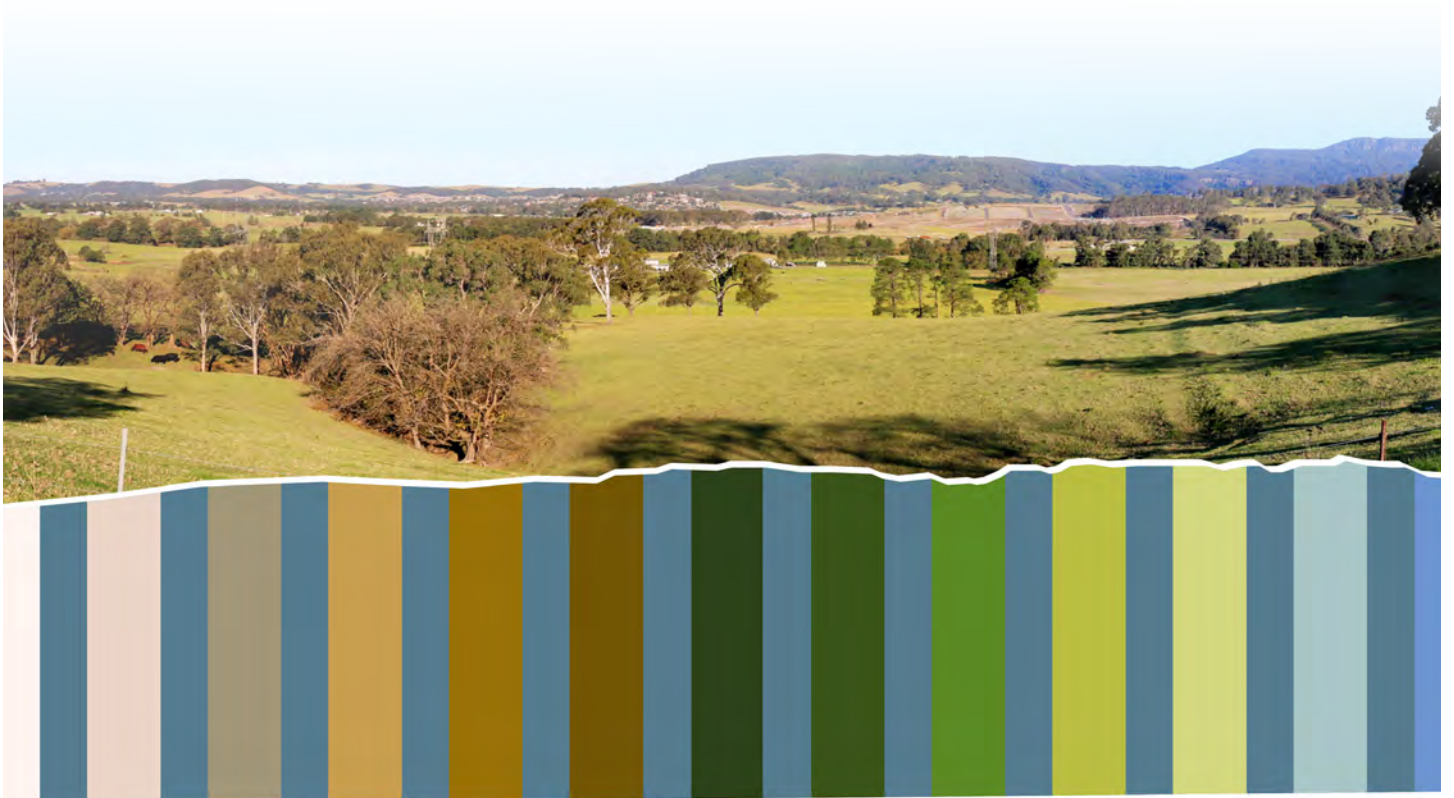
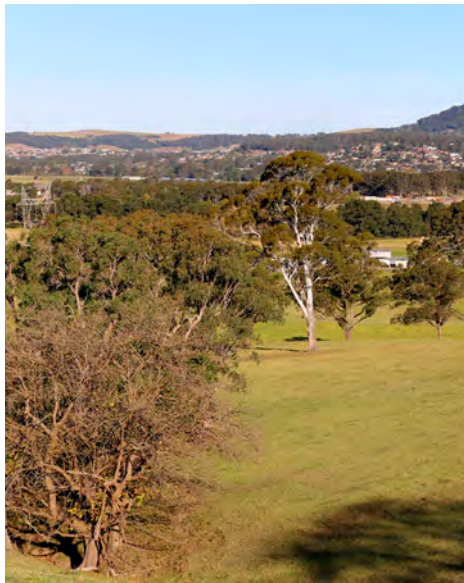


# PUBLIC DOMAIN REPORT

CALDERWOOD CONCEPT PLAN MP 09-008Z MOD 4

24 JULY 2018





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## 1.0 INTRODUCTION

This Public Domain Report accompanies an Environmental Assessment Report (EAR) for proposed S75W Modification Application to the Calderwood Concept Plan Approval (MP09-082) (Approved Concept Plan) for the Calderwood Urban Development Project (CUDP)

Taylor Brammer Landscape Architects Pty Ltd (TBLA) have been engaged by Lendlease Communities (Calderwood) Pty Ltd to prepare this report to respond to the Department of Planning and Environment SEARS and in particular addresses Key Issue No. 6 Community Facilities and Public Domain.

The key issues outlined in SEARS identifies 8 general requirements and 21 Key Issues of which issue “6. Community Facilities and Public Domain” requests that the modification:

*Address any changes to public domain improvements, pedestrian linkages, street activation and landscaping.*

*Demonstrate that the public domain and open space will:*

- *Maximise permeability and street activation throughout the development;*
- *Provide sufficient passive and active open space for the expected additional population.*
- *Ensure access for people with disabilities; and*
- *Minimise potential for vehicle, bicycle and pedestrian conflicts.*

The Approved concept plan permits the development of 4800 dwellings with the proposed Concept Plan (MOD 4) seeking to increase this to 6500 dwellings. The increase is to be achieved by introducing a variety of small lots/affordable housing within CUDP.

The current development area of the CUDP remains unchanged with areas of open space maintained and increased.

With the proposed increase in residential dwellings there will be improvements that will influence the Public Domain Plan including:

- Open space increase (active and passive) to meet the needs of the increased community.
- Refinement of the pedestrian and cycle network to align with road patterns and open space.
- Adjustment of water cycle management to interface with flood mitigation planning with Riparian Zones and Open Space Areas

This report is structured to demonstrate the improvements to the Public Domain in terms of Open Space, Pedestrian and Cycle movement and Water Cycle Management.

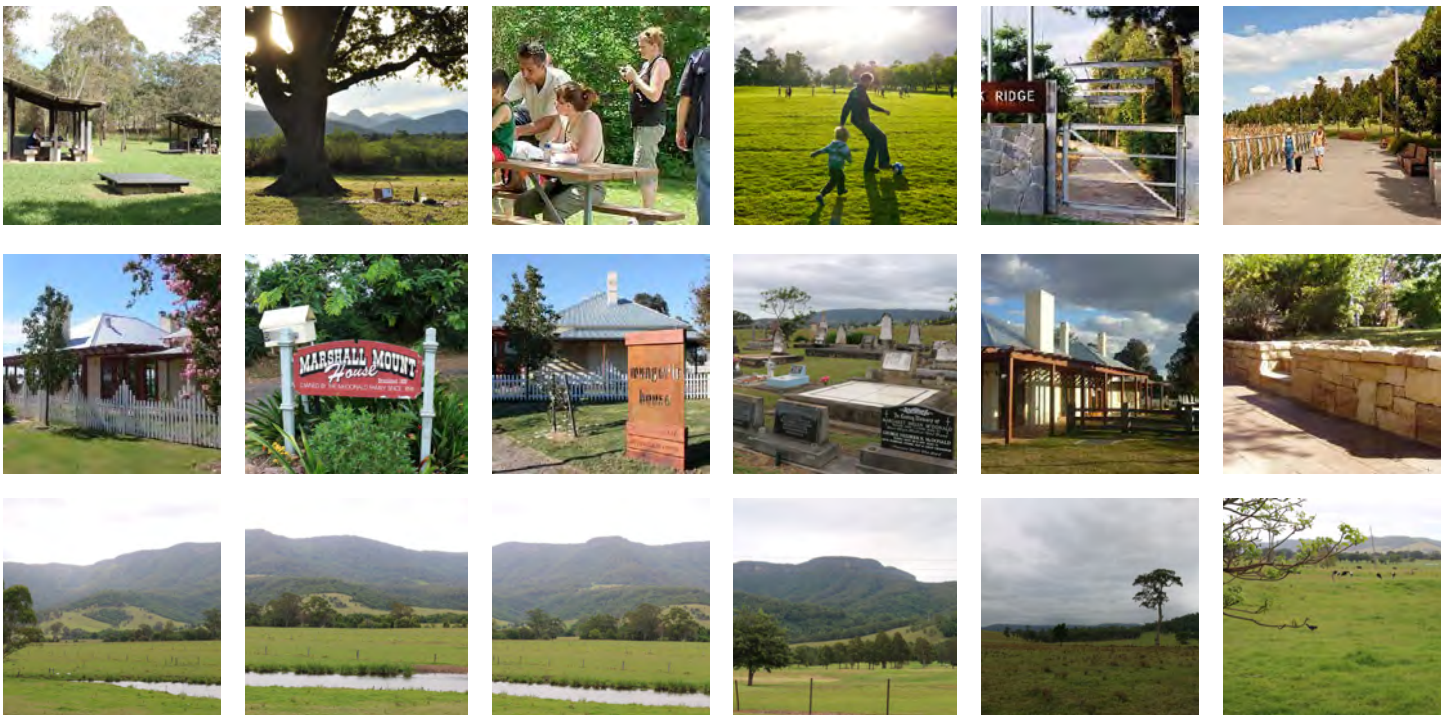


Figure 1. Calderwood character images

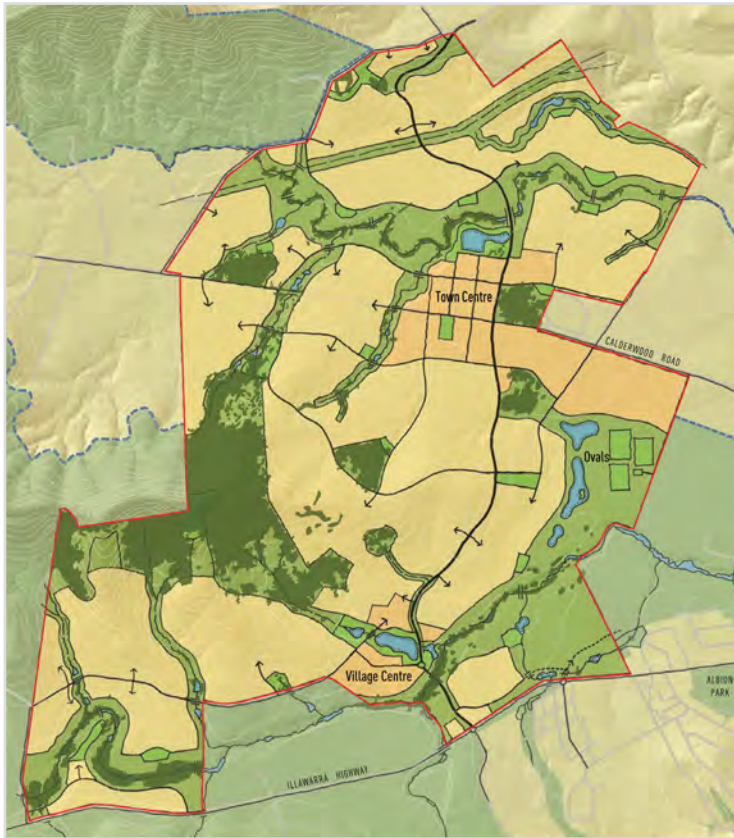


Figure 2. Approved Concept Plan

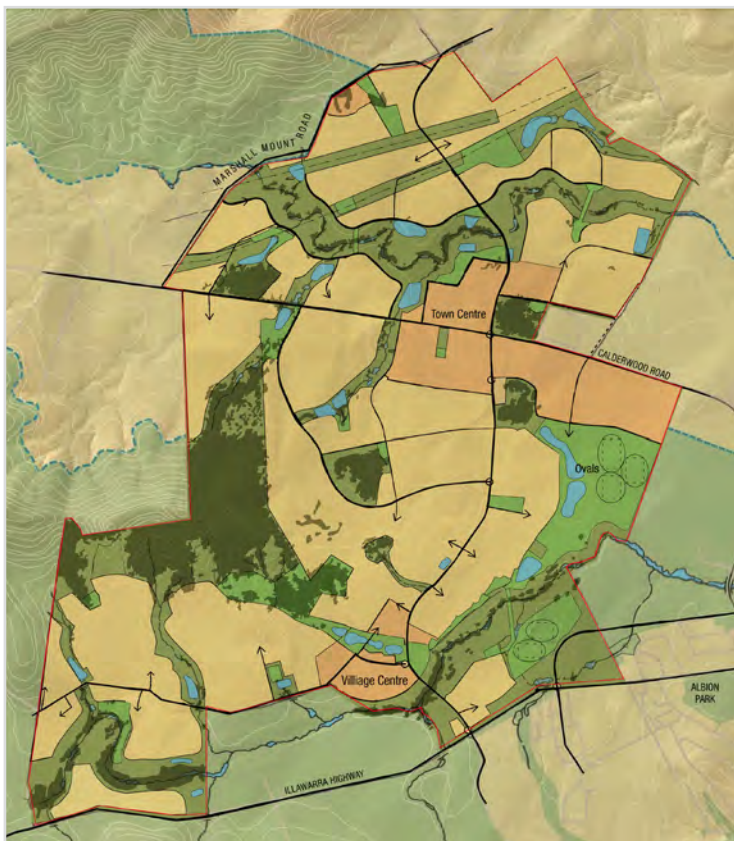
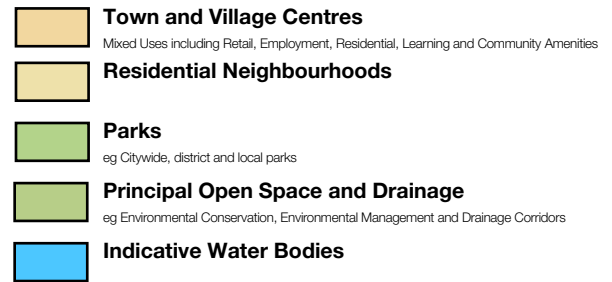
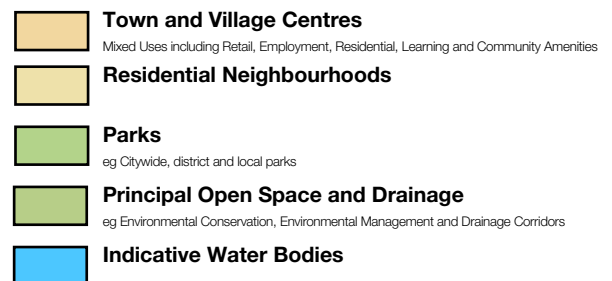


Figure 3. Concept Plan (MOD 4)



## 2.0 OPEN SPACE

As part of the MOD 4 submission the existing open space in the CUDP is retained and enhanced with additional area and recreation opportunities to meet the needs of the increased community.

Elton Consulting have identified in their Calderwood Social Infrastructure Yield Review that the required additional open space to that approved under the CUDP is 14.2 hectares that is to be split 50/50 between active and passive open space.

The required increase in open space has been designed into the MOD 4 submission and is summarised graphically in *Figure 4* Calderwood Open Space Analysis (MOD 4)

The methodology to quantify the Open Space included the following steps:

- a) Establishing the additional areas of open space required to meet the increased community population compared to the approved CUDP (Elton Consulting - Calderwood Social Infrastructure Yield Review)
- b) Accurately measuring the Open Space Plan in a CAD format (Note that water quantity basins are excluded)
- c) Comparing the areas measured against the requirements of the VPA and the CUDP.
- d) Establishing the preferred design and location of additional areas of open space based on the improvements to open space as part of the MOD4 submission
- e) Measuring the improved open space areas and tabulating the result to demonstrate that the requirements for Active and Passive Open Space are met (and exceeded).

### ACTIVE OPEN SPACE (AOS)

The required additional AOS to support the modification is 7.1Ha compared to the CUDP with the improved AOS providing 14.56Ha. This has been achieved by partially utilising the RU1 land to the northeast of Stage 1A and is shown as SP2 on *Figure 4*, and recognising the actual land area available for the main sportsground SP1.

The location of SP2 utilises land that is otherwise unused as RU1 and provides good connect to the Albion Park community with the proposed Tripoli Read Extension.

A proposed Linear Park (Linear 1) is introduced to link Stage 1A residential and the recently completed local park (L8) with the proposed SP2 and across the Macquarie Rivulet to local park (L11) and a pedestrian/cycle pathway.

This pedestrian/cycle path provides an important link between Village and Town Centre with local and district park and sportsfield along its route.

### PASSIVE OPEN SPACE (POS)

The additional POS required to support the modification is 7.1Ha compared to the CUDP. The improvements to the POS design will realise an additional 7.445Ha that includes both Lendlease and non core lands, and a further 14.77Ha of passive open space focused on improving community connectivity.



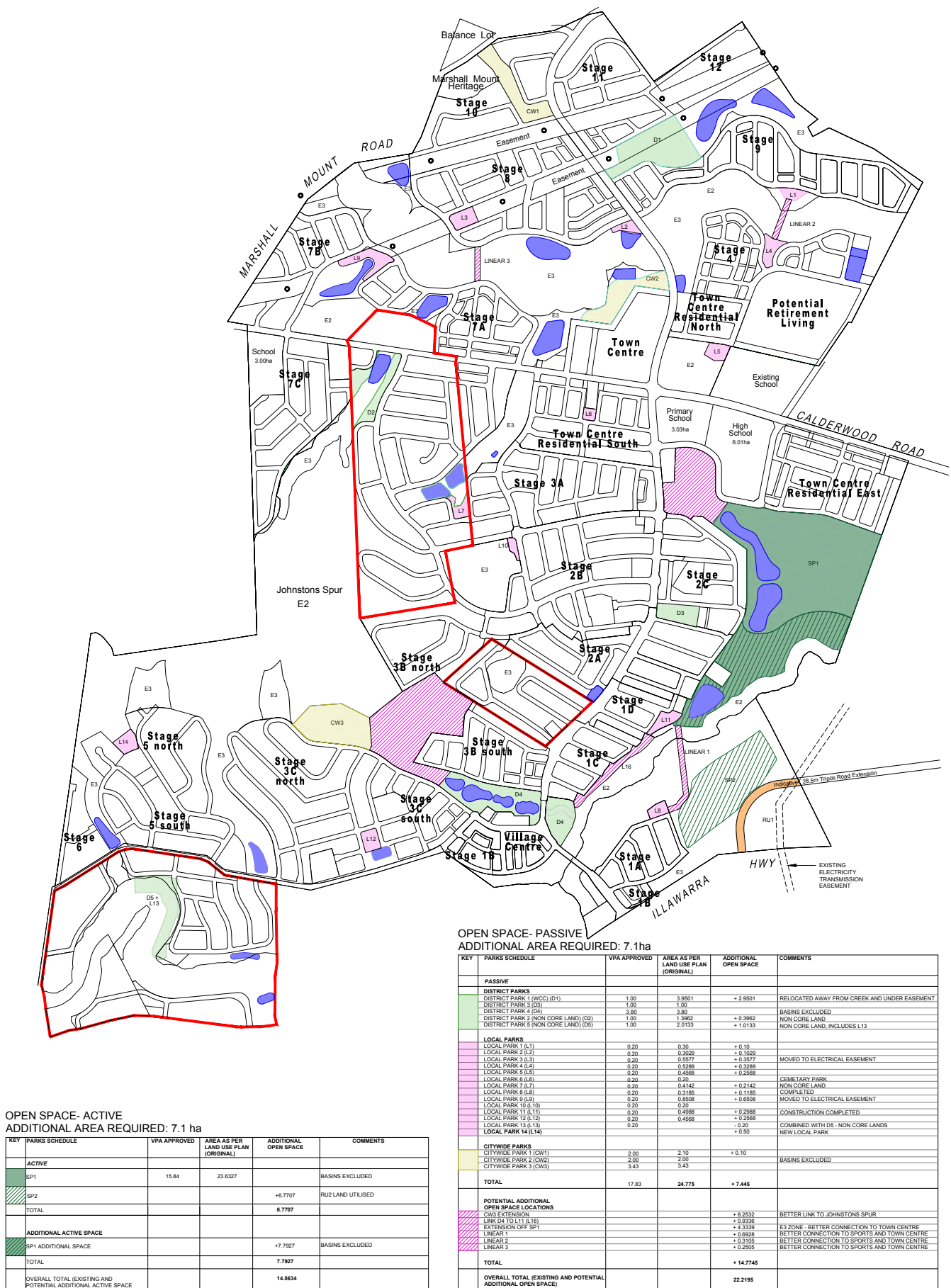


Figure 4. Calderwood Open Space Analysis (MOD 4)

## DISTRICT PARKS

The open space allocated for D1 is increase from 1.0 Ha (VPA requirement) to 3.95 Ha and is moved away from its original location (adjoining Marshall Mount Creek) further north and utilises an open space area within the existing electricity easement.

Both District park D2 and D5 are located in non core lands, after obtaining DA proposals and measures of the open space then contribute an additional 1.4 Ha of open space.

## LOCAL PARKS

A new local park (L14) is created as part of the Stage 5 residential area of CUDP. The park is 0.5 Ha in size (VPA requirement is 0.2 Ha) and located in the edge of the existing E2 land that forms park of the Johnstons Spur. The Park will be part of the pedestrian trail network through open space eventually linking to Johnstons Spur and City wide park (CW3)

Both local parks L3 and L9 have been relocated away from Marshall Mount Creek and take advantage of the under utilised open space within the existing electricity easement. Some local parks including L8 and L11 have been completed and deliver additional open space to that required by the VPA (refer to *Figure 5*)

## CITY WIDE PARKS

The City Wide Parks (location and extent) in the current approval remains unchanged with a minor increase of 0.1 Ha for CW1. There is the opportunity to establish an all abilities playground as part of CW2 that will adjoin the Town Centre. The potential increased residential component within the Town Centre will benefit from this important component of the open space network.

## POTENTIAL ADDITIONAL OPEN SPACES

The potential extension of CW3 to link Stage 3 residential area to District Park D4 and the Village Centre is an opportunity that creates greater pedestrian connectivity between areas and Johnston Spur.

This extension will increase the open space by 8.25 Ha with a park character similar to CW3 transitioning from traditional parkland to bushland. It is also an ideal area for a trail head to provide pedestrian and cycle access to Johnston Spur.

The potential new local park (L16) is linear and provides a valuable link between District park D4 and the recently completed local park (L11). It will incorporate a shaved pedestrian/cycle pathway with opportunities to enjoy the views and connection to the adjoining Macquarie Rivulet.

The potential extension off SP1 to the south of the proposed schools makes use of currently zoned E3 by a sense of pedestrian trails and educational opportunity amongst the existing vegetation community. The open space also provides a more positive link to Bus routes and the nearby Town Centre. The increase in open space is 4.33 Ha.

Linear Park 2 and 3 are proposed to connect stages 8,9,10,11 and 12 across Marshall Mount Creek with Linear 2 providing an important link between local parks L1 and L4. Together these two linear parks contribute 0.56 Ha of open space.

## WATER CYCLE MANAGEMENT

As part of the MOD 4 mission J. Wyndham Prince have been engaged to prepare *Water cycle and Flood Management Strategy Updates*. The effect of this report on the open space at the CUDP is to confirm and quantify the indicative location of possible water bodies. The areas of water bodies (m<sup>2</sup>) was taken from the report and transferred accurately onto the open space analysis plan (*Figure 6*) and from there utilised on the proposed concept plan (MOD 4). It has improved the amenity for the increased residential community, these water bodies have been located and integrated into the open space network and will provide further amenity in terms of habitat for floral and fauna in addition to their water management function.

It should be noted that in calculating the areas of open space that all water bodies were excluded from any calculations.



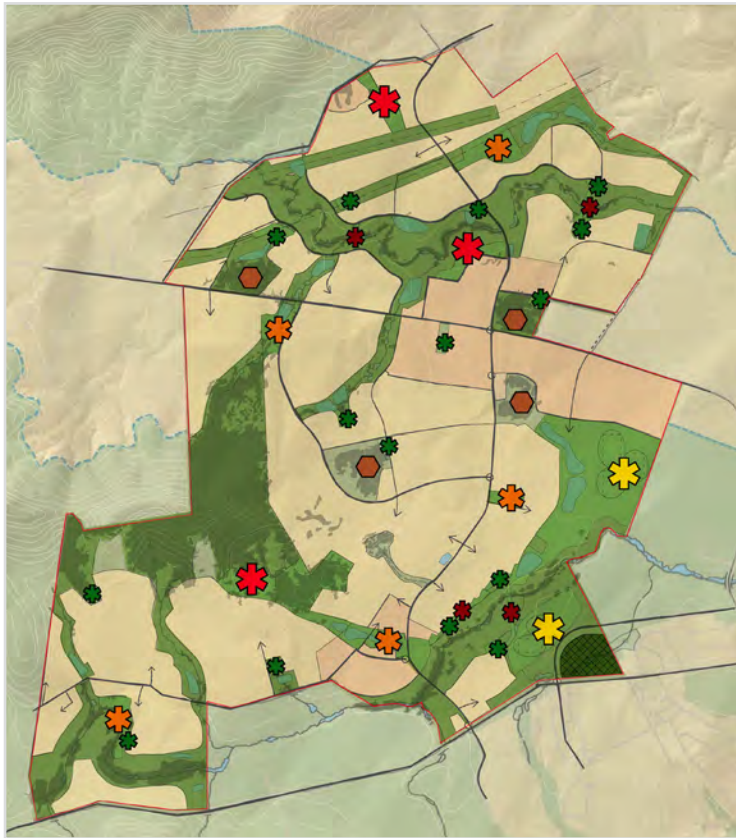










Figure 5. Indicative Open Space Network (MOD 4)

-  **Citywide Parks**  
Johnston's Spur, Town Centre Park, and Marshall Mount House Curtilage
-  **District Parks**  
Indicative locations. Minimum size 1.0 ha
-  **Local Parks**  
Indicative locations. Minimum size 0.3 ha
-  **Main Sports Complex**  
Three sports ovals
-  **Linear link**
-  **Environmental Reserves**
-  **Open Space Corridors and Citywide Bushland**
-  **Rural Landscape/Lifestyle**  
Agricultural area and paddocks

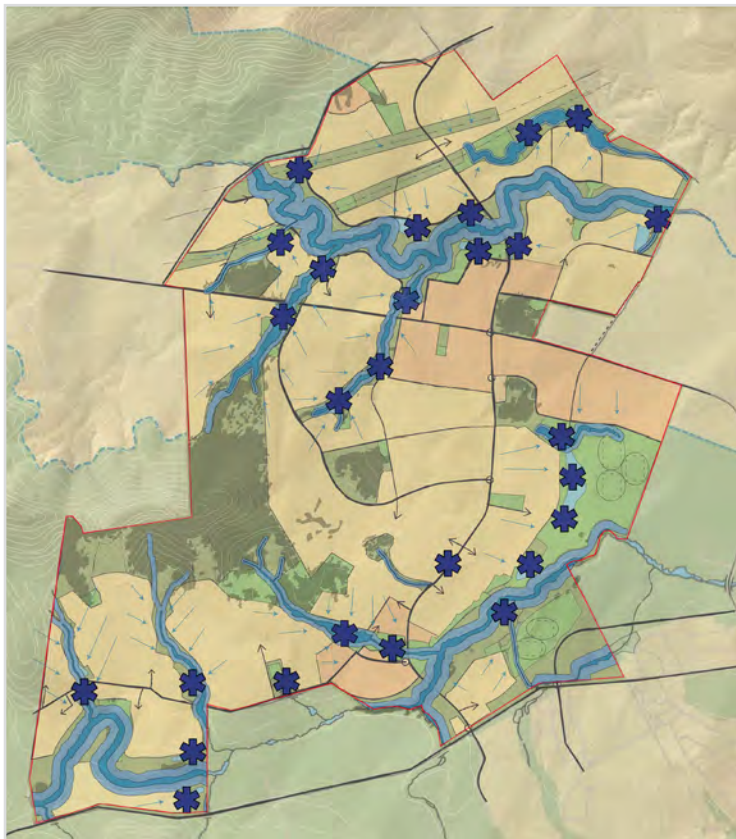





Figure 6. Water Cycle Management (MOD 4)

-  **Indicative location of possible water bodies**  
Both on-line and off-line ponds serving ornamental, water quality and water detention purposes
-  **Riparian Corridor - Top of Bank**  
Based on ground truth and ALS survey data
-  **Core Riparian Zone (CRZ)**  
Size based on stream order

The pedestrian and cycle network that accompanies the MOD 4 submission is a refinement of the approved concept plan and is influenced by the updated road network and improved open space network. The aim of the Proposed Pedestrian and Cycle Network (MOD 4) is to provide a continuous link between open space throughout the CUDP that includes both pedestrians, bicycles and meets the requirements of Australian Standards (AS1428) for The Accessibility Of The Built Environment.

A pedestrian and cycling network has been planned in the Calderwood Valley to maximise connectivity and enable easy cycling and walking between residential areas, schools, villages, town centres and open space area.

A network of pedestrian and cycle paths is to be provided within open space / riparian corridors and through bushland as well as along the street network providing a high level of connectivity within and between the future residential neighbourhoods, and linking the Town Centre and Village Centre.

The provision of mostly off road paths creates a safer and more comfortable environment for cyclists and pedestrians while the location of a large proportion of the network through open space provides an attractive environment for users.

The final number and location of pathways and corridor crossings with the Riparian Corridor Network is subject to refinement at the detailed design stages, however is to be generally in accordance with the principles illustrated at *Figure 7*.

#### CONNECTIVITY

The network of pedestrian and cycle access linkages will enhance the connectivity between built precincts and parkland and open space areas. Access within parks, green corridors and natural bushland areas will vary in the degree of formality and finish in keeping with the character of each space.

The access network is planned and designed to maximise safety and passive surveillance and will meet all requirements for width, signage and sight lines for each particular location.

In addition, design of access paths in all public areas and around community facilities will meet all requirements for width, signage and sight lines for each particular location.

In addition, design of access paths in all public areas and around community facilities will meet the requirements for disabled and equitable access. Tactile indicators, design grades, signage and edge treatments will be employed where appropriate.

The types of access connections to be provided for the various spaces throughout Calderwood Valley may include but are not limited to:

- Off road shared path – 2.5m link
- Off road pedestrian path – 1.5m link
- Verge shared path - 1.8 – 3m link in pedestrian/cycle priority locations
- On road route located where corridors or parks connect to roadside links
- Pedestrian path supplementing the road network
- Track/trail within natural areas
- Boardwalks adjacent to water bodies



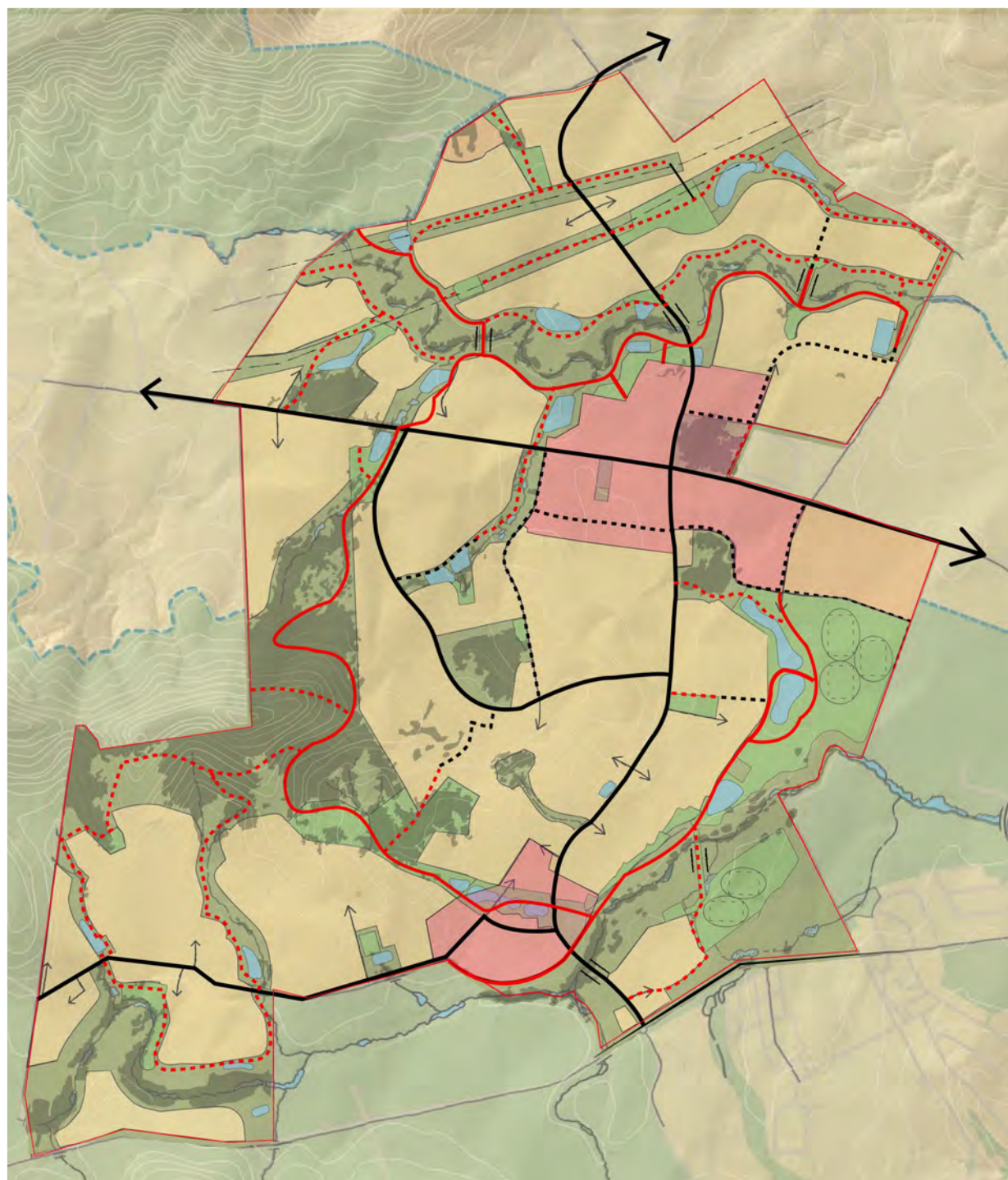


Figure 7.0 Proposed Pedestrian & Cycle Network (MOD 4)



