



# Shaftesbury Theatre, London

LOCATION	Shaftesbury Theatre, London
REQUIREMENT	Restricted Access Bearing Piles
TECHNIQUES	Rotary Bored
CLIENT	Shaftesbury Theatre

## Project Overview

Technik Ground Solutions Ltd (TGS) was awarded the contract for the design and installation of the permanent bearing piles to facilitate the renovation and installation of a rooftop fly tower and associated stage equipment in one of London's West End Theatres.

The piling platform was at stage level, 5m below external ground level, within the existing building. The only access to the working area was through double doors using localised crange.

The works included the installation of over 40 bearing piles for safe working loads of up to 550kN in compression, with substantial shear loads of up to 50Kn per pile.



## Project Challenges

- Complicated access and severely restricted working constraints within building.
- Pile installation within 400mm from face of walls to centre line of piles.
- High shear loads.
- Coring/drilling through existing concrete and masonry foundations.
- Restricted site requiring careful planning with regard to material storage, concrete deliveries and spoil management.

## Solution Delivered

TGS was able to provide a solution comprising a combination of 190mm and 300mm diameter piles installed vertically and inclined up to 10 degrees to carry working loads of up to 250kN and 550kN respectively.

In addition, stairway areas in the basement were reconfigured using 300mm diameter piles installed at 450mm longitudinal centres to form contiguous piled walls.

TGS was part of an experienced project delivery team which had worked together on numerous occasions and the planning and logistics of the works programme were paramount, as the theatre was only closed for 8 weeks between prearranged show dates.

Many of the piles were installed to support the heavily loaded column supports for the state of the art fly tower, designed to manoeuvre very large structures around the stage.

Major obstructions in the ground had to be overcome using coring and drilling equipment. Once these masonry and concrete obstructions had been drilled, the cased and augered piles were installed deep into the London clay 20m below basement level.



[info@technikgs.com](mailto:info@technikgs.com)

Northern Office 01928 579464

Southern Office 0207 559 3425

Scottish Office 0141 637 2826

**Technikgs**  
GROUND SOLUTIONS