Brown Hill Keswick Creek
STORMWATER PROJECT

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28 January 2022

2022-23 Pre-Budget Submission

Funding for Brown Hill Keswick Creek Stormwater Project

Support sought:

The Brown Hill Keswick Creek Stormwater Project is seeking a $70 million contribution from the Federal Government with an initial commitment of $40 million, ideally to be provided in four equal instalments over a 4-year period commencing in 2022-23. These funds will ensure the completion of the overall project and accelerate the delivery of stages 2 and 3 which will:

- Reduce the total damage estimate associated with a significant flood event from $418.5m to $7.5m – a net benefit of $411m.
- Reduce the total number of flood-affected properties if a significant flood event occurred today from 3,935 to 63.
- Provide flood protection for Federal Government land holdings – Adelaide Airport, Keswick Army Barracks, ARTC rail network and Keswick Terminal interstate rail hub.
- Provide flood protection to the North South Corridor (NSC) Torrens to Darlington (T2D) project – *"It is expected that there would be considerable benefits to both projects if their development and delivery through reference design, detailed design, then construction was coordinated in the same or similar timeframe"* Malcolm Short, Director Engineering North South Corridor Project.
- Provide flood protection to Ashford Hospital, which would face a 6-month closure following a significant flood event. A significant event in the catchment would not only impact severely on Ashford Hospital's operations but would detrimentally affect South Australia's overall hospital capacity to deal with major events such as the current pandemic.
- Mitigate risk of disruption to South Australian Ambulance Service (SAAS) operations including ability in terms of its 000 emergency calls, its ability to access hospitals and aged care facilities, and its ability to respond to distress calls in a timely manner, potentially resulting in loss of life.

Who are we:

- The Brown Hill Keswick Creek (BHKC) Stormwater Project is a collaborative effort of 5 Constituent Councils within the Federal electorates of Boothby, Sturt, Adelaide and Hindmarsh.
- The goal is to flood-proof major areas of the eastern, inner-southern and western suburbs of Adelaide against flood risk arising from four major watercourses in metropolitan Adelaide; Brown Hill, Keswick, Glen Osmond and Park Lands Creeks. The creeks have a low standard of flood protection resulting in a history of flooding. Their combined catchment is predominantly contained within the area of the 5 Constituent Councils – the cities of West Torrens, Unley, Mitcham, Burnside and Adelaide, which are home to more than 200,000 residents.
- Recent high flow events of 2005 and 2016 have demonstrated the impact of floods which is slowing down investment and putting major infrastructure at risk.
- Climate change, and the increasing intensity and frequency of storm events globally, are increasing the probability of another significant flood event in the near future with devastating consequences for Adelaide.

Flood Mitigation – an Australian Government Priority

Flood mitigation has been identified as an Australian Government priority and the National Recovery and Resilience Agency was established in May 2021 by the Prime Minister, the Hon Scott Morrison MP, to coordinate and align community resilience and preparedness to withstand the devastating impacts of natural disasters. Deloitte Access Economics has indicated that flooding is currently the most costly natural hazard-related cause of disaster when both tangible and intangible losses are considered.

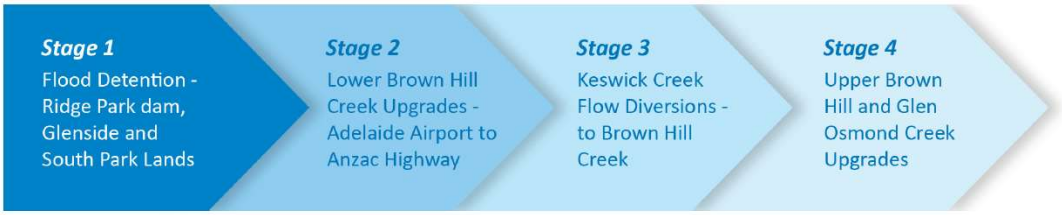
The Brown Hill Creek catchment is the sixth most likely region in Australia to experience a major flood event, placing the Brown Hill Keswick Creek Stormwater Project among the highest priority flood mitigation works across the nation.

Insurance availability and affordability are key concerns for the almost 200,000 residents within the catchment with regular anecdotes of owners unable to insure their homes or doing so at significantly inflated prices. An article from the Insurance Council of Australia identifies that if quality flood data was made available by the State Government, the federal electorates of Hindmarsh, Sturt and Adelaide would be included in the top 20 flood exposed federal electorates in the nation.

In addition, the Australian Government's guidelines for the Preparing Australian Communities program identifies the Cities of Unley, Burnside and West Torrens as flood risk LGAs. The program is aimed at mitigating or reducing the disaster risk, impact and consequence associated with large-scale natural hazards to improve the long-term resilience of Australian communities and households to natural disasters and deliver disaster risk reduction projects. The Brown Hill Keswick Creek Stormwater Project focusses on building the collaboration and organisational structure sought by the Australian Government to deliver infrastructure for resilience.

The plan:

The Brown Hill Keswick Creek Stormwater Project has four stages of work:



1. Flood Detention $34.5m - this involves the construction of detention storages in the upper catchment (Ridge Park, Glenside, South Park Lands) that will reduce the downstream flow rates.
2. Lower Brown Hill Creek Upgrades $58.4m - this will involve doubling the flow capacity of a 3.3km section of channel beginning at the south-eastern corner of the Adelaide Airport and ending at Anzac Highway. The channel is primarily situated within a 12-metre-wide reserve owned by City of West Torrens and comprises sections of earthen and concrete lining. In its current form the channel does not offer any environmental value or opportunity for community use.
3. Keswick Creek Flow Diversions $89.4m - this will involve construction of a large underground drain to divert flows from Keswick Creek to the upgraded section of Lower Brown Hill Creek, before these flows have the opportunity to 'break-out' of the channel (upstream of the Royal Adelaide Showgrounds) and continue overland through the south-western suburbs.

4. Upper Brown Hill and Glen Osmond Creek Upgrades $45.8m - this will involve upgrading the flow capacity of the creek channel and road crossings and rehabilitating the condition of the creek to prevent 'break-outs' and flooding of private property and the road network.

Under the Current Funding Model only Stages 1 and 2 of the BHKC Stormwater Project can be completed, meaning that only 40% of the flood protection and related benefits would be achieved. With additional funding support the completion of all 4 project stages, and realisation of 100% of the flood protection and related benefits, could be achieved.

Funding:

The Brown Hill Keswick Creek Stormwater Project is seeking Commonwealth Government support to contribute toward the funding shortfall that is required to fully deliver the plan and accelerate works, safeguarding the economy and infrastructure of Adelaide.

The State Government and Constituent Councils have committed funding to the project and matching funds are now being sought from the Federal Government.

Constituent councils and the South Australian Government have committed $140 million over 20 years (15 years remaining) with a shortfall of $104.9 million to deliver the plan over that time period.

If the plan is accelerated and delivered within 15 years (10 years remaining), it will be cheaper with only an $88 million shortfall and the outcomes will be delivered to protect Adelaide sooner.

The project will deliver a comprehensive program of flood mitigation works that will protect the community and businesses from the devastating effects of flooding while also delivering social and environmental benefits such as urban greening, improving the quality of stormwater discharges to coastal waters, and the beneficial use of stormwater.

4-Year Budget Summary:

Federal Government commitment will contribute toward the overall funding shortfall and enable accelerated delivery of the remaining works. Table 1 shows the estimated cost of work packages and year of construction in accordance with the accelerated program.

Table 1 – Costs and construction date of work packages over accelerated program

Work Packages	Year of Construction	Cost Estimate
Stage 2 Lower Brown Hill Creek Upgrades – Airport to Anzac Highway		
Package 1 – Airport to Marion Rd	2022/23 – 2023/24	$17,859,162
Package 2 – Marion Rd	2024/25	$3,273,570
Package 3 – Marion Rd to Birdwood Tce	2024/25	$9,573,427
Package 4 – Birdwood Tce to South Rd	2025/26	$15,253,544
Package 5 – South Rd to Anzac Hwy	2026/27	$5,560,869
Land Acquisitions	2022/23 – 2024/25	$6,885,900
Sub-total		*$58,406,472*
Stage 3 Flow Diversions – Keswick Creek to Brown Hill Creek		
Package 1 – Anzac Hwy & services	2023/24 – 2024/25	$23,149,714
Package 2 – Leader St & Goodwood Rd	2025/26 – 2027/28	$39,753,477
Package 3 – Le Hunte St	2028/29	$26,446,469
Sub-total		*$89,349,660*
	Total	**$147,756,132**

The State Government and Constituent Councils have committed funds annually to the project and matching funds by the Federal Government will result in the funding allocations shown in Table 2.

Table 2 – Funding allocations

Work Packages	Local	State	Federal	Total
Stage 2 Lower Brown Hill Creek Upgrades – Airport to Anzac Highway				
Package 1 – Airport to Marion Rd	$4,464,791	$4,464,791	$8,929,580	$17,859,162
Package 2 – Marion Rd	$818,393	$818,393	$1,636,784	$3,273,570
Package 3 – Marion Rd to Birdwood Tce	$2,393,357	$2,393,357	$4,786,713	$9,573,427
Package 4 – Birdwood Tce to South Rd	$3,813,386	$3,813,386	$7,626,772	$15,253,544
Package 5 – South Rd to Anzac Hwy	$2,780,435	$2,780,434	$0	$5,560,869
Land Acquisitions	$3,442,950	$3,442,950	$0	$6,885,900
Sub-total	*$17,713,312*	*$17,713,311*	*$22,979,849*	*$58,406,472*
Stage 3 Flow Diversions – Keswick Creek to Brown Hill Creek				
Package 1 – Anzac Hwy & services	$5,787,429	$5,787,429	$11,574,856	$23,149,714
Package 2 – Leader St & Goodwood Rd	$17,154,091	$17,154,091	$5,445,295	$39,753,477
Package 3 – Le Hunte St	$13,223,235	$13,223,234	$0	$26,446,469
Sub-total	*$36,164,755*	*$36,164,754*	*$17,020,151*	*$89,349,660*
Total	**$53,878,067**	**$53,878,065**	**$40,000,000**	**$147,756,132**

The benefits:

Through its infrastructure spend, the project will create:

- $145.5 million in economic benefits.
- 1200 jobs over the remaining construction period 2022-2032 (average of 112 jobs per year.)
- The total damage estimate associated with a single significant flood is $418.5 million and completing the proposed project will reduce that damage estimate to $7.5 million, a net benefit of $411 million.
- Adelaide Airport (leased to Adelaide Airport Limited), Keswick Army Barracks (Department of Defence), Ashford Hospital, interstate rail lines and the major arterials roads across the south-western suburbs, including the North South Corridor are all high risk assets that would be devastated by a flood
- 57% of the damage estimates are direct property damage, but indirect impacts (business interruption, traffic disruption, social and environmental impacts) add significantly to the total. There are currently over 3,900 private properties that would be inundated in a significant flood.

The impacts of a major flood would extend far beyond the duration of the event, which itself could occur over several days, and it would be many months (or even years) before a return to 'business as usual' in the catchment.

Attached – Project Summary and Track Record

The Project

The Brown Hill Keswick Creek Stormwater Project is aimed at mitigating significant flood risk arising from four major watercourses in metropolitan Adelaide; Brown Hill, Keswick, Glen Osmond and Park Lands Creeks. The project is being delivered as a collaborative undertaking by the Brown Hill and Keswick Creeks Stormwater Board, a Regional Subsidiary of the Cities of Adelaide, Burnside, Mitcham, Unley and West Torrens.

The Board's Stormwater Management Plan highlights the devastating impact a major flood would have and outlines a comprehensive program of flood mitigation works. These works will protect the local and broader community and businesses from the effects of flooding while also delivering environmental benefits such as urban greening, improving the quality of stormwater discharges to coastal waters, and the beneficial reuse of stormwater.

The six broad objectives of the Stormwater Management Plan are:

1. Protection from flooding.
2. Quality of runoff and effect on receiving waters.
3. Beneficial reuse of stormwater runoff.
4. Protection of watercourses and riparian ecosystems.
5. Effective planning outcomes.
6. Management of stormwater infrastructure.

$418.5m
total damage estimates associated with a significant flood today

$7.5m
total damage estimates associated with a significant flood after proposed mitigation

$411m
net benefit

3,935
properties are flood-affected in a significant flood today

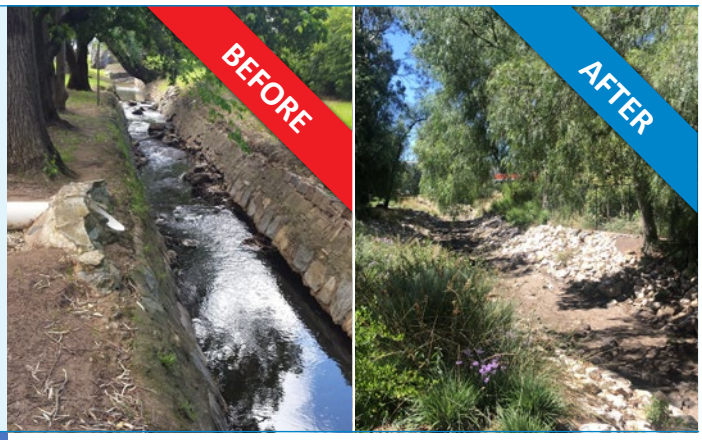
63
properties are flood-affected in a significant flood after proposed mitigation

Proven Track Record

The Board was established in February 2018 to coordinate implementation of the flood mitigation works outlined in the Stormwater Management Plan. Since that time, the Board has demonstrated its proficiency in delivering infrastructure works effectively and efficiently. The values that underpin the operation of the Board ensure successful delivery, as evidenced in recent works.

Upper Brown Hill Creek, Hawthorn Reserve

Creek widening and upgrade to ensure sufficient capacity to endure a significant flood event. The creek banks have been laid back in the area of creek adjacent Mitcham library to retain a natural setting with native plantings within the channel and on the banks. Stepping boulders and logs were installed to create an active play space for use when the creek is dry or not flowing.

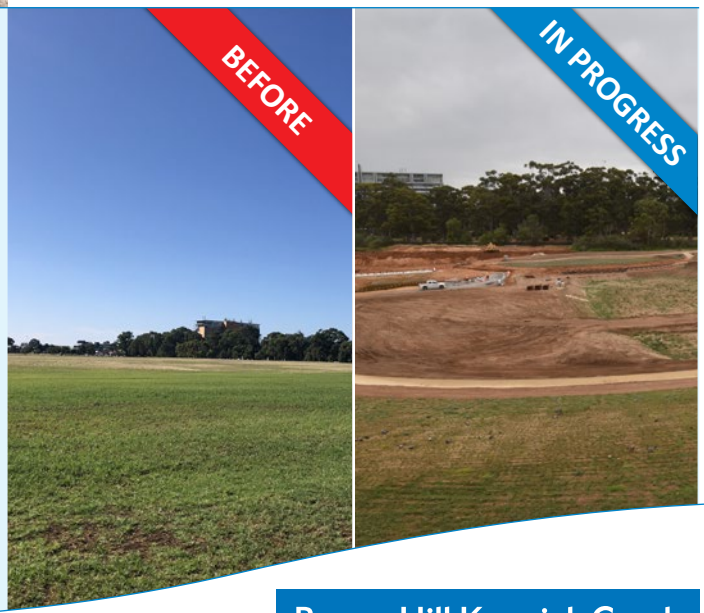


Upper Brown Hill Creek, Area 1 Everard Park

Replacement of an existing open concrete channel with an increased capacity underground covered culvert. The works had a particular focus on creating an enhanced community asset through integration of a shared use pedestrian and cycle path within the green corridor.

South Park Lands - Victoria Park/ Pakapakanthi (Park 16) Wetland

The largest earthworks project delivered in the Park Lands in the last 60 years, the wetland will mitigate flood risk by controlling flows to downstream areas. Significant community benefits include improving water quality, enhancing the biodiversity of the area and creating amenity for park users. Over 100,000 plants and 120 trees will be established on site, with native species selected in consultation with Kaurna representatives. The wetland site will provide almost 2km of new path network, viewing areas, boardwalks and ampitheatre.



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