



# Murrumbidgee to Googong Water Transfer

## Protecting the environment during construction

### An overview

With droughts tipped to be longer, drier and more frequent ACTEW Corporation is working to diversify the ACT region's sources of water.

ACTEW is constructing and will operate a 12km underground pipeline that can transfer up to 100 megalitres per day of water from the Murrumbidgee River (within the ACT) to Burra Creek (in NSW). Water discharged will flow along the creek for approximately 13km to the Googong Reservoir. The Murrumbidgee to Googong Water Transfer is a key component in ACTEW's long term plan to ensure water security.

### Our commitment

ACTEW has a commitment to minimise the impact of its operations on local communities and to safeguard the environment for the benefit of future generations.

ACTEW is committed to meeting all statutory planning conditions of approval and is working with the community, local environment groups and agencies to ensure a high standard of environmental management for the construction and operation of the project.

### Environmental impacts and mitigation

Comprehensive investigations have been undertaken in the preparation of environmental assessments to assess potential environmental impacts. These include specialist assessments on hydrology, ecology, heritage, soils and groundwater, landscape and visual amenity, noise and vibration, climate, greenhouse gas, social, traffic, transport and health.

The environmental assessment concluded that with appropriate mitigation measures applied to minimise impacts to acceptable levels, there are unlikely to be any significant residual impacts as a result of the project.

A summary of the key findings of the environmental assessments and proposed mitigations are outlined below. Comprehensive construction environmental management plans, rehabilitation and monitoring plans have been prepared endorsed by both NSW and ACT government agencies and will be implemented throughout the life of the project.

You can read the complete reports of all environmental assessments on the ACTEW website.



**ACTEW working with ActewAGL**

### Weed Management

Weed control work commenced in late 2010 and included an assessment to determine the full extent of the occurrence of weeds and to identify the most appropriate control measures. This work will control invasive noxious weeds both within the construction corridor and within the offset area – improving the habitat value for native flora and fauna. The program will ensure recruitment and reproduction of grassland flora is not suppressed or caused to decline from current levels and not impeded from improving.

Further to this noxious and nuisance weeds have the potential to impact on productive, agricultural land. Weed species will be monitored along with the entire construction route during both the construction and rehabilitation phases of the project.

### Aquatic ecology

Once operational, the pipeline will transfer up to 100 mega litres a day of water from the Murrumbidgee River, through Burra Creek, to Googong Reservoir.

Extensive studies of the aquatic ecology and geomorphology of the Murrumbidgee River and Burra Creek have been undertaken to make certain that it is environmentally sustainable to use the creek to transfer water to Googong Reservoir.

The impact on the Murrumbidgee River's aquatic ecosystems is assessed as being low, especially since environmental flows will be maintained.

Two alien fish species, carp and oriental weatherloach are considered a high risk for translocation to Googong Reservoir. The proposed 0.5mm filtering system will minimise the potential risk for the transfer of these fish and their eggs.

While potential impacts identified that will require management and monitoring include erosion and bank undercutting, the studies concluded that there will be no significant environmental impacts to Burra Creek.

The specialist studies also indicate that although there may be some initial changes in the creek away from the existing conditions, this impact and any long-term changes will be within the natural variations expected in the recent past.

Given the relatively low flow velocities and depths and the intermittent nature of flow predicted for Burra Creek, it is expected that impacts to macrophyte beds and movement of sediment will be low to moderate and manageable.

The following plans have been prepared in order to manage impacts on aquatic ecology and include:

- Geomorphological Monitoring sub-plan.
- Stream Flow and Water Quality Monitoring sub-plan.
- Aquatic Ecology Management Plan.

The local community and other interested stakeholders will be encouraged to participate in the monitoring program and development of any adaptive response measures that may be required through establishment of an Environmental Reference Group (ERG).



The ERG will support the effective delivery of environmental management, monitoring and reporting for the construction and operation of the transfer. The ERG will enable reporting, review and consultation between community, professional, Government and ACTEW representatives for environmental, technical and community matters associated with the transfer.

The establishment of the ERG acknowledges the significant contributions of these groups to ACTEW's water security program and provides a structure for their continued role in the successful construction and operation of the transfer.

### Territorial ecology

The project area contains a wide range of vegetation and habitat types, which vary from non-native pasture to high conservation value native grassland, woodland and threatened species.

In total around 15 hectares of native vegetation and around 21 hectares of non-native vegetation, including pasture and weed affected areas, will be lost during construction. The area of impact has been limited by minimising the width of construction through ecologically sensitive areas.

Construction activities will as far as possible avoid all ecologically sensitive areas and habitats. Measures to protect flora and fauna throughout the pipeline route include:

- Micro-alignment of the pipeline and the construction corridor to avoid significant plant species.
- Careful planning of construction works in order to minimise the need to clear vegetation.
- A reduced construction corridor width in highly sensitive ecological areas.
- Soil, water and weed management strategies.

### Revegetation and reinstatement

ACTEW will implement a comprehensive reinstatement program and provide biodiversity offset vegetation areas to compensate for any unavoidable impacts.

Detailed environmental management plans include a landscape reinstatement plan for all affected land.

A large contiguous piece of similar land in the area will also be dedicated to a long-term native revegetation program to compensate for vegetation loss, associated with the

construction of the project. Approximately 64 hectares of land preserved in perpetuity will ensure an overall positive environmental outcome. Land adjacent to the Murrumbidgee River corridor will be used to provide these offsets.

ACTEW is committed to high quality, long-term rehabilitation of affected land and will work closely with landholders to ensure land is restored to as close to original condition as is possible.

#### **Cultural heritage**

The project area is home to a number of Aboriginal and non-Aboriginal heritage items.

Of particular interest is the heritage listed London Bridge Natural Arch, a natural limestone formation located along Burra Creek, which has significant cultural and archaeological importance.

Heritage assessment and comprehensive consultation, including with Aboriginal stakeholders, has been undertaken in preparation of the environmental assessment.

To identify heritage items archaeological surveys were undertaken in partnership with local Aboriginal groups who will continue their involvement through the cultural heritage mitigation program during construction. This program seeks to ensure that valuable cultural heritage is recorded, recovered and protected where possible.

A detailed assessment of the potential erosion impacts on London Bridge, a natural limestone arch, concluded that there would not be any significant impact on this structure. There will also be no impact on the London Bridge homestead and outbuildings.

#### **Water quality**

During construction environmental protection works will ensure waterways are protected. The Soil and Water Management Plan, in particular erosion and sediment control plans list mitigation measures to manage impacts related to water quality.

When the project is operational the potential for impact on water quality in Burra Creek is considered to be low to moderate and manageable. The potential impact on the water quality of the Murrumbidgee River is also considered to be low and manageable.

#### **Topography, soils and groundwater**

The potential for construction impacts to geology, soils, groundwater and soil contamination during excavation works are considered low to moderate and will be managed by erosion and sedimentation controls.

#### **Land use**

Potential impacts on land use will primarily occur during the construction phase. These include some disruption to recreational activities at Angle Crossing and short-term impacts on private property.

As the pipeline will be constructed in stages and in a linear fashion, any impacts will be limited to the duration of construction.

Direct contact with landowners will be ongoing and will include the development of specific Property Interaction Plans with construction and reinstatement drawings having been developed for affected landowners.

#### **Visual impact**

During construction, exposed soils will be visible, along with machinery and equipment. Any affected land will be rehabilitated as soon as practical after construction has been completed.

The new structures at Angle Crossing will be the main permanent visual elements of the project and are assessed as having moderate adverse landscape and visual impacts.

The 15 metre wide pipeline easement will need to remain free of trees. Other operational visual impacts include pipeline infrastructure/structures, including maintenance access, signage, air and scour valves.

#### **Materials and waste management**

The main wastes that will be generated during construction include excess spoil, vegetation and landscape materials, construction material, general waste from site personnel, paints and solvents and wastewater and sewage.

Construction waste will be reused and recycled where possible with the remaining waste disposed of at appropriately licensed facilities.



ACTEW will continue to work with landholders who have indicated an interest in using spoil material on their own properties.

#### **Noise, vibration and air quality**

The majority of construction activities along the pipeline will not produce perceptible levels of noise or vibration disturbance due to the distance from most residences. However, some activities such as excavation, rock breaking, rolling and compacting may produce levels of noise or vibration that are audible when construction activities are located within 50 metres of residences.

Blasting during construction may also be required due to the presence of hard rock within the construction corridor. These impacts will be closely monitored to ensure they remain within acceptable levels.

Potential air quality impacts including dust, particulate emissions and fuel combustion emissions will be minimised through mitigation measures and controls and the implementation of a dust management plan.

To reduce the impact of construction, activities will be limited to standard construction industry hours, with construction not scheduled to occur on Sundays or public holidays. As outlined in the Community Information Plan, processes are in place for notification of affected residents to ensure community members, landowners and other affected residents are kept up to date and informed in order to minimise any disruption.

#### **Climate change**

Recognising the key challenges of climate change facing Australia, ACTEW has committed to offsetting all greenhouse gas emissions associated with the construction and operation of the project.

ACTEW will first seek to reduce greenhouse gas emissions where practicable (the use of bio-fuel, for example), and will then offset all remaining greenhouse gas emissions.

As part of this commitment a mini-hydro power generation facility will be incorporated into the project.

The mini-hydro power generation facility will largely be housed underground, located close to Burra Creek, and will recover about 20–30 per cent of the total electricity used during the pumping of the water.

#### **Social**

The location of infrastructure and the alignment of the pipeline have been chosen in consultation with landholders and the broader community. ACTEW will continue to work closely with landowners in relation to accessing land for the purpose of construction, land rehabilitation and operation of the pipeline.

During the construction phase, potential community impacts will be minimised through careful planning and the adoption of mitigation measures. The increase in traffic, road closures, noise and disturbance to property access will modify rural ambience to a moderate degree during construction. These impacts are not expected to be severe and will be of a limited duration.

ACTEW will continue its existing community engagement program and through implementation of the Community Information Plan, will ensure that the community is aware of any impacts and the progress of construction works.

#### **Traffic and transport**

Construction traffic will have temporary impacts on the traffic network of the area.

To ensure public safety small sections of Williamsdale Road may need to be closed for short periods. Arrangements will be made with property owners to ensure access to their properties is possible at all times.

Clear communications will ensure the community is informed of all construction activities and any traffic disruptions.

## **Where can I find out more?**

For more detail on how the pipeline will be built see the Constructing the Pipeline Factsheet.

Further information can be obtained by contacting ACTEW Water Security Projects,  
PO Box 366,  
Canberra City 2601,

by email at [watersecurity@actew.com.au](mailto:watersecurity@actew.com.au)

or by phoning the community information line  
**(02) 6248 3563.**

In the event of an emergency please call **1800 211 242** (24 hours). This number can also be used to register a complaint.

Project information, including various construction and environmental management plans for the project as per agency and environmental requirements are available online via ACTEW's website [www.actew.com.au](http://www.actew.com.au)

**Delivered by the Bulk Water Alliance**



**Water Security Projects**

Information line: 02 6248 3563

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