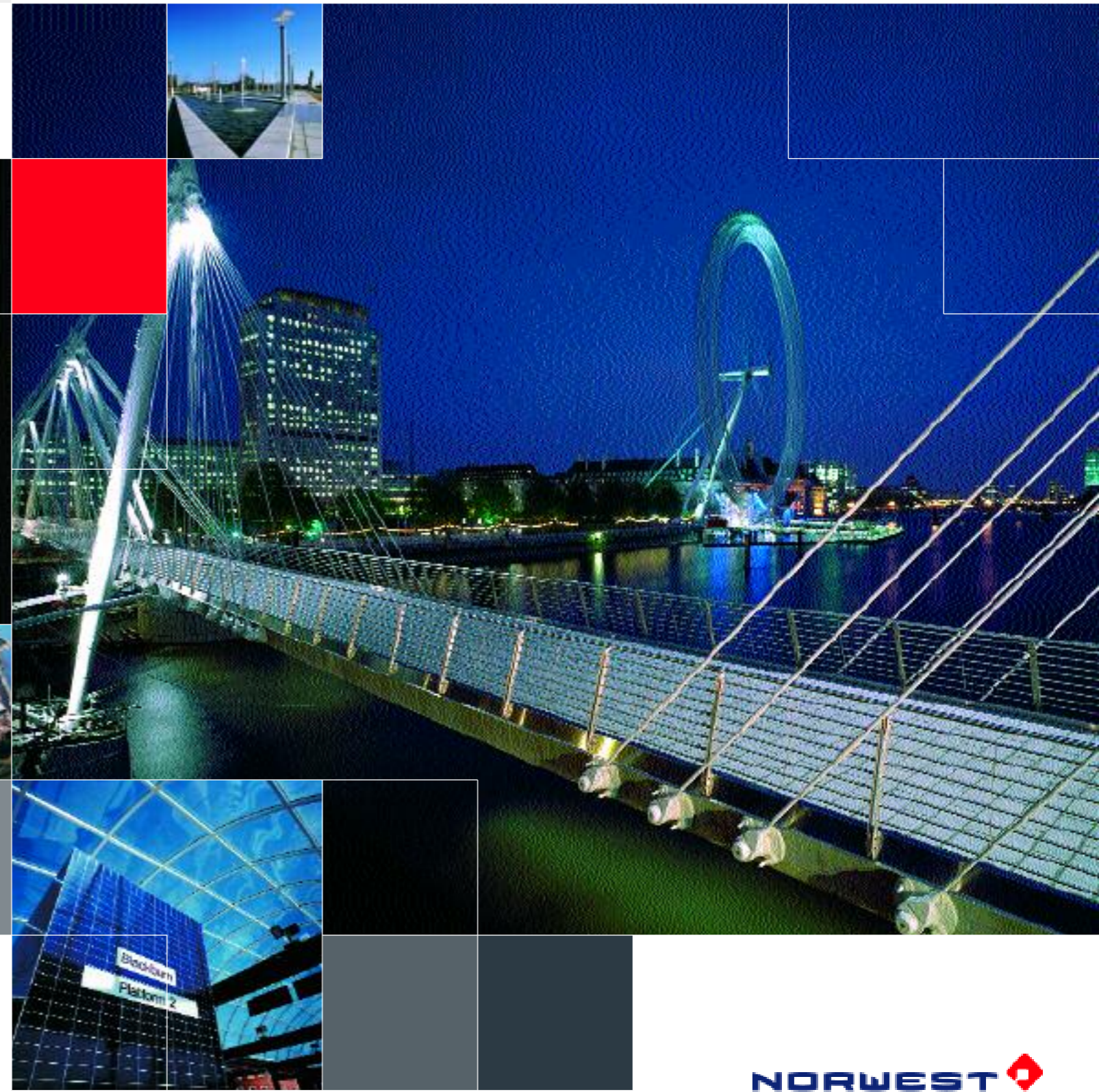
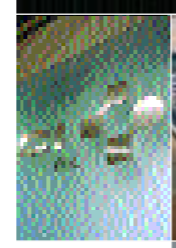
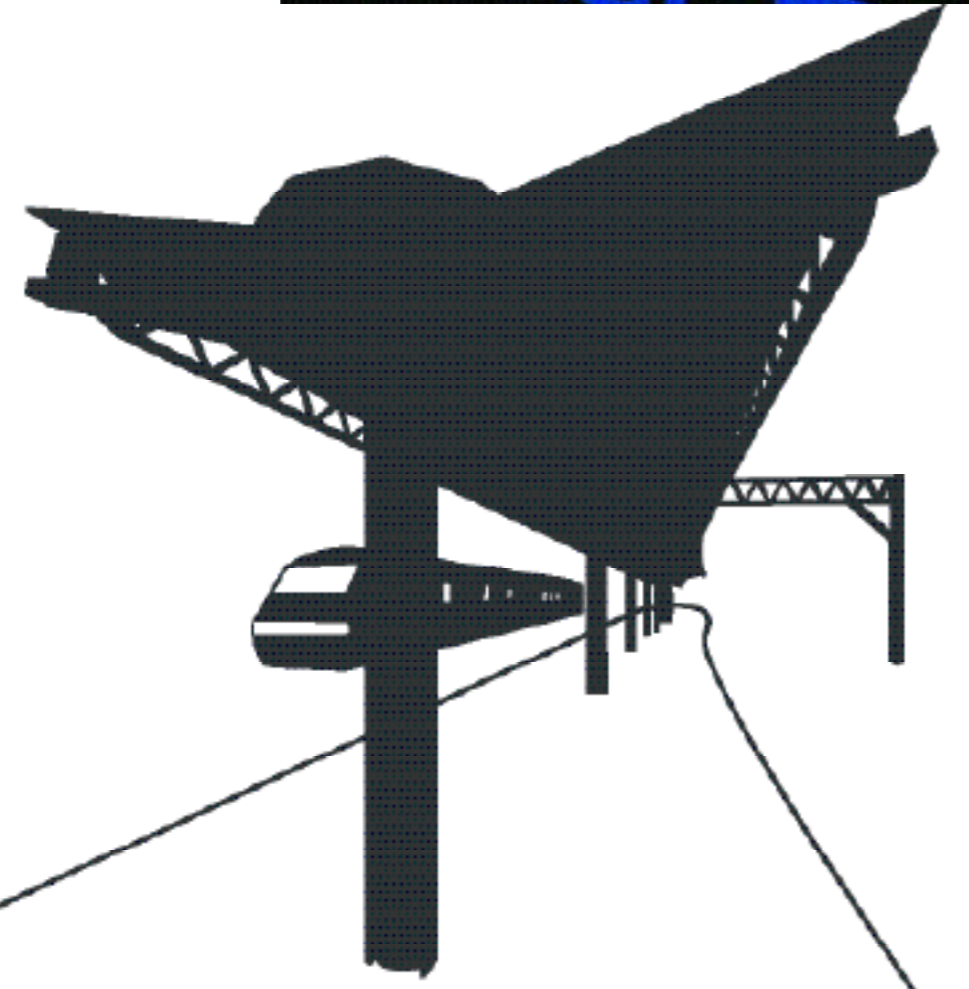


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|--|--|--|--|---|--|
| <p><i>London & South East</i> Astral House, Imperial Way, Watford, Hertfordshire WD24 4WW</p> <p>Tel: 01923 233433 Fax: 01923 256481</p> | <p><i>South</i> Holst House, Winchester Road, Colden Common, Winchester, Hampshire SO21 1TH</p> <p>Tel: 023 8060 2260 Fax: 023 8060 2206</p> | <p><i>East Midlands</i> Clair House, Sir Frank Whittle Road, Derby DE21 4SS</p> <p>Tel: 01332 387500 Fax: 01332 384507</p> | <p><i>West Midlands</i> 2, Swan Courtyard, Coventry Road, Yardley, Birmingham B26 1BU</p> <p>Tel: 0121 708 1234 Fax: 0121 707 3438</p> | <p><i>North West</i> Birchwood Corporate, 500, Longbarn Boulevard, Birchwood, Warrington, Cheshire WA2 0XF</p> <p>Tel: 01925 846100 Fax: 01925 816894</p> | <p><i>North East</i> EC6S House, Low Moor Business Park, Common Road, Bradford BD12 0NB</p> <p>Tel: 01274 674099 Fax: 01274 671065</p> |
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Norwest Holst Construction
Civil Engineering Division

Featured within this brochure are projects for clients such as:

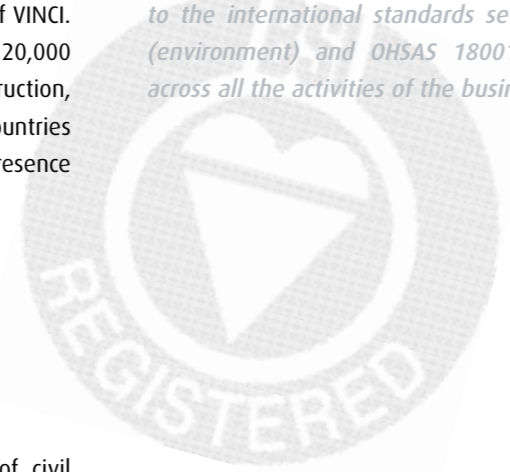
- Flintshire County Council*
- Gloucestershire County Council*
- Highways Agency*
- Laing Management*
- London & Regional Properties*
- North West Water*
- Prudential Property*
- Railtrack*
- Severn Trent Water*
- Transport for London*
- Union Rail*
- United Utilities*
- Welsh Development Agency*
- Westminster City Council*



The Group

Norwest Holst Construction Limited forms the major part of VINCI PLC which has an annual turnover approaching £500 million and approximately 2,500 employees. VINCI PLC is ultimately part of VINCI. With an annual turnover of circa 17 billion Euros and 120,000 employees, VINCI is the world's largest company in construction, concessions and associated services. VINCI operates in 100 countries around the world including the UK where it has a regional presence through VINCI PLC.

Norwest Holst Construction Limited was one of the first construction firms in the UK to be awarded BSI certification to the international standards set by BS EN ISO 14001 (environment) and OHSAS 18001 (health and safety) across all the activities of the business.



Civil Engineering

The Civil Engineering division undertakes a wide range of civil engineering contracts throughout the UK including the construction of multi-million pound landmark structures that feature prominently in the UK's major towns and cities.

Exacting standards, a continual drive for excellence and an innovative approach to the work it undertakes has earned the Civil Engineering division an enviable record of achievement in all the sectors in which it operates. In addition, a wealth of experience has been accumulated throughout the decades in which civil engineering has been one of the principal activities of the Company. Understanding the client's aspirations and taking a positive and flexible approach results in certainty, quality and value for money.

Expertise & Diversity

The breadth and diversity of expertise and experience contained within VINCI PLC and its parent company is available to the clients of Norwest Holst Construction. A complementary brochure on VINCI PLC illustrates these areas of activity and is available either by post or by visiting the VINCI PLC web site.

Norwest Holst Construction Limited

- Civil Engineering
- Building
- Rail
- Utilities

Crispin & Borst Limited

- Crispinteriors

Norwest Holst Soil Engineering Limited

- Simplex
- ECoS
- EAL

John Jones (Excavation) Limited

Genflo Technology Limited

Using a selection of project examples by way of illustration, this brochure is intended to provide an overview of the extensive capability contained within the Civil Engineering division of Norwest Holst Construction Limited.



Hungerford Footbridges, London (Image: Cross River Partnership/Richard Waite) - *main cover image*

Roads

FIRSTCENTRAL BUSINESS PARK, WEST LONDON

Client: London & Regional Properties

The Company was involved in this B1 business park scheme from the outset and was instrumental in obtaining a substantial government subsidy for the construction of an access road connecting the FIRSTCENTRAL business park to the A40, key to making the overall scheme viable.

The construction of the new road and bridge which cross both London Underground and Railtrack lines, as well as a pedestrian bridge over the Piccadilly Line, necessitated major traffic management.

Additional improvements to the efficiency of the transport infrastructure included the construction of a new roundabout and periphery road around the former Guinness Brewery site with connecting roads to future phases of the development.

The first phase of 18,000 square metres of high quality office space which will be let to Guinness UDV for its new world headquarters was constructed by the Building division of Norwest Holst Construction.



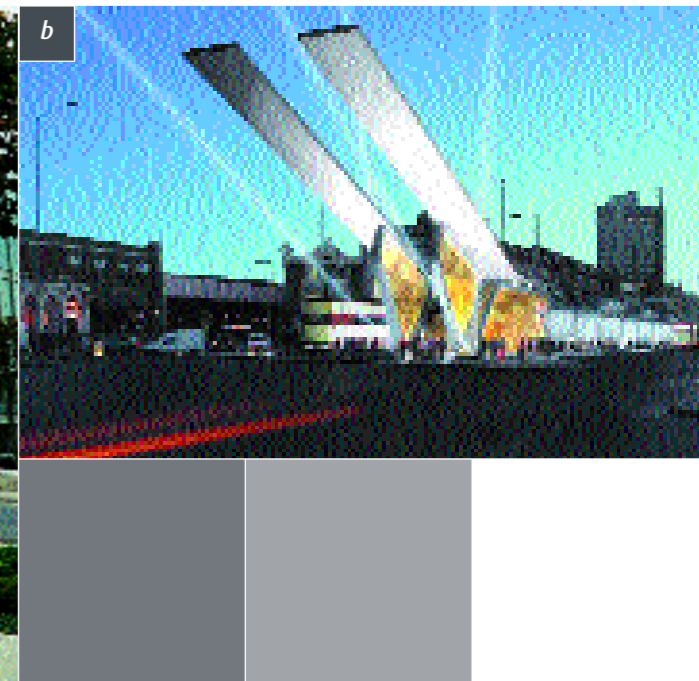
VAUXHALL CROSS, INTERCHANGE WORK PHASE 1

Client: Transport for London

This project comprises the construction of a gyratory traffic system and bus station with paved areas; new stair and lift access to Vauxhall Underground Station; extensive road reconstruction and improvements of a very highly trafficked interchange in central London; associated footway improvements; specialist surface treatment and extensive hard landscaping. Also included are the installation of street lighting and signs and the removal of a footbridge and overhead gantries. The scheme has significant traffic and pedestrian management issues as well as environmental considerations due to the close proximity of the local residents and businesses.

Key elements of the contract include enhanced links between bus, rail and tube services; comprehensive and safer pedestrian facilities; dedicated cycle facilities; lighting and environmental improvements; increased safety and security and new street furniture.

Guinness UDV, FIRSTCENTRAL Business Park, West London - a
Vauxhall Cross, London (Artist's impression) - b



Roads

BUTE AVENUE PFI, CARDIFF

Client: Welsh Development Agency

The construction of a continental style boulevard linking the City of Cardiff with Cardiff Bay was completed three months ahead of schedule as part of a £120 million PFI scheme.

The new route was created on a previously contaminated site and in addition to the construction of 3 kilometres of dual carriageway included 1.5 kilometres of existing highway upgrade together with other road links and adaptations to bridge foundations. To minimise the maintenance requirements over the 25 years of the concession, a high modulus bitumen and stone mastic asphalt was used to reduce spray and noise.

High quality landscaping, water features and artworks feature prominently in the scheme giving it a distinctly continental flavour which will stand comparison with Europe's most prestigious thoroughfares.

Bute Avenue PFI, Cardiff - a



A6 CLAPHAM BYPASS

Client: Highways Agency

This project was completed three months early and involved the construction of a 5 kilometre dual carriageway bypass around the village of Clapham which lies on the A6 just north of Bedford. Awarded on a design and construct basis, the contract also included the construction of two bridges over the River Great Ouse, two interchanges with overbridges and two roundabouts.

M5, JUNCTION 12 IMPROVEMENTS

Client: Highways Agency

The reconstruction of Junction 12 of the M5 includes the construction of slip roads for both the north and south carriageways; the demolition of two existing overbridges and the construction of a new overbridge; two new roundabouts and an equestrian underpass.



Bridges

HUNGERFORD FOOTBRIDGES, LONDON

Client: Westminster City Council

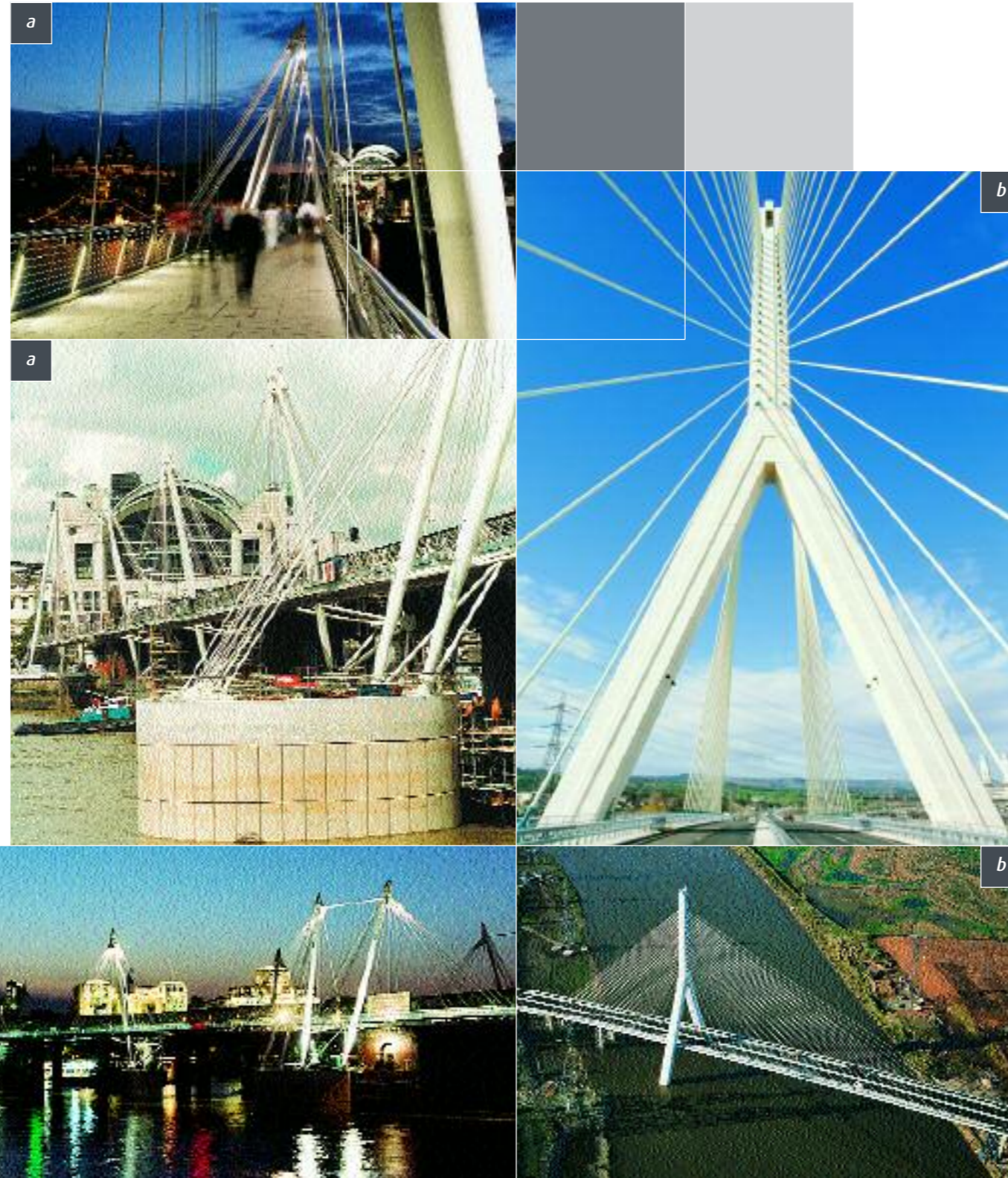
Innovation and technical expertise were key from the outset of this contract, with the contractor being awarded the scheme for its proposal to construct the bridge decks using an innovative construction technique known as incremental launching.

The £42 million Contract included the design and construction of two lightweight symmetrical footbridges, measuring 325 metres long and 4.7m wide on either side of the Hungerford Railway Bridge, to improve pedestrian links across the River Thames between the Embankment and the South Bank.

The foundations and underwater elements of the structure were designed to withstand considerable loads to protect the century old railway bridge. These foundations had to be driven to a depth of 28m below the River Thames, an operation made especially difficult by the proximity of the London Underground tunnels and un-exploded World War Two bombs.

Because of the restricted working area, sections of the underwater structure were pre-fabricated and transported to site on barges.

Ship impact beams protect the piers supporting the new footbridge. These are capable of surviving the impact of a 3000 tonne vessel travelling at 12 knots at an angle of 15 degrees to the bridge. Rather than increase the size of the supports on either side of the bridge, an innovative method was devised by the Joint Venture whereby the upstream and downstream piers are linked so that the impact load is shared between both.



FLINTSHIRE BRIDGE, NORTH WALES

Client: Flintshire County Council

This award winning scheme involved the construction of 3.8 kilometres of dual two-lane carriageway across the flats of the Dee Estuary, carefully avoiding undue intrusion into a site of special scientific interest.

The highway is carried over the River Dee on an asymmetric cable-stayed bridge with approach viaducts over either bank. The main span is 194 metres over the River Dee with approach viaducts measuring 800 metres long in total.

Hungerford Footbridges, London - a
Flintshire Bridge, North Wales - b

Water

LADYBOWER VIADUCTS, PEAK DISTRICT NATIONAL PARK

Client: Severn Trent Water

This contract involved the repair and reconstruction of road deck slabs, parapets and structural repairs on two viaducts across the Ladybower Reservoir in the Peak District National Park.

Operations close to drinking water demand a high degree of environmental protection. Particular precautions taken on this contract included the use of unifoats and floating booms. Unifoats can be used as working platforms as well as being able to prevent any debris falling into the reservoir. Floating booms were used as an additional precaution so that any spillage that may have occurred would be contained within the working area.

All the demolished concrete from the old deck slabs was crushed on site and then used to provide hard-core foundations to the extended and refurbished visitors parking areas overlooking the reservoir. This avoided the nuisance of heavy traffic removing the concrete and the need to import materials. It also resulted in a total cost saving of £65,000.

MELBOURNE WATER TREATMENT WORKS

Client: Severn Trent Water

Included in this major improvement scheme was the provision of 26,000 cubic metres of reinforced concrete; the laying of 55,000 metres of pipework up to 1.8 metres in diameter and the erection of 350 tonnes of structural steelwork. The works were maintained at full capacity throughout the construction period.

DAVYHULME WASTE WATER TREATMENT WORKS

Client: North West Water

A multi-million Contract comprising the design and construction, on a full turnkey basis, of an ammonia removal/tertiary treatment plant using the Biostyr process.

This is a technological process which reduces all biodegradable pollutants, carbon, suspended solids, ammonia, nitrates and phosphorous. The construction of 36 identical Biostyr cells with associated mechanical and electrical works, flow distribution channels and wastewater disposal enables an average daily flow of 360,000 cubic metres of waste water to be treated at one of the largest waste water treatment works in the UK.



MINWORTH SEWAGE TREATMENT WORKS

Client: Severn Trent Water

As part of this contract, 32 hectares of bacteria beds and humus tanks were replaced with three new activated sludge plants. These comprised three aeration lanes and twenty four final settlement tanks together with associated mechanical and electrical works. The replacement of eight blowers and installation of four new blowers also formed part of the contract.

HUNTINGTON WATER TREATMENT WORKS

Client: United Utilities

This contract is to design and construct an extension to the Huntington Water Treatment Works in Chester. Huntington WTW is the major source of water for North West England, serving in the region of 1.7 million people.

The contract includes the provision of a Tertiary Rapid Gravity Filter and intermediate pumping, together with a complete renewal of on-site chemical dosing arrangements and the installation of large diameter interprocess pipework.

DERWENT VALLEY AQUADUCT

Client: Severn Trent Water

Designated a Site of Special Scientific Interest, this contract involves safety and quality improvements to the 100 year old aquaduct at 180 locations over a distance of 84 kilometres from Ladybower to Loughborough.

BAMFORD WATER TREATMENT WORKS

Client: Severn Trent Water

A recently awarded contract to carry out essential works to ensure compliance with current water quality parameters involves the refurbishment of 28 existing filters including media and valve replacement; new electrical panels and associated instrumentation; new washwater facilities; new lime and kalic plants.

Ladybower Viaducts - **a**

Melbourne Water Treatment Works - **b**

Minworth Sewage Treatment Works - **c**

Davyhulme Water Treatment Works - **d**

Rail

CHANNEL TUNNEL RAIL LINK

Client: Union Rail

Norwest Holst is undertaking two major contracts on the Channel Tunnel Rail Link.

The first of these, Contract 420, is for the mid-Kent section and accounts for 22 kilometres of the 109 kilometre high-speed track. Included in the contract is the construction of twenty-five bridges and underpasses as well as 2.5 kilometres of retaining wall and four cut and cover tunnels with a combined length of 1 kilometre.

Contract 342, the last of the major civil engineering contracts to be awarded on section two of the CTRL, is also being undertaken in joint venture. The contract covers the construction of 3.5 kilometres of the CTRL between the southern end of the Thames Tunnel and the interface with section one at Pepper Hill. Included within the scope of the works is a 500 metre cut and cover tunnel and significant bridge structures in addition to new road networks and the structural shell of the new international station to be built in the Ebbsfleet Valley.

John Jones (Excavation) Limited, a specialist subsidiary of VINCI PLC, is undertaking three contracts on three sections of the route.

LIVERPOOL LIME STREET

Client: Laing Management

Complex scaffolding systems were used to allow one of the busiest stations in the north west to remain fully operational and safe during the restoration of the station roof.

The contract involved steelwork repairs, cladding and the replacement of 9,300 new panes of glass.

MANCHESTER PICCADILLY

Client: Laing Management

Replacement of the station canopy involved removal of the existing coverings and replacement with coverings consisting of steel lattice beam supports, aluminium foam sandwich decking and a suspended ceiling.



BLACKBURN STATION

Client: Railtrack

This contract comprised repairs to the station frontage, creation of a new platform and refurbishment of the remaining platforms and subway.

LUTON PARKWAY STATION

Client: Railtrack

This contract involved the construction of a new railway station and multi-storey car park as part of the Government's integrated transport policy.

OLD OAK COMMON

Client: Railtrack

The refurbishment of Old Oak Common railway depot in Willesden, North West London includes drainage upgrades, reconstruction of pits and floor slabs as well as mechanical and electrical refurbishment works, all being undertaken within a fully operational depot.

The replacement of the high speed train shed roof will be undertaken using a specialist crash deck allowing work to be carried out above the ongoing maintenance, inspection and servicing of high speed trains.

Channel Tunnel Rail Link - *a*
 Liverpool Lime Street - *b*
 Manchester Piccadilly - *c*
 Blackburn Station - *d*
 Luton Parkway Station - *e*

Land Regeneration

The development of land contaminated by past industrial use or waste disposal is becoming increasingly necessary. Through its specialist in-house capability, Norwest Holst is able to offer a complete environmental and remediation service.

Genflo Technology Limited

Genflo has 36 years of experience and expertise in developing systems to remediate contaminated soils, sands and aggregates. Through Genflo, Norwest Holst is now able to offer revolutionary methods of cleaning and decontamination enabling the control of coastlines, maintenance of harbours, remediation of polluted land, treatment of contaminated waste and the removal of solids from production crude oil. The latest application of the technology is for the removal of oil from contaminated sand using only water but cleaning the sand to such high levels that external testing laboratories have been unable to detect the hydrocarbons to any meaningful extent.

Norwest Holst Soil Engineering Limited

This specialist subsidiary provides a complete geotechnical and geoenvironmental investigation service and a range of foundation support systems.

ECoS Environmental and Environmental Analysis Laboratories (EAL) offer a fully accredited chemical testing service and specialist advice on a wide range of issues associated with contaminated land.

Simplex Foundations is a major geotechnical contractor that installs a range of piles including Continuous Flight Auger, Rotary, Driven Pre-cast and Driven Tube.

John Jones (Excavation) Limited

John Jones undertakes large scale complex earthworks including: quarrying and processing; coastal defence, highways; land improvements and remediation; new railways; landfill; soft landscaping; commercial development.

