132kV DATA CENTRE CONNECTION

DAGENHAM

Power

Value	Multi-million
Voltage	132kV
Market Segment	Data Centre
Duration	10 months

Project summary

This project delivered a dual 132kV ducted cable and fibre system as part of a new 80MVA connection into UKPN's network, supporting a 132/11kV substation and Data Centre. JSM managed a 7km cable route across Barking, Dagenham, and Havering, including excavation, cable laying, and jointing, while coordinating with stakeholders to overcome engineering and traffic challenges.

Pre-construction

JSM undertook cable route feasibility assessment and detailed design.

Construction

JSM managed a 7km cable installation project across Barking, Dagenham, and Havering, involving excavation, cable laying, and jointing. They conducted route design verification to assess surface types, traffic sensitivity, and engineering challenges, proposing alternative routes where needed. JSM coordinated closely with stakeholders and local authorities throughout.

- Auxiliary transformer design
- Principal Contractor
- Compound construction
- Compound earthing
- Motorway monitoring
- Civils
- 132kV Cables & Duct installation
- Horizontal directional drilling
- Jointing & Terminations
- Hot and cold commissioning with Energisation

PROJECT CHALLENGES

CHALLENGE

Beam River Crossing (SED 1)

The route required crossing the Beam River west of Upper Rainham Road using Horizontal Directional Drilling (HDD). This section also contained historical landfill, necessitating detailed site-based surveys to assess landfill type, age, capping material, depth, contamination levels, gas presence, and ground stability.

Hacton Bridge (SED 2)

Trial holes at Hacton Bridge revealed insufficient cover on the bridge for standard cable installation.

Traffic Management and Stakeholder Coordination

The project required extensive coordination with the London Borough of Barking and Dagenham to manage traffic impacts, including road closures, while minimising disruption to road users.

SOLUTION

HDD was selected as the excavation method to avoid disturbing the landfill. Comprehensive environmental and geotechnical surveys were conducted to ensure safe and compliant installation.

A cable bridge was used as an alternative method to safely span the area without compromising the structure.

JSM engaged in proactive stakeholder management, working closely with local authorities to agree on traffic management strategies and implement measures that reduced public disruption.