

A45/46 TOLLBAR END IMPROVEMENT SCHEME



PROJECT

A45/46 Tollbar End Improvement Scheme

CLIENT

Highways Agency

MAIN CONTRACTOR

Galliford Try

COMPLETED

August 2015

TONNAGE

275te





To improve the A45 Stonebridge Highway and the Tollbar End roundabout in southern Coventry.

Project overview

This improvement is part of a package of works which also includes the M40, junction 15 bypass. The main completed project will significantly reduce the volume of traffic using Tollbar End roundabout, by providing a two lane dual carriageway underpass link between the A46 Coventry Eastern bypass and the A45 Stonebridge highway. The existing roundabout was enlarged to improve all the existing accesses, and the existing A45 Stonebridge highway increased to a three lane carriageway between the new Tollbar End junction and Stivichall junction to improve capacity and allow traffic to manoeuvre safely into the required lane on approach to the junctions.

Scope

Cleveland Bridge scope of work was to detail, fabricate, deliver to site and install two steel bridge structures, those being the East Overbridge and the West Overbridge. Both bridges comprised of four paired girders with cross bracing to tie pairs together. Due to proximity of the local airport, they could only be installed under weekend night possession, during times of airport closure. The girders were to be installed using LTM1500 mobile crane.

Fabrication

All steelwork was fabricated and painted in Cleveland Bridge's Darlington facility. The main sections comprised of plate girders approximately 30m long with an assembled pair for transportation approximately 3m wide.

The steelwork was prepared using Cleveland Bridge profiling equipment, T&I machine and saw and drill line. Each pair of girders was assembled and tied together with RSA sections using TC bolts. Each pair was set up to theoretical final dimensions. After final assembly steelwork was painted prior to delivery to site.

Installation

Each paired girder was installed onto temporary bearings comprising of a series of plates cast in to the concrete abutments prior to erection. The bearings allowed the paired girders to be positioned and also articulate as required during the installation process. The East Overbridge was the first to be installed; the 4 number paired girders were transported in sequence to suit the erection programme. The first pair were installed using the temporary bearing to locate it and then the 2nd pair was installed using marks on the abutment shelf which aligned to key plates on the underside of the girders. The pairs were then tied together. The West Bridge was installed several weeks later.

Completion

Installation of both bridges was completed on 11th August 2015.

