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Submission covering the Environmental and Heritage aspects of the the proposed Flood Mitigation Dam construction within Brownhill Creek Recreation Park

The proposed Dam at the Seven Pines Heritage site is not consistent with the Brownhill Creek Recreation Park Management Plan objectives for heritage sites. It also puts other heritage items at risk. The Plan clearly states construction is restricted to the restoration of heritage items, interpretive information and works as a result of safety requirements.

The Friends of Brownhill Creek have found it difficult to believe that this preferred proposal of a dam within Brownhill Creek Recreation Park is to be taken seriously. The intention to build a very substantial structure in the heart of the Park is entirely contrary to the environmental, heritage and amenity values that the Park was proclaimed for. It is difficult to believe that in this enlightened age of environmental awareness that any responsible governing authority would commission a study that included unnecessary destruction of environment and heritage. As indicated by other studies it is possible to achieve flood mitigation without this destruction. The requirement to avoid such destruction should have been a mandatory design criterion for any commissioned study.

Brief overview of the Park

- 51 hectare of public land set aside in 1841.
- 51 hectares or 3.5% within an upper catchment of approx. 1454 hectares.
- 4 kilometres of riparian system of a total of approx. 24 kilometres within the upper catchment.
- Within the catchment there approx 543 hectares of grazing land and 40 hectares of major Highway.



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A special place:

The Brownhill Creek Recreation Park is unique within this landscape as it is the only remaining part of the upper catchment riparian system within the catchment under public ownership. In the Brownhill Creek Recreation Park Management Plan (2003) and the National Parks & Wildlife Act 1972 the Park is classified as a **Natural Monument under the International Union for the Conservation of Nature (IUCN)**. One of the objectives of that classification is to protect or preserve in perpetuity specific outstanding natural features, because of their natural significance, unique or representational quality and or spiritual connotation. The creek/valley as a **natural feature together with its geographic and scenic interest values** clearly meets this objective.

The proposed mitigation dam, is not consistent with the objectives of this classification and is an actual threat to the integrity of the park.

Heritage value:

The park is unique in its heritage value. There are 12 known historical sites with an important need to undertake further research together with a comprehensive survey and inventory in the local area.

The park is unique in its Aboriginal Heritage with three known sites. The full extent of Aboriginal heritage within the area has never been comprehensively researched. We do know it was a camping place, for over 150 aboriginals were camping in this area at any one time. The valley offered protection, food and water and shelter.

The Seven Sisters Heritage site, with plantings at Federation (1901) is **the heart of the park**. It attracts more day visit visitors than any other site in the park for family gatherings, corporate functions, weddings and those seeking solitude and spiritual reconnections. **It is the heart of the park**. Restoration works of the Friends have radiated out from the heart to each end of the park. The restoration work at the proposed dam site commenced around **1995**. A number of groups continue to contribute e.g. Mitcham Lions (picnic table and ongoing maintenance), FOBHC (restoration work) and Mercedes College (environmental rehabilitation with up to 100 students



involved). There are two heritage sites here, the Seven Sisters and the Wagon Loading Bay. In addition, the Sugar Gum plantation was established between 1936 and 1949 while the 1878-1930 Mitcham Water Works pipeline runs from the brick well at Ellison's Gully to the Mitcham High level Reservoir at the top of Carrick Hill Drive.

Ongoing restoration:

Restoration sites within the park radiate out from the **heart of the park** using the Stepping Stone Principle of Ecological Restoration. The intention is to regenerate more ecologically diverse natural systems within the invaded monoculture creek system. Restored natural systems offer increased species diversity through the creation of structural layers for critical secretive species such as finches, wrens and thornbills. The "stepping stones" of natural vegetation provides a shortcut to the establishment of a native wildlife corridor along the creek line. Restoration of this corridor can provide an exemplar that celebrates the growing awareness that we are here as long term custodians of this landscape. Done well over several generations this will provide a legacy that is in keeping with the original far sightedness of Governor Grey's original proclamation in 1841.

The "stepping stones" are located around five riparian heritage sites:

- Manure Pits site (key stakeholder, Mercedes College)
- Aboriginal Scar tree site (key stakeholders, Hyde Park Rotary & Scotch College)
- Seven Sisters/Pines site (key stakeholders, Mitcham Lions, Mercedes College & FOBHC)
- Whites Bridge site (key stakeholders, The Body Shop & FOBHC)
- Stone Monument /Entrance site (key stakeholders Scotch College & Hyde Park Rotary)

These sites account for approximately 800 to 1000 metres of riparian system under restoration at differing stages of development.

A further seven terrestrial sites are under restoration stretching from the eastern end of the park to both sides of the Brownhill Creek Caravan Park.



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Threats to Flora:

A key terrestrial restoration site at Seven Pines is threatened with decimation due to the proposed Brownhill Creek Road realignment associated with the dam construction.

Over 10 years in development with a number of stakeholders, this site contains 8 different tree species including 7 Native apricot specimens (conservation rating **rare**), 7 different shrub species including 5 Austral Trefoil (conservation rating **uncommon**), 9 different native grass species and 2 ground layer species.

The proposed dam site contains a number of Stone pines *Pinus pinea*. One of these is currently the largest specimen in Australia registered on the National Register of Big Trees. Stone pines are a favourite food source for Yellow tailed Black Cockatoos, (conservation rating **vulnerable**).

Threats to Fauna:

The dam wall site covers at least 140 metres between the upstream toe and downstream toe. This area contains some of the deepest known pools in the park. These pools are favoured habitat for both the **Climbing galaxias** (*Galaxias brevipinnis*) and **Mountain galaxias** (*Galaxias olidus*) both with a Conservation rating of **vulnerable** in the Adelaide & Mt Lofty Ranges. Security of the population is tenuous and possibly recruiting poorly. A section of their habitat will be destroyed by the proposed dam wall. Conservation status in South Australia, **Mountain galaxias** - Vulnerable and the **Climbing galaxias** - Rare.

Water rat *Hydromys chrysogaster*, has had a primary sighting on 21 May 2010. Its habitat is dense vegetation with tunnels in banks and hollow logs in streams. They don't like water released from lower levels of water storages as they cannot maintain their body temperature. A section of their potential habitat will be removed.

Eastern Water Skink *Eulamprus quoyii*, unconfirmed sightings of this reptile have been seen basking at Whites Bridge. Its Conservation rating is **vulnerable** in the Adelaide Mount Lofty Ranges.



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Inundation and infrastructure impacts

Four hectares of the park will be within an inundation zone for many of the water flow events associated with natural flows in this catchment. There is little doubt that this inundation, even for relatively short lived periods will have a profound effect on the vegetation and connected life systems.

There will be loss of park access for the local community, visitors and tourists to the Wirraparinga wilderness walk. New safety issues will impinge on the amenity value for recreational park users and residents as a result of an inundation zone being located in a Recreation Park.

The very substantial disruption and ecological disturbance associated with construction of a structure of this size will be destructive and lasting.

Environmental Flows

The proposed substantive and permanent dam structure will disrupt environmental flows within the Creek. Surface flows will be changed and the few deep pools will be lost. This creek line is substantially maintained by groundwater flow predominately within the alluvium of the creek. Dam footings will interfere with these flow paths and it will change the flow pattern.

The Friends of Brownhill Creek operate with several important goals within the Park:

- Ecosystem restoration
- Heritage management and historic site (natural & cultural) preservation and restoration
- Recreation and amenity enhancement
- Water quality and quantity monitoring
- Increasing the resources for the management of the park

We believe we are on the brink of significant growth in educational institution interest in natural resource restoration and involvement in the Park. There will be significant benefits for future generations visiting this unique patch of the landscape.



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The proposed dam will be a blow to the heart of this park. It will change the nature of the Park forever and show how little this generation cared for its heritage and its preservation. The park will forever be viewed differently. Open space, native Australian ecosystems and scenic qualities will be compromised forever.

The Friends of Brownhill Creek urge all concerned to reject the installation of a mitigation dam in the Park.

David Wagner
President, Friends of Brownhill Creek
On behalf of the Committee

17th December 2011