

Cronulla Sharks Redevelopment Landscape Statement

Landscape Report for Environmental Assessment



Executive Summary

Cronulla Sharks Redevelopment (MP 10_0229)

ASPECT Studios refers to the Department of Planning & Infrastructure letter dated 3rd February 2012:

- Riparian Zone

The updated EA landscape concept plans and this report revises the previous plan and report.

Please refer below for a summary of changes to the EA landscape concept plan and report which responds to the issues raised by the Office of the Director General.

- Foreshore Park (in front of residential).

The foreshore path and associated landscape elements (seating, bbq, shade canopy, playground etc) have been moved south (with the exception of two elevated timber boardwalks which connect the elevated educational pontoons) to be out of the 30m zone (from mean high water mark).

A larger vegetated riparian buffer now exists between the foreshore park/ residential and mangroves. The vegetated buffer proposed will be a possible salt marsh (pending further investigation), however if this is not possible species will be chosen from the Swamp Oak Floodplain Forest ecological community. Please refer to EA-07 for proposed plant species (species have been selected from the Identification Guidelines for Endangered Ecological Communities documents from the NSW Department of Environment and Climate Change – December 2007).

- Mangroves.

Aspect Studios confirms that the landscape design for the Sharks redevelopment does not require the removal of any mangroves on the site or adjoining lands. The boardwalk shown to the mangrove edge (north of the Toyota Stadium hill) has been located using information from the survey provided by Harrison Friedmann – dated 02/06/2011. In this survey a 'line of mangroves (trunks)' line has been shown by the surveyors and the boardwalk has been shown to the south of this line. If inaccuracies are found with this or other surveys we have used, the boardwalk will be re-located (further south) so as to avoid the need to remove any mangroves.

- Retail Frontage (north).

The foreshore path and associated landscape elements (retail courtyard, leisure breakout space, seating etc) have been moved south to be out of the 30m zone (from mean high water mark).

A larger vegetated riparian buffer now exists between the retail entry and mangroves. The vegetated buffer proposed will be of the ecological community - Swamp Oak Floodplain Forest. Please refer to EA-07 for proposed plant species (species have been selected from the Identification Guidelines for Endangered Ecological Communities documents from the NSW Department of Environment and Climate Change – December 2007).

In addition, the 3m wide path is now proposed to be elevated to allow the vegetated riparian buffer to grow underneath with little disturbance.

- Overall landscape design.

It is important to note the essential role the landscape design plays in providing clear connections and links across the site between the residential, stadium and retail centre. This has been a major driving force in the design of the concept plan - both on the north (mangrove side) and south (Captain Cook Drive), and is key to the success of the project.

The foreshore path network has been designed to knit in with the existing shared path network and provides strong links both at the upper and lower levels of the site, and into key entry points such as the residential streetscape/ Foreshore Park, stadium surrounds and retail entries (both on ground and at level 2).

In addition, it is proposed that the design language and landscape components (for example furniture, lighting planting etc) across the site will read as a suite of elements - further tying the site together and providing continuity throughout.

Site Background

The Cronulla Sharks Leagues and Football Clubs are important establishments of the Sutherland Shire. The existing site and facilities are the venue for significant sporting events, albeit on infrequent occasions. The site is generally underused, specifically out of the rugby league season and throughout the week. The master plan proposes to develop these underused portions of the site including both sides of Toyota Stadium. The creation of a new centre will include a new residential community, new publicly accessible open space and parks with improved pedestrian (including cycle way) access, and a new neighbourhood retail centre. These will combine with an upgraded club premises to create both a relevant and popular centre.

For more information regarding the residential components please refer to report by *Turner and Associates*. For more information regarding the retail component please refer to report by *Scott Carver*.

Site Context

The site is located in the suburb of Woollooware, part of the Sutherland Shire, 30km south of the Sydney CBD. The site consists of Toyota Stadium, Cronulla Sharks Club premises (and adjacent bitumen carpark), existing watercourse running north-south through the site, and to the west grass playing fields with a bitumen carpark and access road.

The site is bound by Captain Cook Drive on the south and the Towra Point Aquatic Reserve to the north (Woollooware Bay) which contains a significant mangrove population.

Adjacent to the site on the east is a low rise commercial building housing a Fitness First gym and a petrol station. To the west of the site (past the Solander Playing Fields) is a significant industrial area (North Caringbah/ Taren Point). On the south of Captain Cook Drive is Woollooware Golf Course and Woollooware High School (refer Figure 1).



Figure 1. Aerial image (existing site conditions). Source: Nearmaps

Design Principles

The proposed public domain areas within the Cronulla Sharks Redevelopment site have been designed with regard to the general design principles listed below:

- The provision of high quality landscape spaces that allow for a variety of uses and user groups
- Provision of a minimum 30m wide vegetated riparian buffer (where possible) where active use will be limited to an elevated boardwalk.
- Enhance the quality, quantity and usability of public space
- Integration of clear cycle/ pedestrian networks throughout the site with strong links into existing neighbourhood path & cycle networks maximising connectivity within and into the site
- The implementation of environmentally sustainable design principles including water sensitive urban design initiatives (WSUD) such as drainage swales, permeable paving, water capture/ storage and rain gardens within residential streets
- Consideration of storm water management
- The protection and vegetated buffering of significant mangroves adjacent to the northern boundary of the site and through the watercourse
- Increase biodiversity and environmental protection through plant species choice and hard materials
- Where appropriate plant species be selected using providence stock which are indigenous to the local area and genetically compatible with local remnant species (as part of the proposed Swamp Oak Floodplain Forest and possible salt marsh ecological communities). Proposed planting to be at a density that would occur naturally.
- Low water consumption planting
- High quality, low maintenance, robust streetscape materials
- Ensure that the public domain has been designed with regard to crime prevention through its design (consideration of CPTED principles)

Landscape Areas

The proposed landscape concept scheme can be broken down into the following components described in detail below:

- Streetscape upgrades and new streetscapes
- Foreshore Park
- Toyota Stadium 'Family Hill' upgrades
- Foreshore pathway network and existing watercourse
- Retail entries
- Vegetated riparian buffer planting
- Private communal courtyards (residential)
- Optional green roof spaces (residential)

Refer Figure 2 for landscape areas key plan.

This report and accompanying landscape plans (11017 EA 01-07) address the Director-General's Requirements as set out in the Concept Plan Application *MP 10_0229*, specifically key issue 5: *Public Domain/ Open Space*.

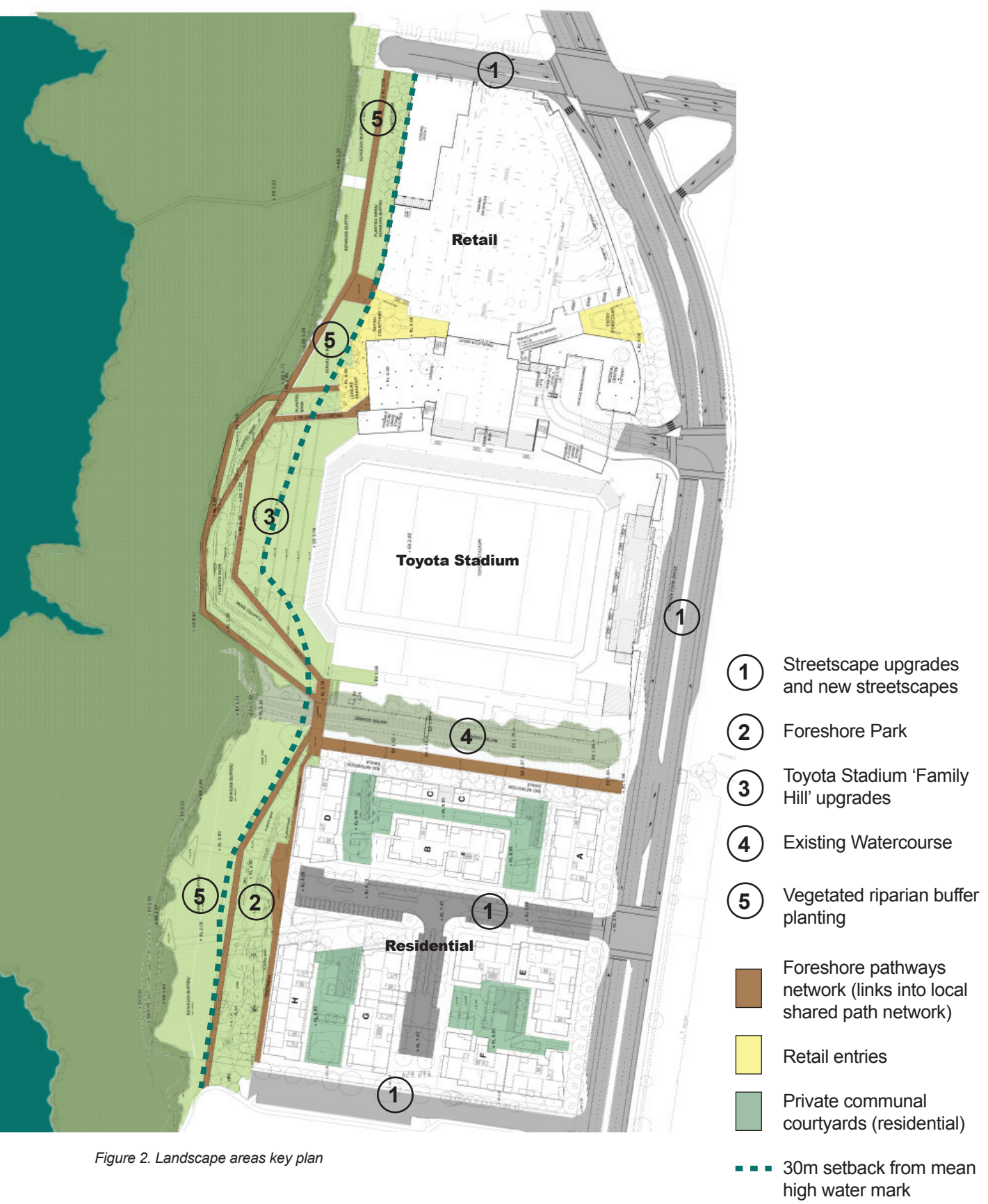


Figure 2. Landscape areas key plan

Streetscape upgrades and new residential streetscape

The proposed residential development streets have been designed to lend a strong character to the development and to enable equal and amenable access of pedestrians, cyclists and vehicles. They are designed to sensitively and effectively manage the road storm water runoff, treating most water that falls on the road network through carefully considered swales and rain gardens. Under storey planting in the proposed swales will form an important role in water treatment, whilst also giving the site the character of an open, green and connected development. Additional street parking is provided in a number of formats.

Footpaths are wide enough (minimum 3m width) to comfortably convey pedestrians and cyclists alike. Mature trees (refer plant schedule for species options) are proposed to be carefully planted in order to minimise footpath conflict and create a strong day one character for the development. The street tree species will reflect the surrounding character of the area, reinforcing the development's connection to its surrounds.

Upgrades along Captain Cook Drive will include street tree planting and under storey planting where possible (refer plant schedule for species options). Street trees along the residential frontage are set back from the kerb (planted at 10m centres) to take into consideration overhead power lines. This allows for taller tree planting and some screening to the residential dwellings beyond. Street trees along the stadium frontage will alternate with 'landscape markers' which could be flag poles, signage or similar (subject to further approvals). These upright elements will help delineate the stadium curtilage and could possibly be place holders for game day information and such. The large retail/ club entry at Captain Cook Drive allows for increased tree planting and street furniture. Street tree planting to the east of the entry includes taller tree species (again moved towards the kerb and away from power lines overhead) which will help to provide a green screen to the retail facade.

Footpaths are designed with minimum 3m width, creating a safe and generous corridor for pedestrians travelling along the vehicle dominated Captain Cook Drive. Cyclists are encouraged to use the bike lane provided in the road carriageway.

The new development will be well connected to the surrounding suburbs via well-considered intersections that service both the residential/ retail components and pedestrian amenity. Increased crossing points have been provided along with bus drop off points along the development. New signalised entries, the removal of the existing roundabout and works to Woollooware Road mark improvements as detailed in a report by *McLaren Traffic Engineering*.

Foreshore Park

The design of the Foreshore Park allows for both active and passive recreation (south of the 30m wide vegetated riparian buffer) and caters for a wide range of user groups. The park is intended to be a destination park for the wider shire community, not only for new residents of the adjacent residential development.

Movement is encouraged into the park via a series of strong links from the west via the existing shared pedestrian/ cycle path (from Taren Point and industrial area), from the south via the residential street footpaths (down large terrace/ seating steps) and from the east via the new Foreshore pathway network.

A bbq and picnic/ gathering area is proposed for the heart of the space. Bench seating, tables and paved areas (both hard paving and gravel) provide different spaces and activities to occur. An opportunity exists to include a simple shade canopy which will provide shade to the bbq/ cooking facilities.

A children's playground will flank the picnic area and be designed to promote active and imaginative play for children and carers from a wide range of ages and abilities. Play equipment will be chosen to maximise carer and child engagement and play types (dynamic play, explorative play, water play and imaginative play). A water play and 'jets' area will make the playground attractive in summer. The edge conditions will be designed so as to provide a natural barrier for safety whilst a series of timber deck and edge seating will provide full surveillance opportunities for parents or carers. Soft fall mulch, sand and rubber will be used (in accordance with Australian Standards) along with trees for shade and also all abilities play components.

To the east of the picnic area is a large open turf area which allows for more active uses such as ball games etc.

Along the northern edge of the park is the Foreshore pathway/ cycle link, vegetated riparian buffer and existing mangroves. There is also ample opportunity in this area (upon further investigation) to recreate a salt marsh environment (refer plant schedule for more detail). An educational boardwalk/ pontoon structure (elevated) is intended to provide a chance for the public/ school groups etc to gather and learn about the area's natural ecology through a series of interpretive and informative signs. Suitable riparian buffer planting adjacent to the mangroves can be established using minimal excavation. Existing levels shown on section C demonstrates how proposed levels tie in with the existing bank and edge of the mangroves.

Toyota Stadium 'Family Hill' upgrades

The 'Family Hill' although popular in its current format, lacks any flexibility of use or flat areas to congregate. The hill is to be much improved by providing a series of level grass terraces which in turn provide opportunities to have family picnics and other gatherings whilst watching the football. The design aims at rationalising the hill whilst keeping it's character in tact as a family orientated space. A series of 500mm concrete steps are proposed stepping up to a top bench mark of RL6.30, approximately 1m lower than the current configuration. This allows the top tier to be accessible from both the existing watercourse crossing to the west (at existing RL3.78), and the level 2 retail centre to the east (FFL7.65). A security fence will be provided to the back of the (refer section) top tier and along the western boundary. It is intended that this fence allow views through so that pedestrians on the path outside of 'game day' can still interact with the stadium atmosphere. The fence will be operational along its length and allow for entire closure or partial opening. Shade will be provided by a series of mature fig tree planting (*Ficus rubiginosa*).

A series of gabion walls will stabilise the steep bank toward the back (north) of the hill and terrace down to the Foreshore boardwalk path below. It is proposed that the bank be planted with suitable riparian buffer species (refer plant schedule).

Foreshore pathway network and existing watercourse

Key to the entire public domain design is providing a series of clear pedestrian and cycle links throughout the development, which also link into the existing pedestrian networks adjacent to the site (and local shared path network). The design proposes a series of clear links west to east, with a lower level path (RL2.00 along the Foreshore Park and behind the hill up to the existing RL3.50 adjacent to the retail development) intending to link the Foreshore Park into the existing pathway (from Taren Point) west of the site. A higher level path (RL4.05 at the northern most residential frontage up to RL6.30 at the top of the family hill then FFL7.65 at the level 2 retail) is also provided which links the residential into Toyota Stadium, Family Hill and the retail centre at level 2.

Materials along the path will differ and be robust, either concrete or gravel with the majority of the path being elevated timber (or composite) boardwalks. This will be the case behind the hill where a proposed boardwalk structure is cantilevered out from the existing bank (refer section). This new boardwalk will supplement the existing 'Woollooware Bay Mangrove Boardwalk' which will be upgraded in this proposal. The boardwalk has been located so as not to remove any mangroves and furthermore the mangroves will be protected during construction.

A continuous vegetated riparian buffer is to be established along the mangroves edge adjacent to the retail frontage. On the southern side of the elevated path/ boardwalk it is proposed that a planted bank be established which will help visual amenity along the loading dock. Both of these planted areas could form part of a recreated Swamp Oak floodplain Forest (refer plant schedule). The planting would vary in height and include larger trees (*Casuarina glauca* - amongst other species) along the retail/ loading dock edge (refer section).

Suitable riparian buffer planting adjacent to the mangroves can be established using minimal excavation. Existing levels shown on section A demonstrates how proposed levels tie in with the existing bank and edge of the mangroves. A new sea wall may need to be constructed (pending further investigation) in this location. It is proposed that any sea wall works be in accordance with the NSW Department of Environment and Climate Change's guide: Environmentally Friendly Seawalls (2009).

Links have also been established north south through the development. The existing street trees along the western edge of the site are retained and flank a new footpath, which links in with the existing path network (from Taren Point) and new foreshore path/ proposed playground. The residential streetscape allows safe pedestrian movement from Captain Cook Drive into the new residential developments and beyond into the new Foreshore Park.

A path has also been established in between the existing watercourse and residential development. It includes a planted swale adjacent the residential podium and is wide enough (6m) to allow game day access for television broadcast vehicles. The swale is intended to receive and filter water from the eastern portion of the residential buildings and will be constructed at or above the existing levels with minor stormwater cross connections to the existing open channel (watercourse). The mangroves will be retained and protected during construction (with no proposals for removal). The existing conditions to the east of the mangroves/ watercourse (stadium side) will be left undisturbed as stadium infrastructure prohibits a riparian setback on this side.

Access through the retail (on grade) allows pedestrian movement from Captain Cook Drive to the Foreshore boardwalk. This journey will be partly made within the retail centre, and terminate at the retail entry court to the north. External access to the level 2 retail can also be made via a set of stairs from the northern entry court (and also from inside the retail centre).

Throughout the entire development will be generous 'landing areas' at the path intersection points. These will have provisions for seating and bike racks.

Retail entries

The retail (and club) entries are defined with high quality and robust public domain materials which create a clear address for the building. Both the Captain Cook Drive and Foreshore entries will receive marker trees (*Livistona australis*) that will punch toward the sky and create a signature and identity to these spaces. Bench seating, bike racks and lighting will also feature through both the north and south entries, which will help in creating a comfortable and people focused address to the centre.

A breakout space (south of the 30m vegetated riparian buffer) is proposed to the level 1 tenancy to the north (FFL4.00). This will be an outdoor space with seating and tree planting which will serve as an accessible outdoor gathering space and facilitate entry into the retail centre from the foreshore boardwalk at the lower level.

Vegetated riparian buffer planting

A continuous vegetated riparian buffer is to be established along the length of the mangroves. The buffer has been shown at a minimum width of 30m (where possible). Activities within this zone have been limited to an elevated boardwalk and turf (Foreshore Park only). Gabion walls encroach the 30m zone behind the Family Hill however it is proposed that planting to these terraces also be intended as a buffer.

It is proposed that the riparian buffer be species from the ecological community Swamp Oak Floodplain Forest, and planted at a density that would occur naturally. A possible salt marsh area (pending further investigation) is proposed for the area north of the Foreshore Park. If this is not possible, the area will be planted with the above mentioned species (Swamp Oak Floodplain Forest).

Please refer to the planting key and schedule on EA-07 for further information.

Private communal courtyards (residential)

The residential courtyards are situated over a basement podium, with mounding and raised soil volumes providing adequate growing media (minimum 500mm depth) to plant trees and under storey species (refer plant schedule). Access to these spaces will generally be via the residential lobbies however there are also some opportunities to access these spaces from the adjacent street footpaths to ensure maximum connectivity. The courtyards will be primarily used for circulation between lobbies but will also provide seating and passive recreation opportunities for residents. Pools have been proposed for most of the courtyards, with privacy planting adjacent. Individual private residential courtyards will have direct access to the central communal courtyards via lockable gates.

Optional green roof spaces (residential)

There is opportunity to include provision for green roof infrastructure within the residential development (refer Figure 3). The roof spaces could exist in varying formats such as:

- Intensive systems - Low planting and gravels (less than 300mm growing medium).
- Extensive systems - Under storey and tree planting (more than 300mm soil).
- Accessible roof spaces - These provide another break out/ passive space option for the residential community.

The proposed green roofs could also play a role in the capture of rain water for landscape irrigation use. Green roofs may not be accessible.



Figure 3. Possible green roof opportunities on residential dwellings

Crime Prevention through Environmental Design (CPTED)

The public domain areas have been designed with regard to the following principles, which intend to minimise the opportunity for crime:

Surveillance

- All new buildings will overlook the adjacent public domain
- Ground floor residences will be above the adjacent streetscape, allowing surveillance and easy connectivity from private terraces into the public domain whilst ensuring that all streets have active frontages and eyes on the street
- Ground floor residences adjacent to parkland have been designed to have direct and convenient access to the park, with living spaces designed to overlook the parkland
- The streets have been oriented to allow view corridors out to Woollooware Bay to the north and onto Solander playing fields to the west.

Access Control

- The new public domain areas are designed to attract users of all ages
- The only private domain areas proposed are within the building lots. The private domain is clearly delineated and separated by fences and controlled access points from the public domain.

Territorial reinforcement

- The proposed public open space has been designed to be clearly and openly connected to all surrounding areas with uses designed to attract regional and local users of all ages and backgrounds
- It is envisaged that the parkland will be used by all residents of the surrounding suburbs, not only the new residents of the development or Shark's members.

Space management

- The public domain areas have been designed with regard to their ongoing maintenance and will utilise robust materials to enable an ongoing high quality level of presentation.

Interpretation and Public Art Strategies

The adjacent area and site has a rich natural history that will be recognised through proposed interpretation and public art strategies. The public parklands and mangrove curtilage offer diverse opportunities for public artworks and ecological interpretation works. For example these could include a rich interpretive overlay which provides insight into the adjacent Towra Point Nature Reserve, local shore/ migratory bird populations, salt marsh habitats, historic local Aboriginal sites (Towra Lagoon) and the mangroves.

It is proposed that the streetscape works included in this master plan EA submission do not include interpretation works as we believe that elements of this type are most meaningfully located in the public open space and adjacent to the mangroves (along the Foreshore pathway network).

Accessibility in the Public Domain

In establishing the proposed levels for the site, equal access has been a key criteria. All new street footways have been designed to be at accessible grades. Both the higher and lower level Foreshore paths provide equal access from west to east across the development, and in addition the higher path offers equal access up to the top tier of the Sharks 'Family Hill' and into the level 2 retail. On grade access is provided into the retail centre from both Captain Cook Drive and the entry court along the northern foreshore edge. Ramps are shown all at minimum 1:21 grade, which negates the need for handrails.