the name of the estate.

The proposed development will have a beneficial effect on the public domain through the continuation of the strategically planned LURA. It will provide attractive streetscapes through vibrant landscaping; footpaths and cycleways throughout; as well as the ability to provide future passive open space.

A copy of the landscape plans are provided within **Appendix 6**.

### 5.1.13 Site Design and Internal Design

Discussed throughout SEE.

### 5.1.14 Visual Impact

A visual assessment has been undertaken via a site section to understand visual impacts to the ridgeline which lies to the north of the site. This is detailed within Section 4.3.1 within the SEE.

Beyond this, the visual appearance of the development will be softened through the landscaping measures discussed above, most notably:

- The retention and enhancement of the riparian corridor through replanting;
- Extensive street-tree planting throughout the estate;
- Provision of a landscape buffer along NEH;
- Allocating the south-eastern portion of the site as open-space, providing a green-gateway into the Estate as well as Lochinvar; and
- The provision of a landscaped entry feature to the site off Wyndella Road.

It is considered that the proposed development responds to its setting within an evolving Urban Release Area, and visual impacts will be appropriately mitigated.

### 5.1.15 Waste

As with most best practice building projects, the amount of waste to be generated during the construction phase will generally be minimal by use of pre-ordered and pre-fabricated materials where possible.

In terms of waste management, during construction the majority of the waste produced will be from the removal of topsoil, and of trees. This will be re-used elsewhere by the contractors or where re-use is not possible or inappropriate, green waste will be disposed of at the local Waste Management Facility.

In terms of ongoing waste management for future dwellings, all allotments have sufficient area to accommodate Council's garbage bins, and all lots front roads which will be able to accommodate Council's collection service.

### 5.1.16 Safety, Security and Crime Prevention

Crime Prevention through Environmental Design (CPTED) is a crime prevention strategy that focuses on the planning, design and structure of cities and neighbourhoods. It reduces opportunities for crime by using design and place management principles that reduce the likelihood of essential crime ingredients from intersecting in time and space.

The following CPTED principles are relevant to the development:

#### Territorial re-enforcement

Community ownership and sense of place contributes significantly to the safety of new subdivision developments. The proposed development achieves this through:

- Clear development branding through the proposed entry feature;
- Unique ability to retain and enhance the riparian corridor;
- High quality landscaping throughout, beyond standard street tree planting; including, entry feature landscaping, and NEH buffer landscaping;
- Provision of two open space lots; and
- Inter connected pedestrian and shared pathways.

All of the above features, give residents pride in their address, making them feel spatially connected to the neighbourhood. This connection in turn increases residents' feelings of responsibility, awareness and surveillance over their community. This increases the risk of detection, thereby deterring crime.

#### Surveillance

Neighbourhood surveillance, either passively or mechanically, is a known contributor in deterring crime. This is achieved in the proposed subdivision through the interconnected street network; the large majority of allotments having a direct street frontage; and open space lots being bordered by roads on three sides. Further, Lots 401, 402, 607 and 608 have been deliberately oriented towards the park, with open fences on the western side, to further improve casual surveillance and a sense of community ownership.

Further detail surrounding basin; riparian corridor and open space treatment will be required as part of the SWC, to ensure proposed landscaping allows for clear sightlines through these public spaces. As part of the DA design, this is provided at a high level by the fire access track through the southern open space; pathways on both sides of the riparian corridor; and a pathway bordering the northern basin.

## Access Control

Way-finding, desire-lines and formal/informal routes are important crime prevention considerations. The proposed subdivision provides this through its clear and legible street hierarchy, inter connected streets; and the entry feature. Micro level access control will also be provided through the street signage and street numbers being clearly visible.

### 5.2 THE SUITABILITY OF THE SITE FOR THE DEVELOPMENT (S4.15(1)(C))

The proposed subdivision is located on a site which is appropriately zoned, within a master planned urban release area, and in proximity to similar existing/approved developments to in the locality. For these reasons, the subject site is considered to be entirely suitable for the proposed residential subdivision.

### 5.3 ANY SUBMISSIONS MADE IN ACCORDANCE WITH THE ACT (S4.15(1)(D))

The proposed subdivision will require public notification with any relevant submissions to be addressed by Council.

### 5.4 THE PUBLIC INTEREST (S4.15(1)(E))

The proposed subdivision will develop existing vacant land for the purposes for which it has been zoned and as such, is considered to be in the public interest through the long-term benefits of development and growth within a strategically appropriate location.

Beyond this, the development will also:

- Provide new pedestrian/cycle pathways which continue those built within the LURA;
- Create jobs during construction;
- Enhance ongoing future business for locals; and
- Contribute significant funds towards the upgrade of a variety of community facilities, roads and infrastructure.



## 6.0 Conclusion

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The proposed subdivision will create 262 residential allotments in a logical pattern within an area strategically planned for growth and in accordance with all the relevant provisions of Maitland LEP 2011.

The subdivision has also been designed to comply with the applicable chapters of the Maitland DCP 2011, in particular the Lochinvar Urban Release Area.

The proposed subdivision provides allotments of an appropriate size, shape and orientation to allow for the construction of a wide range of housing types. The subdivision incorporates wide streets that facilitate easy vehicular, cyclist and pedestrian access and connections to nearby public transport facilities, schools, community facilities and areas of open space.

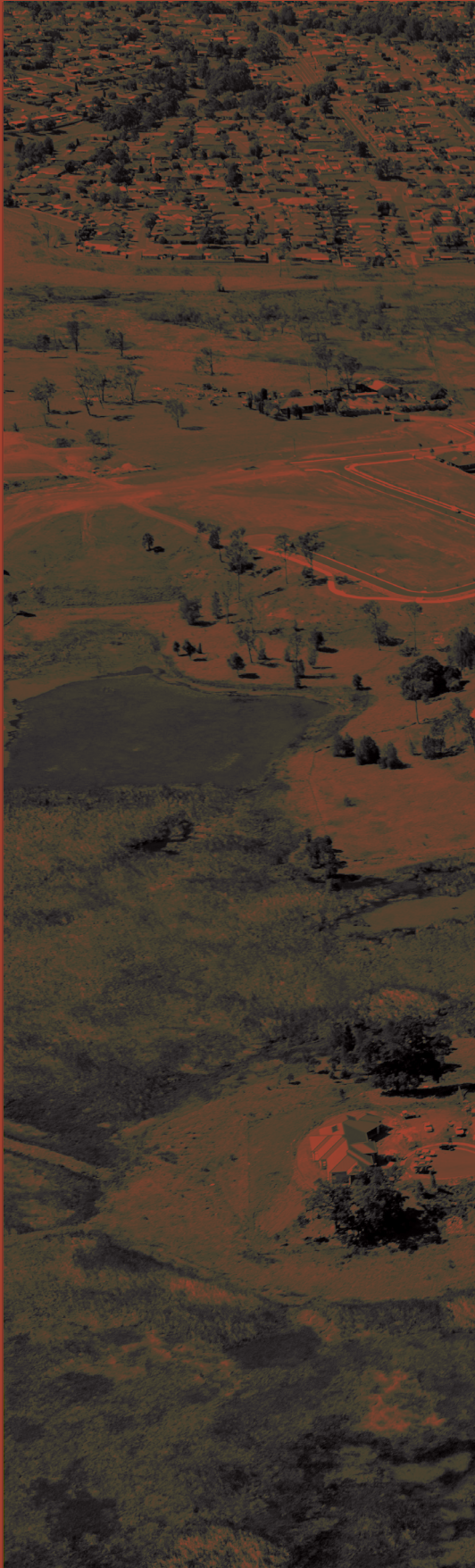
The proposed subdivision has taken into account all site constraints including riparian, ecology, Aboriginal archaeology, contamination and bushfire and has developed mitigation measures to accommodate/manage all of these.

All necessary infrastructure and services are available or can be provided to the site, inclusive of water, sewerage, underground gas, electricity and telecommunication facilities and an industry best practice stormwater management system. In addition, footpaths, cycleways and extensive landscaping throughout the subdivision will also be provided, all of which combine to ensure a high-quality residential neighbourhood will be created for the benefit of future residents.

The development has been professionally designed and provides a natural progression to Stage 3 of the LURA.

In summary, the development complies with the minimum lot size within the LEP and the applicable chapters of the Maitland DCP 2011.

Taking the above into consideration, the proposal addresses all matters under Section 4.15 of the EP&A Act and on this basis, Council is requested to grant development consent to the application.



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