Figure B.1.6.1. Landscape Treatment

Ⓐ Central Spine Open Space

Ⓑ Street Tree Planting

Ⓒ Vegetated Boundary Buffers

LEGEND

- Site Boundary
- Existing Creek Line
- Existing Hunter Water Pipeline
- Existing Residential
- Existing Industrial
- Indicative Stancheon Locations
- Powerline Easement
- Proposed Detention Basin
- Indicative Proposed Riparian Zone (HSO, 2008)
- Indicative Proposed APZ - 20m
- Proposed 20m wide Green Buffer Zone *(as required under Newcastle - Lake Macquarie Western Corridor Planning Strategy)*
- Indicative Proposed F3 Freeway - Raymond Terrace Interchange
- Proposed Indicative Site Entries
- Proposed Visual Buffer in Lots
- Proposed 10m wide Visual Buffer to John Renshaw Drive.
- Support Facilities
- Proposed Public Open Space 26 Ha

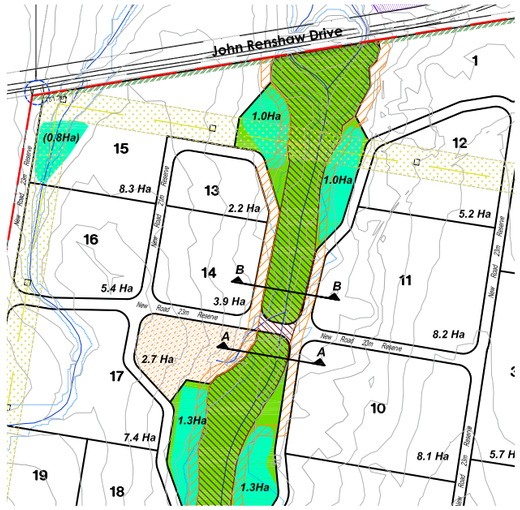


Figure B.1.6.2. Key Plan - Sections A-A and B-B

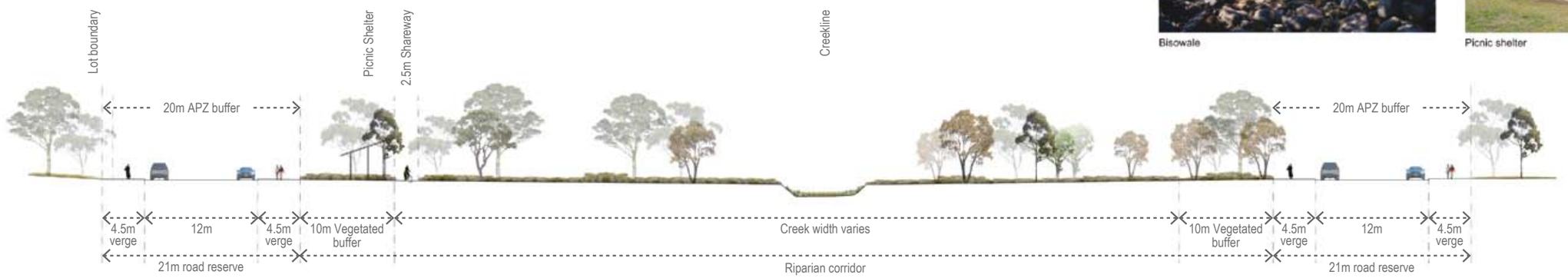


Figure B.1.6.3. Typical Riparian Corridor Treatment - Section B-B

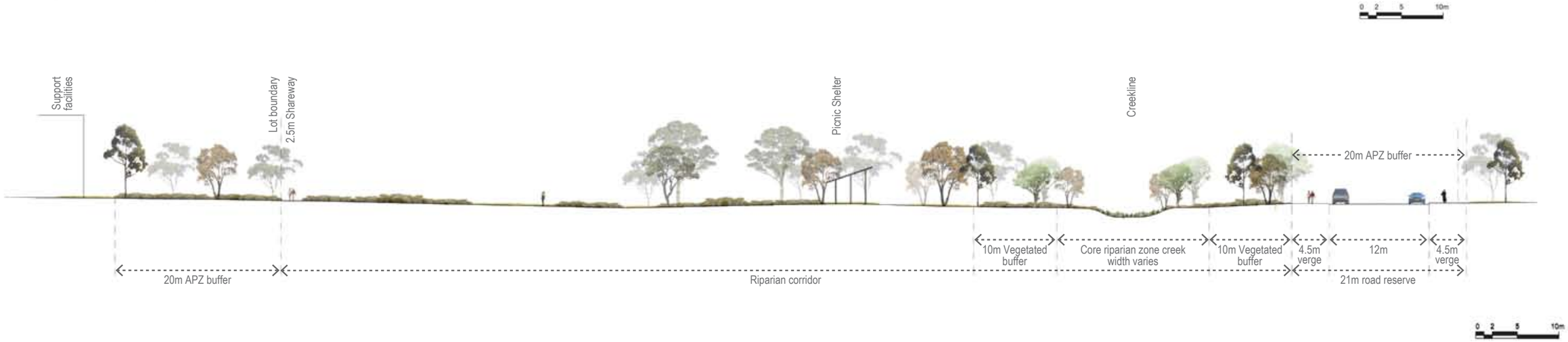


Figure B.1.6.4. Typical Riparian Corridor Treatment - Section A-A

Indicative Plant List

LARGE TREES	
Angophora costata	Smooth Barked Apple
Corymbia maculata	Spotted Gum
Corymbia eximia	
Corymbia gummifera	Red Bloodgum
Eucalyptus crebra	Nartrow leaved Ironbark
Eucalyptus fibrosa	Red Ironbark
Eucalyptus microcorys	Tallowood
Eucalyptus piperita	Sydney Peppermint
Eucalyptus punctata	Grey Gum
Eucalyptus saligna	Sydney Blue Gum
Eucalyptus tereticornis	Forest Red Gum
Lophostemon confertus	Brush Box
Syncarpia glomulifera	Turpentine
MEDIUM TREES	
Acmena Smithii	Small Leafed Lilly Pilly
Glochidian hederacea subsp. hederacea	
Bursaria spinusa	Blackthorn
Daviesia leptophylla	Grose Bitter Pea
Grevillea montana	
Melaleuca nodosa	A tea tree
Synoum glandulosum	Scentless Rosewood
Waterhousia floribunda	Weeping Lilly Pilly
Jacaranda mimosifolia	
BIO SWALE	
Callistemon salignus	Willow Bottlebrush
Melaleuca styphelioides	Prickly Leafed paper bark
Tristaniopsis laurina	Water Gum
Juncus usitasis	Common Rush
Lomandra longifolia	Spiny headed Matt-Rush
Melaleuca quinquenervia	Broad-leaved paperbark
Dianella caerulea	Blue Flax Lily
Dianella revoluta	Flax Lily
UNDERSTOREY	
Themeda australis	Kangaroo Grass
Dianella caerulea	Paroo Lilly
Dianella revoluta	Flax Lily
Lomandra longifolia	Spiny headed Matt-Rush
Themeda australis	Kangaroo grass
Cymbopogon refractus	Barbed Wire Grass

PLANTING IN CREEKLINES/ BIO SWALES

TREES FOR PARKS AND OPEN SPACES

LARGE STREET TREES

MEDIUM STREET TREES

UNDERSTORY

Figure B.1.6.5. Indicative Plant List

B.1.7. Road Network

Access and egress to and from the Estate will be from both the F3 Freeway via left in/left out and a three-way signalised intersection to John Renshaw Drive. The preliminary road network consists of 21m wide Local Industrial Streets and a 23m wide Industrial Collector Road, which will form the basic structure of the development. The proposed network comprises a flexible layout which will provide a solid foundation for the future subdivision of the Estate. Future road access to adjacent properties to the west and south has been provided by the proposed road network.

The location of the two road types are shown in Figure B.1.7.1. Typical road sections are also provided. Road cross section details are in accordance with Newcastle City Council requirements for industrial estates.

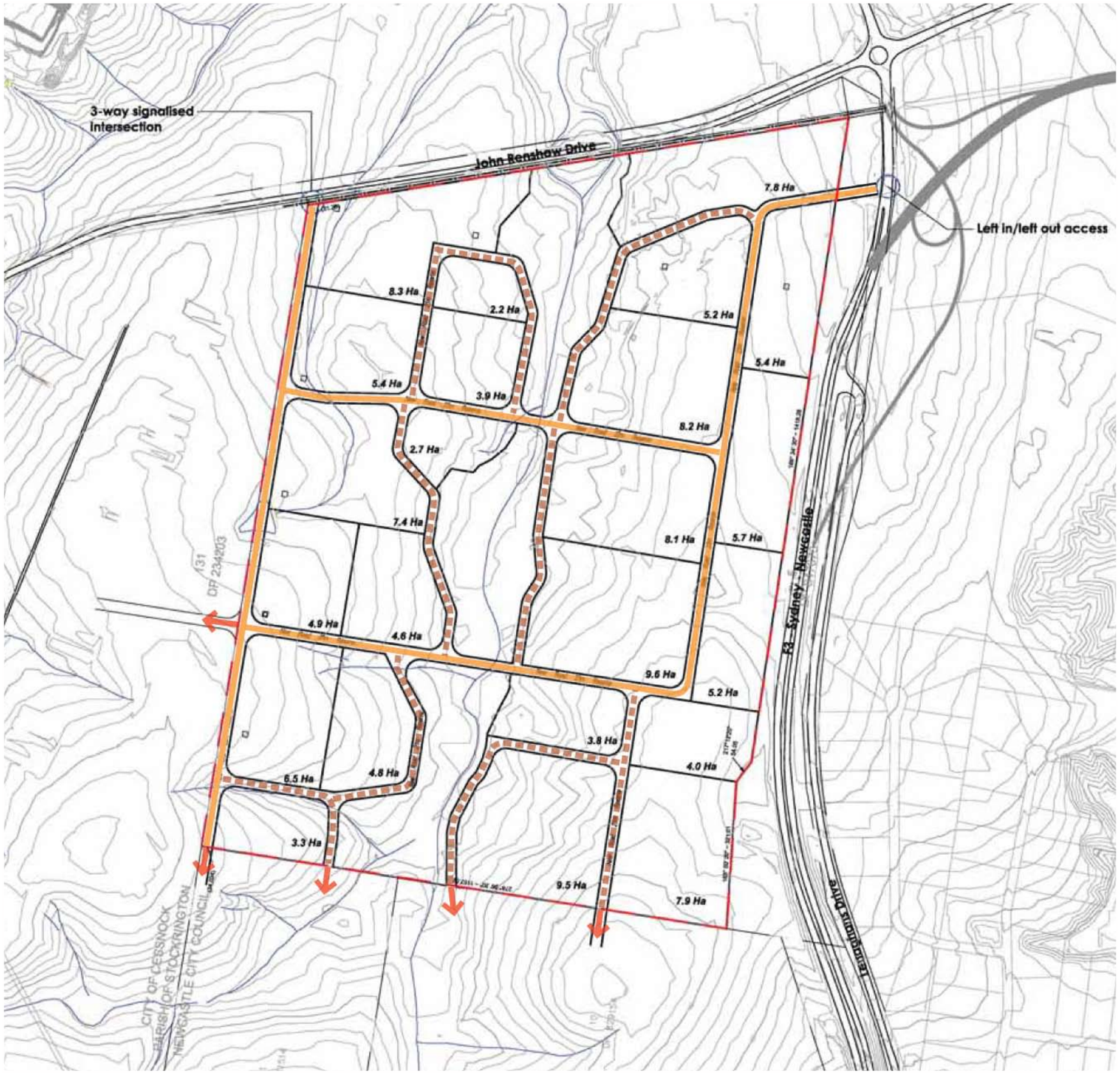
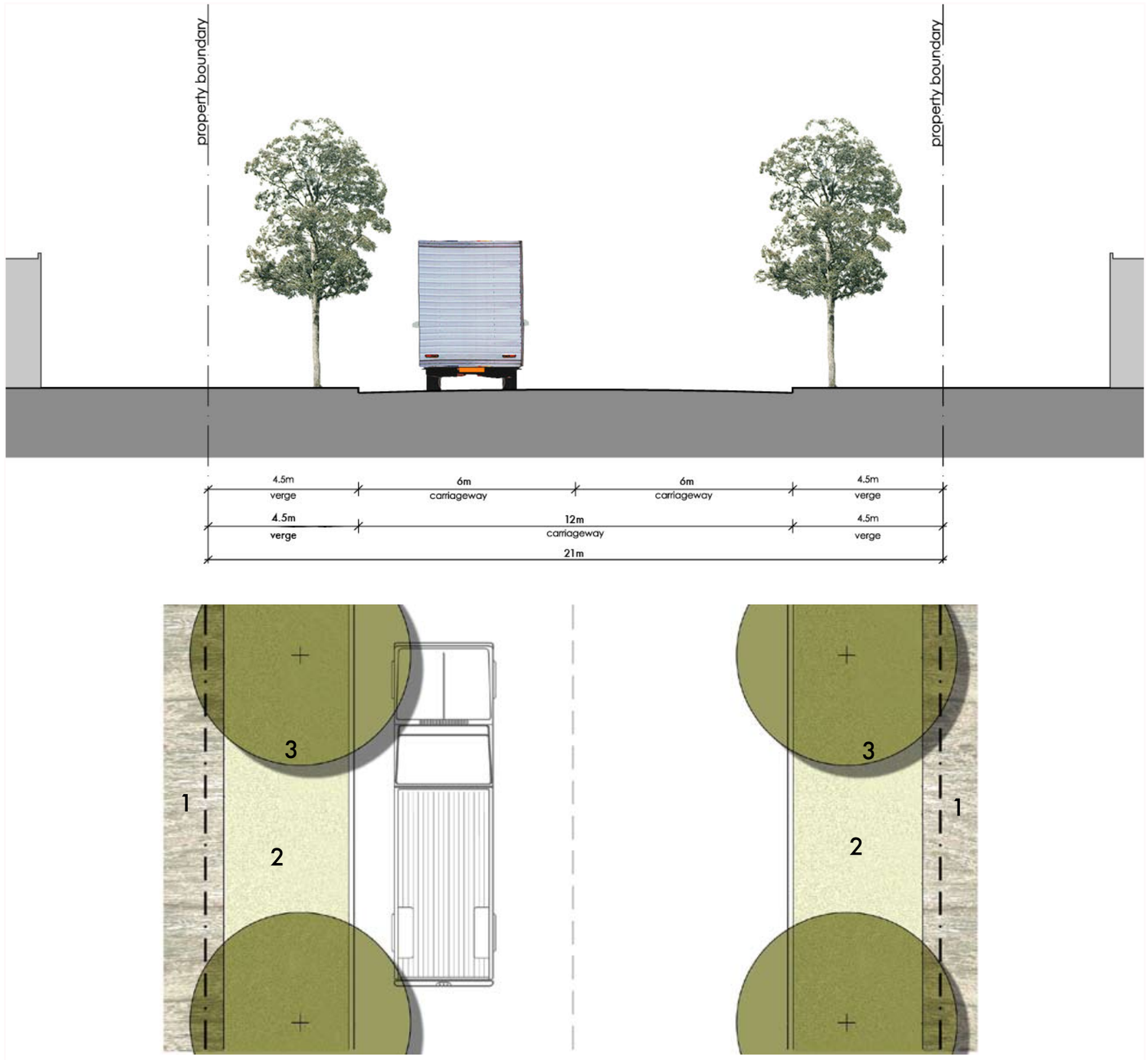


Figure B.1.7.1 Road Types



1.Property Boundary, 2. Turf verge, 3. tree 6-8m crown spread, 20-30m cu soil volume

Figure B.1.7.2 Local Industrial Road - 21 m

1.Property Boundary, 2. Shared cycle/pedestrian path, 3. tree 6-8m crown spread, 20-30m cu soil volume

Figure B.1.7.3 Industrial Collector Road - 23 m

B.2.Development Controls

B.2.1. Introduction

This section describes the objectives and development controls that apply to future development within the Black Hill Estate. The development controls are consistent with relevant planning instruments applying to "employment lands", generally based on the Newcastle City Council (NCC) industrial development controls. In addition, the proposed controls are consistent with the objectives of the Environmental Planning and Assessment Act 1979, as they include

- measures to protect the environment, including controls in relation to the riparian zone and water management on site;
- measures to protect the amenity of adjacent land owners and properties, including landscape buffering and setbacks;
- minimum lot sizes which are consistent with Newcastle City Council controls and which enable orderly and economic use of the land;
- protective measures for proposed public open space (i.e. the riparian zone);
- ecologically sustainable development measures, addressed through appropriate controls in relation to waste and water management, energy consumption, environmental protection and future use of the land.

B.2.2. Minimum Lot Size and Dimensions

Objectives

- To provide reasonable site area for buildings, manoeuvring, parking and landscaping.
- To provide industrial sites of sufficient size to accommodate future potential uses.

Controls

- Industrial lots are to be provided in accordance with the following table:

Site Characteristic	Minimum Requirement
Frontage	20m
Lot Area	750m^2
Average area of all lots created in the plan	1000m^2

Source: NCC

B.2.3. Site Coverage

Objectives

- To ensure that industrial sites are not developed to a level that prevents their efficient operation.
- To protect the visual amenity of the area by managing the overall bulk and scale of future development.

Controls

There is no numerical standard in relation to site coverage of industrial development. Rather, site coverage will be determined having regard to compliance with other guidelines within this document, with particular emphasis on building setbacks, provision of sufficient on site parking and manoeuvring areas, and the provision of adequate landscaped open space.

B.2.4. Setbacks

Objectives

- To ensure that adequate area is available at the front of buildings to accommodate satisfactory landscaping, access, parking and manoeuvring of vehicles.
- To reduce the visual impact of industrial development on the streetscape and surrounding development.
- To preserve perimeter vegetation where possible.

Controls

- A minimum setback of 5 metres is to be provided in frontages of industrial allotments and along John Renshaw Drive.
- For corner lots, a secondary setback of 5m is to be provided.
- Generally, an access corridor having a minimum width of 5m is to be provided to permit the passage of emergency vehicles.

B.2.5.Car Parking, Access and Loading

Objectives

- To minimise the impact of traffic generated by the development on existing Black Hill residents and school.
- To provide for future public road access to properties adjoining the site to the west and south.
- To locate and design any car parking, driveways and servicing areas so that they are efficient, safe, convenient and easily identified.
- To ensure adequate areas are set aside on site to allow for the safe and efficient manoeuvring of delivery and service vehicles.
- To ensure car parking areas are of suitable dimensions/ layout to allow for vehicle manoeuvring.
- To provide sufficient off-street car parking facilities that do not detract from the overall visual amenity and character of developments when viewed from the street.

Controls

- Provide an appropriate level of visual screening to reduce the visual impact of loading and car parking areas from the street. For sites with less than 20 spaces, screen planting to the perimeter of the car park shall be sufficient. For sites with more than 20 spaces, tree bays must be incorporated at one bay for every 20 spaces except where bays abut rear or side walls of buildings.
- Driveways are to be designed to enable vehicles to enter and leave the site in a forward direction.
- Loading docks are to be located such that they minimise conflicts between other vehicles accessing the site.
- Parking is to be provided in accordance with the following table:

Use	Rate
Bulky Goods	1 per 60m^2 GFA
General Industrial	1 per 100m^2 GFA or 1 space per 2 employees, whichever is greater
Warehouses	1 per 200m^2 GFA or 1 space per 2 employees, whichever is greater
Commercial (Office)	1 per 40m^2 NFA
Service Retail	1 per 16m^2 GFA

Source: NCC

- Parking requirements for other uses are to be determined by reference to the Newcastle City Council car parking requirements.

B.2.6.Design & Appearance of Developments

Objectives

- To promote industrial development that is both functional and attractive in the context of its local environment through appropriate design

Controls

General Buildings

- Elevations of buildings which are visible from a public area or adjacent residential areas are to be constructed using glass, brick, masonry, pre-coloured metal cladding, 'tilt-slab' concrete or a combination of these materials.

- Large unrelieved expanses of wall or building mass are to be broken up by the use of suitable building articulation, fenestration or alternative architectural enhancements.

- Showroom display areas, ancillary offices, staff amenities and other low-scale building elements are to be, wherever practicable, located at the front of the premises and constructed in brick or masonry materials to enhance the appearance of the development.

- Roofing materials are to consist of non-reflective materials.

Open Storage and Work Areas

- Open work and storage areas are to be located at the rear of industrial developments and screened from view by the use of landscaping and screen fencing.

Security Fencing

- Security fencing should be visually unobtrusive and, except in special circumstances, should be located behind the landscape setback area.

B.2.7.Environmental Attributes and Constraints

Objectives

- To ensure development responds positively to the particular environmental attributes and constraints affecting the site, including:
  - Geotechnical constraints (subsidence)
  - Flooding and riparian zones
  - Cultural Heritage

- To recognise the importance of Viney Creek as a significant watercourse and also as an important open space corridor

- Ensure the integrity of the riparian corridors is maintained and protected

- To ensure future development protects and enhances these environmental attributes

- To ensure the safety of future users of the site

Controls

- Future development must demonstrate a consideration of the environmental constraints and attributes of the site

- All development applications must be accompanied by appropriate technical investigations, where necessary, to ensure that such issues have been adequately addressed

- Development must not restrict public access to the open space corridor associated with Viney Creek

- Future buildings are not to encroach within the designated APZ areas identified in the Concept Plan layout.

- Future buildings should demonstrate a commitment to Ecologically Sustainable Development (ESD) principles, with particular regard to water re-use and management

B.2.8. Landscaping

Objectives

- To enhance the visual amenity of the Estate, particularly from the adjacent residential communities
- To encourage a high standard of landscaping to enhance the streetscape and amenity of the Estate.
- To minimise landscape maintenance requirements.

Controls

- Areas required to be landscaped:
  - The front building setback;
  - All street verges;
  - Secondary setbacks where visible from a public place or adjacent private land;
  - Areas adjacent to building entrances and pedestrian access points;
  - The perimeter of all approved open storage areas and staff/visitor parking areas. Large car parking areas should be interspersed with internal planting bays to reduce the visual impact of large areas of paved surfaces;
- Street trees are to be locally occurring species of medium size (canopy 6-8m), spaced at 10m.
- An unobstructed root area 1m deep and 20 - 40m^2 is to be provided per tree (no building or pavements permitted in this area).
- Passive watering techniques are to be utilised as part of the road drainage system.
- A landscape plan is to be prepared for all future development applications, which includes details of both hard and soft landscaping.

B.2.9. Site Water Management

Objectives

- To ensure integrated water cycle management best practices are utilised throughout the Estate
- To protect the natural environment from the effects of stormwater run-off
- To manage stormwater on an individual lot basis
- To maximise use of recycled water within the Estate

Controls

- A Stormwater Management Plan is to be prepared for each individual allotment.
- Each lot should provide water quality treatment and contain an unobstructed overland flow path.
- On site detention may be provided in the form of landscaped swale/depression, subterranean detention tanks or above ground water tanks (with surrounding landscaping to minimise visual impact).
- All water leaving a site to be treated for the removal of sediments, heavy metals and other contaminants.

B.2.10. Waste Management

Objectives

- To promote efficient waste management
- To minimise waste transfer

Controls

- Future developments should optimise on-site recycling and reduce waste production
- Individual waste storage and collection areas are required for developments, which are appropriately screened and accessible.
- A waste management plan is to be prepared for each development application.

B.3. Indicative Staging Plan

This chapter illustrates the intended development staging for the overall development. A total of 6 stages are proposed, with the first stage being located in the north western section of the site.

An existing mining consent over the Black Hill site will defer development until mid 2013. Separate approvals will also need to be sought for the construction of individual buildings on the site.

The proposed staging represents a logical approach to development, with those areas closest to the existing road network and major infrastructure to be developed first.

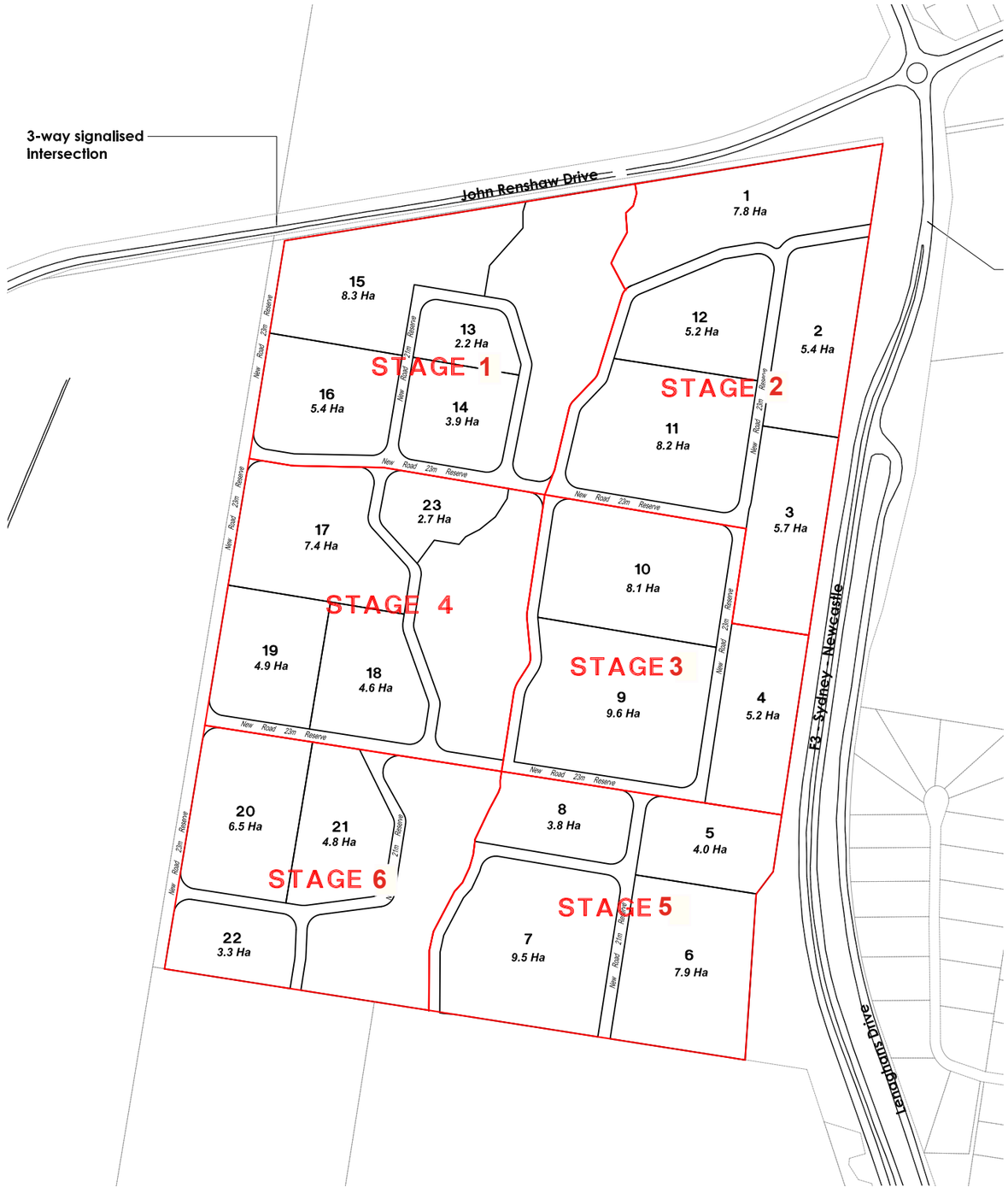


Figure B.3 Indicative Staging Plan