



CASE STUDY

UKP PIPELINE RELOCATION

CLIENT: FABRI CONSULTING
ENGINEERS LTD.

LOCATION: UK

Highlights:

- Pipeline Rerouting
- Civil Engineering
- Complex Site

THE CHALLENGE

Arthian was engaged to deliver Select and Define stage engineering for the rerouting of the UKP pipeline at the Shell Haven Petrochemical Facility near Stanford-le-Hope. The new pipeline needed to connect two adjacent facilities within a busy industrial complex and traverse third-party land, requiring a design that balanced technical rigour, operational continuity, and stakeholder needs.

The scope demanded early clarity on routing options, constructability, ecological constraints, and integration with existing infrastructure—while maintaining safe and uninterrupted operations across multiple live sites. The project presented several technical and operational challenges, including:

- **Route Development:** Only the pipeline's start and end locations were defined. The team was responsible for identifying credible route options and evaluating their HSE, technical, and financial implications.



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THE CHALLENGE, CONTINUED

- **Operational and site constraints:** The design required temporary rail track removal, trenching beneath the track, integration with above-ground pipe supports, and accommodation of a pig launcher skid—all while ensuring uninterrupted operations across several active facilities.
- **Integration with existing infrastructure:** Tie-ins to the adjacent site's pipeline system required careful alignment, support design, and coordination to ensure compatibility and maintainability.
- **Geo-environmental and ecological considerations:** Ground investigations revealed soft soils, and ecological sensitivities influenced routing, construction methods, and scheduling.
- **Temporary works and logistics:** Access roads, laydown areas, and clearance works are needed to ensure safe construction and efficient movement of materials and equipment.

The overarching challenge was to produce a safe, practical, and cost-effective design that addressed both the original relocation requirements and new scope emerging from ongoing investigations.

THE SOLUTION

Arthian delivered a coordinated, phased, and technically assured Select and Define stage solution that provided the client with confidence in the project's feasibility and constructability.

- **Collaborative and integrated design development:** Close working between engineering disciplines and the piping designer ensured that routing, constructability, and stakeholder requirements were aligned from the outset.
- **Pragmatic, compliant design options:** Multiple routing and construction options were developed, each assessed for safety, technical feasibility, environmental impact, and cost.
- **Early identification of risks:** Ground and ecological risks were highlighted early, enabling a targeted and realistic project schedule and reducing the likelihood of late-stage surprises.

Innovative construction approaches: Solutions such as trenchless installation beneath rail infrastructure were explored to minimise disruption and improve safety.



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