Practice note no. 13

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Diamantina Park, Fitzgibbon Chase

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Diamantina Park was designed demonstrate how stormwater management treatments can be integrated into areas of parkland and public open space. This is particularly important where land resources are scarce and developers need to be more efficient with available land. In contrast to traditional stormwater drains, that are dominated by concrete and are often fenced off due to safety concerns, Diamantina Park is an attractive public space dominated by nature and vegetation. The careful design of Diamantina Park ensures the safety of the community during a storm event and the ability for the community to enjoy the space most of the time.

Diamantina Park is an example of a linear park with elements of a neighbourhood recreation park. A linear park is a typically long, relatively narrow park often provided as part of a floodplain management or environmental area such as a buffer to a waterway or wetland. Informal recreation opportunities, paths for walking and cycling linking to the broader neighbourhood are key features of a linear park.

Diamantina Park is also a focal point for the neighbourhood with passive and active recreation activities which are key features of a neighbourhood recreation park (PDA Guideline no. 12 Park planning and design).

Other important features of both a linear park and neighbourhood recreation park, that Diamantina Park exhibits, is:

- at least 50 per cent of the Diamantina Park perimeter has road frontage; and
- located in a central, accessible location within the neighbourhood.

Artists impression of aerial perspective of Diamantina Park

Flood and stormwater management

A number of consultants were involved in the design of the park to ensure that it met a number of flood, stormwater and public space standards integrated into the one area. The success of this integration is one of the key points of difference of Diamantina Park and a great example of maximising public space despite environmental constraints such as flooding and conveying major stormwater flows. The engineered and landscape details enables the park to manage a significant volume of stormwater without detrimentally impacting on the amenity and maintenance of the public space.

Embellishments including playground equipment, barbecues and seating are elevated from the natural channel

Features

Vegetation

Native vegetation was carefully selected to withstand inundation and fast moving stormwater (as well as drought), filter stormwater and provide visual amenity. Velveteen turf was used in the open space areas subject to periodic inundation and can be mowed 36 hours after a storm event due to good sub soil drainage. Netting holds the mulch in place during storm events.

Public safety

Formal embellishments and hardscape structures, namely the playground and sheltered seating areas, are elevated to remain flood free during a storm event.

The natural channel also features large rocks in the channel bed to withstand and reduce water velocity.

Vegetation planted in the natural channel

Planting detail, Diamantina Park

Outcomes

The park flooded in October 2010 and January 2011 and the vegetation has not only withstood the inundation but thrived. Diamantina Park effectively and efficiently manages major storm events from a large catchment with minimal damage to and clean up of vegetation required. The park caters for a huge volume of water that moves through the system within 24 hours.

Indicative peak flood event, Diamantina Park

Photograph reference points of flood inundation events, Diamantina Park

Views from A

A: Peak flood October 2010

Views from B

B: Peak flood October 2010

Views from C

C: Peak flood October 2010

A: January 2011 flood

B: January 2011 flood

C: January 2011 flood

A: 24 hours after

B: 24 hours after

C: 24 hours after

Recreation experiences

Diamantina Park provides for a variety of recreation experiences including formal playground and barbecues, walking and cycling paths, natural ampitheatre, bushland and kickabout space.

Pathways

The pathways were designed to ensure Diamantina Park is well connected to existing and future development, including the established residential community to the south of Fitzgibbon Chase, and the Carseldine railway station.

The pathways also provide important walking and cycling opportunities within and around Diamantina Park.

Park activation and usability plan, Diamantina Park

Tree retention

Significant tree retention in Diamantina Park creates an established place, amenity and an added dimension and experience to the park. Mature trees also provide shade for natural walking trails and seating areas.

Tree retention, Diamantina Park

Public art

Public art has been incorporated into the handrails around the playground and features musical handrails and signs encouraging people to 'play' on them. The handrails are also an example of enhancing safety requirements while at the same time promoting community use.

Musical handrails, Diamantina Park

Shade

Shade cloths over the playground and tin shelter over barbecues provide shade.

Shelter and shade structures, Diamantina Park

Maintenance access

Diamantina Park has two maintenance access points on Diamantina Crescent for maintenance vehicles such as large lawn mowers and utility vehicles. These were retrofitted after discussions with Brisbane City Council about future maintenance of the parks and are worth considering upfront in park design.

Maintenance access to Diamantina Park from Diamantina Crescent, Fitzgibbon Chase