

CASE STUDY:

> Collaboration

Project:
**Liberty Business Park
Infrastructure Works**

Client:
**Staffordshire County Council
and Stoford Developments**

Partner/Associate: **Galliford Try**

Contract Value: **£4.6m**

Length of Project: **39 Weeks
with extensions for phases 2
and 3**

Completion date:
December 2015

> Background

The infrastructure works for Liberty Park, a £38m industrial estate, were procured by Staffordshire County Council and Stoford Developments (SD).

SD were acting on behalf of both the Liberty Property Trust UK Limited and the UK Government as a joint private/public funding venture.

All works were designed and managed by Amey Design Services, under the Staffordshire Infrastructure+ Contract based at the Stafford Design Hub. The principal contractor for the infrastructure works was Galliford Try (GT).

An infrastructure works budget of £5m included the requirement to replace a highway bridge over the West Coast Main Line. Network Rail requested that the bridge works

create minimal disruption to this very busy section of rail line.

The scheme programme allowed for 39 weeks including demolition of the original bridge during a 54 hour possession over the 2014 Christmas period. The phase (1) bridge works were completed slightly ahead of schedule. As a result of client satisfaction and confidence due to the project delivery team's collaborative approach, additional works/time were awarded for completion of the phase (2) and (3) roadworks, which included statutory undertakers and additional works requested by the client.



North Abutment construction



Bridge deck installed during Christmas railway possession

“Collaboration was not merely a buzz word; it was at the very heart of the scheme.”

John Dixon Senior Structural Engineer Staffordshire County Council

Objectives

> A major objective was effective time management. Following discussions with Network Rail the existing bridge could only be demolished during the 2014 Christmas period. Missing this could have cost the client £300,000 to £500,000 which would have led to the cancellation of the project due to the complexities of central government support funding. Through the Midlands Highway Alliance (MHA) the client was quickly able to appoint a contractor (GT) for the project who were in a position to carry out bridge demolition during the Christmas/Boxing Day railway

possession which had been pre-booked.

> It was quickly accepted that to prevent the project from stalling or being shelved the whole construction team consisting of the clients, designers, project managers, contractor and sub-contractors would have to work in a truly collaboratively way to succeed.

> The first stage of this collaborative approach was to agree to adequately resource and pay for Early Contractor Involvement (ECI) to develop cost-effective solutions to the schemes problems. This led to solving the access problems

to the site by using a haul road solution and changing the alignment of the highway, yielding savings in the order of £1.8m.





Key achievements

The collaborative approach allowed us to make significant cost savings and complete the works on time.

In addition to this we were able to satisfy the needs of the clients and leave a positive mark on the local community.

Throughout the project we fostered a relaxed atmosphere

Regional Award
Institution of Structural Engineers – Winner – category Bridge or Highway Structure

Regional Award
Chartered Institute of Highways and Transport – Highly Commended – category Best Small Highway and Transportation Project

Regional Award
Institute of Highways Engineers – Judges Merit Award

and encouraged staff to develop a sense of pride in the work that they were completing

The project achieved its desired technical outcomes and was nominated for and won numerous awards including:

National Award
Owen Williams - Certificate of Technical Excellence

National Award
British Construction Industry – currently shortlisted for Civil Engineering

Project of the year
winner to be announced 12 October 2016

MSF2 and the community

The advice and guidance in Medium Schemes Framework 2 (MSF2) demonstrated that collaboration was not merely a buzz word to sell the concept to clients. Collaboration was at the very heart of the scheme with no one individual or organisation credited with the successful delivery of the works.

This scheme negated the traditional silo mentalities of contractor, subcontractor, client

and designer which often leads to delay.

The team worked together to maintain the momentum of the project whilst following the framework guidelines. The project team, in particular GT, were keen to engage with the wider community. Part of their engagement process is to recruit summer placements for individuals interested in pursuing a career in the engineering sector.

In addition to securing placements for GT, the site team also collaborated with Netherstowe Secondary School in Lichfield. By linking to the nearby school the team were able to engage and enthuse young people and provide them with the opportunity to find out more about the construction and civil engineering industries. Following a consultation with the school a series of site visits were organised with parties of up to 15 children from various year groups taking part in construction related activities. These included:

1. ICE bridges to schools activity.
2. Site problem solving relating to the schools engineering and business curriculum.
3. Site setting out and surveying using a total station instrument.

4. Site safety audits - children doing risk assessments and site safety checks as part of the school curriculum.

Some of the site team visited the school on a careers day and delivered presentations. Pupils who expressed an interest in working in construction and civil engineering were also offered

the opportunity to discuss their potential career path options first hand.

The site team received positive feedback from the school which led to an article being written for the local paper. It featured some of the surveying activity the pupils had done during their visits to the site.

Finances	
Description	Savings made
Lowering overhead-line equipment.	£110,000
Value engineering the highway alignment.	£275,032
Alternative access arrangements	£991,350
Redesigning bridge with a skew to avoid the water main and not requiring the water main to be diverted prior to new bridge construction.	£100,000
Design out water main diversion	£40,000
Changes to reinforced earth walls/use of bespoke parapet system	£275,000
Total savings	£1,791,382

Looking to the future:

- Collaboration allowed the whole construction team to become greater than the sum of its parts, to act as one entity focused on making the Liberty Park scheme happen. This magic mix is attributed to the dedication and project ownership of the construction team guided by the theory and ethos of the MHA framework.
- Agreeing to properly resource and pay for Early Contractor Involvement (ECI) to develop cost-effective solutions to the schemes problems ultimately led to a return on investment of 1800%.
- Weekly risk and compensation event meetings were held to ensure everyone was up to speed with site issues.



North Abutment