

Darling Walk

Landscape Statement

Landscape Report for Planning Application

Landscape Statement

Context

Pre-settlement

The long bay of Darling Harbour is oriented in a north/south direction with its valley formed to the south. The northern edges which wrap around to the east and west would originally have had a more abrupt, low cliff edge to the water. The Darling Walk project sits on land that was formerly the edge of the valley floor which in pre-settlement times was mud flats, exposed to varying amounts by the tides, characterised by sandstone shelves amongst the mud flats and mangrove trees. Creeks flowing down to the valley floor would have created indents in the topography and contained riparian vegetation.

The site within the city of Sydney

Darling Harbour is a key landscape feature in the western edge of the Sydney area. It forms a long public edge around a sheltered bay, surrounded by the dense activities of the CBD to the east, and Ultimo and Pyrmont areas to the west. The long water edge condition has allowed Darling Harbour to develop with a range of recreation and entertainment facilities that make it one of the most visited places in Australia. Its location between the residential areas of Ultimo/Pyrmont and the employment areas in the CBD mean that it is also frequented daily by pedestrians commuting to and from work. The existing layout of Darling Harbour was designed and built to commemorate the bicentenary in 1988.

Context within Darling Harbor

Darling Walk is a large area in the south eastern portion of Darling Harbour, located on Harbour St between the Imax Cinema (to the North) and The Chinese Gardens (to the South). The site was previously occupied by a large entertainment complex with ground floor retail. The previous public domain areas included a children's playground (built in 1988), ornamental lake, melaleuca grove and paved areas. Access to the area will be greatly improved in the proposed development via new at grade crossing of Harbour St, from Bathurst/Day St, through the public domain and into Tumbalong Park. The development site has very strong links to Tumbalong Park, China Town and the city. As new office buildings with ground floor retail, food outlets and children's theatre, the development will bring large numbers of people to the site each day for work and leisure. The proposed public domain will provide generous amenity for visitors, with a particular emphasis on free of charge activities for families via the proposed playground and adjacent turf areas.

The proposed public domain areas within the Darling Walk site have been designed with regard to the general design principles listed below.

Design Principles

- Improved pedestrian and visual connections, specifically from the city into the site, from surrounding areas and within Darling Harbour,
- Enhance the quality, quantity and usability of public space,
- Provide a public domain that encourages use by people of all ages,
- Respond to existing site conditions including the geometry of Tumbalong Park and create increased connections to Tumbalong Park,
- Employ best practice in landscape architecture to achieve sustainability objectives
- Improve biodiversity and environmental protection through choice of plant and hard materials,
- Improve connections to waterways and ability to engage with the foreshore,
- Ensure that the public domain is designed with regard to crime prevention through its environmental design,
- Provide public domain that has been designed for longevity through use of robust materials and spaces that can cater to a multiplicity of uses. This project should be an exemplar of leading practice landscape architecture.

Public Domain Areas

The public domain works include the following key areas:

- Pedestrian Boulevard and retail terrace,
- Playground area consisting of a modulated terrain, play equipment, sand and water play areas,
- Terraced community green,
- Melaleuca Grove,
- Civic Connector,
- Streetscape upgrades.

Pedestrian Boulevard and Retail Terrace

The design for the public domain creates a variety of activity zones, which strengthen the North South connection through to Cockle Bay as well as the east/west link between the City and Darling Harbour / Tumbalong Park. The key orientation element on the western side of the site is the clearly defined pedestrian boulevard that is activated by cafes and retail areas at the ground level of the development. The materiality of the boulevard connects the site back to the surrounding Darling Harbour with an emphasis on high quality, simple, and robust elements such as pre-cast concrete seating, brick paving and canopy trees. The retail terrace is elevated approximately 450mm above the pedestrian boulevard to provide an area of seating that overlooks the surrounding public domain. The edge of the retail terrace contains ramps and stairs to provide equitable access onto the podium and a series of informal seating opportunities. Planters wrap around the edge of the retail terrace to provide a vegetated and textured zone at the base of the building.

Paving in the pedestrian boulevard is proposed to be brick paving to provide a link to the surrounding Darling Harbour brick paving, with an allowance for some concrete banding. Paving materials on the retail terrace include concrete unit pavers (mid grey colour) in a combination of honed and shot blasted finishes.

Playground Area

The Playground area is a play environment of significant size that has been designed to promote active and imaginative play for children and carers from a wide range of ages and abilities. The children's play ground is accessed by multiple east-west and north-south connections which reinforce existing, albeit currently cluttered through site connections. The redesigned children's play environment strengthens the legibility of the surrounding context and creates a vibrant, active and robust destination for families.

The key design principles include:

- Reduction in levels to improve sightlines from perimeter zones across the play area,
- Utilise level changes and forms within the space to create diversity of play spaces,
- Design playground setting and choose play equipment to maximise carer and child engagement,
- Provision of wide range of play types (including dynamic play, explorative play, water play and imaginative play),
- Co-location of play facilities with the proposed Kids Theatre and carousel.

Playground Area to include:

- Softfall to be sand, mulch or rubber materials in accordance with Australian Standards,
- Shade structures and trees,
- Play equipment to be certified as compliant with Australian Standards 4685 & 3533
- All abilities play components.

A kiosk and toilet facility is proposed on the eastern side of the playground. The design of the kiosk building is shown in drawings prepared by FJMT Architects and is described in their associated design report. The two small buildings provide a cafe/kiosk for the playground, storage for cafe furniture, toilets for the playground visitors and access door to the water feature plant room below.

The play areas have been designed as a series of spaces that cater to the needs of varying age groups (specific areas are designed for babies and toddlers) and provide diverse play opportunities. The areas are described below.

Senior Dynamic play Area (ages 5-12)

The senior dynamic play area located in the northern portion of the playground provides challenging play experiences for older children whose needs are not met in the existing Darling Walk Playground. The equipment has been chosen to promote physical exertion and encourage social interaction. Specifically, a tall climbing structure (Giant Octa Net) allows children to scale to impressive height and has a bridge connection to the flying fox (Cable Way) to be located within a grove of trees. Large swings and a circular swing (Bird's Nest Swing) provide opportunity for older children to swing alongside and with small groups of other children.

Senior slide and spinning area (ages 5-12)

A large spinning element (Super Nova) is also included as it provides space for large numbers of children to sit or stand on the spinning surface. In addition to these proprietary items, a custom designed mound that incorporates a climbing wall, scramble hill, tunnel through and wide slide is proposed. The slide will allow for children to slide up to three abreast and has a slope that will make the ride dramatic, whilst still meeting standards for slide design.

Junior Dynamic play Area (ages 2-5)

The junior dynamic play area for younger aged children provides challenging climbing, balancing and swinging opportunities for children aged approximately 2 - 5 years. A climbing structure that involves horizontal and vertical climbing will provide space for large numbers of smaller children to improve their abilities. The double swing will include one 'bucket' seat for babies and one seat for 2-5 year olds. This space has been designed with a 300mm set down from the surrounding pavement. This set down provides informal seating all the way around the space for parents and carers. It also helps to separate the space from the surrounding circulation paths.

Mogul terrain zone (ages 2-5)

To the west of the central kiosk a mogul terrain zone has been proposed. It consists of an undulating rubber surface with trees for children to scramble through, leading to two mid sized mounds with embankment slides. The slides cater for smaller children and are accessed by scrambling up the rubber embankment. The slides land in the sand area below.

Sand and sliding Play Area (ages 2-5)

A generous sand play area for 2-5 year olds has been proposed adjoining the mogul terrain zone. This space will include a large sand play area, with two sand digging elements and ample opportunity for children to bring sand play toys (bucket and spade etc) to play in the sand between palm trees. This play space is also set down 300mm from the surrounding pavement to provide informal seating edges and separation from the circulation areas.

Forest Exploration Area (ages 2-12)

A long forest exploration area is proposed on the western edge of the play ground area. The forest is comprised of groves of Spotted Gum (*Corymbia maculata*) trees, low grassy understory planting, mulch ground surface, salvaged sandstone pieces, the flying fox, a horizontal rope climbing structure (Climbing Valley) and a small timber deck structure at the southern end. Pieces of salvaged sandstone from SHFA's storage depot will be laid to provide a long balancing path through the trees. Some of the stones are recognisable as parts of buildings that once stood in Darling Harbour and form part of the integrated heritage interpretation works.

Baby/toddler Play Area (ages 0-2)

This space has been designed to provide a sheltered space for the youngest children to play with sand and water. Low walls partially enclose the sand pit and water play areas to separate them from the busy circulation paths. Seating has been integrated into the walls to allow provision for parents and carers to be very close to their children. The sand pit will include a small water tap to allow both wet and dry sand play. The water play elements are proposed to be low carved sandstone pieces with low velocity water emitters providing a surface of 'puddles' for young children to play in. The water play elements have been designed to create very shallow dishes of water and will accommodate sand (as children will naturally mix the two elements) to be filtered out prior to returning to the water filtration/pumping equipment.

Water Play Area (ages 2-adult)

The water play is intended to be based on highly interactive water play elements involving a mixture of ephemeral water elements and hands on play features. The water play will utilise recycled site roof water with chlorine treatment to levels appropriate for a public swimming pool. It involves a closed water system, with the water returning to the plant room beneath the toilets for filtration and further use.

The Water Play includes the following types of water play:

- Classic water mechanics such as manual pumps, locks and sluice gates,
- Interactive bubblers, streams and jets,

The Water Play elements are to be developed incorporating the following essential requirements:

- Safety,
- Compliance with relevant standards,
- Durability,
- Operation and Maintenance,
- Sustainability,
- To include all abilities play components,
- Pump housing and associated control/filtration systems are integrated into the proposed playground kiosk as an underground plant room.

Pumping Station

At the highest point of the water play space a 'pumping station' has been designed to provide an interactive source for the water that flows down through the remainder of the water play spaces. The pumping station provides a dynamic source for the water play whilst relating to the previous uses of the site during industrial times. A series of hand pumps are proposed to be located close to the pedestrian boulevard, along with a constantly gurgling source of water. These elements allow people of a wide range of ages and abilities to interact with the water play without necessarily getting wet. Children can cooperate or compete at the group of hand pumps to send water down to the streams below. Raised planters and seats provide ample opportunity for parents/carers to be seated close to the children.

Water Channels

A large area of sloping and sculpted concrete surfaces has been designed to provide a network of streams through which the water will flow towards the lower portion of the site. Salvaged sandstone and raised planters provide structures for the streams to meander around and through. The series of shallow streams include proprietary sluice gates and water switch devices that will allow children to modify the flow and direction of the water through the streams. The salvaged sandstone blocks and raised planters will be located to provide a dynamic ground plane and ample informal seating opportunities. All concrete finishes in the streams and around will be non-slip. At the western end of the streams the channels will become wide and very shallow with the water eventually disappearing into pits beneath the timber deck/seating areas for reticulation back to the plant room.

The water channel area is surrounded on the southern, eastern and western sides by generous timber and concrete 'bleachers' that provide space for families to sit, eat, change wet clothes and enjoy the action provided by people interacting with the water channels.

Flush Jets

In the western portion of the water play space an area of flush jets is proposed. This will be comprised of a textured ground surface with inlaid pattern into which water emitters are located. The water emitters will provide vertical and curved jets that operate in a synchronised sequence. The ground surface slopes towards the timber deck and water will flow under the deck into pits and then be reticulated back to the plant room.

Terraced Community Green

The community green has been designed to include two large terraced lawn areas bound on the west by existing large Melaleuca Grove and on the east by the pedestrian boulevard. The Community Green creates opportunities for unprogrammed passive recreation for families and workers on their lunch break and builds on the turf area of Tumbalong Park.

Melaleuca Grove

The successful existing Melaleuca Grove is incorporated into the proposed scheme. Existing grove areas are supplemented by a new grove adjacent the playground. Clean ground planes of gravel will be provided beneath the trees with new concrete walls and steps at the perimeter. Benches will be provided within the Melaleuca Grove facing out to the community green/playground and to Tumbalong Park.

Civic Connector

The space between the two buildings has been designed as an extension of Day Street for pedestrians. The forecourt will provide space for people to meet and gather, a clear address for the buildings and a strong civic threshold at the eastern end of the link through to Tumbalong Park and the greater Darling Harbour area. A water feature marks the entry into Darling Harbour and provides a link to the linear water features adjacent Tumbalong Park. The western portion of the space has been designed as a pedestrian street, with a strong band of planting and ample informal seating along the edges. The space will be activated by passing pedestrian traffic who will be encouraged to linger by the retail terraces on each side. The hard landscaped elements have been design to provide an informal seating edge to surround the space to further promote use and activity. Large soft landscaped planters extend through the space from the Village Green and act to soften the space whilst providing a symbolic link to Tumbalong Park. Heritage interpretation is proposed to be integrated within the ground plane via text inserted into the paving. Feature lighting beneath pre cast concrete benches, in planter walls and in the paving will provide subtle lighting effects at night.

Streetscape Upgrade

Upgrades to Harbour Street including new kerbs, pavement and avenue planting will provide an improved public domain along Harbour St, reinforce the entry axis and provide a legible and high quality address to Darling Walk. The streetscape upgrades have been designed with pedestrian amenity as a primary concern to provide a safe and attractive public domain. Pedestrian connections across Harbour St have been improved through provision of an 'at grade' pedestrian crossing at Day Street.

Public Domain Lighting

The lighting design for the Darling Walk public domain areas is shown on the Furniture and Lighting Plan (add dwg no). The lighting design for the public domain has been developed in accordance with the following design principles:

- meet required lighting lux levels for public spaces
- utilise highly efficient fittings
- poles and fittings to be visually unobtrusive during daylight hours
- minimise lighting pollution
- allow lighting levels to be stepped down as SHFA require
- utilise corrosion resistant poles with warranted finish

The design will meet with the requirements of;

AS1680 Interior Lighting Code
 AS 4282 Control of obtrusive effects of Outdoor Lighting
 AS 2293 Emergency and Evacuation lighting for buildings
 AS1158 Road Lighting
 BCA

The IPD (Illumination power density) values shall comply with the requirements of BCA part J6.2B.

Public Realm Lighting; luminaries shall provide ambiance and embellishment to the space utilising downlights, pendants, wall bracket lights and uplighting. Open space areas shall contain all the attributes of a public area lighting scheme utilising IP rated fittings and late night pedestrian safe movement lighting. The lighting system shall consist of up lighting to canopy/awning soffit, down lighting and architectural accent lighting.

Awnings; functional IP rated down lights will be located under the awnings to provide adequate lighting for pedestrian safe movement. The lights shall operate from dusk- til-dawn.

Street lighting; code complying pole lights will be installed along the road.

Recreational area lighting; suitable lights will be provided for public safety and to highlight play areas, circulation areas and trees. Landscape lighting shall compliment pedestrian and wayfinding lighting. Pedestrian safe movement lighting shall operate from dusk-til-dawn. The lights will be under awning fittings, floodlights, landscape lighting and post mounted luminaries.

The lighting concept will be designed by a professional lighting designer and signed off by a registered lighting practitioner (RLP)

Heritage Interpretation

The proposed Darling Walk public domain works include integrated heritage interpretation elements. These have been developed through workshops between Deuce Design, ASPECT and the clients to provide a range of elements that draw on the rich layers of use that have been present on the site. Deuce Design have prepared a Draft Interpretive Plan, based on historical research undertaken by Casey and Lowe Archeology and further research conducted by Deuce. The proposed interpretive works are drawn from information about how the site was utilised during indigenous occupation, through it's industrial and maritime trade period, through to it's current use as a public park fringed by buildings.

Refer the the Draft Interpretive Plan, prepared by Deuce Design for details of the heritage interpretation strategies.

Sustainable Design Principles

Generally the design, material selection and construction will incorporate the following sustainable design principles:

Environmental

- Water sensitive urban design – pavement design facilitates run-off minimisation,
- Use of plants that require low levels of irrigation,
- Biodiversity - use of predominantly native plants to encourage fauna
- Carbon sinking - planting of large quantities of trees
- Use of recycled site water for irrigation,
- Use of recycled site water for water play and water feature,
- Use of recycled materials (mulch, aggregates, soil),
- Use of robust hard materials (consideration of material life cycle),
- Use of highly energy efficient lights.

Social

- Well-designed spaces that will provide a variety of programmed and multi-use spaces to allow for changing recreation needs over time,
- Carefully designed public domain that creates safe, attractive and vibrant recreation and entertainment opportunities.

Economic

- Carefully planned combination of uses (retail/entertainment/commercial/recreation) to ensure long term viability of the buildings and surrounding public domain

Water Sensitive Urban Design

The public domain areas of the Darling Walk project have been designed with regard for Water Sensitive Urban Design (WSUD) principles.

Our strategy for the management of storm water and portable water use includes:

- Capture roof water / store / filter and use for irrigation and water supply to water play and water features,
- Direct pavement run-off towards soft landscaped (permeable) areas as much as possible,
- Minimise the need for storm water drainage structures,
- Minimise the possible flow of run-off into the storm water mains.

The public domain works include a roof water storage and use system and measures to minimise the impact on existing storm water mains. These two initiatives are described in detail below.

Roof Water Storage and Use System

Waren Smith and Partners (Hydraulic Engineers) have been prepared a detailed study of the rainfall data, roof size data, irrigation demand, water feature and water play demand to determine the most appropriate location / size / type of water storage tank. Their study tested three possible tank sizes to determine the most effective for this size. Through the comparison of rainfall amount and demand (in different seasons) for irrigation and water features, WSP determined that a 300,000 litre tank would provide 80 - 90% of the water required on the site for irrigation and water features.

The tank will be located in the community green below the turf, constructed as an in-situ concrete structure. The tank has been designed to include internal division to allow cleaning, allow access for inspections and will have an overflow connection to the adjacent storm water mains (Hay Lackey Drain).

The large roofs included in the two Darling Walk buildings provides an ideal catchment of relatively clean water that will require minimal treatment prior to use. As the water caught by the roofs meet the demand by both irrigation and water features, pavement run-off is not required to be captured and stored. The captured roof water will be passed through filtration to remove any particles (50 microns) and then passed through a UV treatment system to provide control of bacteria and ensure that the water quality matches or exceeds the quality of mains potable water. Irrigation water will be drawn from the system after these two phases of filtration and treatment. Water to be used in the water feature and water play will be given additional chlorine treatment to public swimming pool standard. All filtration and chlorination equipment will be located in the plant room beneath the kiosk and toilet, with the water feature plant.

Storm Water Management

Paved areas within the development includes areas constructed over basement (civic connector and retail terrace) and areas over natural ground (remaining pavement areas). The grading of the paved areas have been designed to direct water away from the buildings and where possible, towards soft (permeable) landscape areas. The WSUD and Water Use Plan included in the EA submission clearly shows the areas of pavement that fall towards permeable surfaces and the areas that fall towards drainage structures. The playground includes large areas of permeable surface to allow run-off to permeate into the soil.

Crime Prevention through Environmental Design

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

Surveillance

- The new building will overlook the public domain areas,
- Retail activities at ground floor along the pedestrian boulevard will bring people to the site throughout the day and night,
- The public domain has been designed with minimal visual blockages at the mid story level by utilizing planting that is up to 600mm high, combined with tall trees with branches occurring above 2m high.

Access Control

- The new public domain areas have been designed to attract users (of all ages),
- The only private domain areas are within the building, which is clearly delineated from the public domain (exterior).

Territorial reinforcement

- The terraced community green has been designed to provide space for the 4000 proposed workers in the new buildings to use for passive recreation and will most likely be highly used at lunch time on week days. On weekends this space will be highly used by visitors of the playground (likely to be residents of the city and Ultimo).

Space management

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