



## Water Conveyance

**Client**  
Sydney Water

**Location**  
Sydney, Australia

## SewerFix Pumping Station Program

### Project Highlights

- Tranche 1 completed within eight months and 13 percent under TCE with rapid staffing ramp-up.
- Externally audited community relations program assessed as Outstanding.
- Scope managed within changed budget priorities.
- At its peak, the program employed 162 direct-hire full time Alliance employees working in two regional offices and three sector construction offices.
- Over the course of the program the team tendered, negotiated and awarded more than 300 separate subcontractor agreements.
- National Safety Council of Australia's Best Management of an OH&S Specific Workplace Risk 2003.

### Project Description



CH2M HILL led an alliance team to upgrade 250 operating sewage pumping stations (SPSs) and install IICATS to 658 stations over four years. The upgrades are driven by EPA license requirements and aim to reduce the risk of overflows and the impact of Sydney Water's operations on the environment, community and customers.

CH2M HILL's responsibilities on the program included defining, designing, constructing, commissioning and environmental management (including heritage issues). Environmental management included design input, environmental assessment, construction site management and restoration management on several state and locally listed heritage sites.

Tranche 1 works were completed \$6 million under the agreed Target Cost Estimate (TCE) established as the benchmark for a high performance team. The savings were achieved primarily in the construction, program management and program establishment areas. Upgraded stations are required to meet new standards of performance, and some involved sensitive issues such as heritage listing and/or proximity to waterways and national parks.

A demanding timeframe of eight months was determined for Tranche 1. The Alliance met the EPA requirements, completing upgrades to 38 SPSs by 30 June 2002, with a further four commissioned by 2 July 2002. We succeeded in having no dry weather overflows during construction through best practice environmental management.

A variety of stakeholders were impacted, including local and state government authorities, residents, industry and business. Communication with internal and external stakeholders was across 13,000 km<sup>2</sup>, and fieldwork took place at up to 40 sites at once.



Because Sydney Water and all of its activities are subject to public scrutiny and frequent political interest, the project implemented a detailed and groundbreaking community and media management program. The quality of community interface was measured independently by external audit as part of one of the program KPIs and the Community Relations program consistently scored in the Outstanding performance range.

In addition, the Program's Integration Manager coordinated all high-level Alliance-client communication, for example arranging liaison with Sydney Water's Property, Operations and Maintenance, Legal and Insurance Departments.

The process to reconcile EPA and Sydney Water requirements was aimed at achieving optimal environmental outcomes, and so the timing for the upgrade of some stations was moved forwards or backwards, depending on their specific issues and the budget available within each financial year. The Alliance managed these changes.

The Environment Team supported the project managers and worked closely with area supervisors, site supervisors and subcontractors during delivery. They provided environmental input into planning and design of SPS upgrades, prepared REFs and EMPs and ensured they were implemented by site supervisors. They provided environmental advice and support to project delivery teams during construction and commissioning. This included managing issues such as heritage, acid sulphate soils, threatened species, groundwater discharge, contaminated soils and environmental incidents.

The team also audited the environmental performance at SPS sites during construction and commissioning, oversaw site restoration, and had input into the development and implementation of the Environmental Management System (EMS). The EMS achieved 100 percent compliance with the standard as concluded by an external auditor.

The program pioneered the use of tranches, which was an effective means to measure cost and non-cost KPIs as well as a practical way to divide the project into manageable packages of work within set time periods.

The Alliance utilised Strategic Procurement agreements to identify the most competitive supplier in a particular market and then worked with them to reduce costs. External contractors carried out the civil works and mechanical and electrical installation works. As multiple projects were being delivered concurrently, at a program level packages were grouped in a way to maximise continuity of work to subcontractors while ensuring the work was fairly distributed to the market.