

SPECIAL ENGINEERING DIFFICULTY

Slough Road, Iver



POWER

Value	Multi-million
Voltage	132kV
Duration	21 days
Market segment	Data Centre

Cable	Excavation
Crossing	Environmental
Dam	Permit
Open cut	Pumps
Dewatering	Ecology

PROJECT SUMMARY

This project installed a cable crossing over the River Colne and Colne Brook to connect to Iver Substation. With open-cut excavation as the only viable method, works were completed in 21 days following two years of planning and ecological safeguards. Phased dam installation, dewatering, and fish relocation enabled safe duct installation, while environmental controls ensured compliance and informed future projects.

PRE-CONSTRUCTION

This Project installed a cable crossing over the River Colne and Colne Brook to connect to the Iver Substation. Bridge-mounted and Horizontal Directional Drilling (HDD) methods were ruled out, leaving open-cut excavation as the only option. Nearly two years of planning included design, permits, and ecological surveys to protect wildlife. Minimal vegetation was cleared under supervision, and lighting was limited to safeguard nocturnal species.

CONSTRUCTION

Construction was scheduled for 21 days. The work was split into two phases, involving multiple contractors. Dams were built to span 60% of the river width, allowing a 10% overlap for duct installation. Once the dam frames were in place, impermeable sheeting and submersible pumps were used to dewater the area. After reducing water levels, fish were safely relocated, and excavation began. The ducting was laid, backfilled, and the dam repositioned for the second phase.

POST-CONSTRUCTION

The project was completed successfully within the 21-day schedule. Environmental measures, including fish relocation and pollution control, were effective. The silt curtain performed well and will be used in future projects. Key lessons learned will help improve planning and execution for similar works.

CHALLENGE > SOLUTION



Limited Engineering Options

Balancing infrastructure needs with environmental protection

An open-cut river crossing was selected as the most viable method. Despite its higher environmental risks, it was executed with meticulous planning and ecological safeguards.

Extensive ecological planning and mitigation measures were implemented, including habitat surveys, species monitoring, and strict environmental controls to minimise impact.

ENVIRONMENTAL, SOCIAL AND GOVERNANCE

As part of our community engagement during works in the area, JSM maintained open and proactive communication with local residents throughout the project. When a neighbouring resident raised concerns regarding the impact of works on local river levels, the JSM team took the time to listen, investigate and provide reassurance, monitoring the situation and keeping the resident informed throughout. Upon completion of the works, the resident wrote to the team to note that the riverbank repairs were an improvement on their previous condition, stating: "Please take this as a compliment to the team." This reflects JSM's commitment to transparent community engagement and delivering works that leave the local environment in a better condition than found.

