

# Interflow®

Creating the  
Future of Water



## Wastewater

CLEAN LIVING FOR OUR COMMUNITIES

# Who we are







# Wastewater

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Since our inception in 1936, Interflow has become a trusted Delivery Partner in wastewater asset management. We have built our reputation by working collaboratively with our customers across Australia and New Zealand to deliver practical, cost-conscious outcomes for every project.

**With an outward-looking focus on innovation, we construct repair, renew and restore wastewater assets to operate reliably.**

We understand the fundamental importance of maintaining public health and water quality. As such, we adopt industry best-practice and ensure that when we deliver your project, we're delivering a safe, compliant and sustainable wastewater solution for your site, your community and your environment.

Our unique blend of services will bring you increased reliability and operational efficiency that enhance your wastewater asset's life cycle.

When working with us, our teams will consult with you across a broad range of wastewater services and will develop options that are completely customised to your needs and site conditions.

Backed by a dedicated team of in-house experts and new technologies, we continue to carve a culture of innovation that brings clean living to your communities.



# Understanding and solving your wastewater needs

Having worked closely with our partners to deliver customised and complex wastewater projects, we take the time to understand your key drivers. This enables us to take an 'end-to-end' approach and optimise your wastewater network, so it operates reliably for future generations.


Our in-house team of specialists will be with you through all stages of your design, build, and renewal program: from the preliminary site-inspection and project planning, through to construction and maintenance, we will work with you to identify issues that underpin your expenditure to ensure the most economical Total Delivered Cost for your project.

With this in mind, we can develop solutions that will help you deliver your goals, strategic targets and agreed level of service through effective, sustainable wastewater asset management.

As an essential service provider for your communities, it is our responsibility as a trusted Delivery Partner to ensure you collect, contain and treat wastewater in the safest and most efficient way.

**Taking a holistic and collaborative approach, we will meet the needs of your cultural, ecological and recreational values, ensuring the best outcomes for everyone.**





**When you work with us,  
you can be assured that  
we will own and manage  
your projects every step  
of the way, taking full  
responsibility for their  
successful delivery**

# Delivering what you need, when you need it

Our delivery services span across regional, peri-urban and urban parts of Australia and New Zealand. Having worked in all types of environmental and social conditions, we are experienced in both preventative and reactive wastewater asset management.

While we work with you to proactively manage your assets under their normal operation to avoid emergency works and associated downtime costs, we also understand that unexpected situations occur and can mobilise immediately to deliver what you need, when you need it.

Our ability to work within both preventative and reactive environments stems from our innovative way of thinking, combined with our world-class technologies and products.

**We will work  
with you to create  
outcomes you and  
your communities can  
depend on well into  
the future**





## Your program management Delivery Partner

As a self-performing delivery partner, we pride ourselves on providing end-to-end services for our customers. Founded on experience in delivering small and large-scale wastewater programs, our skilled workforce will work with you to deliver a robust and adaptive delivery framework that will service your communities now and into the future.

**Backed by our team of in-house experts, we will provide a comprehensive wastewater delivery model with a constant eye on project progression and team performance.**

Our self-perform capabilities mean our people have a sound understanding of your program requirements. This requires strategic partnerships with delivery teams, design managers, program schedulers, customers and community stakeholders, where collaboration, communication and consistency are at the core of how we do business.

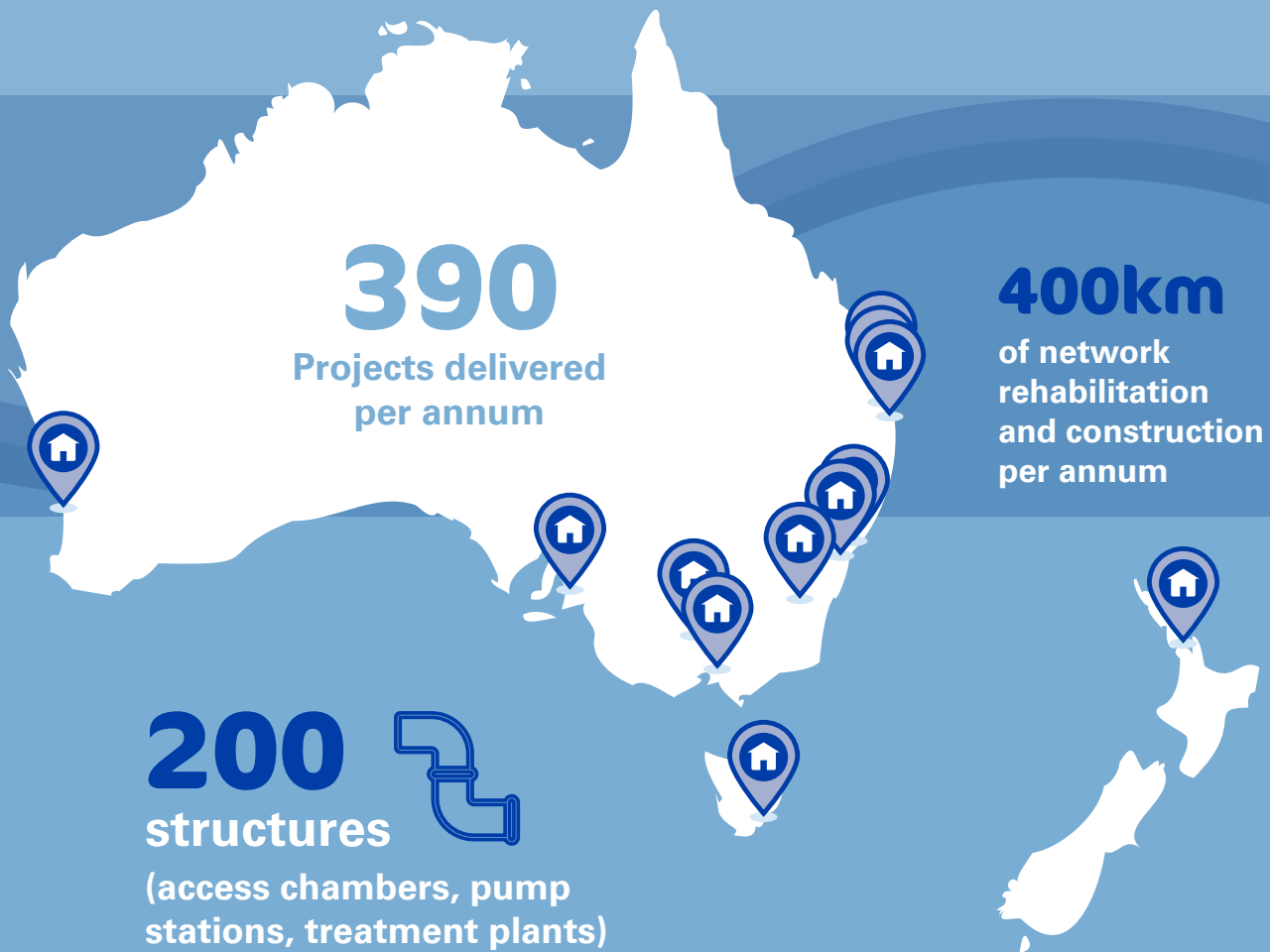
When we carry out your wastewater works, we carefully consider:

- **Our carbon footprint:** Ensuring our methods have the lowest environmental impact through new, 'eco-friendly' technologies.
- **Social and environmental impact:** Reducing impact to your stakeholders and the surrounding environment.
- **Long-term reliability:** Working in a broad range of site conditions and environments to continually improve our resilience and approaches.
- **Total Delivered Cost:** Taking a life-cycle approach to deliver the best value for money and management strategies for the long-term.



# Wastewater

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# Our services, capabilities and solutions

## Clean Living For Our Communities

Using our renowned 'no-dig' trenchless technology, we can inspect, assess and renew even the most degraded wastewater assets and will work around-the-clock in the most critical situations. We also have the capabilities to provide you with a full suite of civil works depending on what you need.

Our technologies and applications in the wastewater sector have been developed and tested for over 85 years. During this time, we have become trusted Delivery Partners in: construction, pipe lining, relining, sealing, coating, repairs, and maintenance of wastewater assets.

## Our key services in the wastewater space include:



Condition assessment, program development and design



Spiral, CIPP solutions, coatings and more – DN100-DN3000



Emergency response and programmed network maintenance



Deep structures, tunnels and access chambers



Robotics, trenchless and conventional excavated repairs

# Highlighted solutions

## CCTV (100-3,000mm)

Closed-circuit television (CCTV) enables pipeline inspection to be performed in a consistent way, following techniques and guidelines set out by industry standards. We have a large fleet of CCTV crews able to undertake pipeline inspection surveys, all equipped with the latest camera technology and software.

## Condition assessment



## CAC protective coating



## HD / MD profiling (375-3,000mm)

Using the most advanced technology for diameters ranging from DN375-DN3000, our profiling services incorporate a combination of laser, sonar and CCTV technology, which provide full empirical data on the pipeline condition. The profilers can operate with sewage flow in the line and go for long distances without person entry.

## CAC protective coating

CAC protective coating is specifically designed to provide ultimate protection against hydrogen sulphide gas-induced corrosion. Composed of a factory blend of fibre reinforced calcium aluminate cement mortar, the range is used for both protecting and restoring the integrity of access chambers and underground wastewater structures.

## Expanda®

Expanda is a full-bore spirally wound PVC liner that restores the structural integrity, reliability and efficiency of ageing sewer and gravity pipelines with diameters from 150mm to 1200mm.

Expanda®



## Interline®

Interline CIPP is part of our range of liners for renewal of deteriorated non-circular pipes, such as ovoid, egg-shape, or box cross-sections.

Interline UV offers an ultra-violet option that provides higher mechanical qualities than heat cured liners, with assured quality control and the added benefit of no styrene discharge into the environment.

Interline®



## Ribline®

Ribline is a fixed diameter full-bore structural liner that restores the integrity, reliability and efficiency of ageing pipes and culverts. It is typically used for diameters over 1500mm, but is suitable for pipes of all sizes.

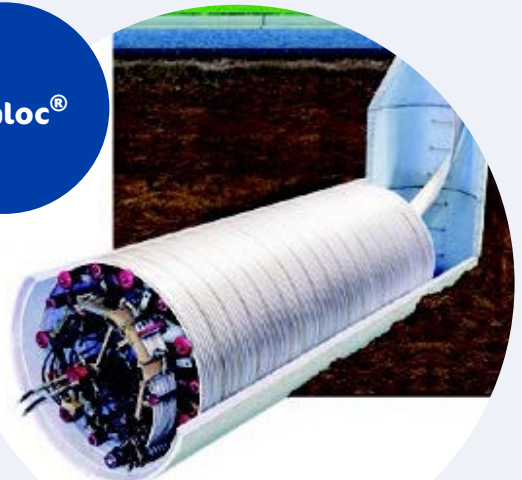
Ribline®



## Rotaloc®

Rotaloc consists of a single, continuous strip of PVC, which is progressively wound into the existing pipeline by a Rotaloc winding machine. It provides structural lining for deteriorated circular pipes and culverts from 800mm to 2200mm diameter.

Rotaloc®





# Our services



## Planning and design

- Community relations
- Environmental management
- Flow management and bypass
- Traffic management
- Safety management and risk assessment
- Flow management and bypass
- Emergency incident response
- Asset management planning and budgeting



## Construction

- New connection to drains
- Drainage pipelines
- Access chambers
- Civil dig-ups and repairs



## Maintenance

- CCTV inspection
- Wincan condition reporting and assessment
- Dye testing
- Smoke testing
- Laser profiling
- MD / HD profiling
- Service proving
- Location by sonde
- Concrete core sampling
- Pit condition assessment
- Service prediction
- Cleaning
- Silt removal and dredging
- Mechanical and hydraulic root removal
- Root foaming
- Junction seals (Interfit)
- Spiral lining (Expanda, Rotaloc, Ribline)
- Cured in place lining (Interline)
- Ribsteel liner
- Slip lining
- Pipe bursting
- Horizontal directional drilling
- Protective coatings (epoxy and CAC)
- Patch lining (Interpatch)
- Pit ladder and step iron replacement
- Pit replacement
- Drainage replacement by excavation
- Mechanical repair bands
- Robotic grinding
- Localised repair by excavation
- Raising pits
- Maintenance hole cover and frame replacement



# Our case studies

Whatever your needs may be, we work to create the ideal solution that you and your people can depend on.

With over 85 years of expertise, innovative products and designs, a team of dedicated professionals, and honest, ethical practices, your wastewater project is in trusted hands.

These case studies provide insight into how we create clean living for our customers and the communities we serve.

**A good wastewater management system gives people access to essential sanitation services. Let us help you make clean living easy for your community.**





## Concrete sewer refurbishment

**Location:** Maylands, WA

**Customer:** Water Corporation

We were engaged by Water Corporation to extend the life of a large reinforced concrete sewer built before 1937 in the inner-Perth suburb of Maylands.

The total length of 1.2km was corrosion attacked, with reinforcement exposed in the worst areas. One section had a large radius 90° bend, while two sections had a total of 21 lateral house connections. Access was via small square 750mm or 900mm shafts. The sewer carried constantly high flow.

To remedy this, we proposed to line the DN990 sewer with a grouted Rotaloc spiral wound liner. Due to high flow, a temporary bypass system needed to be constructed to take sewer flow from upstream of the works to an access point downstream.

The flow bypass system we designed and installed used twin 300mm pumps and DN315 PN10 polyethylene pipe. Approximately

following the route of the sewer, it had sections above ground, trenched into the ground and passing through a DN1800 stormwater pipeline.

Rotaloc is installed from existing access points, with the machine removed from the sewer at the end of each shift. On this project the small shafts wouldn't allow this access, so the winding machine remained in the sewer while the full 1.2 kilometre length was lined. We developed a special control system for remote machine operation and control from above ground, using wireless communication with routers and fibre optics.

The fabricated PVC liner for the long radius bend used 10mm thick PVC sheeting heated and curved to the required diameter, and with lengths of about 700mm. They were formed-in-place in a lobster-back configuration, with segments welded together. The bend was grouted after liner installation.

The project demonstrated our capability to carry out the full range of tasks needed for a complex pipe renewal project in an urban location.

# Overcoming access constraints

**Location:** Geelong, VIC

**Customer:** Barwon Water

Interflow was engaged by Barwon Water to undertake their Major Sewer Relining Works, rehabilitating 7.8km of gravity main over the course of the program. Lining works were performed using Interflow's patented Expanda solution, a full-bore spiral-wound liner that restores the structural integrity and reliability of ageing pipelines. CCTV inspections were performed before and after lining to plan and inspect the quality of works.

During this program of works, Interflow encountered access challenges when a 237m portion of DN450 pipeline was found to be located under a busy rail yard.

A vital access chamber was buried under live tracks, and disrupting rail services to access the chamber was not an option.

Adding to the challenge, the alternate access point was over 80 metres downstream, and a sharp bend at the chamber site prevented the crew from simply lining through the chamber.

Unable to enter the access chamber, the crew needed an alternate way to seal and render the ends of the liner to the host pipe. Interflow's Sydney team was in possession of a Remote Point Expansion kit that could connect to the robotic pipe cutter and traverse the pipe, following the Expanda liner and securing it at the buried access chamber.

By embracing bespoke technology, Interflow installed two DN450 liners through the access chamber in a single day, restoring the section of sewer main to its peak performance. This is one of many important sewer assets relined and restored under the program, supporting Barwon Water in their delivery of safe, reliable wastewater services to their community.





## Australian-first technology

**Location:** Gold Coast, QLD

**Customer:** City of Gold Coast

When a failure in the City of Gold Coast's DN600 Eastern Force Main was identified in November 2018, the main was immediately diverted, but this provided a short-term measure that was only suitable for dry weather – peak wet weather flows would overload the system. Identifying the exact point and mode of the fault was challenging, so the repair method needed to cater to a range of scenarios.

The City of Gold Coast chose to renew the existing main with a Kevlar-reinforced Primus Line pressure liner, a trenchless technology for the rehabilitation of pressure pipes.

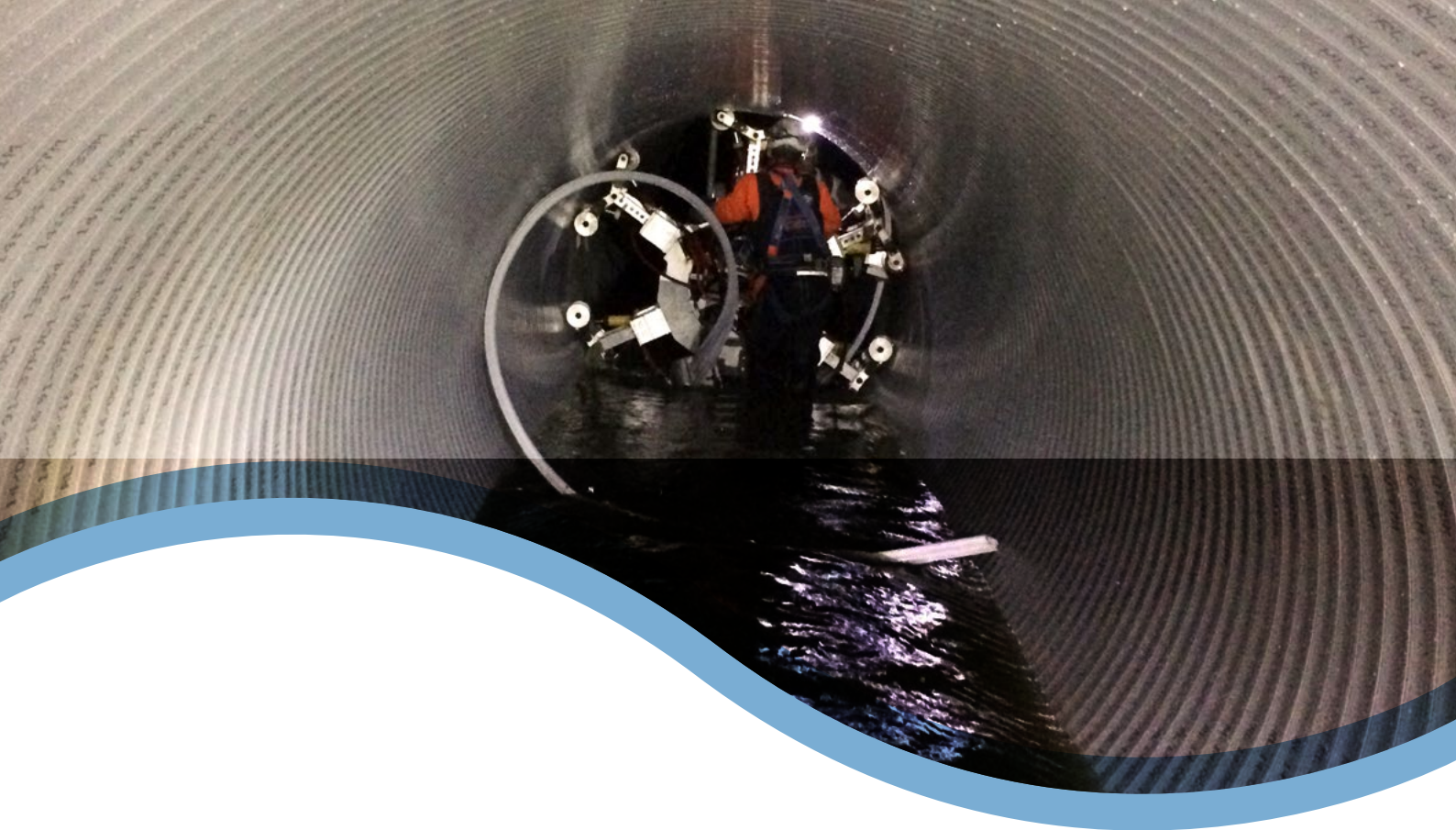
This was the first time the technology had been used in a wastewater network in the southern hemisphere, so it was necessary to specially procure the relevant materials and tools.

During the project, it was crucial to ensure safe pedestrian access and navigate a congested service corridor, particularly on the southern end. Adding to the complexity of the task, tidal conditions limited work to a three-hour window during low tide.

We drew on our connections with Sydney Water and Urban Utilities to procure the necessary materials and tools. Both Sydney Water and Urban Utilities agreed to support this emergency project by supplying these items subject to re-supply arrangements being met.

We completed the relining portion of the project in the three-hour, low-tide windows over three days. This resulted in the main being restored to service within two weeks of the initial failure, in time for the peak tourist season for the Gold Coast, with no environmental incidents or injuries. This cost-effective solution is expected to service the City of Gold Coast for 50 years.





## Safer, faster wastewater rehabilitation

**Location:** Canberra, ACT

**Customer:** Icon Water

This project involved installing a large structural lining to rehabilitate one of Canberra's key sewers for Icon Water. Due to the volume of material the sewer carries – about two-thirds of Canberra's wastewater – it was not possible to divert the flow during the works; it had to remain operational. Even at its lowest flow conditions, the sewer depth in the pipeline was 400mm and was very fast flowing.

HD Profiling was used to prepare a full pipe survey, which Interflow used to plan the project. This avoided the need for personnel to enter the sewer and provided a safer and faster method.

We used the Australian-developed Rotaloc PVC spiral wound lining system to rehabilitate the sewer. This system uses a winding machine to traverse along the inside of the pipeline, spirally

winding a ribbed strip of uPVC, locking the edges together to form a pipe-within-a-pipe.

It was necessary for our staff to draw on their technical expertise and innovation to stabilise the machine and carry out reconfigurations so it would work in the pipe's large diameter – almost two metres – and in the high-flow conditions.

We developed a number of new work methods to complete this project on time and on budget, and without any interruptions to service, or safety or environmental incidents. The solution has been engineered to take all loads, including soil, traffic and groundwater.

This project has extended the known capabilities of spiral-wound lining and has pioneered methods that can be applied to other projects in the future.

# How can we help you?

As you can see from the projects mentioned, we are committed to offering customers optimum solutions of the highest quality for infrastructure within the wastewater sector.

You have learnt about who we are and why we exist – to solve our customers' problems. To continually challenge the status quo. No job is too large and complex, or too small and simple. We work around you.

**Contact us today  
and find out how  
we can help**

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