



Richard Nicholl

Richard Nicholl has exchanged his company saloon and brogues for a 4x4 and walking boots as the National Trust's first full-time structural engineer. At a time when city dwellers are crying out for a sight of nature in the Covid-19 shutdown, his job will involve helping the Trust roll out its plans for new urban green space. **By Jackie Whitelaw.**

THE NATIONAL TRUST IS 125

years old this year and, faithful to the vision of its founder, Octavia Hill, it is always looking to adjust and change its focus as society and the environment change. Having spent decades looking after old buildings and preserving the natural environment in the countryside, it is now on a mission to expand its reach in cities to become more inclusive, engaging a broader range of people.

So, over the next few years, expect to see the Trust working with local groups to protect historic structures such as the Edwardian Moseley Road Baths in Birmingham (**Figure 1**), but also to encounter it converting abandoned infrastructure such as old railway viaducts into community parks.

'Everyone needs fresh air, beauty and nature,' says the Trust's civil and structural engineer, Richard Nicholl. 'We are going to use our influence to create green corridors in city centres. My role is to help oil the wheels of collaboration with local charities, neighbourhood businesses and national organisations like [walking and cycling charity] Sustrans to get things done.'

The Trust has a huge influence thanks to the strength of its membership, and the schemes it promotes will receive that extra boost to get them over the line. 'We can use our influence – we have a quiet but meaningful voice which is very powerful,' Nicholl says.

The Trust also has a healthy budget, currently turning over £500M a year. After Covid-19, Nicholl can expect to be very busy in the urban parks

department as city people, particularly those without gardens, will be clamouring for more green spaces in their lives after weeks of home quarantine.

Shifting shores

Nicholl's role also includes engineering concern for the Trust's buildings, bridges, dams, reservoirs and the 17% of English and Welsh coastline owned by the organisation. Rising sea levels are a particular issue and, under the Shifting Shores programme, the Trust is having to adapt some sites and face up to the reality of losing others.

'One of my early jobs was to go out on a fishing boat to the Farne Islands off the Northumberland coast, which was wonderful (**Figure 2**). I got to see the puffins and the seals, but the purpose was to inspect the harbour and berthing facilities there. They are going to have to be altered to cope with new tide levels,' he says.

'We are also having to face up to managed decline in other spots, such as Mullion Cove in Cornwall (**Figure 3**). We have a statutory duty to monitor and repair within the realms of reasonableness, but the harbour can only be saved with an out-of-scale, major offshore breakwater, so it will eventually be lost and we have to manage that process.'

Other jobs on the to-do list include the creation of an amphitheatre on Brownsea Island in Poole Harbour and



FIGURE 1: Preserving urban heritage such as Birmingham's Moseley Road Baths is becoming important for National Trust



“**LOWEST COST AND MAXIMUM REVENUE ARE NOT THE DRIVERS HERE, IT'S PROMOTING LONGER DESIGN LIFE, CARE OF PLACES AND OF PEOPLE**”



← **FIGURE 3:** Harbour at Mullion Cove in Cornwall will require managed decline as sea levels rise



↑ **FIGURE 4:** Trust of affected companies was key when tunnelling beneath Grade 1 and Grade 2 listed buildings for Bank station upgrade project in London

to keep an eye on issues where major projects like the High Speed 2 railway and the Stonehenge Tunnel interface with Trust land.

Partnership and trust

Nicholl has moved to the National Trust from AECOM, where his last role was as a technical director and, more crucially, project representative for the Bank Underground station rebuild in London (**Figure 4**). What got him the

↓ **FIGURE 2:** Harbour and berthing facilities at Farne Islands in northeast England must be altered to cope with new tide levels



the project tunnelling beneath them and to be sure that there would be no incidents or issues that could damage their extremely precious and historic real estate.

‘We were tunnelling beneath the greatest concentration of Grade 1 and Grade 2 listed buildings in England and, apart from the value of the structures, there were archive rooms in basements

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containing sensitive history that people come from all over the world to see. These companies needed to have absolute faith in the project in order to give the go-ahead.

‘I had to develop their trust and be open with them about all the issues. The first few meetings were brusque and it was explained to me by Rothschilds, for one, that if they didn’t trust me, they would continue to object to the project. After 18 months of honesty, listening and a build-up of goodwill through my being seen to deliver what was promised, all the objectors to the work had become supporters. It was the first time in TfL’s public inquiry history that there were absolutely no objections.’

Nicholl received from TfL a behavioural prize, one of only two on the project, ‘in recognition of the outstanding behaviours you have shown and your positive contribution to the continued success of the project’. This carried huge weight with the Trust when he was going through the recruitment process. ‘They said that this was what they needed. Stakeholder communication was paramount and they needed someone in the role who could be trusted by all parties, including some very influential and cautious groups. ‘The Trust needs to be able to trust you and needs you to be able to manage our stakeholders,’ I was told.’

Change of challenge

For Nicholl, 50, the opportunity to join

the National Trust came just at the right time in his career. He had spent 23 years with AECOM and its legacy companies, Ferguson McIlveen, Scott Wilson and URS, after studying at Bradford, which he’d chosen as a university because of the excellent cycling territory on the doorstep.

In the course of his time at AECOM, the Northern Irishman from County Antrim had worked on healthcare, industrial and transportation projects including a spell in Hong Kong for Admiralty station on the Mass Transit Railway (**Figure 5**). And for two decades he had also been engineer for the National Trust’s half-a-million-visitors-a-year attraction of the Carrick-a-Rede rope bridge – at 30m high and 20m long it connects the County Antrim mainland with Carrickarede Island.

‘I’d been really blessed in my career and particularly the decade I was working on metros. But I knew I would find it hard to top the role at Bank station and was ready for a new challenge,’ Nicholl says. ‘I talked to my wife, Helen, about the change in income and the switch to the charity sector and she said, go for it.’

Conserving the past and rethinking the future

Nicholl’s big concern when applying for his new role was his lack of a conservation engineering qualification. He’s pursuing it now with the Trust’s encouragement. ‘I firmly believe that conservation accreditation is going to be important for all engineers going forward,’ he says.

‘Dealing with climate change will evolve into the need to understand how to design for extended life and for better quality. The impact of Covid-19 on budgets, supply chains and the likely end of the general throwaway culture will add to the demand,’ he believes.



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'This isn't just about understanding oak-framed buildings, it's about sense of place, a design life of 120 years for everything not just monuments and bridges, and imagining what we build now could last for centuries more. There are also the simple things like growing more trees – we have to get engineers to love trees.'

'I'm quite shocked that the Institutions of Structural Engineers and Civil Engineers between them have only 70 accredited conservation engineers. That's 0.0006% of the membership. We all have to learn to do better – our carbon footprint is too high and unsustainable. One of my goals is to learn from the past and build to last. Demolition should not be the norm, it should be the unusual.'

How Nicholl develops his new role is up to him, he has been told. 'They said, "take a year and get to know us; don't try to do anything heroic, but then start to plot out the next steps",' Nicholl says. 'But I was also warned that I'd find myself busy while I was in the honeymoon stage and so it has proved. I've been delighted to help the regions sort out anything from a toilet block in the Brecon Beacons to an old waterwheel. The job is making me very happy. I feel I have a pure purpose.'

'I have a remit to set the very best of



standards in conservation engineering for buildings, but also the environment, place, skills and sensitivity of setting. I'm having to rethink everything about how I engineer; lowest cost and maximum revenue are not the drivers here, it's promoting longer design life, care of places and of people. Previously on my projects, the first thing we produced was a project management plan. Here it is the conservation management plan that is the governing document.'

The Trust's aim is to be carbon

↑FIGURE 5: Ten years on metro projects included Admiralty station for Hong Kong's Mass Transit Railway

VOLUNTEERING

If you would like to volunteer with the National Trust as an engineer, email Richard Nicholl at

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neutral by 2030 'and it is not going to accept carbon offsets,' Nicholl explains. 'That means a complete overhaul of how we use our buildings, our energy use and transport to our sites.'

Volunteering and mentoring

Nicholl is conscious he is a team of one in the engineering department. 'The Trust relies heavily on volunteers – there are 70 000 of them – but I am keen to build up the number of engineer volunteers'

He is also hoping to take skills he has developed in indirect mentoring of enthusiastic structural engineers and put them to use helping young people in the Trust further their careers. 'People are working very long hours and loving what they do, me included – I'm working even more hours than at AECOM. The commitment here is quite humbling.'

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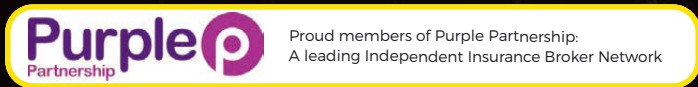
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