



Coal & Allied Southern Lands

Appendix A: Concept Plan Principles for Catherine Hill Bay Middle Camp

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Appendix A: Concept Plan Principles for Catherine Hill Bay accompanies the Environmental Assessment. It embodies the ideas and principles that underpin the Concept Plan. The concept plan represents an integrated approach to site planning that incorporates the urban structure with the landscape.

The structure of this document is as follows:

- A1 Concept Plan - this summarises the key elements of the design. The concept plan describes the boundaries of the development footprint, street and block layout and future desired character of the landscape and built form.
- A2 Design Principles - this comprises of the urban structure, the built form, open space and landscaping, access and movement, heritage and visual impact design principles that support the Concept Plan.
- A3 Staging - this will describe the intended development staging for the estate.

Appendix B: Urban Design Guidelines for Catherine Hill Bay provides detail information on the public domain and built form. It describes how to achieve the principles of Appendix A: Concept Plan Principles for Catherine Hill Bay.

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Introduction

A1 Concept Plan and Landscape Concept Plan

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A3 Development staging

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A1.1 Development footprint

Coal & Allied's landholdings at Catherine Hill Bay include 568 hectares of land that is currently contiguous with Munmorah State Forest.

The development footprint is 28.2 hectares which accommodate detailed ecological studies. The development footprints have been refined following a planning process that is based on McHargian principles of site design. Detailed attributes of ecological and cultural landscape systems were overlaid to determine constraints and opportunities for development.

Development is consolidated into a number of small self-contained areas where there is existing development, or where previous disturbances have already occurred.

Location of the development footprint on the north minimises the visual impact to the existing Middle Camp settlement. Provision for a landscape curtilage around of the Middle Camp existing settlement protects its heritage streetscape and setting. Heritage items within the site such as the Workshop Shed and the Manager's House are retained and incorporated into superlots identified as open space.

The development footprint is now within two distinct parcels separated by Flowers Drive. Each are considered as individual hamlets to be located as follows:

- Area A (Sawmill Camp): 7.3 hectares is located north of the existing settlement on the eastern side of Flowers Drive, set within an existing clearing. It will be set back behind a buffer of proposed vegetation.
- Area B (Colliery Hamlet): 20.88 hectares is located to the west of Flowers Drive. North of the existing settlement. Development will be set back significantly from Flowers Drive.

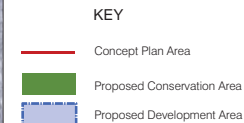


Figure A1.1.1 - Catherine Hill Bay conservation and development area

A1.2 Concept plan



The concept plan is for:

- Two development footprints with a total area of 28.2 hectares. Overall, the development will achieve 213 dwellings on individual lots, a density equivalent to 7.5 dwellings per hectare over the entire Concept Plan area.
- Provision of hamlets as small pockets of development within an open space framework, preserving the scale and fabric of the existing character of Middle Camp and the amenity of the existing residents.
- Two open space areas located in Area B - Colliery Hamlet act as new parks surrounded by pockets of development. One park contains the heritage item known as the Workshop Shed, the park containing the Manager's House.
- Landscape buffers along Flowers Drive and the southern boundary of Area A- Sawmill Camp will screen development from the road and from Middle Camp.
- A 'gateway' park will be located in an existing clearing between the two development areas and include public art which interprets the mining history of the area.
- Landscape bushland reserves on the edges of all development areas that will act as buffers to protect adjoining Conservation Lands.

Figure A1.2.1 - Illustrative Concept Plan

A1.3 Indicative Lot layout

The concept plan is indicatively designed for 213 dwellings which are proposed to be of the following:

- Area A - Sawmill Camp : 52 dwellings contained in individual lots.
- Area B - Colliery Hamlet : 161 dwellings contained in individual lots. The indicative lot layout has been designed to accommodate the existing heritage houses located in the Colliery Hamlet.

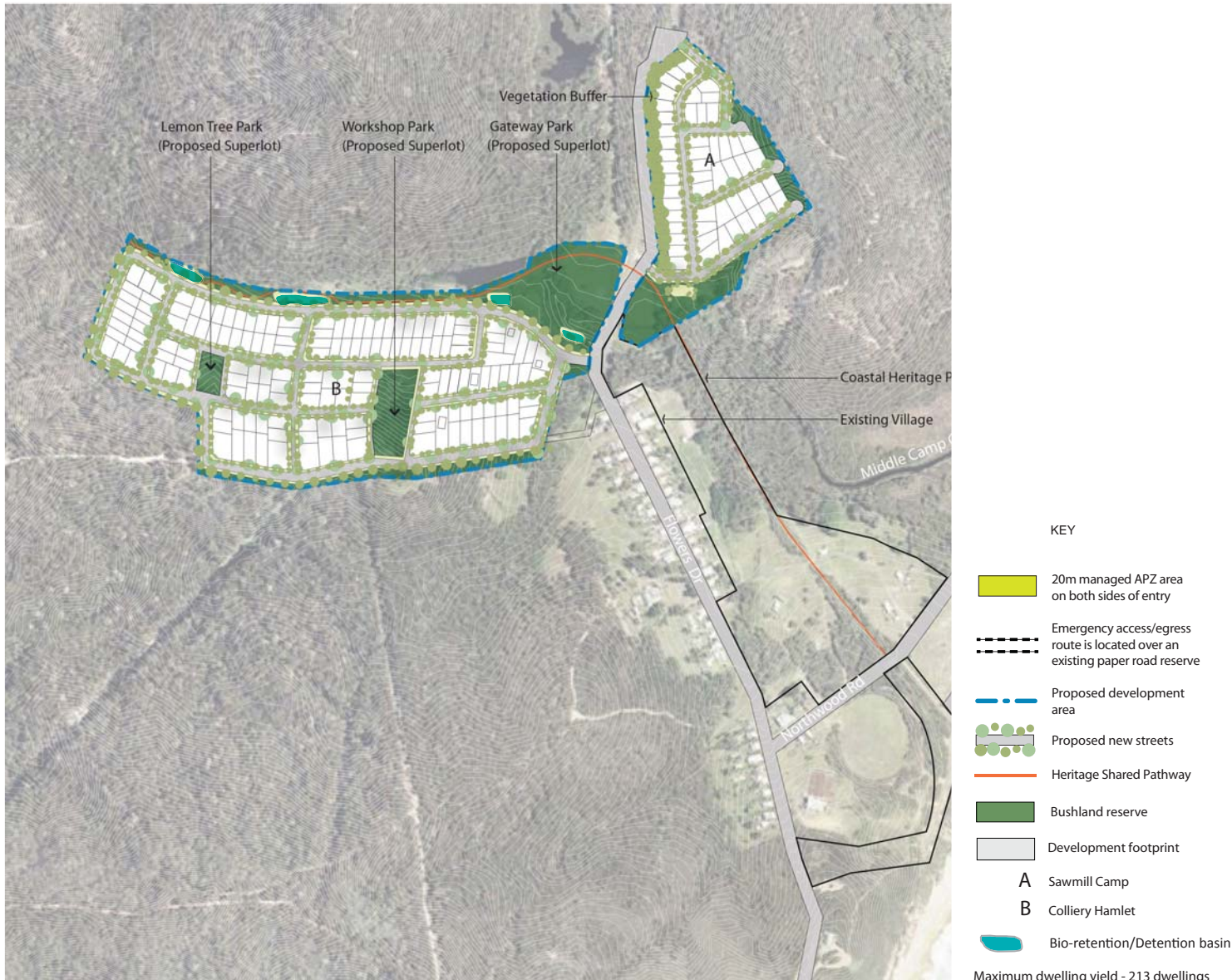


Figure A1.3.1 - Indicative lot layout

A1.4 Proposed Hamlets

The Hamlets are characterised by small pockets of development surrounded by an open space framework of green ridges and parks. The development footprint of each hamlet in Middle Camp is defined as follows:

Area A: Sawmill Camp

- This hamlet is contained by Flowers Drive and its associated landscape buffer, the steep topography surrounding it to the north and east and the old railway line to the south. It will be accessed from Flowers Drive to the north of the existing settlement.

Area B: Colliery Hamlet

- This hamlet is contained by Middle Camp Gully to the north, the ridge and Pitt Road to the south, Flowers Drive to the east and steep topography to the west.



Figure A1.4.1 - Proposed hamlets

A1.5 Desired Future Character: Landscape



Figure A1.5.1 - Landscape character type

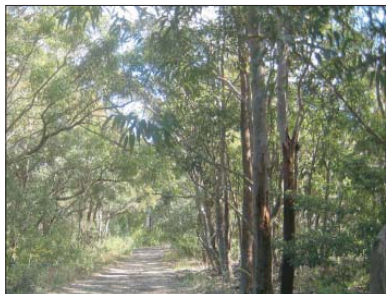


Figure A1.5.2 - Existing forest landscape



Figure A1.5.3 - Tree lined streets



Figure A1.5.4 - Maintain informal bush character and edges on streets

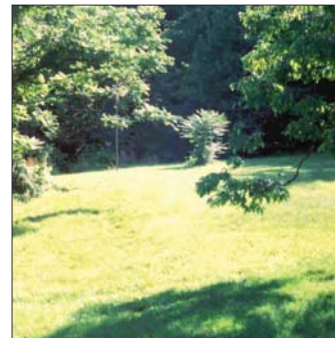


Figure A1.5.5 - Park Character: Informal playing fields fringed by existing trees



Figure A1.5.6 - Park Character: Workshop Park and Lemon Tree Park will retain existing trees and sloping landform

Existing character

The development sites adjoin the existing settlement of Middle Camp in Catherine Hill Bay. The built form in Middle Camp is focused on Flowers Drive which meanders through the rolling topography of the back dunes to the beach. The road journeys through a succession of spaces each with a distinctive vegetation type including closed forests, grasslands and heath. The forests form closed canopies and the heath reveals the windswept nature of the coastal environment. The grasslands are clearings that are framed by vegetation. Views to the ocean are revealed and disappear behind vegetation.

Flowers Drive is characterised by a pattern of one storey houses with consistent setbacks. The houses, of light weight construction, are stylistically similar. Streets have narrow carriageways with grass verges and no kerbs. Glimpses of derelict buildings and traces of artifice in landform reveal clues of the heritage. It is a rich and textured landscape that includes rolling topography, a variety of vegetation types and a controlled consistency of built form.

There are two distinct types of vegetation structure. Areas A and B are currently cleared but are surrounded by a forest landscape of taller trees and low shrubs that is endemic to the sites' sloping edges. Area A faces south and has a continuous canopy of trees that form an enclosed landscape. Area B is north facing and its endemic vegetation is more open in character.

Desired future character

The desired future character responds to the rich tapestry of this landscape. The development of smaller hamlets with long edges facing bushland reinforces the settlement pattern of Middle Camp. Each of the hamlets is sited in slightly different landscapes and each will respond with a distinctive character that enhances the rich texture of the landscape of Catherine Hill Bay.

Area A - Sawmill Camp:

In this precinct, land is predominantly cleared of existing vegetation within the undulating topography. A landscape buffer on the eastern verge of Flowers Drive will minimise the visual impact of this hamlet and maintain the forested bushland character of the road as it approaches the existing settlement of Middle Camp. Another landscape buffer along the southern boundary of Sawmill Camp will minimise the visual impact of this hamlet when viewed from Middle Camp.

The proposed development proposes to incorporate some existing and some new peppermint/smooth barked apple forest into the development and around the curtilage of the development, allowing two storey houses to be constructed on a variety of lot sizes within a setting of tall trees.

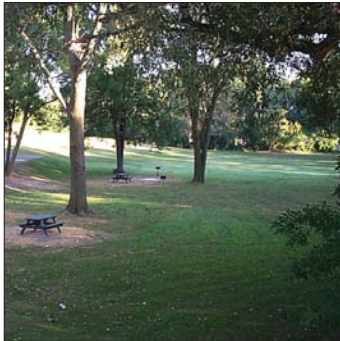


Figure A1.5.7-Park Amenity: Rest Areas under existing trees



Figure A1.5.8 - Intimate gathering spaces create informal park 'rooms'



Figure A1.5.9 -Opportunities for off road cycleway

Area B - Colliery Hamlet:

This precinct, on a north facing slope, facing away from the existing settlement at Middle Camp will accommodate the majority of houses within the development. It is to be discretely set within the clearings of the Pit E workings area where there are a few remnant industrial buildings. Previously, the site was for large footprint industrial buildings ordered to maximize the efficiency of the mine workings. Most of these buildings have now been removed. The proposed development will introduce a residential scale of development, but reinterprets the order that was focused on the former rail line by defining a grid, with long blocks running east west parallel to the former rail line. Housing will generally be two storey with one storey buildings located nearer the ridge to reduce their visual impact and ensure the natural landscape dominates.

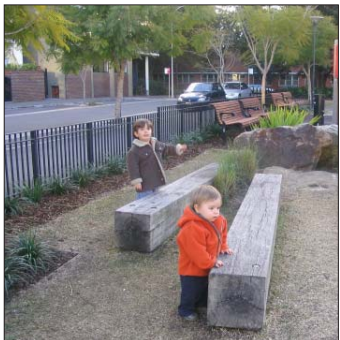


Figure A1.5.10 - Use of natural materials for informal play in parks

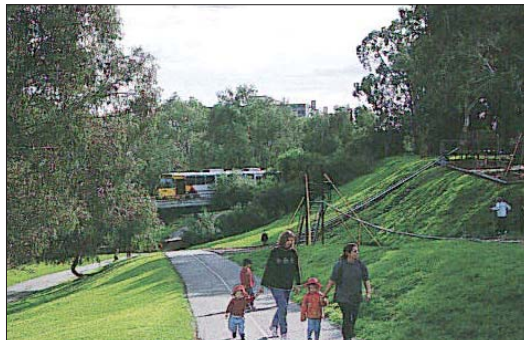


Figure A1.5.11 -Heritage walkway: Parkland paths provide pedestrian connections to all parts of the hamlet



Figure A1.5.12 -Permeable and informal paths

Plantings of tall trees will visually filter the development from Flowers Drive and reinforce a forest setting. Remnant buildings and the former rail line will be surrounded by grassed areas and will become parklands and public open space. The character of the former industrial fabric will be interpreted in the public domain.



Figure A1.5.13 -Permeable paths and planting



Figure A1.5.14 -Retain and supplement native planting



Figure A1.5.15 -Elevated walkway over natural landscape features



Figure A1.5.16 - Simple design and natural expression

A1.6 Desired Future Character: Built Form



Figure A1.6.1- Existing former workshop building



Figure A1.6.4 - Simple forms, contemporary expression



Figure A1.6.5 - Reverse construction is encouraged



Figure A1.6.2 - 2 storey L-shaped courtyard houses or pavilion houses are encouraged



Figure A1.6.6 - Lightweight construction with timber detailing.



Figure A1.6.3 - Simple traditional forms with front porches or verandahs



Figure A1.6.7 - Metal clad roofs with traditional roof pitches

Character Elements - Sawmill Camp and Colliery Hamlet

A contemporary expression of traditional building forms is sympathetic to the mining heritage of Catherine Hill Bay.

- Modest setbacks and elevated verandahs provide an informal presentation to the street reflecting the existing coastal village and community values.
- One and two storey houses have simple massing and proportions, expressed through the use of pavilions linked with breezeway elements.
- Garages are discretely located away from the street frontage.
- Light weight construction and straightforward detailing highlight the use of transportable materials and reflect traces of its historic, industrial past.
- A sensitive climatic response is expressed through building form and layout and through details, including eaves and horizontal sunshades.
- Metal roofs with predominantly pitched or gabled roof forms and simple lean to additions reflect the forms of the existing village houses.
- Roofs are to be low scale, simple and uncomplicated with a pitch or raked form between 15-30 degrees. Flat roofs are not permitted.
- All rooftop services, vents and lights are to be integrated into roof design.
- Roofs are not to include structures for advertising or dormer windows.
- Eaves are required on all pitched roofs and are to project a minimum of 450mm from walls.
- Siting of the house on the land is expressed in suspended floor construction.



Figure A1.6.8- Illustrative streetscape character



Figure A1.6.9- Colour Palettes

A2.1 Urban Structure

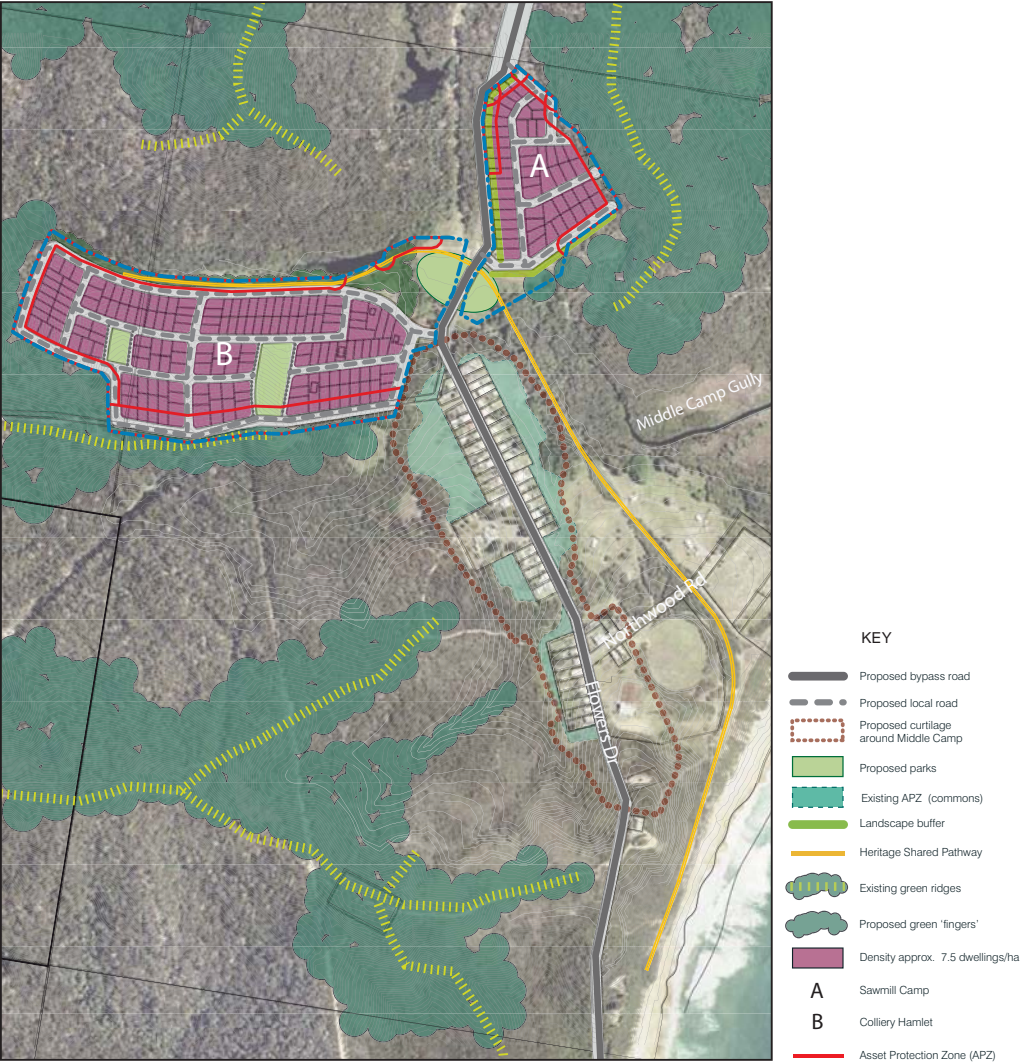


Figure A2.1.1 - Urban structure

The key components of the structure plan are:

- Access to the estate via Flowers Drive and Montefiore Drive from the Pacific Highway.
- The development footprint is divided into two hamlets. Sawmill Camp and Colliery Hamlet have development capacity of 6.8 dwellings per hectare and 7.7 dwellings per hectare respectively.
- Two urban parks will be located in Area B. Each will contain the heritage items; the Workshop Shed and the Manager's House, and a third one between Areas A and B known as the Gateway Park.
- Beside the creek, a linear park will incorporate the heritage walk along the alignment of the former railway line. The heritage walk will link the hamlets to the beach and community facilities of Middle Camp and Catherine Hill Bay.
- Bushland Reserves will be dedicated in areas around the periphery of the development footprints, combining a buffer zone to the conservation lands and bushfire asset protection zones.
- Bushfire asset protection zones will occur on all peripheral areas of the development footprint. Streets along the boundaries contribute to the APZ's, thus minimising APZ's within private lots.

Area A: Sawmill Camp will have:

- A grid like street and block pattern of cul-de-sacs terminating at the base of steep topography.
- Streets wide enough to enable extensive plantings of new trees.
- Streets with views at both ends to the bushland.
- A landscape buffer along Flowers Drive to maintain the bush character approach to the existing Middle Camp and to limit the number of intersections from Flowers Drive.
- A landscape buffer along the southern boundary of Sawmill Camp to minimise the visual impact of the proposed hamlet from Middle Camp.
- Large numbers of lots with bushland frontages.
- A pedestrian link to the gateway park and the pathway along the railway line.

Area B: Colliery Hamlet will have:

- A structure that responds to the archaeology and heritage of the Pit E area. The former workshop and archaeological remains of a house in the western part of the site are the organising elements for the layout of Area B.

- 2 parks that link to the vegetation of the ridge. The heritage objects are located in parks to ensure that they remain in the public domain.
- A grid like street and block pattern with long streets and blocks running parallel to the contours of the slope, and short blocks running up and down the hills. The regular grid like street and block pattern relates to the terracing of the railway that was used for loading coal.
- Development is contained by streets.
- A mix of 1 storey and 2 storey houses, however, single storey buildings on larger lots will be located close to the ridge to ensure that the landscape dominates the built form.
- Lots that contain the existing heritage cottages are large providing a significant curtilage to the items. This is particularly important for the northernmost cottage where the realignment of the road now has the rear of the cottage addressing the street. The large curtilage allows for landscaping, a new addition to address the street and/or a formal driveway to the existing front of the cottage.
- Streets are wide enough to enable extensive plantings of new trees.

A2.2 Built Form

The concept plan provides for 213 dwellings. Key principles of the built form are:

Area A: Sawmill Camp will have:

- Lots for detached housing with a minimum lot size of 450m². These lots will have a minimum street frontage of 15m.
- Larger lots with a minimum lot size of 600m² and minimum frontage of 20m are located where the topography is steeper.
- Corner lots will have a minimum lot size of 600m².
- Maximum building height of 2 storeys.

Area B: Colliery Hamlet will have:

- Typical lots with a minimum of 450m². These lots will have a minimum street frontage of 15m.
- Lots with a minimum lot size of 520m² and minimum frontage of 15m are located where the topography is steeper.
- Larger lots with a minimum of 600m² are located in blocks close to the ridge. These larger lots will accommodate single storey houses in a landscape setting.
- Corner lots will have a minimum lot size of 600m².
- Maximum building height of 2 storeys.



Figure A2.2.1 - Built form

A2.3 Open Space + Landscape

Key principles of the landscape plan include:

- Landscape that builds on existing natural vegetation systems, including peppermint/smooth barked apple forest and coastal heath. These two landscape types will form the landscape framework and will be reinforced by plantings of similar and compatible species.

Urban parks

- The Workshop Park has a small flat grassed area in front of the workshop with a forested area behind the workshop where the topography is steeper. The forested area also screens the development to the west of the Workshop Park.
- Lemon Tree Park is the former manager’s house site and is designated as an interpretive park with lawns and a re-interpretation of former gardens in the area.
- Gateway Park reinforces the open grassed character that exists on the northern edge of the existing settlement. This park will develop into a screen of planting that filters the existing settlement and an open flat grassed area. At the edges of the clearing there will be some recreation and interpretive facilities.
- The linear park that follows the former rail line embraces the character of the creek line, provides creek crossings and provides an interpretation of the story of the people that once lived in the area both pre-European and during the coal mining working period. It will have an informal character with a diverse range of paving materials and a variety of plantings that reflect the ecological areas through which the rail line traverses.

Bushland reserves

- Ecology based reserves will be located at the periphery of development footprints in all the hamlets.
- There will be bushland parks with a cover of vegetation that will conform to Asset Protection Zone requirements where applicable. Retention of existing trees and shrubs will enhance biodiversity and retain ecological habitat.
- There will be minimal impact on landform.

Buffer zones

- A 20m wide landscape buffer along Flowers Drive to developments A and B will maintain the natural bush character of this street.
- A second landscape buffer will run along the southern boundary of Sawmill Camp to minimise the visual impact of the proposed development when viewed from the existing Middle Camp village,



KEY

- 1 Workshop Park
- 2 Lemon Tree park
- 3 Gateway Park
- 4 Linear Park

- Proposed parks
- Green buffer
- Heritage Shared Pathway
- Existing drainage lines
- Existing green ridges
- Proposed bush reserves
- Proposed conservation area

Figure A2.3.1 - Open space and landscape diagram

A2.4 Access & Movement

The key components of the access and movement plan hierarchy include:

- Each of the hamlets has an entry point from Flowers Drive north.
- Street hierarchy is made legible by the loose grids of local streets creating a permeable street pattern of through-roads.
- Perimeter roads will be used as Asset Protection Zones for bush fire protection.
- Emergency egress for Colliery Hamlet is provided from the south-east corner to Flowers Drive.
- The street layout is designed to provide safe walking routes and bicycle routes that link the site with the foreshore. Footpaths will be provided on all streets, on one or both verges.
- Cycle ways will be on streets, in recognition of low traffic volumes.
- Heritage walk along the former rail line will provide pedestrian access from the hamlets to the beach.
- Parallel on-street parking will occur on all streets.
- Bio-retention swales will be provided on edge streets to clean and filter stormwater.

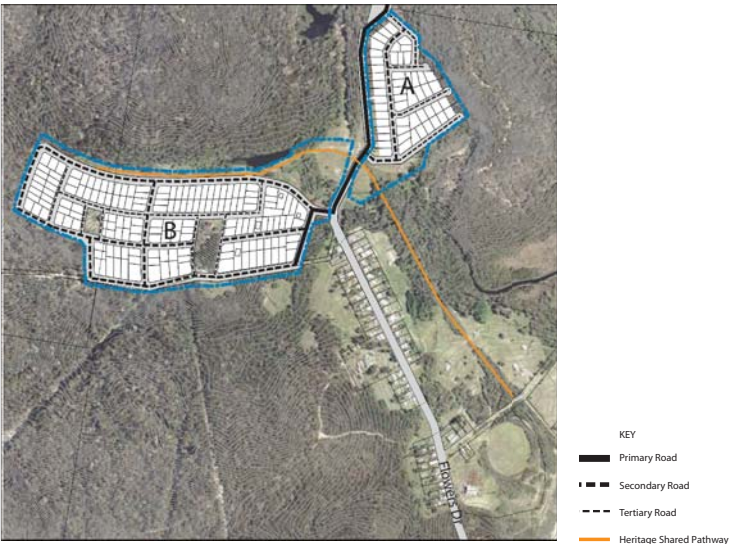


Figure A2.4.1 - Street hierarchy

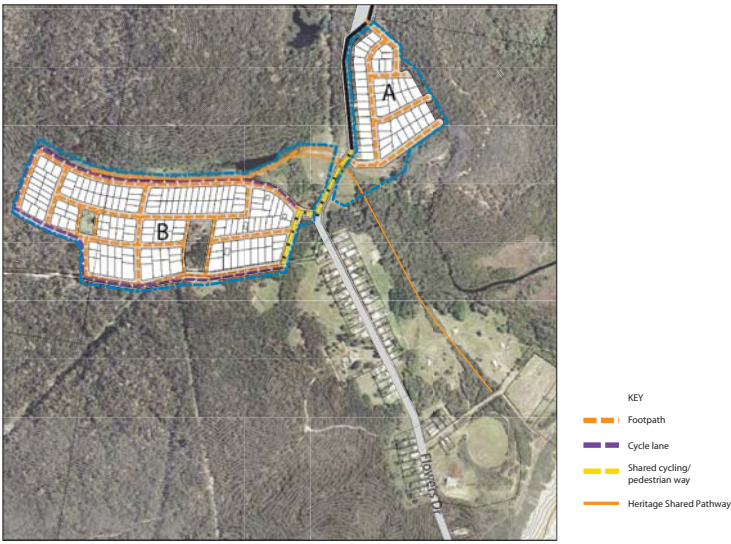


Figure A2.4.2 - Pedestrian & cycling paths

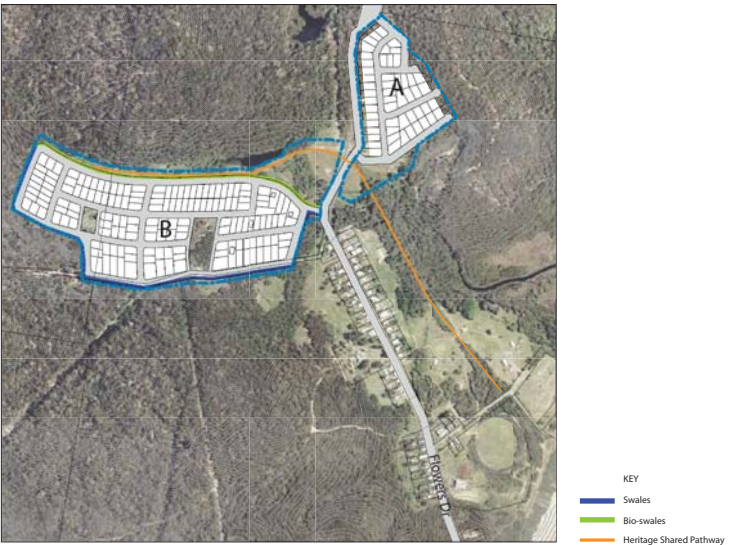


Figure A2.4.3 - Stormwater treatment



Figure A2.4.4 - Street lighting

A2.5 Visual Impact

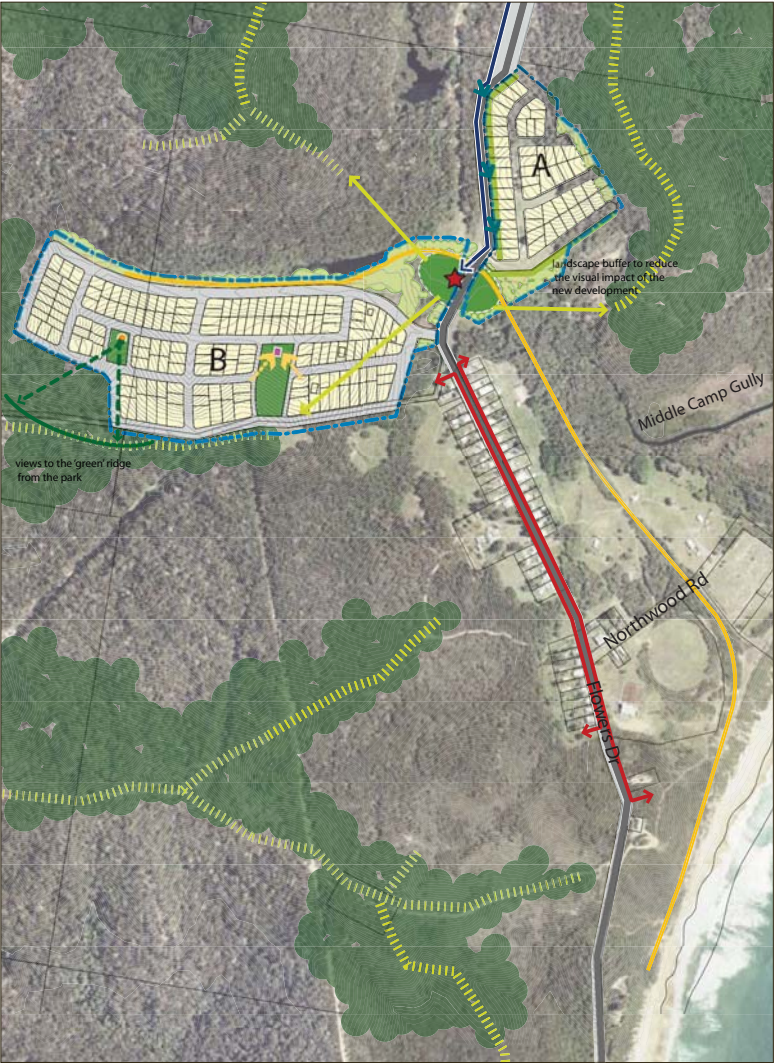


Figure A2.5.1 - Minimising visual impacts

- KEY
- Vista of 'Gateway Park' from Flowers Drive
 - Location of proposed 'Gateway Park'
 - View of landscaped buffer reduces the visual impact of Area A
 - Landscaped buffer
 - Maintain the existing visual importance of Flowers Drive heritage streetscape
 - Existing green ridges
 - Maintain views to existing green ridges
 - View to heritage item (former workshop)
 - View from heritage item of the valley
 - Bushland reserves reduces the visual impact of hamlets
 - Heritage Shared Pathway

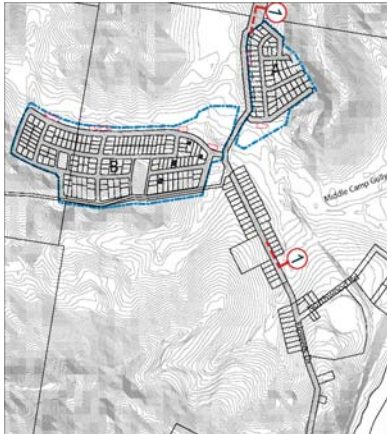


Figure A2.5.2 - Proposed landscaped buffer will maintain the 'green' approach to Middle Camp



Figure A2.5.3 - The heritage streetscape of Middle Camp will maintain its visual importance

- The key principles that are embodied in the plan are:
- The setting of Middle Camp is maintained by retaining vegetated ridges.
 - Development areas are screened by landscape buffers along Flowers Drive and along the southern boundary of Sawmill Camp. This will allow the heritage streetscape of Middle Camp to maintain its bush landscape setting along Flowers Drive and minimise the visual impact of the proposed development of Sawmill Camp.
 - In the Colliery Hamlet, single storey development is located close to the ridge to reduce visual impact and allow vegetated ridges to dominate.



Location plan

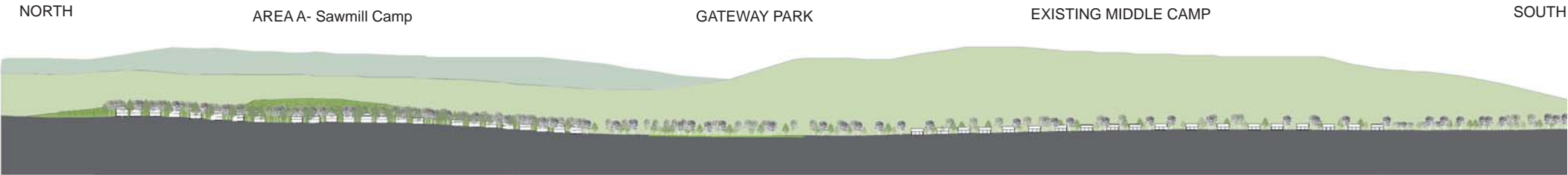


Figure A2.5.4 -Site Section 1 along Flowers Drive showing the landscaped buffer of Area A along Flowers Drive. This landscape buffer will maintain the landscape approach of Flowers Drive to Middle Camp

A2.6 Heritage

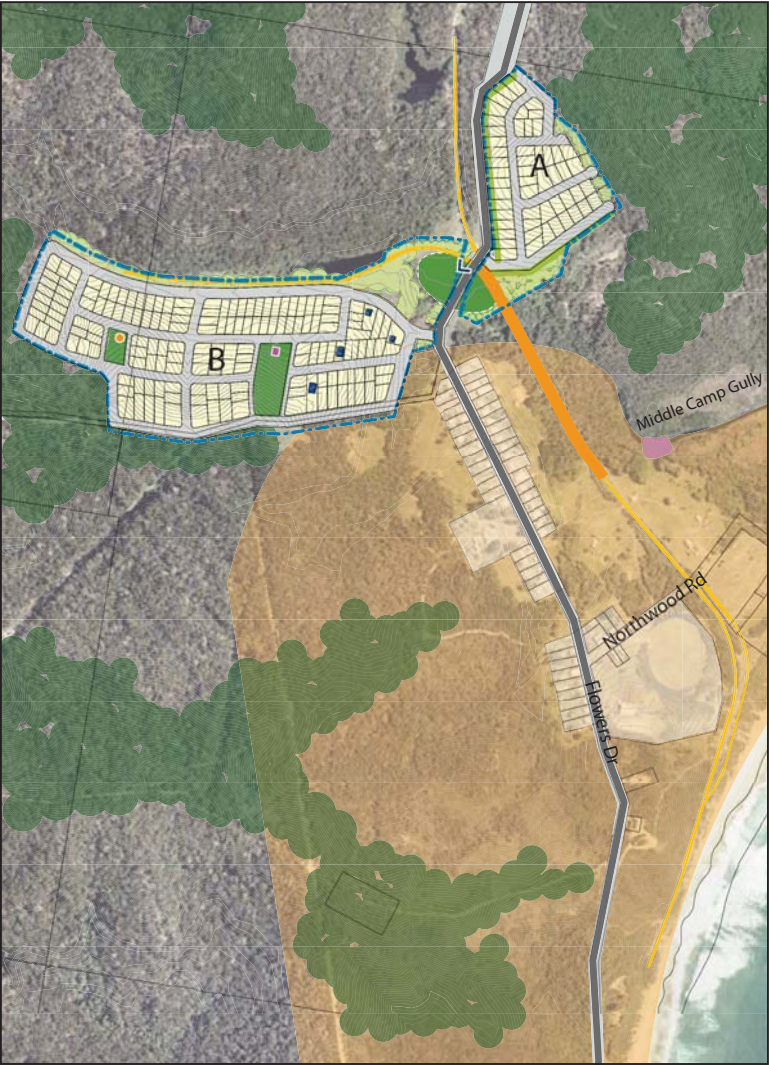


Figure A2.6.1 - Heritage



Figure A2.6.2 - Former workshop



Figure A2.6.3 - Lemon tree and former house



Figure A2.6.4 - Railway embankment

- The key principles embodied in the plan are:
- The alignment of the former railway line will be interpreted as a heritage walk and a link which physically ties together the incoming community.
 - The terracing in Area B (Pit E) will be expressed in the relationship of the landform with the park activities.
 - Former workshop and the archaeology of the house in the Colliery Hamlet are the structuring elements of Area B (Pit E) and are located in parks that connect the ridge to the creek.
 - Retain existing cottages within Colliery Hamlet and incorporate them into the subdivision pattern.
 - Larger curtilage around the northernmost heritage cottage to acknowledge its setting, allow for additional landscaping around the cottage and vehicular access to the front of the cottage.

A3.1 Development Staging

- Development staging is intended to be undertaken as follows:
 - Three stages have been identified. These stages relate to the hamlets within the development footprint and the existing occupancy arrangements with Coal & Allied.
 - Provision of infrastructure is to be undertaken in three packages that service each of the hamlets.
- Delivery of the public domain and infrastructure in three stages is intended to be a robust mechanism for development. This ensures that services, roads and landscape are integrated. This will benefit future residents and will ensure that each hamlet will have a park and basic access will be provided.

Stage 1 - Area B: Colliery Hamlet East includes:

- A total of 91 dwellings including 4 existing houses with heritage value..
- All lots are a minimum 450m²
- Corner lots are a minimum 600m²
- Delivery of public domain including Workshop Park and associated infrastructure required for development.

Stage 2 - Area B: Colliery Hamlet West includes:

- A total of 70 dwellings.
- All lots are a minimum 450m²
- Corner lots are a minimum 600m²
- Delivery of public domain including Lemon Tree Park and the Linear Park and part of the Heritage Walk and associated infrastructure required for development.

Stage 3 - Area A: Sawmill Camp includes:

- A total of 52 dwellings.
- All lots are a minimum 450m²
- Corner lots are a minimum 600m²
- Delivery of the public domain including the landscape buffer along Flowers Drive and along the southern boundary of Sawmill Camp and associated infrastructure required for development.

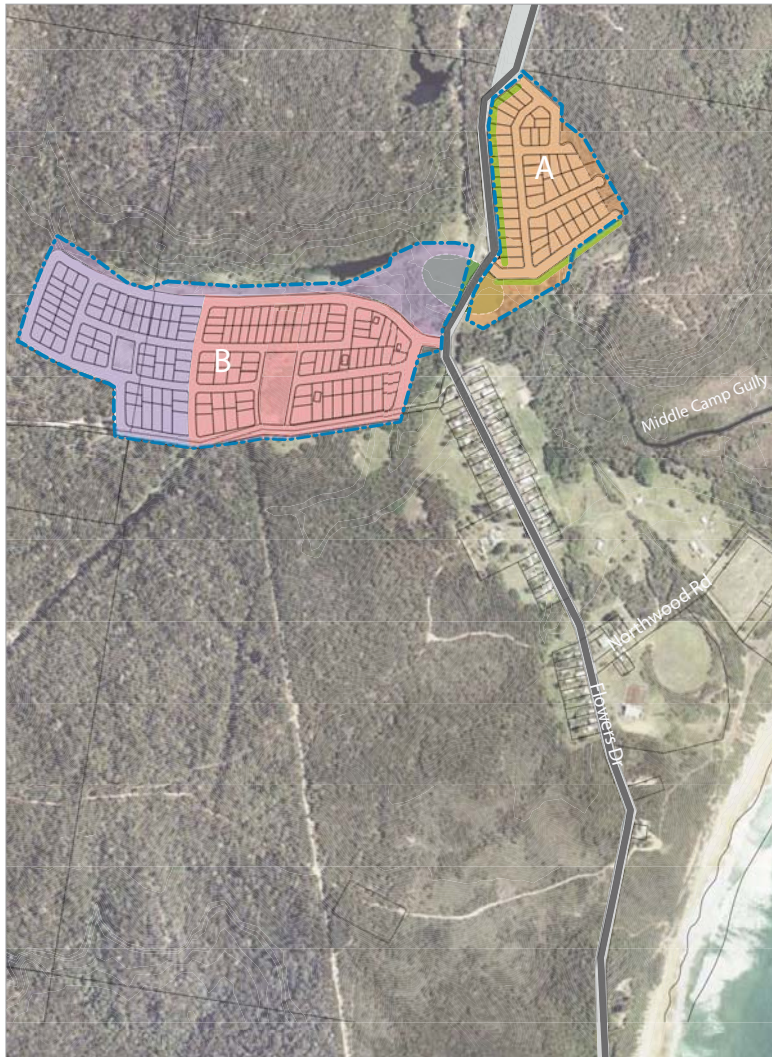


Figure A3.1.1 - Development staging