

Jan Juc Creek Daylighting

Restoring natural waterways and their connection with the community

Jan Juc, Surf Coast Shire, Victoria



Key Messages

- Community groups play an important role in recognising the liveability benefits of waterways and bringing these to the attention of Council.
- Daylighting the creek greatly improved the amenity and biodiversity values of the reserve, balancing landscape and open space outcomes with waterway improvement.
- Returning stormwater flows to the surface of the creek improved runoff quality and receiving waterway health.
- The daylighting project created an opportunity to educate the community about the value of waterways and reconnect them with the creek.

“The creek is happier and healthier than 10 years ago. But its profile still needs to grow. It’s all of our responsibility”

Project Overview

Jan Juc Creek is naturally an ephemeral waterway. As the township of Jan Juc developed in the 1960s the alignment of the creek was highly modified as utilities and drainage were moved underground. In the 1970s, the Shire of Barrabool installed a “low flow” pipe under Jan Juc creek removing flows from the surface in an attempt to ‘beautify’ the creek area by transforming it into a grassed recreational reserve. Stormwater runoff from the adjacent residential catchment was also conveyed through the underground pipe and eventually out to the ocean. In 2012, the ‘Friends of Jan Juc Creek Reserve’ (FJJCR) community group presented Council with the idea of reinstating sections of the creek to a more natural state by removing underground drainage infrastructure and recreating the creek channel (daylighting).

The project presented multiple social and environmental benefits and was considered a high priority by Council. In 2013, Council engaged consultants to develop a concept design for daylighting Jan Juc Creek, which formed part of the broader master plan for Jan Juc Creek Linear Reserve. The concept design included: hydraulic analysis, water quality modelling, stormwater harvesting options, cost estimates and detailed designs for the first two stages of the creek daylighting. In 2014, Council received a \$380,000 grant from the Victorian State Government and in principle support from Corangamite CMA to undertake Stage 1 of the project, which focused on a section of the creek stretching about 230 metres west of Torquay Boulevard to the fork on Jan Juc Creek Reserve. The project involved decommissioning and modifying the existing underground drainage, returning stormwater flows to the surface of the creek, building a sedimentation basin, and reshaping creek banks. Extensive replanting of indigenous species was also undertaken to restore natural habitats.

Outcomes

Daylighting the creek enhanced the biodiversity and public amenity, strengthened the ecological value of the waterway and improved stormwater runoff quality.



Jan Juc Creek Daylighting Stage 1 Concept Design

Stormwater management: Reinstating the length of creek channel as part of the Stage 1 works disconnected six connecting pipe drains from the underground stormwater main. Four outfalls now discharge directly to the surface of the creek and two into the sedimentation pond. Direct stormwater discharge to the creek surface has created erosion and subsidence issues that pose a risk to public safety and the environment. Additional stormwater control measures need to be implemented to manage this.

Stormwater harvesting: Engineering investigations have been completed looking into the potential for stormwater harvesting upgrades to be incorporated into future stages of the daylighting project.



Friends of Jan Juc Creek Reserve tree planting

Community involvement: The FJJCR played a major role in getting this project off the ground and were very involved development of the *Jan Juc Creek Linear Reserve Master Management Plan*. One particular FJJCR member, a civil engineer, was heavily involved in the design phase. After construction he was present on site and pointed out issues that were later rectified by the contractor. The FJJCR continue to contribute to the maintenance of the reserve, conducting weeding, litter removal and tree planting working bees. This greatly benefit's Council as maintenance resources are often stretched.

Lessons Learnt

- Consultation with the community revealed a strong sense of ownership and interest in the Jan Juc Creek Reserve.
- Daylighting the creek greatly improved the amenity and biodiversity values of the reserve, balancing landscape and open space outcomes with waterway improvement.
- Great projects outcomes and ongoing benefits to the waterway were realised through collaboration with the community in the planning and design stage of the works.
- An innovative solution to retrofitting stormwater treatment elements into an existing urban catchment
- Use of local plant suppliers with existing knowledge of the catchment and engaging construction contractor for a maintenance period over first two summers ensured a high success rate of plantings
- Early and ongoing engagement with approval authorities resulted in a smooth cultural heritage and planning approvals process.

More Information

For more information visit the resource library on the Clearwater website <https://www.clearwater.asn.au>

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Jan Juc Creek Daylighting Stage 1 before (top) and after (bottom) photos.