CASE STUDY ›

DESIGN ENGINEERING SERVICES FOR WESTERN HARBOUR TUNNEL TENDER

PROJECT OVERVIEW

Western Harbour Tunnel (WHT), is a north east extension of the WestConnex motorway connecting from Rozelle in the South to the Warringah Freeway in the north including a second harbour road crossing. The project includes approximately 7km of twin tunnels, integration with the existing WestConnex as well as enabling works for the future beaches link.

SCOPE OF WORK

RSGx was engaged to support the ACCIONA tender bid with engineering services in the M&E area. RSGx worked as an integrated team with ACCIONA providing engineering design, procurement and estimating and constructability support. RSGx also led the coordination of systems with the broader project. Disciplines included:

- Combined services
- Tunnel Ventilation
- Mechanical and drainage
- Fire systems
- HV/LV electrical and tunnel lighting

SOLUTION

The tender design solution included longitudinal ventilation using jet fans with portal exhaust and air exchange facilities. Power was supplied via a 22kv reticulation in the tunnel through a series of underground and above ground substations. Fire systems included a deluge system, with redundant water storage and fire pump rooms combined with AVID and linear heat detection fire alarm systems.

ACHIEVEMENTS TO DATE

RSGx worked as part of the integrated tender team to generate and coordinate the MEP tender design for the project. Key achievements included:

- Successfully challenging the SWTC to ensure value for money outcomes in the tunnel ventilation design.
- Reducing the total number of ventilation fans to reduce capital costs, improve maintenance access and reduce ongoing whole of life costs.
- Successfully coordinating MEP services across multiple tunnel configurations with a focus on optimising tunnel volumes.
- Optioneering prefabricated equipment in various above and below ground locations for the best value for money solution at each location.

CLIENT
ACCIONA

SERVICES PROVIDED
DESIGN ENGINEERING

SCOPE
TENDER ENGINEERING SUPPORT

INDUSTRY
INFRASTRUCTURE

LOCATION
SYDNEY, AUSTRALIA

RSGx
RESOURCE SERVICES GROUP

@ info@rsgx.com

🌐 www.rsgx.com