

Worldwide Activities



TUNNEL DESIGN

TEMPORARY WORKS DESIGN

GEOTECHNICAL ENGINEERING

CONSTRUCTION MANAGEMENT

INSTRUMENTATION & MONITORING

WATERPROOFING & WATER CONTROL

TUNNEL REHABILITATION

MINING SUPPORT SERVICES

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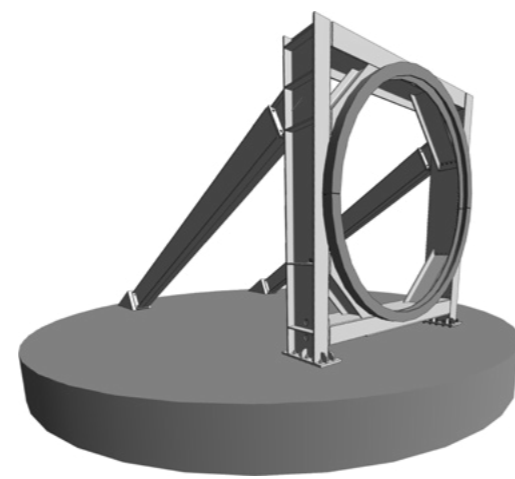


Dr. Sauer & Partners is an independent consultancy specialized in providing design and construction management services for tunnels, shafts and caverns. The company's expertise includes temporary works design, support of excavation and geotechnical engineering services.

Dr. Sauer & Partners designs pioneering solutions - delivering innovative, cost-effective and environmentally-aware designs. Dr. Sauer & Partners Temporary Works services include the following specialisms:



^ TBM Starter Tunnel



^ TBM Thrust Frame



• TEMPORARY STRUCTURES DESIGN

Design and supervision of temporary structures such as steel trestles, TBM thrust frames, TBM cradles, TBM starter ring support, tremie slabs (reinforced, unreinforced), muck pits, and construction equipment pads (concrete and timber).

• SURFACE EXCAVATION

Design and supervision of excavations made from surface including sheet pile walls, slurry walls, concrete tangent and secant piles, drilled and driven steel piles, rock and soil anchors, bracing systems and decking.

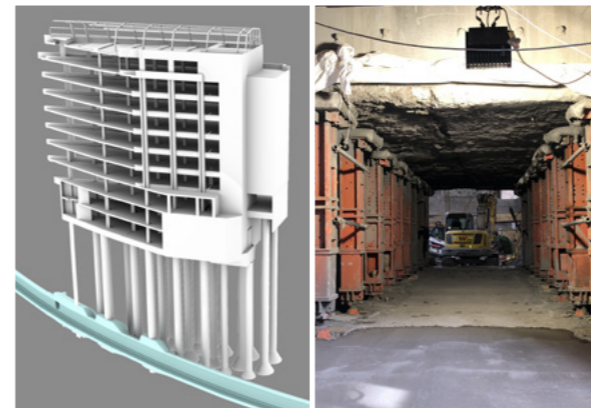


CASE STUDY - Effluent Outfall Tunnel Project, Los Angeles, USA

The project comprised the construction of a joint water pollution control plant (JWPCP) effluent outfall tunnel. Tunnel dimensions: 8 miles in length with an 18ft i.d. The project features the first use of post tensioning of the segmental lining in the US.

Dr. Sauer & Partners supports the contractor with a variety of temporary works designs:

- Crane Pad at the main shaft,
- Tremie Slab for the main shaft,
- TBM - Starter and Tail Tunnel,
- TBM Thrust Frame,
- Tail Tunnel End Wall (i.e. slurry wall panels) for the main shaft,
- Assessment of ground squeezing for TBM drive and mitigation measures.



• UNDERPINNING OF STRUCTURES

Design and supervision of underpinning of operational tunnels, subway stations and buildings. Structures impact assessment and mitigation measures.

BENEFITS:

- a thorough understanding of interfaces between temporary and permanent structures,
- a deep appreciation for the client's technical and operational needs,
- advanced analysis (2D and 3D) of complex tunnelling projects is applied for temporary works structures which delivers more efficient design,
- depending on contractor's needs, 3D implementation in BIM is available.

• INSTRUMENTATION AND MONITORING

Design and implementation of comprehensive monitoring programmes using in-house software.

