

**Balfour Beatty**

**The age of aquariums  
Connecting the new Berlin**

# Update

The international news magazine for Balfour Beatty ♦ April 2006



Cover picture:  
Just one of the amazing sights  
visitors can see at Georgia's  
exciting new aquarium built by  
Heery.  
See pages 12 and 13.



## North Lanarkshire chalks up first school

**T**WO of 24 new schools being built in a £150 million PPP project in Scotland have been handed over to the local authority.

Under the project, which brings together Balfour Beatty, Balfour Kilpatrick, Transform Schools and North Lanarkshire Council, the first two new schools have been opened on a shared campus in the village of Caldercruix, near Airdrie.

Glengowan and St Mary's Primary Schools are the first of two dozen schools being opened in North Lanarkshire by 2008 in a project funded by the Scot-

tish Executive.

In addition to the most up-to-date educational facilities, the assembly hall and dining area can be used by the community for public meetings, recreational activities, shows and even wedding receptions.

An all-weather floodlit football pitch has also been provided for both schools and the local community, with changing room facilities that have been designed to cater for adults as well as children.

Bob Anderson, Balfour Beatty Construction General Manager in Scotland, said the completion of

*From left to right, local councillor Tommy Morgan and on the right Director of Education for North Lanarkshire Council, Michael O'Neill. Right, the school opens its doors for the first time.*



the Caldercruix schools was a significant milestone for the local community, and its success was being mirrored across the project.

"The excellent collaboration between Transform

Schools, the local council and Balfour Beatty Construction reflects how partnerships between public and private sector can significantly raise the quality of life and the provision of public services," he added.

## ERP roll out rolls on

**I**NCREASING numbers of business units are adopting ERP – Balfour Beatty's single integrated business system that covers procurement, HR, finance and accounts, project costing and payroll.

ERP – Enterprise Resource Planning – is already running in five operating companies and two joint ventures, and will roll out in more units over the next year.

It was evolved jointly by HR, Payroll, Procurement, Inventory, Projects/Commercial and Finance, and has been designed to satisfy all their needs. It eliminates incompatibility between systems, removing waste and duplication of effort, and brings state-of-the-art software and thinking to the management system.

Among the key benefits are:

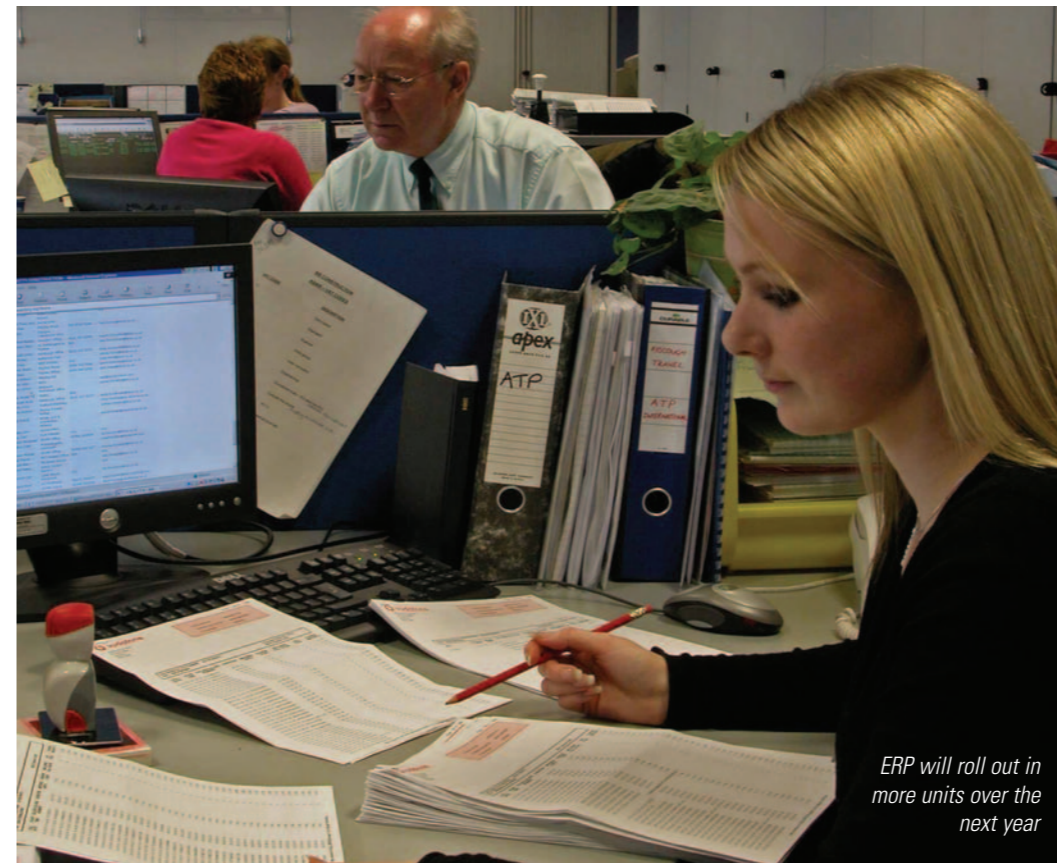
- Efficiency, control, visibility and auditability in producing accounts
- Better decision-making, thanks to a single source of financial and management data
- Collaboration and savings across the group through efficiency and better ability to negotiate with suppliers.

Design and development of ERP took until June 2004, and the first company to go live was BBCL

the following October. This was followed by BBCEL, RCS, Stent and BBUL along with Birmingham Hospital and the Isle of Grain JV.

"As other units follow, valuable lessons learned from early adopters are smoothing their way," said Project Manager Andrew Moore. "Instead of starting afresh, we can pinpoint gaps between current systems and the ERP solution.

"Then we design new or enhanced modules to bridge the gaps, test them before implementation and ensure efficient roll-out. ERP really is a new broom sweeping away old incompatible business systems."



*ERP will roll out in more units over the next year*

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## IN BRIEF

**BALFOUR** Beatty Construction (BBCL) Scottish & Southern has secured its third office contract with Wilson Bowden Developments in Glasgow. The £13.5 million design and build contract for Building 4 at Atlantic Quay follows Equinox House, in Cadogan Street, and Building 6.

The contract, comprises a speculative office complex which will include a basement car park, ground and mezzanine levels, nine upper floors and roof-top plant rooms, to be completed in June 2007.

The building's steel and composite flooring frame is founded on a series of large-diameter bored piles, with the envelope embracing a mixture of curtain walling, together with rain-screen, masonry and pre-cast cladding.

**ADDITIONALLY** BBCL Scottish & Southern has been contracted for the design and construction of new educational facilities in Brighton on land next to the city's railway station.

The £26.3 million contract was secured, by a team led by Paul Smith, and supported by Jim Falconer.

Due for completion in September 2007, it will provide new teaching facilities, student accommodation and administrative offices, and will bring all of Study Group International's Brighton activities under one roof.

**AFTER** 40 years with the Balfour Beatty Group, the latter nine as Deputy Finance Director, John Muirhead is to retire at the end of 2006.

Duncan Magrath has joined the group from Exel, where he has held a number of senior operational and corporate financial roles, and takes over from John in April. John, will continue to work on specific projects as a senior member of Anthony Rabin's team.

Anthony said he had shown "tremendous commitment and loyalty and performed at the highest level" during his long career.

**Mike** Archbold, Managing Director for Operations at Balfour Beatty Capital, and a founder member of Consort, will retire in July after 10 years involvement in PFI. Mike joined the company in 1993, having been involved for many years in large-scale building projects, especially hospitals. Ian Rylatt, Managing Director, Balfour Beatty Capital, said that Mike had contributed greatly to the company's success from times when there were just six staff on roads and hospital bids. Today it has 160 staff and 18 major PFI concessions in health, education, road, water and power.

Mike will hand over to his successor, Chris Spencer in mid April. Chris was previously Managing Director of the Sir Robert McAlpine PFI business.

## IN BRIEF

MANSELL has been awarded a contract potentially worth £203 million from Riverside Housing and Sandwell Borough Council.

The Hawthorn Fields project will include the refurbishment of some council homes, the demolition and rebuilding of some council homes and the rebuilding of some homes for sale.

The contract award is a Private Finance Initiative that will allow Riverside Housing to provide housing improvements from 2006 to 2031.

This is considered a key regeneration scheme for Sandwell Council, looking to meet the 2010 Decent Homes target set by national Government, and residents have been fully informed and involved so far and will continue to be so as the projects continues.

Steve Davies, Regional Managing Director for Mansell Construction Services Ltd, said: "It's fantastic to have secured this opportunity to work in conjunction with two of our key clients, particularly following the success of our previous PFI project with Riverside at Donnington."

MANSELL has also been named as one of five contractors appointed to work on a five-year framework with the Catalyst Housing Group.

The company is eligible for work in two categories incorporating new build, refurbishment and regeneration work – "below £2 million," with potentially £50m of contracts to be shared among the five contractors, and "above £2m," with up to £385m of work to be divided between the five.

It means that the contracts could be worth £87 million to Balfour Beatty over the five years.



# Hope strengthens leading role

SPECIALIST healthcare concession company Consort Healthcare has been named preferred bidder for the £190 million Northern Batched Hospitals project in Greater Manchester, strengthening Balfour Beatty's position as the leader in the field.

The project comprises a £130m redevelopment and new buildings programme for Hope Hospital, Salford, under a 34-year PFI concession contract, and a £60m design and build contract for a new acute and mental facility at Tameside General Hospital.

Financial closure for the schemes is expected to be achieved early next year.

The Salford programme will include a number of new buildings, including an education centre, emergency department extension, assessment unit, critical care unit, new renal and urology units and residential accommodation for hospital staff.

In Tameside, new buildings will include a mental health unit for the elderly, a ward block, a day surgery, an endoscopy unit and extensions to theatres

and radiology, diagnostic and treatment centres.

The Northern Batched Hospitals project brings Balfour Beatty's major PFI hospital schemes to a total of eight.

Simon Rooke, Infrastructure Business Development Manager, Balfour Beatty Capital Projects, said the company was delighted to have been chosen to create first-class healthcare facilities for people in Greater Manchester and the staff serving them.

"They are our seventh and eighth major PFI hospital schemes," he said. "We have proven skills and a first-class track record in this specialist area and are now a clear leader in the field."



## Pool makes a splash in Sunderland

BALFOUR Beatty Construction has won a £19.8 million contract to build a new Olympic-standard swimming pool in Sunderland.

Located in Stadium Park, near Sunderland FC's Stadium of Light, the development for Sunderland City Council will include a 50-metre swimming pool, a 25-metre training pool, a diving pool and a state-of-the-art wellness centre.

The superstructure will be housed on reinforced concrete foundations and ground beams, with a glulam frame to the main pool area, and a structural steel frame to the front and rear of the building and the wellness centre.

Work was due to start on the project in April and is scheduled for completion early in 2008. Among the bodies funding the project are the City Council, the European Regional Development Fund and Sport England.

Councillor Bob Symonds, Leader of the City Council, said that the appointment of Balfour Beatty marked an important date.

"Major works on the site will begin to move forward at a pace," he said. "Progress updates will be produced to ensure everyone feels part of this iconic regional development, right here in Sunderland."



Top: Moorfields Eye Hospital. Above, left to right: Richard Desmond, a Moorfields' patient and lead donor, Lady Jacomb, Chair of the Campaign Committee, and Professor Moore, Clinical Director of Paediatric Ophthalmology, performing the topping out ceremony.

## Moorfields tops out

THE topping-out of the new international children's centre at London's Moorfields Eye Hospital has been celebrated in traditional style.

Balfour Beatty Construction (BBCL) is on target to complete the £15 million Richard Desmond Children's Eye Centre by the end of this year. It is being named after the chairman of Express Newspapers, a Moorfields patient who has donated £2.5m to the project.

The centre will provide child-focused and purpose-designed facilities for 25,000 patients from around the world, including the largest and most advanced paediatric ophthalmic clinical research and training centre in the world.

● Minister of State for NHS Delivery Lord Warner (below) has paid a visit to Balfour Beatty Construction's team at the Beckenham Centre LIFT, a £24.4m project comprising accommodation for two GP practices and other primary care facilities such as out-patients' department and minor injuries unit.

Phase One of the project, which also includes dentistry, pharmacy, cardiac, café and creche facilities, is due to be handed over in June 2007.

Lord Warner wanted to see a new LIFT development before joining the Health Secretary Patricia Hewitt to present a White Paper on community services setting out a vision of more care and treatment outside traditional hospitals.



## RCS stays on the road

BALFOUR Beatty's term maintenance business RCS has won a one-year £90 million extension to the Highways Agency management and maintenance contract it operates jointly with leading transport consultants Mott MacDonald.

The contract covers motorways and trunks across the agency's Area 3 network in central southern England, and is awarded on performance, efficiency savings, co-location and integration in the service offered.

RCS and Mott MacDonald have worked together on the contract since 1997, re-winning it in 2001 for a further five years. The latest extension takes the contract to August 2008.

It covers 600km of motorway, 600km of trunk roads and almost 1,000 structures in Surrey, Dorset, Hampshire, Wiltshire, Oxfordshire and Berkshire, and includes strategic routes carrying high volume traffic such as the M3 and M4.

RCS Works Manager Andy Hamilton said the contract extensions gave the companies the chance to help the Highways Agency deliver its Customers First agenda and its aims of safe roads, reliable journeys and informed travellers.



● Above, Transport Secretary Alistair Darling unveiling a plaque to mark the completion of the £148 million project to widen the M25 and Heathrow Terminal 5 Spur road. The Secretary of State said "This improvement will improve journey times and provide access to Terminal 5. It's part of our commitment to improving the road network."

Highways Agency Chief Executive Archie Robertson added: "I wish to congratulate all those who have worked so hard to complete this scheme ahead of schedule and in time for the Christmas Holidays. This is a fine example of how we are committed to delivering an improved, reliable motorway and trunk road network for our customers."

## Contract seals deal in north-west

THE Balfour Beatty-Mouchel Parkman joint venture has won a contract from Transport Scotland to manage and maintain all trunk roads in the north-west of Scotland. The five-year contract, which is worth £27 million a year, covers more than 1,300km of highways and 1,300 bridges – including the A9 Perth-Thurso and A82 Loch Lomond-Inverness roads and the Skye (pictured) and Kessock Bridges.



## Grid work begins

WORK has begun on two Power Networks contracts to refurbish almost 100km of 400kV overhead power transmission line for National Grid.

The two overhead lines are situated within East Anglia and will be updated to include the latest technology.

This includes replacing existing four-conductor bundles with state-of-the-art aluminium alloy three-conductor bundles along the 94.6km route

Peter Taylor, Contracts Manager for Power Networks, said that about three-quarters of the contract – which involves a workforce of 200 – would be completed by October this year.

The remaining part of the contract would be completed in the summer of 2007.

"We have played a major part in the construction and refurbishment of the UK's overhead line transmission system for many years," Peter added. "These latest contracts follow our successful completion of a similar project last year."

Award of these two contracts was made in parallel with a similar contract for work in the South East, which is also due to start this year.

● A major contract with Powerlink Queensland has been won by the Transmission Division of Balfour Beatty Power Networks, working in Joint Venture with United Group Infrastructure Pty Ltd of Australia. The Joint Venture extends from 2006 to 2010 in the southern area of Queensland and will be worth approximately Aus\$100 million (£40million) per year.



## Isle of Grain tanks up for LNG

CB&I John Brown has awarded Balfour Beatty Civil Engineering Limited and its JV partner NCC Construction the contract for the civil works package at the Grain Liquefied Natural Gas (LNG) Expansion Project, valued at roughly £40 million over two-and-a-half years.

Grain LNG Limited is currently constructing an LNG importation and regasification terminal at the Isle of Grain in Kent. CB&I John Brown is the EPC contractor for the project.

The work covers the construction of three concrete LNG tanks measuring 190,000m<sup>3</sup> each, creating a total storage capacity of 770,000m<sup>3</sup> at the Grain site.

The project also involves the creation of civil foundations,

earthworks, roadworks, concrete building foundations, concrete tanks, concrete trenches and pits, culverts, drainage, paving and underground utility systems.



## IN BRIEF

■ HADEN Building Management has been awarded a £6 million contract to provide total facilities management services to the 100-bed IMC St David's Hospital in Cardiff. The centre includes a 25-place day hospital and four wards caring for older people.

The contract is for an initial five-year period, and involves the provision of catering, housekeeping, estates and ground management services, as well as security, portage, reception and switchboard, laundry and post.

Mike Fellowes, Haden's Managing Director, said the company had been working with St David's for three years in an M&E-related service provision, adding that he was "delighted" the relationship had been extended to full FM provision.

■ BALFOUR Beatty Civil Engineering (BBCEL) has been chosen by Scottish Water as one of nine preferred bidders to help deliver its Quality and Standards Programme 2006-2010.

It will involve BBCEL's Northern Division working as an Associated Delivery Partner in the £2.15 billion programme throughout Scotland, with the possibility of a four-year extension until 2014. The work could be worth £50-£80 million to BBCEL over the next four years.

John Hayes, Regional Director for the north of Scotland, has been appointed Framework Director for the commission, supported by Keith Bowman, as Framework Manager. The bid team was led by Grant Laing.

■ GAMMON Construction, the Hong Kong engineering group in which Balfour Beatty has a 50 per cent interest, has been awarded a £150 million contract to build a 70-storey office block on the eastern shore of Hong Kong Island.

One Island East is a 1.5 million square feet Grade A development by Swire Properties, and is the latest element in its comprehensive commercial development that has already attracted more than 300 multinational companies.

Gammon has a long-standing relationship with Swire Group, and the companies have jointly developed a number of innovative techniques to speed up construction and protect the environment during and after the project.

Work is scheduled for completion in March 2008, and a pioneering project management system will facilitate collaboration across all construction disciplines.

The Group continued to make good progress during 2005. Profits and earnings continued to move ahead. Operating cash flows were strong and our net cash position was maintained. Our order books continued to expand as we won significantly more good-quality work both in the UK and elsewhere. Our performance in non-financial terms also showed significant improvement, with lower accident frequency rates, better management of our environmental impacts and an expansion of our positive involvement with the communities which we serve. Ian Tyler spoke to Update magazine about events and trends in 2005.



## REVENUE



Revenue rose by 16% in 2005, with strong growth in Mansell and a full year's sales from Gammon in Hong Kong.

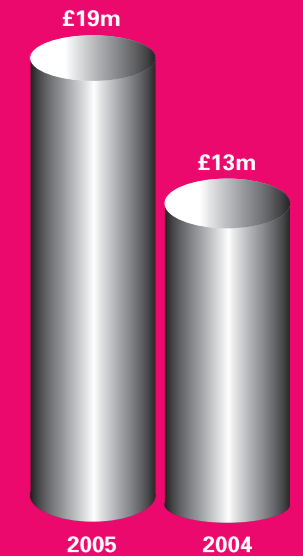
## PROFIT FROM OPERATIONS\*



Profit from operations increased by 22% in 2005, with a substantial increase in Civils as the US civils business returned to profit. There was a reduction in Rail from the loss of UK rail maintenance profits.

(\* Before exceptional items)

## NET INVESTMENT INCOME\*



Net investment income rose by 46%, largely as a result of a full year of interest earned on the proceeds from the sale of Andover Controls in July 2004.

(\* Before exceptional items)

# Good progress during 2005

## Update: How would you assess your first year as Chief Executive?

**Ian Tyler:** Very busy! We continued to deliver the sort of financial progress which our shareholders expect of us and our results were well-received in the City. But also during the year we concluded a major strategic review which has set the course we will take over the medium and long term, as well as confirming the positive outlook we believe will characterise the next two to three years. And we also increased the focus on our important non-financial responsibilities.

## Update: What were the main features of the annual results?

**Ian Tyler:** Results in our building and investment sectors were steady. In both cases, we have established excellent positions from which to grow strongly in future years. However, in 2005 we had one or two contract setbacks in major building projects, so, despite generally improving performance, the overall building result was only marginally ahead of 2004.

In investments, we added three more PFI projects

to our portfolio – two for schools and a street lighting project – and generally our concessions performed well. However, the big jump forward we achieved in 2004, largely as a result of the Metronet London Underground concessions and our 100 per cent ownership of Connect Roads, was not repeated.

In rail, profits actually fell year-on-year, reflecting the loss in 2004 of our UK maintenance contracts, which Network Rail decided to take back in house, and some residual contract problems for our US rail business.

This leaves the engineering sector, where we made a dramatic improvement from 2004's £16 million profit to £49 million last year. All the businesses in this sector made a contribution to this result, but the biggest influence was a welcome return to profit of our US civil engineering business, which lost very substantial amounts of money in 2003 and 2004.

## Update: There seemed to be a lot of exceptional items in the accounts this year. Why was that?

**Ian Tyler:** Partly coincidence and partly as a result of

a change in accounting standards. The biggest item was a major credit from the administration of TXU Europe. This was money that we were owed after TXU, which was both a customer and co-owner of Barking Power Station, failed in 2002. The other items were a collection of pluses and minuses arising from a variety of technical adjustments, one-off costs and one-off gains.

## Update: What is your view of our markets and how they might move in the future?

**Ian Tyler:** Most of our markets remain strong and some, like social housing, road maintenance and Hong Kong infrastructure are on an upward trend. Our order books are full of quality work and we are pursuing a wide range of good, large-scale opportunities in the near term.

## Update: You said you had completed a strategic review in 2005. What are the main conclusions and how do you plan to take the business forward?

**Ian Tyler:** As I have said, we believe we can deliver good growth over the next two to three years from the business mix we already have. But in the medium term we will have to diversify to keep our growth momentum going. Our analysis shows us that we make our best and most reliable profits in markets where we are leaders. Leadership gives us better access to our customers, attracts the best management and technical talent and gives us maximum control over our supply chain.

We plan to concentrate our medium-term expansion plans into three particular areas, all of which involve core skills that we, as an organisation, already have.

## Update: Can you outline these three areas?

**Ian Tyler:** First, we intend to exploit the opportunities which Balfour Beatty Capital Projects gives us. In reflection of its developing role, this business has been renamed simply Balfour Beatty Capital. We now have over 150 professionals employed in Balfour Beatty Capital. The skills and experience of this group are significantly different from the

contracting skill-set and apply, potentially, to a much wider range of markets and geographies.

We aim to maximise the value of these specialist resources, in part by applying their skills outside the UK. The key medium-term targets are the US, where the roads market is beginning to take off, and in Europe, Hong Kong and Singapore. We already have people working in these markets and we are looking at some specific opportunities.

We are also well placed to look at projects which involve market or regulated demand risk.

Secondly, we intend to develop our knowledge based technical service and programme management businesses.

A significant proportion of our value as a Group derives from our relationships with a relatively small group of major customers with whom we operate closely.

Increasingly, these, and other customers, are looking to us to provide more than construction and maintenance services. They also want us to become involved in the design, management and operational issues surrounding their assets.

These trends have begun to create a real differentia-

tion and have become a major growth driver for us in many of our markets. The potential will be, I believe, even more significant going forward. To exploit this potential further, we need to continue to increase our skills and knowledge base.

Balfour Beatty Management was created in 2003 to provide just these types of programme management and technical services. We are pleased with what we have, but we want to accelerate the development of this business.

A third major area is represented by our UK regional businesses.

I believe that we have not yet fully recognised the strength and value of these businesses.

We have strong regional UK positions in a number of markets – building, civil engineering and utilities for example. Our stronger regional businesses are amongst the Group's very best performers.

The value in such businesses has been clearly demonstrated through the acquisition of Mansell and its subsequent performance. There will be other opportunities – perhaps not individually on the same scale – as we aim to go on strengthening these businesses.

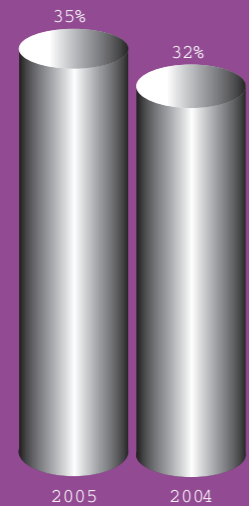
**Update: Apart from taking PFI into non-UK** ►

**PRE-TAX PROFITS\***



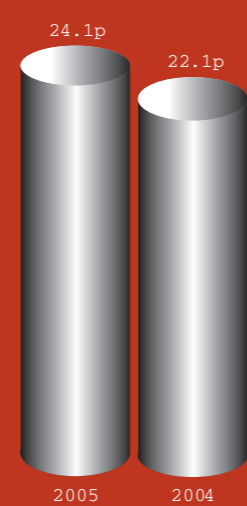
Pre-tax profits rose by 25% in 2005.  
(\*Before exceptional items)

**TAXATION**



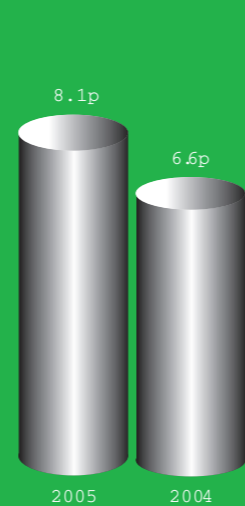
The Group's 2005 tax charge was 35% of pre-tax pre-exceptional profits, excluding the results of joint ventures and associates. The increased tax rate followed Advance Corporation Tax credits in 2004.

**EARNINGS PER SHARE\***



As a result of the increased tax charge, adjusted earnings per share rose by a more modest 9% during the year.  
(\*Before exceptional items)

**DIVIDENDS**



The Board has recommended a final dividend of 4.6p per ordinary share, making a total dividend for the year of 8.1p, up 23%.

**NET CASH**



Our year-end net cash position was £315m, excluding the borrowings of PFI concessions. Cash generated from operations was a highly satisfactory £167m and this was used to fund capital expenditure, acquisitions and investment in PFI.

**ORDER BOOK**



The year-end order book increased by 12 per cent, with well in excess of £1bn of further work at preferred bidder stage.

**EXCEPTIONAL ITEMS**

In 2005, there was a net exceptional profit of £4m. Our share of distributions received by Barking Power from the administrators of TXU and a gain on the sale of a 15% interest in three of Connect Roads' PFI concessions were partially offset by a settlement in the US, adjustments to asset carrying values and exceptional finance costs.



**Top CSR award for Balfour Beatty**

BALFOUR Beatty plc was delighted to win the first award for Corporate Social Responsibility (CSR) at the *Construction News* Quality in Construction Awards event in London recently.

Announcing the overall winner, the judges said: "There is clear evidence here that Balfour Beatty is really addressing the full range of CSR issues."

They were particularly impressed by the openness and transparency of the business, including the Group's series of Stakeholder Codes of Practice which set out methods of working and minimum standards for the company's interaction with employees, customers, suppliers and the wider community. The continuous improvement in our environment and sustainable development programmes was also recognised along with community initiatives.

Receiving the award, Tim Sharp, Director of Communications said: "The entire Group has contributed to this award and it is fitting that their efforts are recognised. We have set ourselves demanding targets and we know that all our stakeholders expect us to strive for further improvements in future."

At the same time the Group has improved its score in the annual Business in the Environment Index for 2005 to 88 per cent from 82 per cent in 2004. Our rank in the construction sector also improved from sixth the previous year to third place.

The Index, organised by Business in the Community, assesses the extent to which organisations integrate environmental responsibility into their different business functions. These latest scores reflect the tremendous efforts made by operating companies in recent years.

**Two new businesses come on board**

BALFOUR Beatty has acquired two new businesses, Charter and Edgar Allen from Carillion following their purchase of Mowlem.

Charter is a US construction management company and Edgar Allen is a UK rail track products manufacturer. These operations were purchased for a combined consideration of approximately £20 million.

Charter, based in Texas, is a leading builder of educational facilities in the state. Its acquisition will complement Heery Inc, Balfour Beatty's US project and programme management specialist, which is a nationwide leader in the primary and secondary education market. In 2004, it had sales of approximately £95 million and operating profits of £2 million.

The acquisition of Edgar Allen will strengthen Balfour Beatty's leading position as a specialist in the design, manufacture and supply of track products through Balfour Beatty Rail Track Systems. In 2004, it had sales of £25 million and made profits of £2 million.

**markets, you haven't mentioned geographical expansion. Do you have plans outside the UK?**

**Ian Tyler:** The development of our engineering and construction businesses outside the UK is an important strategy for the Group in the longer-term – although not an immediate strategic priority.

Outside the UK, we will move on the basis of established domestic businesses in a specific national or regional market.

Any Balfour Beatty business outside the UK must be large enough to make a substantial difference, operate in an acceptable business environment, its customers must be sophisticated enough to need, and be prepared to pay for, superior levels of quality, safety and innovation and we must be able to achieve a leadership position without taking too much risk.

Developing a successful and sustainable business in the US, based on regional presence, is key to our long-term development. It must be based on the principles which have made our UK businesses successful and we have to ensure that core UK skills are sensitively and successfully transferred.

In Europe, Germany stands more or less alone as a potential market of longer-term interest, although in South-East Asia our investment in Gammon will provide a solid platform from which to address these increasingly sophisticated markets.

**Update: Why didn't you pursue your interest in Mowlem?**

**Ian Tyler:** Because, although it offered growth potential in a number of the areas we want to develop, the price we would have had to pay would have over-valued it. Buying Edgar Allen and Charter was the right way forward for us.

**Update: Is Balfour Beatty going to bid for work in the Olympics?**

**Ian Tyler:** Yes. We have teamed up with Amec, whom we know well, and the American firm, Jacobs, to bid to become the delivery partner for the Olympic Development Authority. This means we would take on the major responsibility for delivering the entire Olympic infrastructure and for converting it into legacy facilities after the Games are over in 2012. We will, of course, have stiff competition from other large infrastructure planning and development companies.

**Update: What are your hopes for 2006?**

**Ian Tyler:** Further profitable growth. And in particular a continuation in the significant improvements we have been able to make in our safety performance in recent years. Last year we reduced our accident frequency rate by 23% after the reductions of 17% and 14% in the previous two years. Keeping Balfour Beatty people and the general public safe is our biggest responsibility.



US Civil engineering: 'A welcome return to profit.'

Balfour Beatty Capital will continue to exploit opportunities including the provision of hospitals such as Blackburn (below) due for completion shortly.



THE last weekend in February saw 50 of the UK's most beautiful women compete for the coveted crown of Miss Great Britain in the UK's largest ballroom. The Grosvenor House Hotel in London played host to the contest, compered by Jenny Falconer and Noel Edmonds, attended by a wide range of celebrities.

With style, elegance and glamour as the central themes of the event, the appearance of the venue is of the utmost importance – no-one wants crumbling brickwork or rotting window frames to spoil the contestants' big day. But with a hotel the size of the Grosvenor, there is a seemingly never-ending list of upgrades, repairs and renovation work needed to maintain its world-class appearance and standing. As a result, Balfour Beatty Refurbishment (BBRL) has spent more than 90 weeks working on the hotel, both inside and out, to keep the hotel in top shape.

As Balfour Beatty Refurbishment Project Manager, Neil Williamson observes, the project kept everyone on their toes. "When we first started out, the contract involved just structural repairs to the brickwork facades which had been damaged or had started to move because the steel behind had rusted – what we call Regent Street Disease. At the same time we were commissioned to overhaul 2,500 timber sash windows – we cut the rot out, add in a resin and redecorate over that, as well as replacing any cords or weights or glass."

So far it appeared that only a little cosmetic surgery was required, but once the team got started, it quickly became clear that the hotel management had plans for far more extensive work, and BBRL were in the perfect position to carry it out. First they were asked to gut six floors on the hotel's South Block, which they managed despite persistent problems with the plumbing. Then they were commissioned to put in two lift shafts, and having completed that they were asked to put in the lifts as well. And it didn't stop there.

"So there we were, sitting there all happy, and then the hotel came back to us again," said Neil. "They were concerned that the problems with the steel frame and brickwork might re-emerge in ten years' time in other areas. They asked whether there was anything we could do to prevent this happening, and the solution we came up with was a cathodic protection system. This system adds electrified titanium anodes at points all over the structure, which prevents the rust-forming reaction from occurring between the steel and the water. It's an unbelievable solution, and cutting edge technology!

**"We had to work closely with the hotels whenever they had major functions. There were certain restrictions, such as having external scaffolding down for an award ceremony in June 2005, so we had a race against time to get it off Park Lane."**

"Then they announced that, where we had previously just renovated the windows in the South Block, they now wanted us to strip every piece of paint off them between floors two and eight. Back we went, took them all out again, and stripped them to bare timber."

The major challenge for the team, of all this working and re-working, was that they were trying



As two of the world's top hotels undergo massive renovation projects Update explores the problems and challenges of...

# Keeping up appearances

The Great Room of the Grosvenor House Hotel. Below, The Hong Kong Mandarin Oriental Hotel and right, Danielle Lloyd, Miss Great Britain



to operate in a working hotel on a busy dual carriageway in London's exclusive Mayfair area. Regular events, the needs of residents and guests and the elastic job-list were all factors that had to be taken into consideration on a daily basis. "It was a strange job because it is an active hotel – all the floors we were working on were occupied by residents, so they would give us six rooms or an elevator we'd do the work and then move on," said Neil.

"We had to work closely with the hotels whenever they had major functions. There were certain restrictions, such as having external scaffolding down for an award ceremony in June 2005, so we had a race against time to get it off Park Lane. The hotel is also very good at saying 'Oh, could you just do this...' or 'While you're there we've just found that which needs fixing...'. It is a little frustrating in that respect – it never seemed to come to an end. At the same time, they have been an excellent client, so you can't really complain."

All work on the contract had been completed by the end of February, in a project that had been extended by 32 weeks. Neil hailed the success and professionalism of his team and the subcontractors, but said he was sorry the project had ended before the final of Miss Great Britain. "It's diabolical timing," he joked. "We may well have to go back and do some snagging at the weekend."

THE extreme makeover is being taken one step further on the other side of the world, however. In Hong Kong, Balfour Beatty subsidiary Gammon Construction has been charged with the complete overhaul of one of the city's best loved and most exclusive hotels – the Mandarin Oriental. Overlooking the harbour the hotel has been a favourite of both residents and visitors alike since 1963. Now Gammon has been charged with a complete renovation project which will see the hotel transformed, both

inside and out, in a spectacularly short space of time.

For Project Manager Martin Davies, the project holds something of a personal appeal: "Speaking personally, the Mandarin Oriental opened a couple of months after I was born, and I sometimes feel that I need a bit of restoration too," he said. "It is a significant project because of its location, visibility and heritage. We are very conscious of the building's heritage, and we have a duty of care to everyone, both tourists and residents, who see it as iconic. It also presents some unprecedented challenges, and we are fortunate to have a very well balanced team who are working well on many different fronts at once."

The team are refurbishing all the interiors, beginning by enlarging all the guestrooms, and reducing their number from 541 to 503. The scope of work also includes new front-of-house and back-of-house for all the rooms and associated facilities. At the same time, all the services are being upgraded to current standards, and the much-loved restaurants



are being stripped out and rebuilt. On the outside there will be a new curtain wall over the entire building, with the existing balconies contained within to increase room sizes.

Several challenges have already arisen since construction work began on 1 January. Logistically, the programme is limited because work can only be carried out six days a week from 7am to 7pm. There

are also unforeseen complications with room dimensions, which are out of tolerance, meaning that individual components cannot be consistently sized, and the discovery of asbestos lagging, all of which needs to be removed.

In order to meet the initial handover date of all public areas and half the rooms, astonishingly scheduled for 31 July this year, more than 1,400 workers will be active in the hotel each day at the peak of the work. The team has also instituted a new web-based document management system which is helping significantly to distribute information to subcontractors and team members alike.

In the light of this, Martin is confident that the project is on track for its scheduled handover, despite the many problems before him. "Provided there are no problems outside our control, we have every chance of achieving what was considered to be an impossible programme, and that is a very satisfying and rewarding thought."

## When Heery reeled in a project to build a \$290 million aquarium in a record 44 months, the company put in a team designed to land the big one

**T**HE project was the dream of one man, Bernie Marcus. He wanted to give something back to the people of Georgia, in return for their support of his Home Depot stores.

His gratitude resulted in plans to build the largest aquarium in the world, capable of housing over 500 species of marine animals and included the provision of a tank big enough to accommodate a whale shark.

“We wanted to build a world exhibit” says David Kimmel, Vice President at Heery and project manager of the aquarium.

“Heery had never done anything like this before. That meant we didn’t have any preconceived ideas and everybody had input into how we were going to solve issues.”

Some of these issues were enormous. It meant moving power lines which fed the whole city of Atlanta; sourcing 328 tons of acrylic glass from Japan, employing over 2,500 people on the project, as well as building a 6.2 million gallon tank with a viewing window 61ft tall, 27ft wide and 2ft thick.

Typically, a project of this magnitude requires seven years to design, plan, build, stock with habitat and staff, but the project team achieved this goal for the Georgia Aquarium in a scant 44 months.

Heery was given the task of selecting architects, designers, consultants, vendors and more to develop this project on a site which changed locations during mid-design. Heery was also responsible for the relocation of on-site utilities, creation of an owner controlled insurance programme, negotiation of zoning and permitting issues, financial record management and contract development in conjunction with the aquarium’s attorney.

The result is a visitor experience that has far exceeded expectations using a combination of theatre, drama and lighting in a quality building to appeal to people. Such has been the success that a million extra visitors are now expected in the first year than originally projected.

“The people really made the difference,” noted David. “We wanted to build a show aquarium unlike anything else – to make it fun and interactive – and Heery was the conduit that took care of every detail.”

Applauding Heery’s achievement, Bernie Marcus, Chairman, Marcus Foundation, concludes by saying: “I really don’t believe we could have finished this process and built this building without Heery’s involvement.”

Entered in the UK’s 2006 Quality in Construction Award for the Best International Project, the Aquarium impressed the judges and was shortlisted as one of the top five entries demonstrating International Performance.

**“We wanted to build an aquarium unlike anything else – to make it fun and interactive – and Heery was the conduit that took care of every detail.”**

### The Bottom Lines

- Eight million gallons of water
- Over 100,000 marine inhabitants
- 500 species including rare whale sharks and beluga whales
- Nine acre donated site
- 70,100,000 cubic yards of poured concrete
- 4,035 valves
- 3,200 control points
- 10 miles of pipe
- 25 miles of control wiring
- 11 computers making 150 million decisions per second
- 328 tons of acrylic
- 8,000 tons of rebar
- 12,000 sq ft of windows for the tanks – including the world’s largest single window

### Impact

- 185,000 visitors from 41 states
- purchased annual passes within 22 days of opening
- Infrastructure renewal for a 12-block area of urban Atlanta
- 260,000 visitors during first month of operation, 9,000 people a day

### Safety

- No fatalities
- Lost time rate accidents 60% below statistical projections







Lord Attenborough opens the Unicorn Theatre, the UK's first theatre dedicated to children

The success of two major arts projects depended on Balfour Beatty's flexibility and problem solving skills

# Stage work takes a bow

Below, the Sage Gateshead.

TWO of Balfour Beatty's teams have proved that actors are not the only professionals who can use their imagination to bring a stage to life. The teams, working on arts projects at opposite ends of England, had to overcome a daunting variety of obstacles before they could hand their work over to the thespians. In London's Unicorn theatre, one team even took over the basement when space became too tight on site.

The £13m Unicorn, which was opened in December 2005 by Lord Attenborough, is the UK's first theatre dedicated to children and includes rehearsal spaces and education studios, as well as a 340-seat main theatre. But although the theatre is already delighting its young patrons, its construction challenged the ingenuity and flexibility of the men and women charged with meeting the scheduled opening date.

The project is part of the expansive More London redevelopment along London's busy south bank, involving many simultaneous construction projects. With nearby land rapidly being apportioned, workers quickly began to feel the squeeze, as Project Manager Mike Suell explained: "When we moved onto the site we had a very large area to work on. But we had only just got the frame up when More London announced that they needed the surrounding land back. We therefore had to vacate the north elevation to within two metres of our building. This really restricted us, but then we found out that Thames Water had to divert a

water main as well, taking out 90 per cent of our site access."

Not only was the supply of building materials now severely limited, but Mike, his team and all his subcontractors now had nowhere to operate from, as their administration and rest-facility cabins had to be removed. While all this could have brought the curtain down early on the Unicorn's magical Christmas opening, the team were quickly finding imaginative ways of working around their enclosed site.

"For the supply problem, it was a matter of reducing the size of all material deliveries, so that they could be brought in in small loads," said Mike. "Earlier in the project we had hired a tower crane to speed this process, but after 11 weeks we had to remove that as well, as we were closing up the lift shaft where it was sited. As a result, the labour content on site was, for quite a long period, about six times greater than it would otherwise have been – they were purely taking materials off lorries, carrying them up seven floors and distributing them.

"We had a great team – but while they were all organising what was happening on the site, a great deal of time was taken up rescheduling, reorganising and mitigating any delay." No mean feat for a team who were unable to find any accommodation in the surrounding area. But in the end, the solution was found right under their feet: "We actually moved into the basement," said Mike. "So while we were trying to handle all the building problems, we were

based in it as well.

"The basement was quite large – we used the public toilets there as site toilets, the large storage area for the canteen, the bathrooms for the sub contractors, and stored the materials wherever we could find space. There were about 40 of us living in the building during the working day for 14 weeks!"

A further artistic challenge posed by the theatre – and one crucial to its success – was the issue of sound insulation. Each of the various rehearsal rooms, studios and auditoria had to be effectively sound-proofed – for fear of disembodied voices drifting across the stages. After much sounding-out of the users' requirements, the solution hit upon was to separate the main auditorium entirely from the rest of the theatre's structure – creating a concrete "box-within-a-box" attached on all sides with rubber acoustic membranes to avoid contact between metal and steel. Mike explained the importance of this difficult engineering challenge: "We were constantly aware that we were building more than just a theatre," he said. "When the theatre is being used and you have people performing or music playing, they don't want noise creeping into the peripheral education and rehearsal rooms.

"The success of the project was down to the team I had on site and the subcontractors who were helping us out. At the end of the day we handed the building over and it opened when it should have and both children and adults seem to love it."

Another Balfour Beatty project which has received similarly rapturous plaudits from both public and performers is the Sage Gateshead in Newcastle-Upon-Tyne.

While Balfour Beatty subsidiary Haden Young was not responsible for the music venue's sweeping external shell, they arguably played one of the most crucial roles of all – ensuring the sound quality of the Sage Gateshead could match that of any venue around the world.

As with the Unicorn, there was a need to isolate the two huge auditoria and the rehearsal hall acoustically, but the challenge facing Haden Young Project Manager Ray Henderson was that mechanical and electrical services still needed to travel between them.

"The acoustic challenges were the greatest that we faced," he said. "Because the Sage Gateshead is an unusual shaped building, and because of the noise both inside and out, you have to come up with some innovative solutions to over-

come any potential noise and vibration problems. We had foreseen most of these problems, but of course there were several that cropped up during the construction process; there was a brief and we developed that as time went by."

With the mechanical and electrical services supplemented by around 100km of cables for data, sound and video, broadcast and other specialist electronic theatre systems, it was imperative that everyone involved in the project understood what was required.

To achieve this, and to deal with any unforeseen problems, Ray held a number of workshops in which he and his foremen could discuss the solutions together. "It was fairly simple," he explained. "Just sitting in the cabin for about half an hour chatting with them about which components to use when they encountered a certain problem; which chart to use when, and so on.

"It was very informal and made sure that everyone was clear what was required. This was especially

important because this project held several unique aspects for us, especially with the acoustics. It allowed us to effectively filter all this new information down through the foremen, to the workers on the site.

"The workshop system gave a certain amount of autonomy to the foremen, but it also gave them some comfort and confidence in what they were doing – if they had any questions, they could always come back to us and make sure everything was clear."

When the venue opened in December 2005, the team's methods proved to have been right on key, with both musicians and the public acclaiming its world-class sound quality.

Ray admitted that the project hadn't been easy, but agreed that the reaction had made it worthwhile: "I've still got the scars, but I'd say that it was a combination of hard work and dedication by everyone involved made the project a success. The building does exactly what it should do and the musicians and the public all love it."



# Connecting the new Berlin

When it opens in May this year, just in time for the 2006 FIFA World Cup, the new Hauptbahnhof railway station in Berlin will become Europe's largest rail hub. As general contractor, Balfour Beatty Rail has played a vital technical and commercial project management role, providing power systems for the new north-south tunnel.

During the past 15 years Berlin has aptly been described as a building site out of which have grown architectural landmarks such as the skyscrapers in Potsdamer Platz and the ultra-modern Chancellery.

Located in the government district of the city, the Hauptbahnhof (literally, main train station) is Berlin's final post-reunification construction project and is hugely important. It will allow metropolitan, regional and international trains to converge at one central station for the first time in Berlin's history.

A key part of this is the new 9km long 'North-South Connection' which includes a 3.5km tunnel under the River Spree, linking the northern section of Berlin's Inner Ring Railway with the Anhalter and Dresden Railway at Papestrasse

Station in the south.

One of the key benefits of this new connection is the reduction of overall travel time between Munich in the south and Hamburg in the north by as much as 40 minutes.

Balfour Beatty Rail – acting as Deutsche Bahn's leading contractor – has completed the technical installation work associated with the new 4-track tunnel in just under two and a half years.

Michael Thiel, Director, Business Unit Projects within Balfour Beatty Rail GmbH Power Systems, is delighted that the company has successfully completed its Euros 45 million contract.

"The equipment was switched on for its initial test phase in December 2005, cost-neutral and two months earlier than planned," he said.

"There were many challenges along the way but

we proved our capability as general contractor," says Michael. "This involved managing subcontractors, mediating and coordinating all works in the track area as well as the tunnel section, plus guaranteeing the final completion target date."

Architect Meinhard von Gerkan has dubbed the new station a 'transport cathedral', and with its bold, transparent design it's easy to see why. Built on five levels with twin glass towers framing a 321-metre long glass tunnel covering the east-west tracks, some 300,000 passengers and visitors are expected to pass through the station every day.

At ground level passengers have access to bus, tram and taxi connections, and above this on the first floor lies the east-west train lines of the Stadtbahn (S-Bahn) or city lines. The second floor comprises a pedestrian level with retail and

catering outlets. The main station and parking is situated below ground level with the north-south tunnel below this.

Michael Thiel explained that the extremely high number of alterations to the project was a major challenge, but were necessary to facilitate the installation of the most up-to-date technology possible. These changes had to be made when the construction phase was already underway.

"The removal of fully installed equipment proved to be unavoidable," he said. "Even so, the apparatus could still be handed-over ahead of schedule."

A major design consideration was the provision of fire safety and disaster prevention measures according to national railway inspectorate guidelines. Two overhead contact line voltage test mecha-

nisms were therefore installed at both ends of the north-south tunnel. In emergencies, this equipment lets the rescue authorities know with absolute certainty whether the overhead contact line is live or dead.

The most technically demanding parts of the high voltage power supply equipment construction were at the Hauptbahnhof Station itself. For this alone, Balfour Beatty constructed two changeover stations from the public supply grid. Underground installations were fitted with equipment for the supply of various services and waste disposal. In the case of a tunnel accident or fire, the hydraulic and ventilation systems open the emergency exit stairwells and the separate fire brigade rescue routes and keep them free of smoke and fire. The emergency exit stairwell rescue stations were connected

with the public road system and the tunnel rescue routes fitted with approximately 15 km of handrails and gangways as well as luminous rescue signs as part of the evacuation guidance system.

A total of seven pump-works are used to pump the tunnel free of water. Four pumps remove fire extinguishing water and water introduced by trains, and three remove rain and operating water.

Overall this project has been a major showcase for the project management skills of Balfour Beatty Rail GmbH Power Systems.

"Our customer, Deutsche Bahn AG, is very happy about the project execution and the job Balfour Beatty Rail GmbH Power Systems has done," said Michael Thiel. "We have clearly demonstrated our competence in handling multi-disciplinary projects."





Balfour Beatty Rail Projects workers installing new track for the Santiago Metro system in Chile.



Above Waterloo and City trains are inspected in situ and, right, are removed for refurbishment.

With its first ever project in Balfour Beatty Rail Projects is



Adam Stuart, Project Director, Balfour Beatty Rail unveils the engineering train with left to right: Jack Carter, Metronet Programme Manager for the Waterloo and City closure, Len Lovis, Contract Implementation Executive at London Underground's Chief Programmes Office and Stephen Hall, Metronet Chief Programmes Officer.

South America almost completed, and a major new contract in Australia, extending its reach by taking its expertise to the southern hemisphere

# On track for bigger business

Now nearing completion, the £50 million contract in Chile involved the installation of trackwork and conductor rails to form two much-needed new lines for the Santiago Metro system. Balfour Beatty Rail Projects Project Director John Latham described the project as "probably the biggest challenge I've faced in my career and certainly one of the most satisfying. It was a ferocious learning curve."

This is something of an understatement. Unable to speak Spanish, having your Brazilian joint venture partner go bankrupt, dealing with a work force of 2,000 people from 14 different countries, and trying to recover months of lost work due to delayed civil works all added up to an extraordinary set of circumstances for Balfour Beatty Rail Projects.

On top of this, the team had to deal with a request for part of the work to be speeded up so an official opening could be made in one of the key suburbs. "Not delivering the project on time just wasn't an option," says John.

"Civil work at ground level, in tunnels and a viaduct had been held up for a variety of reasons by other contractors and we had to recover 8-14 months of delays in a very short time. It certainly wasn't easy but we managed it through hard work, careful planning and keeping everyone motivated.

"Work was completed on Line 4, which represents about 80% of the total work, in autumn last year - thankfully allowing the railway to open to revenue service ten days prior to the presidential elections."

Santiago has a population of around six million people and suffers from major traffic congestion and air pollution. The new Lines 4 and 4A of the Metro system are designed to allow faster, cleaner and safer access to the city for people in the more remote south-eastern suburbs.

Work began for the team in June 2004 and involved the construction of 33km of double tracked main line. Uniquely, while the rest of the Santiago Metro system uses a rubber-tyred vehicle system on a concrete base, the new lines have been installed to run using conventional steel wheels on a steel rail.

With Line 4 complete, all concreting has now been completed for Line 4A and trackwork should be finished shortly. The contract also includes a two-year full trackwork maintenance period for the project, and this has been set up and is in operation.

"The client, Santiago de Metro, is delighted that Balfour Beatty Rail Projects has achieved its goal," says John.

"It's already asked Balfour Beatty Rail Projects to tender for extensions to

Lines 1 and 5 of the system, which we're happy to do as we already have a well-established team in the city."

Now in an operational management role, John Latham is also looking after several other overseas projects, including ongoing involvement with the Santiago Metro, giving him the opportunity to improve his Spanish.

By autumn 2006 passengers travelling on the Waterloo & City line - known as 'the Drain' - will benefit from quicker, more comfortable journeys with fewer delays, thanks to a £25 million contract to be carried out by Balfour Beatty Rail London Underground Services.

Unusually for such a major project, the underground line will be completely closed to passengers for five months between April and September this year. This is the first time such an extensive closure has been used under Metronet's PPP agreement and was deemed by London Underground to be the most efficient way of achieving the capability improvements in track speed and journey times. The alternative to the full closure was to schedule consecutive weekend possessions over 18 months.

"This is the most important contract to be carried out in the Underground network this year," says Richard Adams, Managing Director for Balfour Beatty Rail London Underground Services. "The complete closure of the line will allow an unprecedented way of working that we hope will give LUL and Metronet confidence in more major closures being used in the future."

Working closely with Metronet and London Underground from a shared office at Waterloo, Balfour Beatty Rail will co-ordinate the complex logistics involved. As the line runs under the River Thames and is unconnected to the main tube network, all plant, spoil and new

materials for the works will have to be craned on to the line down a lift shaft or using the depot's existing 5-tonne hoist. Four purpose-built battery locomotives will transport all materials through the tunnels.

The project covers the renewal of 4.2km of track between Waterloo and Bank stations, including the installation of 5,600 new concrete sleepers, new running and conductor rails. A new traction power supply will also facilitate 24-hour rolling stock maintenance as presently this work stops at night and on Sundays due to a lack of a separate power supply to the depot lines.

As part of the contract, the line's signalling system will be replaced, which will allow trains to negotiate the crossover at Bank station at higher speed and reduce turn around time at Waterloo. In addition, Balfour Beatty Rail will work with Bombardier to install a new centralised control system, allowing all five Waterloo & City line trains to be run during peak times.

While the trackwork is being renewed, the line's rolling stock will be removed for refurbishment. Additional work includes the alignment of platform and train floor levels at Bank and Waterloo as well as the relocation of a train washing plant to facilitate more effective and frequent train cleaning.

A contract valued at £87 million has been awarded to a joint venture including Balfour Beatty Rail Projects by the Australian Rail Track Corporation Limited (ARTC) for the upgrade of the existing rail link between Sydney and Brisbane.

The three-year project is part of the ARTC's major works to improve Australia's interstate rail network. Scheduled for completion in 2008, the project, to be carried out in a joint venture between Balfour Beatty Rail Projects and Barclay Mowlem Construction Limited, will increase capacity, reduce transit times and

improve reliability.

The works cover more than 800km of railway and include crossing loop extensions and upgrades, track improvements and associated works such as bridge strengthening and level crossing upgrades.

The contract between ARTC and the Balfour Beatty Rail Projects and Barclay Mowlem joint venture is an alliancing contract and there will be an open partnership between the customer and the contractor joint venture. Balfour Beatty Rail Projects has extensive experience of partnering and alliancing gained on similar projects carried out in the UK.

● Balfour Beatty Rail Signalling has scored a second SSI-based win in East London with the award of a £6.6 million contract for signalling equipment and a depot protection system for the new Channel Tunnel Rail Link (CTRL) Eurostar depot at Temple Mills, Leyton.

It follows the award of the Ripple Lane signalling project, and brings to four the number of CTRL-related projects awarded to Balfour Beatty Rail this year.

The project is due to be completed in March 2007 and comprises design, supply, installation and testing and commissioning of the depot's new signalling system. It incorporates two SSI interlockings and a modular control system, with the supply and installing of the protection system.

Temple Mills is alongside the existing Lea Valley lines, and will provide stabling, servicing and maintenance of Eurostar's fleet of trains, replacing the North Pole International depot in West London.

It will contain all the facilities necessary to support the operation of international trains, with access to the CTRL by a link emerging at the new Stratford International station.

"The biggest challenge I've faced in my career and certainly one of the most satisfying. It was a ferocious learning curve."

# The Pennine way

**Last August Balfour Beatty acquired ground engineering specialist Pennine Vibropiling. Bringing innovative techniques and capabilities, the addition of Pennine strengthens the Group's position in this market and enables the full range of foundation solutions to be offered to our customers.**

Founded in 1989 in Bacup, Lancashire, and now with regional offices in Milton Keynes, Gloucester and Stirling, Scotland, Pennine is an acknowledged market leader in ground improvement technology with an impressive £16 million in sales last year and an operating profit of around £1.5 million.

And, according to Pennine Managing Director Arwel Williams, the company has ambitions to increase turnover to £30 million within five years.

"As part of the Balfour Beatty Group we now have the financial backing to expand our operation and grow turnover, both in the UK and overseas markets," he says.

Around 85 per cent of Pennine's business now comes from its contracting services, which covers design and installation for ground improvement and piling systems using the company's own specialist equipment, which can be easily transported worldwide.

"Our strategy is to enter into contracting joint ventures with partners who really know the local markets," says Arwel. "We've done this successfully in Spain, the USA, Indonesia and China. Now we're also exploring contracting opportunities in the Middle East thanks to the Group's presence in Dubai."

## Targeting growth

The company is also carefully targeting overseas territories where it sees growth potential, for instance the USA.

"The stone column market in the US is worth around US\$300 million – that's ten times the value of the UK market, of which we already have 48 per

cent. This represents a major opportunity for us."

Another growth market is Spain, where Pennine has a successful joint venture with local contractor Geocisa – a partnership that should yield a turnover this year of £8.5 million.

"Right now we're working on a number of major ground improvement schemes in Valencia, including an underwater scheme in the port in preparation for the Americas' Cup in 2007," says Arwel.

## UK Opportunities

Back home, Pennine is well placed to exploit ongoing opportunities stemming from the trend to develop brownfield sites for residential and industrial use and works closely with another Balfour Beatty company, Stent Foundations.

"Graham Wren and his team have been very helpful," says Arwel. "We've worked on a number of large projects together since the acquisition. We complement each other well as the combined expertise in piling and ground improvement of our two companies enables us to tackle all types of foundation work."

One recent joint project with Stent was the preparation of 20,000 sq. metres of ground near Gloucester docks for a new college being built by Bovis Lend Lease.

"We specialise in solving problems with weak soil, getting it ready for any sort of construction work," says Arwel. "We've worked with Balfour Beatty companies in the past, such as the M25 widening scheme, and we're looking forward to developing working relationships with other parts of the Group. Just give us a call!"



Arwel Williams, Pennine Managing Director



Valencia Port Extension – Pennine Aquacaster GlousCat (with Stent)

# SHIFT OF POWER

**Energy supplier Barking Power moves ahead after TXU setback**



**T**HE energy generator Barking Power lost an important customer when TXU Europe went into administration in November 2002. Balfour Beatty, as a 25.5 per cent shareholder in the Barking business, was closely involved in the process to agree Barking's £179.3 million claim with TXU's administrators.

To make things more complicated, American-owned TXU had an equity interest in Barking Power, as well as its power purchase agreement.

Following the insolvency, Barking received a first dividend of £112.3 million in March 2005, with further distributions of £32.2 million and £31.7 million in August 2005 and January 2006. The initial dividend from TXU generated a post-tax gain of £68 million, of which Balfour Beatty's share was £17 million.

The main shareholder in Barking, with a 51 per cent stake, is Thames Power (jointly owned by Balfour Beatty and ATCO). The rest of the equity is

owned by Scottish & Southern Energy and EDF Energy which have bought out TXU's shareholding from its administrators.

***"Making the claim against TXU involved a vast amount of work and was hugely time-consuming. Eventually a Company Voluntary Arrangement was put in place and the funds released have made a big contribution at Barking."***

TXU had held one of the Barking power station's three power off-take contracts, due to run 15 years to September 2010. Out of the station's 1,000-megawatt capacity, TXU was buying 275 MW.

"When TXU went into administration and that contract fell away, we were left with more than 27

per cent of our output unsold," said Commercial Manager Rachael Clarke. "Barking is a small player and didn't have the means to sell on the market in the same way as the bigger names. So for the past 18 months we've been marketing through a third party – a company owned by Merrill Lynch – and using their trading expertise."

"Making the claim against TXU involved a vast amount of work and was hugely time-consuming. Eventually a Company Voluntary Arrangement was put in place and the funds released have made a big contribution at Barking."

That is not the only way the company's fortunes have improved, Rachael added. Power prices were low when TXU went into administration, but the market is improving now.

"Prices have moved upwards in the past year or so, which has been in our favour – and the station is well situated in the south-east, which is an area of high demand in the UK."

Dubai's main waterway is being extended to create a handsome setting for a major new business district

# On the waterfront



**T**HE United Arab Emirates' answer to Manhattan is on its way in Dubai and Balfour Beatty is in at the start.

Much of the UAE's success as a business hub can be traced to the creek around which Dubai was built. Dubai Properties has masterminded a development which will extend this historically important body of water from its inland end back to the Arabian Gulf, some 13km away. A new commercial and business district will be developed at the water's edge, which is why the area has become known as Business Bay.

The concept is to create a new regional business centre that reflects old Dubai by incorporating the creek into the city's rapidly expanding urban development. In meeting demand for commercial and residential waterfront property, the project follows in the footsteps of projects such as the Palm Jumeirah and Dubai Marina.

The first phase of the Creek extension contract has been awarded to the Dutco Balfour Beatty Group – the construction company owned jointly by Balfour Beatty and locally-based Dubai Transport

Company (Dutco). It involves constructing the initial 7km section of canal from Sheikh Zayed Road to Old Metha Road.

Varying in width from 120m to 280m, the main canal has many bends and smaller offshoot canals. The completed waterway will be five metres deep on average. The section currently under construction is 2.5km inland. Water has been removed by auguring 500mm diameter deep-wells to a level of 10m deep. The wells have been installed at 75m centres along each inner face of the quay walls.

The distance from the sea and the absence of surface drainage outlets meant that, in the early stages, ground water had to be pumped into a series of temporary ponds at ground level on either side of the canal. As construction of the quay wall progresses, temporary dams will be formed at strategic locations, between completed sections of the canal and the working front. Pumped water will be discharged into the section just completed.

Where possible, dams are at proposed bridge crossings to assist future bridge construction. These

will be removed at the end of the contract, by a combination of conventional excavation and pontoon-mounted underwater dredge pumps.

About 530 people are working on site and the project requires some 1,450 cubic metres of concrete every day, so a precast yard and a batching plant have been set up. These are located at the canal's widest section so operations will not be affected when developers occupy plots as the quay wall progresses.

Temporary dams have been constructed at each end of the precast yard so that it can be excavated in the dry at the completion of the contract.

Quay wall blocks are lifted from the precast beds by two 60T and one 80T crawler cranes onto trailers which transport them to the quay wall where a pair of 100T crawler cranes place them in their final position.

Project Manager Andrew Watson's senior team are Commercial Manager Muzafar Ali, Chief Engineer GJ Reddy and Section Managers Qazi Ahmed (earthworks and dewatering) and Anish Abraham (quay wall).

"The main challenge is the fast-track requirement," said Andrew. "The contract was originally tendered with a 24-month duration, but that was subsequently reduced to 16 months during our negotiations with the client."

Rapid mobilisation and training of newly-recruited labour were essential to get the project off to a successful start. The repetitive nature of the work meant that once the management organisation and work systems were in place, it was a matter of extensive performance monitoring and fine-tuning.

"We have a very experienced and highly motivated site management team, who have really stepped up to the mark. We're 36 per cent of the way through the contract time, but we've placed 40 per cent of the quay wall blocks. We've absorbed the initial start-up period and we're now pushing further ahead of programme.

"The client appears to be impressed by our performance so far, which is essential, as there's extensive scope for further work in the develop-



ment. Negotiations have started for follow-on sections of the Creek, service tunnels and bridge crossings," said Andrew.

Area Manager Henk van Es sees the project as part of an ongoing success story.

"Dubai in 2006 is a most exciting place and we are proud and feel privileged to be part of it," he said.

"Dutco and Balfour Beatty have been together for more than 30 years and the relationship has gone from strength to strength. April 2002 was an important milestone when all existing partner businesses were merged in one integrated group. We've quadrupled the size of the core business since then. At the same time we started two joint ventures for major projects which equal the core business in size.

"We're now one of the leaders in the Dubai construction scene. As such, we want to be one of the main drivers in setting higher benchmarks for quality of work, and in creating innovative approaches to meet the challenges generated by Dubai's construction boom.

"This is just as vital as raising the general awareness. It emphasises the importance of constantly improving health and safety standards across the industry. These are fundamental principles on which Dubai prides itself, as one of the construction hotspots of the world."

## Other major projects

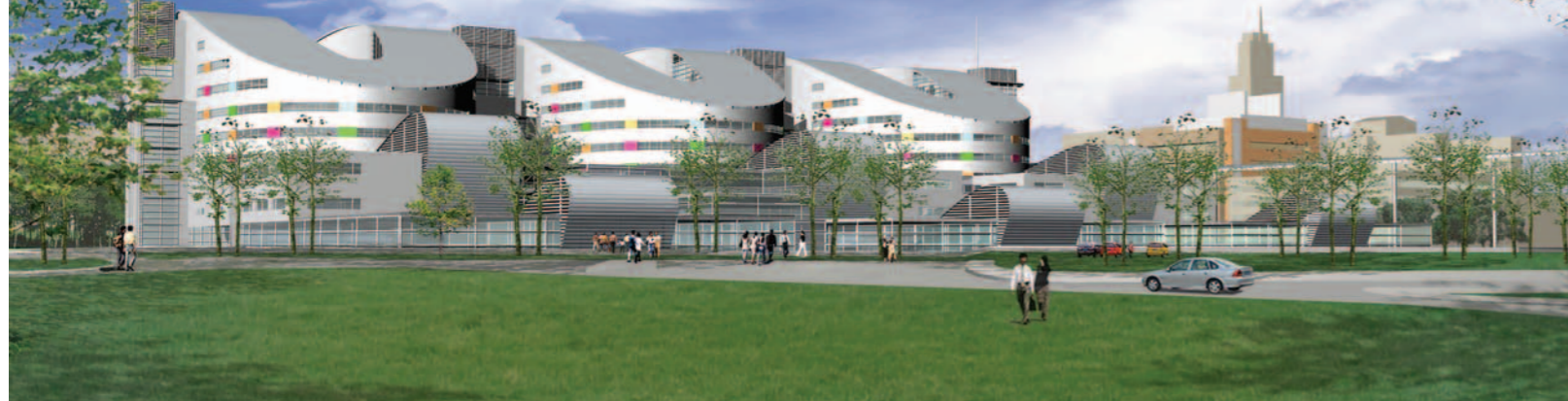
Here is just a small selection from the Dutco Balfour Beatty Group portfolio

- Dubai Shopping Mall – the largest shopping mall in the world being built at EMAAR's prestigious Burj Dubai development in joint venture with CCC
- Ikea and Hypermarket at Rashidiya, Dubai
- First two of EMAAR's eight planned mosques
- Green Mosque project
- AX 096 GSE road east of Dubai International Airport
- Marina Heights Tower and other high-rise projects
- GCAA Building
- Palm Island Interchange by Internet City on Sheikh Zayed road



# Only the best for Birmingham

Private Finance Initiatives bring world-class hospital and schools to the Midlands



World class: a flagship hospital for Birmingham

Balfour Beatty is set to bring major facilities to the people of Birmingham, with a state-of-the-art hospital and new-look schools.

The company is part of the Consort Healthcare consortium, which is the preferred bidder for the £552 million Birmingham New Hospitals project.

University Hospital Birmingham Trust and the Birmingham and Solihull Mental Health Trust have created a 40-year private-public partnership concession expected to reach financial close shortly. The city's first new general hospital for 70 years will have 1,231 in-patient beds, and there will also be a 137-bed specialist psychiatric hospital and teaching section, as well as local mental health facilities in Sparkbrook (45 beds).

The project will bring most of south Birmingham's key medical facilities onto a single, state-of-the-art site – and address the Trust's ambitions for greater efficiency, more space and improved patient care.

Balfour Beatty is likely to take a stake of about £22 million in the scheme. The construction will be a joint venture between Balfour Beatty Construction, the Group's building arm, and Haden Young providing the M&E services.

Facilities management for 'hard' services will be provided by another Balfour Beatty subsidiary, Haden Building Management, under an arrangement which could yield approximately £300 million over the total life of the concession.

Ian Woosey, Bid Director and General Manager for Consort said: "The scheme is the largest PFI healthcare project outside of London and, with the rumoured changes in Department of Health policy towards procurement of smaller PFI healthcare schemes in the future, this is an ideal opportunity for the Balfour Beatty organisation to demonstrate its key skills in the delivery of large and complex projects."

John Charlton, Chairman of University Hospital Birmingham NHS Trust, called it "one of the most exciting developments ever seen in healthcare".

"We'll have the most up-to-date hospital facilities in Europe, if not the world," he said.

These will feature the best in contemporary design and dynamic areas able to respond to ever-changing patient needs. Public consultation will assist the choice of interior design and artworks.

The hospital should be able to offer its first acute care services towards the end of 2009. By 2011



Light and enlightenment: how the library will look at Hobmoor Primary School in Yardley

Birmingham will have an internationally recognised centre of excellence for adult healthcare and integrated mental health services, as well as training and research.

Meanwhile, Balfour Beatty is also part of Transform Schools, the consortium Birmingham City Council has appointed for the £75 million Birmingham Schools PFI concession. The project reached financial close in March, and will provide the city with 12 new schools – two secondary, nine primary and one early years centre.

"We're delighted to have been chosen to redevelop Birmingham's schools and provide a much enhanced environment," said Mike Hudson, Chief Executive, Transform Schools. "This brings our PFI schools portfolio to five and was the third schools project in just a year."

Birmingham education chief Councillor Les Lawrence said: "We want teachers and pupils to have the best environment for teaching and learning. Our first public-private partnership has been successful, with 10 schools rebuilt or refurbished, and we hope this scheme will be equally successful."

The first schools will be handed over in 2007 and the remainder completed in the following two years.

Group subsidiaries Balfour Beatty Construction and Balfour Kilpatrick have entered a 30-year joint

venture with Transform Schools, while another subsidiary, Haden Building Management, is contracted for more than £40-million-worth of facilities management during that period.



Arden Primary School in Sparkhill will involve a new build as well as an existing classroom block

# That's more than entertainment



Wonderwall: the art corridor

PEOPLE'S state of mind is important when it comes to dealing with illness – whether they are patients, health professionals or family and friends. That is the thinking behind the Arts for Health initiative at University Hospital North Durham (UHND).

The PFI hospital is run by Consort Healthcare, a consortium whose members include Balfour Beatty. Durham has experienced one of several Arts for Health schemes that Consort is promoting around the country.

"The aim was to provide an opportunity for all UHND employees, patients and visitors to spend time together, engage in arts activities and to generate a discussion among health professionals about the benefits of arts in the healthcare world," said Juliet Fraser, Community Engagement Manager at Balfour Beatty Capital Projects.

Five activity days were held over three weeks last summer, with storytelling, live music, singing, dance and visual arts. Fifty-eight artists were involved in 35 hours of activity, taking in 10 wards, accident and emergency, outpatients and the hospital's main reception and restaurant. More than 100 patients and 50 clinical staff, along with other hospital staff and visitors, took part in five activity days.

On the visual arts side, the project produced two permanent murals and ceramic signs for the main entrance and Treetops Ward, as well as a framed collage to display in the hospital and a photographic exhibition in the intensive therapy unit.

The storytelling day brought shadow puppets and traditional tales, while the music day ranged from Tabitha Tuckett's wandering minstrels to jazz singer Margaret Frayne and 'sound sculptures'

with chime bars. The minstrels returned for a singing day, which also included a community choir singalong. And the series ended with a family arts day, with t'ai chi, Southern Asian dance, street dance, a tea dance and corridor art displays.

"The Arts for Health events have been very welcome at the Trust, improving the experience of patients on the wards, and the general hospital environment for staff, patients and visitors," said Marion Dilley, Associate Director, Nursing and Quality, at County Durham and Darlington Acute Hospitals NHS Trust.

"We're delighted to be working with Consort Healthcare to continue this important project at University Hospital of North Durham."

The initial £10,000 scheme was funded by Consort Healthcare, whose Operations Director, Kevin Walker, said: "During the operation of the Consort Hospitals it's become apparent just how positive the effect of bright, well designed and maintained hospitals can be on the wellbeing of those using and working in the buildings. Although over and above our contractual commitment to the NHS Trust in Durham, we felt the Arts for Health programme embodied the many positive aspects that we can bring to the hospital setting.

"The programme was evaluated by the University of Durham, who are carrying out research into the benefits that arts can bring to patient care, and this perspective appeared to be borne out by the positive participation of patients and staff into many of the events."

Juliet Fraser added: "This project demonstrated the valuable role of arts in the healthcare setting. It opened up the discussion of incorporating arts activity into the plans at UHND for years to come."

Something fishy: the sound sculptures make music from the breeze





Back row, left to right, Dave Cockle, Chris Field, Vic Wrightam, Rob Wrightam, Alan Bassett, Zen Nichols  
Front row, left to right, John McIlhagga, Nigel Quelch, Ian Simpson, David Darcy

# All change at King's Cross

## Balfour Beatty Management leads a major public transport hub project for London

London's King's Cross and St Pancras mainline stations and their London Underground (LUL) infrastructure are set to become a showpiece transport hub.

Passengers arriving from Europe will be able to connect with the Tube and national rail services in a state-of-the-art interchange. Channel Tunnel Rail Link (CTRL) high-speed commuter services, expected to launch in late 2009, will also bring a significant increase in passenger numbers.

Balfour Beatty Management is playing a key role in LUL's programme of upgrades. The Department for Transport (DfT) funds the scheme, which it started with LUL in 1999. LUL appointed consultants to develop the design – and, in April 2003, contracted Metronet Rail SSL Ltd (MRSSL) to take charge of procurement and project management for redeveloping ticket halls and carrying out Underground station works.

MRSSL placed the programme management contract with ABBT, a joint venture between Atkins, Thames Water and venture leader Balfour Beatty Management. ABBT's team – currently numbering just over 100 – plans, procures and manages the contracts for the LUL works, which are due to be complete by 2010.

The first of the two phases provides a new

western ticket hall adjacent to St Pancras mainline station, as well as enhancing the King's Cross Tube ticket hall. Access and the platform area for the Metropolitan and Circle Lines are being improved and the scheme includes sub-surface link passages and external works to roads and pedestrian areas.

Phase I is nearing completion, with the western ticket hall and the enhanced Tube ticket hall due to open in the spring. Electrical and communications systems for a state-of-the-art railway operation must be linked to existing facilities, while keeping passengers flowing. The Underground station and platform refurbishments are due to be finished by the end of the year.

Phase II is under way. Its main components are a new sub-surface northern ticket hall and tunnelling to accommodate escalator, stair, lift and subway links to the deep Northern, Piccadilly and Victoria Tube lines.

Network Rail will build a new concourse on the top slab of the northern ticket hall, which must be completed in 2011 ahead of the Olympic Games. It is essential that ABBT gives Network Rail access to this slab by September 2008.

"We have challenging objectives in a highly regulated environment," said project manager David Darcy. "We have to work under railway operating

regulations, as well as maintaining pedestrian and traffic movements in a very busy hub. Safety is given prime importance and our record is very good.

"Many stakeholders are involved, including the DfT, Network Rail, Argent (developer for 67 acres bounding to the north of King's Cross), PFI contractors working on the Underground. There are also the London Boroughs, English Heritage (St Pancras is a listed building), railway companies, Transport for London, British Transport Police, retailers and other tenants in the stations. We have a lot of contact with all of them for consents, approvals and interfaces."

During Phase II, Network Rail and LUL will start other King's Cross projects and there will be a combined workforce of more than 1,000. Argent's large-scale development will also be starting. Roads in the area tend to be congested anyway, so traffic management is vital. Equally crucial is worksite planning for such a physically constrained situation.

"This project is high-profile," said David. "It's important for London Underground and for the DfT, particularly with the Olympic Games coming to London. It's also important for ABBT, and for Balfour Beatty Management as a growing Balfour Beatty Company. We're determined and confident to deliver these major works successfully in all respects."

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