

1 FACT SHEET ONE

Water for Goulburn HIGHLANDS SOURCE PROJECT



The Highlands Source Project, linked to Wingecarribee Reservoir (above) will provide a more reliable water source to the NSW City of Goulburn, which has a population of around 22,000 people.

Photography by TVU ©Sydney Catchment Authority

What is the Highlands Source Project?

The Highlands Source Project is a major initiative designed to secure Goulburn's water – even during severe drought.

It will see Goulburn linked to the Sydney Catchment Authority's water supply at Wingecarribee Reservoir via approximately 80km of underground pipeline.

While the water is vital for the future of Goulburn, the amount required in any one year is estimated at less than one days supply for Sydney.

Why is the project needed?

In 2007, with Goulburn's dam levels down to 12 percent, serious consideration was given to the expensive exercise of trucking water to the City, or building an emergency pipeline to the Wingecarribee Reservoir. Similar major drought situations have occurred in the past, including during the 1980s drought.

When rain arrived in mid 2007, Goulburn Mulwaree Council, and other levels of Government, were given a respite and more time to research the best options for securing the water supply. Following substantial research and investigation, the Highlands Source Project was selected as the most suitable option.

What are the major benefits?

The Highlands Source Project will ensure the water security of Goulburn. Some of its specific benefits are:

- The Goulburn community will have access to a reliable water source from a high rainfall area.
- The risk to Goulburn residents of facing severe Level 5 water restrictions will be reduced.
- Important community facilities, such as the swimming pool and sporting fields, will not need to be closed due to an extreme lack of water.
- A secure water supply will provide more opportunities to attract business and industry to Goulburn.

How much water will be provided?

The pipeline will be designed to transfer 5 megalitres (ML) of water a day. With the addition of a new pumping station, this can be increased to 7.5ML to help meet Goulburn's water needs well into the future.

Will supplying water to Goulburn impact on the Sydney Catchment Authority supply?

The Sydney Catchment Authority (SCA) manages a total of 21 storage dams (11 major dams), that hold more than 2.5 million ML of water. The 5ML a day required by Goulburn is a relatively small amount and the SCA has given approval for Goulburn to access this water.

Wingecarribee Reservoir is part of a network of dams known as the 'Shoalhaven Scheme'. This scheme includes: Tallowa Dam with an available storage of 34,520ML; Wingecarribee Reservoir with an available storage of 16,550ML and Fitzroy Falls with an available storage of 7570ML. With 80 per cent of Sydney's supply coming from Warragamba Dam, the Shoalhaven Scheme is generally only used to top up the water supply to Sydney and the Illawarra during drought. The scheme also supplies the Southern Highlands and Nowra.





The Highlands Source Project will provide a secure water supply to complement Goulburn's existing source, which includes Pejar Dam (left) and Sooley Dam (right).



What is the timeframe for the Project?

Following extensive preliminary work, the pre-construction stage (Stage 1) started in August 2009. With Council approval, the target date for completion is 30 June 2011.

Who is involved?

The project is being led by Goulburn Mulwaree Council, which has appointed leading firm GHD to supply Project Management and Design Services. Other companies and organisations will be involved during construction.

What will it cost?

The Department of Commerce has estimated that the project will cost \$54 million, however the final estimate will not be known until tenders are received for the construction stage.

How is the project funded?

The State and Federal Governments have committed up to \$20 million each - a total of \$40 million. The remainder is being funded by Goulburn water users (residents and businesses) through an annual charge of \$75 for homes. Properties with meters larger than 20mm (such as commercial, industrial and business premises) will be charged more.



Where can I get more information?

You can find more information on the Highlands Source Project through visiting Council's website **www.goulburn.nsw.gov.au**. Alternatively you can also:

Call 1800 705 942

Email hspmail@ghd.com

Or post to:

GHD Reply Paid 1877

Canberra ACT 2601



Wingecarribee Reservoir (above and left).
Photography by TVU ©Sydney Catchment Authority



CLIENTS | PEOPLE | PERFORMANCE



Australian Government
Water Smart Australia



New South Wales
Government



Water for Goulburn

HIGHLANDS SOURCE PROJECT



GHD Senior Pipeline Design Engineer Belinda Madin, GHD Project Engineer Kyle O'Brien and Goulburn Mulwaree Council Water Superintendent Ian Beveridge (l-r) at the Council's Murray's Flat farm, which is included in the preliminary pipeline corridor.

Pipeline Route Selection

A preliminary pipeline corridor between the Goulburn Water Treatment Plant and the Wingecarribee Reservoir has been determined considering the following constraints:

- Existing electricity and gas easements.
- A desire to utilise and stay close to existing cleared areas.
- Avoiding town centres.

The final preferred pipeline route will be based on technical, social, financial and environmental factors and will be subject to an environmental assessment.

Who is involved in the project?

The project is being led by Goulburn Mulwaree Council, which has appointed leading firm GHD to supply Project Management and Design Services for Stage One (design and approvals).

The State and Federal Governments have committed up to \$20 million each - a total of \$40 million. The remainder is being funded by Goulburn water users through an annual charge.

Approval process

On 9 July 2007, the Minister for Planning declared the proposed pipeline to be of regional environmental planning significance and therefore is a Project to which Part 3A of the *Environmental Planning and Assessment Act 1979* applies. The NSW Minister for Planning will assess and determine the application for project approval.

About the Highlands Source Project

The Highlands Source Project is a major initiative designed to secure Goulburn's water supply. It would see Goulburn linked to the Sydney Catchment Authority water supply at Wingecarribee Reservoir via approximately 80 kilometres of underground pipeline.

Some of the main benefits include:

- The Goulburn community will have access to a reliable water source from a high rainfall area.
- The risk of Goulburn residents facing severe Level 5 water restrictions will be reduced.
- A secure water supply will provide more opportunities to attract business and industry to Goulburn.

Applications for approval under Part 3A are accompanied by an Environmental Assessment (EA), which assesses the project against key issues that have been identified by the Director-General of the Department of Planning.

Once the Department of Planning confirms the prepared EA to be adequate, it will be placed on public exhibition for a minimum of 30 days.

During this exhibition period, members of the public can submit comments on the proposal to the Department of Planning. Comments are also sought from relevant local councils and government agencies.

Once the public exhibition is complete, Council will prepare a report for the Department of Planning that responds to the submissions the Department receives.

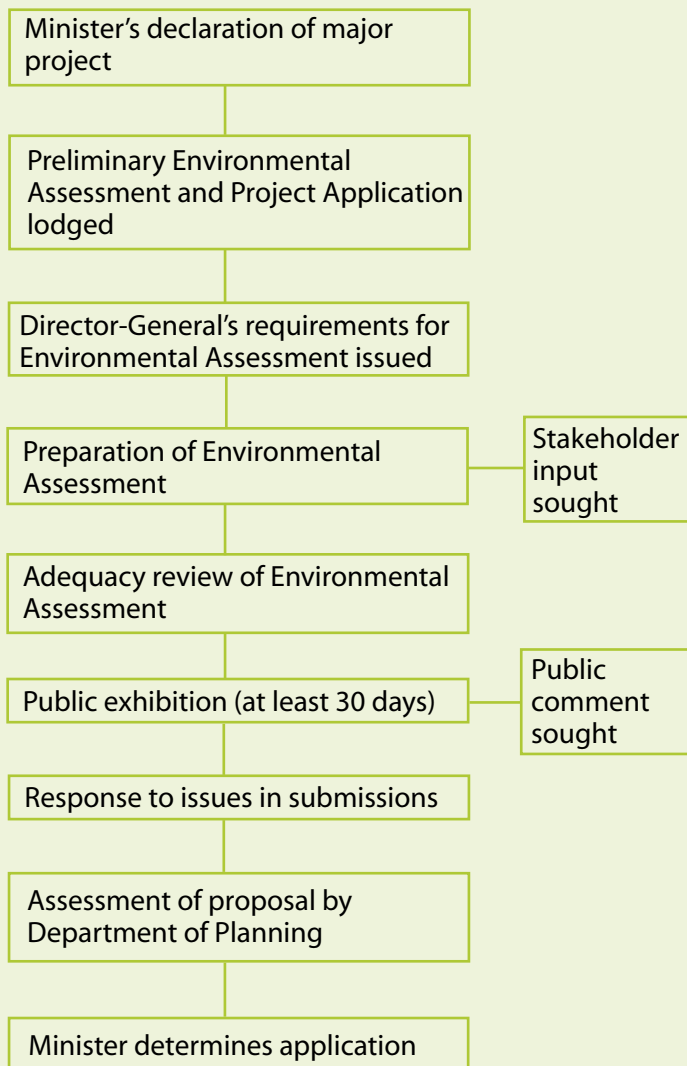
The Minister will then consider the EA, the submissions received and other relevant information, in accordance with the *Environmental Planning and Assessment Act 1979*, and will make a determination of the development application.



CLIENTS | PEOPLE | PERFORMANCE



Steps in the approval process



What is an Environmental Assessment?

An EA presents an assessment of the potential environmental impacts of a proposal and makes recommendations regarding measures to reduce these.

The EA provides information to enable the approval authority, in this case the Minister for Planning, to decide if the proposal should go ahead.

Specialist assessments to be undertaken as part of the EA for the proposed pipeline include:

- Air quality, noise and vibration
- Traffic and transport
- Hazards and risk
- Flora and fauna
- Heritage (European and Indigenous)
- Soils, geology, groundwater and contamination
- Social impact
- Energy use and greenhouse gas emissions
- Hydrology and water quality
- Landscape and visual impact
- Drinking water quality
- Land use impact.

On completion of the above, landowners ultimately affected by the preferred pipeline route will be contacted and agreement to construct the pipeline across their property would be discussed.

Next steps

The Highlands Source Project Team needs to complete its route selection and environmental assessment work so that a preferred pipeline route can be determined. It is expected that the environmental assessment will be made available for public comment by mid 2010. The community and stakeholders will be notified of the display period via fact sheets, advertising in local papers and on Council's website www.goulburn.nsw.gov.au

At the completion of Stage One of the Project (design and approvals), Goulburn Mulwaree Council will review the project and determine if it will proceed to Stage Two (construction).

Where can I get more information?

You can find more information on the Highlands Source Project through visiting Council's website

www.goulburn.nsw.gov.au

Alternatively you can also:

Call:

1800 705 942

Email:

hspmail@ghd.com

Post:

**GHD Reply Paid 1877
Canberra ACT 2601**



CLIENTS | PEOPLE | PERFORMANCE



Australian Government
Water Smart Australia



New South Wales
Government

Water for Goulburn

HIGHLANDS SOURCE PROJECT



Stage One – landholder notification

Subject to the project receiving the appropriate approvals, a construction program will be developed. Prior to construction, members of the project team will meet with landholders to discuss the acquisition of an easement and temporary use of land for construction.

Landholders will be given at least 28 days' notice of when construction is due to begin on their property and will be given a reminder notice 48 hours before work begins.

All affected landholders will be visited by a member of the project team to finalise and confirm any special construction access and restoration requirements they may have. Special requirements might include the need to relocate stock or arrange a temporary property access point.

In the days leading up to construction, the project team will take pre-construction photos and video footage along the work corridor to aid in the restoration process.

Benefits of the Highlands Source Project

The Highlands Source Project is a major initiative designed to secure Goulburn's water supply.

It would see Goulburn linked to the Sydney Catchment Authority water supply at Wingecarribee Reservoir via approximately 80 kilometres of underground pipeline. Some of the main benefits include:

- The Goulburn community having access to a reliable water source from a high rainfall area;
- The risk of Goulburn residents facing severe Level 5 water restrictions being reduced; and
- A secure water supply will provide more opportunities to attract business and industry to Goulburn.

It is expected that the environmental assessment for the project will be made available for public comment by mid 2010.

At the completion of Stage One of the Project (design and approvals), Goulburn Mulwaree Council will review the project and determine if it will proceed to Stage Two (construction).

Typical hours of construction will be 7am until 7pm Monday to Friday and 8am until 1pm on Saturdays. Extended working hours would be required on some week nights and weekends.

Appropriate measures to mitigate potential impacts to nearby landholders would be implemented.

Stage Two – route survey and preparation

Once all necessary investigations are complete, the construction corridor will be surveyed and marked out.

Temporary fencing may be necessary for the containment of stock. Requirements will be discussed with landholders.



CLIENTS | PEOPLE | PERFORMANCE



Stage Three – ground preparation

Preparation of the construction corridor will include clearing of trees and vegetation where present and removal of topsoil and other obstacles such as rocks.

Materials needed for construction, including pipes and sand will be delivered to the construction zone. Pipes would be stockpiled at 5 km to 10 km intervals near an existing road or access that is suitable for a semi-trailer truck. The pipes, which will be up to 375 mm in diameter, would then be transported to the cleared construction corridor and would be strung out along the edge of the clearing.

Stage Four – excavation and pipe laying

Access to the construction corridor from existing roads would be required approximately every 3km to 4km along the route.

Where possible, existing access roads and farm tracks would be used to access the proposed easement alignment, which would be the main thoroughfare through properties. We will consult with affected landholders regarding access requirements.

The pipeline trench would be approximately 1m wide and excavated to a depth of about 1.5m to 2m below ground surface using a trenching machine or excavator.

The excavated material would be mounded within the construction corridor adjacent to the trench for backfilling or disposal where appropriate and in consultation with the landholder.

The pipes would be lifted into the trench using an excavator or crane. The pipes would then be joined using a rubber ring seal. Tipper trucks would be used to place backfill sand around the trench and to transport material to and from stockpile areas.

Scour valves, air valves and divide valves will be constructed at intervals along the pipeline. This will involve installing concrete valve pits and pre-cast air valve chambers.

Stage Five - restoration

Restoration requirements will be discussed with the landholder prior to construction. The rehabilitation requirements will be included in a Property Construction Report prepared in consultation with the landholder.



Wingecarribee Reservoir.

The majority of restoration will be undertaken after testing of the pipeline. However, reinstatement of disturbed areas would be undertaken progressively during the construction period wherever possible.

Who is involved?

The project is being led by Goulburn Mulwaree Council, which has appointed leading firm GHD to supply Project Management and Design Services. Other companies and organisations will be involved during construction.

How is the project funded?

The State and Federal Governments have committed up to \$20 million each - a total of \$40 million. The remainder is being funded by Goulburn water users (residents and businesses) through an annual charge of \$75 for homes. Properties with meters larger than 20mm (such as commercial, industrial and business premises) will be charged more.

Where can I get more information?

You can find more information on the Highlands Source Project through visiting Council's website **www.goulburn.nsw.gov.au**

Alternatively you can also freecall 1800 705 942, email hspmail@ghd.com or post to GHD Reply Paid 1877, Canberra ACT 2601.

Water for Goulburn

HIGHLANDS SOURCE PROJECT

Maintenance of the Pipeline

Long pipelines, like the one proposed for the Highlands Source Project, need ongoing maintenance. This usually occurs several times during the year.

As part of the Highlands Source Project, air valves, scour valves and divide valves would be located at regular intervals along the pipeline to provide air release and entry. The valves also allow for sections of the pipeline to be isolated to safely facilitate any maintenance of the pipeline.

The valves would be contained within a concrete circular pit approximately 1200 mm to 1500 mm in diameter, approximately 600 mm above the ground surface and covered in a metal lid or grating.

Some valves will need to be placed on private property, within the pipeline easement. The final location and design of the valves will be determined by the project team in consultation with affected landholders.

Periodic inspections of the pipeline and the valves would be undertaken. This would involve vehicle access along the pipeline easement and an inspection, which often includes some turning of the valve handles.

Air valves

Air valves would be installed at high points along the route of the pipeline to let air in and out of the pipeline. Air valves are common pipeline structures in both urban and rural settings designed to assist the water flow and pressure within the pipeline.

A preliminary assessment of the pipeline route has indicated that approximately 45 primary air valves and approximately 20 to 30 secondary air release points would be located along the pipeline. The final number of air valves may vary according to detailed design.

Scour valves

At the low points along the pipeline, scour valves would

What is the Highlands Source Project?

The Highlands Source Project is a major initiative designed to secure Goulburn's water supply.

It would see Goulburn linked to the Sydney Catchment Authority water supply at Wingecarribee Reservoir via approximately 80 kilometres of underground pipeline.

be installed to assist with de-watering of the pipeline for maintenance and inspection. Scouring would involve periodically discharging water from the pipeline.

A preliminary assessment of the pipeline route has indicated that approximately 70 scour valves would be located along the pipeline. The final number of scour valves may vary once detailed design has been completed.

The Highlands Source Project environmental assessment considered two options (raw water and treated water) for the transfer of water from Wingecarribee to Goulburn. Scour (or maintenance) water would be managed appropriately according to whether raw or treated water is transferred to Goulburn. No scour water would be directly released to watercourses.

Negotiations will be undertaken with landholders who may be interested in allowing scour water to be discharged to farm dams, subject to environmental assessment approval.

Divide valves

Divide valves (also known as stop valves) would be installed along the pipeline to allow sections of the pipeline to be isolated. These allow selected sections of the pipeline to be de-pressurised so that maintenance work can be safely undertaken.

Approximately 17 divide valves would be constructed along the alignment at about 5 km intervals.



CLIENTS | PEOPLE | PERFORMANCE



Australian Government
Water Smart Australia



Water for Goulburn

HIGHLANDS SOURCE PROJECT

Geological investigations

As part of ongoing investigations for the proposed Highlands Source Project representatives from Douglas Partners Pty Ltd will be carrying out survey work and geological investigations on behalf of GHD Pty Ltd. This work will occur at various locations along the pipeline route between Wingecarribee Reservoir and Goulburn.

The geological investigation will provide important information about the type of soil and rock in the ground and the location of existing underground services.

In some cases, we will need to enter private properties. Landholders will be notified in advance of this happening and arrangements made for accessing the property.

If we do need to enter your property, our workers will knock on your door before starting work. You do not need to be at home unless there are gates to be unlocked. If nobody is home, a calling card will be left and the work will continue.

The survey work will be done first, with geological investigations undertaken one to two weeks later.

Survey work

Our workers will first locate existing services and then choose a suitable location for a test pit. The pit will be in the general vicinity of the pipeline route. The pit location will be recorded with a GPS reading and marked with a wooden peg.

The survey work will generally take up to one hour at each location.

Geological excavation

Geological investigations usually involve drilling into the ground or digging a test pit with an excavator so

Highlands Source Project endorsed

The Highlands Source Project is a major initiative designed to secure Goulburn's water supply.

It would see Goulburn linked to the Sydney Catchment Authority water supply at Wingecarribee Reservoir via approximately 80 kilometres of underground pipeline.

Goulburn Mulwaree Council resolved to endorse Stage 2 - Construction of the Highlands Source Project at an Extraordinary Council meeting on 4 March 2010.

that the type of soil and rock at various depths can be identified.

Access to and along private property will be agreed with landholders in advance. An excavator will dig a hole approximately 300 mm to 450 mm wide by up to 3 m long and up to 3 m deep, or until rock is encountered. A small sample of material will be taken for laboratory testing with the rest tapped back into the pit. There may be some noise associated with the excavator.

The excavation will be done on a separate visit to the survey work and will take about one to two hours to complete.

Working hours will be between 7am and 6pm weekdays and, if required, 8am to 1pm Saturdays.

The Highlands Source Project Team thanks you in advance for your cooperation.

Where can I get more information?

You can find more information on the Highlands Source Project through visiting Council's website www.goulburn.nsw.gov.au

Alternatively you can also freecall 1800 705 942, email hspmail@ghd.com or post to GHD Reply Paid 1877, Canberra ACT 2601.



CLIENTS | PEOPLE | PERFORMANCE



Australian Government
Water Smart Australia

