HOWARD
CIVIL ENGINEERING

PROJECT CASE STUDY:
Langthwaite Enterprise Zone, Wakefield

CLIENT:
Balfour Beatty

CONTRACT VALUE:
£1.5 million

PROGRAMME DURATION:
July 2024 – April 2025

BACKGROUND

The Langthwaite Enterprise Zone is a key element of West Yorkshire Combined Authority's Strategic Economic Plan, which seeks to accelerate the development of high-quality employment space in advanced and innovative manufacturing sectors.

Situated along the East Leeds Link Road and benefiting from close proximity to both Leeds city centre and Junction 45 of the M1, the Enterprise Zone forms part of a regional programme designed to boost economic growth and job creation.

Following planning approval by Wakefield Council in May 2024, construction began on Phase 1 of the Langthwaite site. The £12.7m scheme, delivered by Balfour Beatty with Howard Civil Engineering appointed as the civil engineering contractor, aims to unlock 9.45 hectares of land, providing up to 27,000sqm of potential commercial floorspace.

Howard Civil Engineering's £1.5m package comprised extensive drainage works, road construction, and specialist civil engineering tasks to prepare the site for future development.

SCOPE OF WORK

Drainage Works

- Foul Water Drainage to Broad Lane, designed for Yorkshire Water adoption under a Section 104 agreement.
- Surface Water Drainage across the site, including a Section 38 road network.
- Installation of pre-cast box culverts and wing walls to maintain an existing beck.
- Installation of a SPEL petrol interceptor and large-diameter concrete pipes feeding three pond outfalls.
- Approx. 2,000m of land drainage laid across fields to improve temporary site drainage until sale.
- Construction of a foul water packaged pump station (4.5m deep), including c.250m of rising main pipework, installed using sheet and frame shoring techniques.

Road & Path Construction

- Delivery of a new Section 38 adoptable road, complete with footpaths and service ducting.
- Construction of woodland walk footpaths to the east and west of the site.

SPECIALIST EQUIPMENT AND TECHNIQUES

Pre-cast box culverts and wing walls

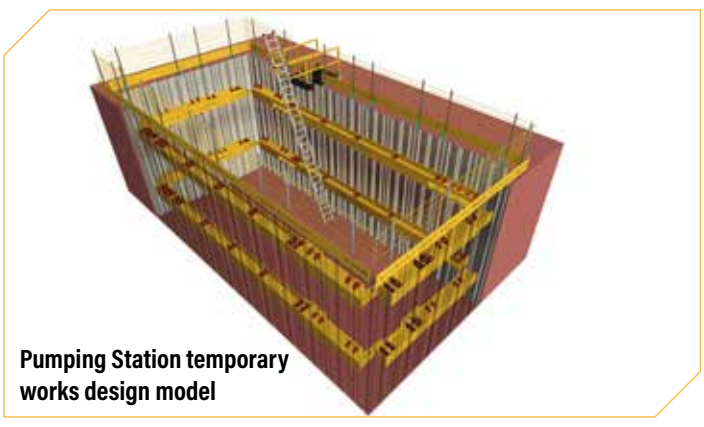
These elements were manufactured off-site enabling them to be installed quickly using a crane and culvert puller, reducing programme time compared with in-situ construction.

Land drain trencher

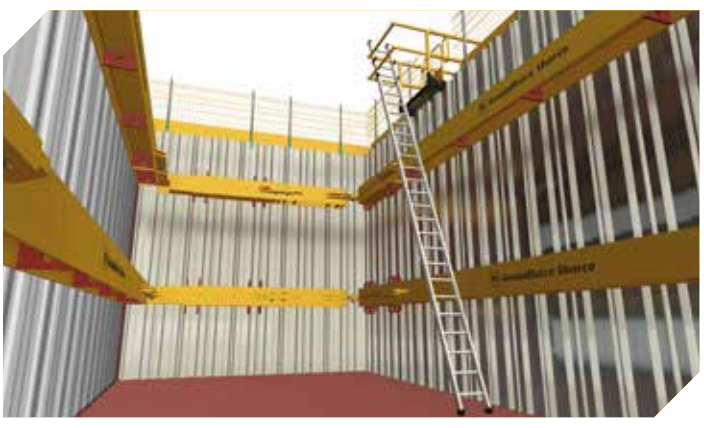
Deployed by a specialist team, the use of a land drain trencher ensured efficient installation with minimal ground disturbance.

Pump station excavation and installation

Howard's specialist drainage teams used sheet-and-frame shoring methods in pump station excavation to provide a safe, stable, and cost-effective support system that controls soil movement, minimizes groundwater inflow, and allows efficient installation in deep or constrained sites.



Pumping Station temporary works design model



PROJECT CHALLENGES

The works demanded both technical expertise and adaptability, particularly in relation to ground conditions and live service constraints.

Working around existing services in Broad Lane proved highly challenging. To avoid utility strikes, Howard deployed vacuum excavation and alternated between shoring boxes and sheet-and-frame methods. Despite the confined environment and road closures, no services were damaged and works were completed to programme.

Adverse winter weather delayed the installation of land drains, as flooded fields made excavation unsafe. By rescheduling this work towards the end of the programme and deploying a specialist land drain trencher subcontractor, Howard's teams delivered a safe and efficient solution.

The box culvert formation was complicated by groundwater ingress. Sumps and ducts were introduced to manage water, while unsuitable sub-base material was replaced with clean aggregate to stabilise the formation.

OUTCOME

Howard Civil Engineering successfully completed the works in April 2025, delivering a complex programme of drainage, road construction, and civil engineering tasks to a high standard. Despite challenges from live services, poor winter weather, and groundwater, the team maintained programme commitments and upheld strong standards of health, safety, and quality.

Balfour Beatty's Project Manager praised the quality and reliability of Howard Civil Engineering's work:

"During their time on site, Howard Civil Engineering has consistently demonstrated a proactive approach and a strong commitment to both safety and quality. The project team has been professional, efficient, and collaborative throughout the duration of the works. I would have no hesitation in recommending Howard Civil Engineering for future projects."

The project is an exemplar of Howard Civil Engineering's technical expertise, collaborative approach, and ability to overcome complex site conditions.