

“Canary Wharf: Jubilee Line Station” Podcast Transcript – LFA Building Sounds

Owen: Hello and welcome to Building Sounds. One of the two podcasts brought to you by the London Festival of Architecture. I'm Owen Wainhouse. For the LFA in 2019, we produced an architecture audio guide to Canary Wharf. For the guide, we spoke to many of the architects involved in transforming Canary Wharf from desolate docklands to a thriving new district of London.

You can still find the guide by visiting lfa.london in your web browser. For Building Sounds we wanted to share some of these longer talks about particularly architecturally significant places in London. For this episode we hear from Gerard Evenden, Senior Executive Partner at Foster Partners, who led on the practices work designing the new Jubilee Line underground station at Canary Wharf.

The station was finished in September 1999 as part of the ambitious Jubilee Line extension, which helped transform the fortunes of Canary Wharf and later, as Gerard explains, paved the way for the 2012 Olympics in Stratford. For me, the Canary Wharf station is perhaps the finest station on the underground network.

Its vast cathedral like spaces and soaring sense of arrival make it particularly special. And occasionally, if you're lucky, you'll find a beam of sunlight streaming all the way down onto the platform, making it perhaps the only part of the underground I've missed during lockdown. So here's Gerard Evenden telling us about the station.

Gerard: The Jubilee Line station was the, was the first station that we built at Canary Wharf. But it was also the first building we built at Canary Wharf, because I would consider it to be a building. Um, it's a building underground. And it really, it really started from, uh, we had just, at the time we had just finished, uh, we were just Uh, partway through really, um, building Bilbao Metro and, um, I'd been, I'd been working on Bilbao Metro and what was interesting about Bilbao Metro, um, was the fact that, uh, there wasn't any influence of really any engineers who'd ever built a, a railway before, um, and so we tried a few things, um, we got the documents for Canary Wharf, um, and, uh, And it was actually an interior fit out document.

However, um, what was very special about Canary Wharf station was the fact that Roland Paoletti, who was, he was the architect in charge of the Jubilee Line extension team for Transport for London. And Roland had spent years in Hong Kong building the MTRC in Hong Kong. Um, and it was really Roland's vision was to build this series of stations, um, which actually what he'd done was he'd put

together, um, a series of architects that he thought would sit well together, a lot which had actually worked.

at, Foster's before setting up their own practice and then with a few, a few odd ones dropped into, um, what he called, um, he said it was like a, a melody with a little bit of jazz in as you went down the line. And, um, that was very important. And I think the, what was also very important was, um, he said, whatever you do, don't tell the engineers what we're doing, um, and don't let the engineers influence the architecture and make the architecture work.

So we started on a project where I think the engineers believed that we were just going to choose some tiling and, um, and clad the interior of the building with some tiling, um, But what we started with was, well, what does the engineering do? And, and, and why, why and how would you engineer a building like this?

Um, and it was very different from, It was very different from, um, what we'd been tackling in Bilbao because in Bilbao we'd been tackling, uh, a project whereby it was all in, uh, silts and soft sands, um, and we'd, we'd, we'd had to stabilize the ground as we went and it wasn't, it wasn't ground that you could really bore very easily.

Um, and at Canary Wharf we were into cut and cover. So, digging a great big hole and, um, and then burying it again. Roland Paoletti was, um, he was a great figure. He was a really important figure in the Jubilee Line because without him, it wouldn't be what it is, quite frankly. Um, he was a maverick. Um, I think he loved architecture.

He'd worked for Nervi. Um, and so was very interested in structure and how structures worked. And, um, you know, he was quite a tough opponent to, um, to deal with. Um, he knew his own mind, but he encouraged us to be brave. And, uh, and that was a very important part of the project. It was Olympia and York at that time, um, who were running Canary Wharf.

Canary Wharf had constructed quite a bit of the, um, DLR at that time. And I think that where Roland came from was the vision was that, People were talking about Canary Wharf at the time and that the DLR was there. And I think DLR carried 14, 000 passengers a week from memory. And he came and we looked at the figures and you know, we realized it was going to be a station that could carry, you know, a hundred thousand passengers a peak.

Um, so it was the second largest peak after Oxford Circus. That was what it was predicted. And there were a lot of people at the time who said, you know, this is crazy. It'll never peak like that. And look at it now. So, um, it was quite a, you know, we were, we were always sort of looking at it as what's going to happen when this thing really takes off and what's going to happen when you do get this peak of passengers coming through the building.

And, um, it was really. Roland then who sort of as architects, gave us the reign just to, to, and, and you know, he said, you know, you've gotta design a building which is gonna take this on under the guise of an interiors contract. So we all set off with that as the great expectation really. And you know what, what a vision that was in the end.

Yeah, it was a, it was a dock. Um, the dock was drained. Um, a coffer dam was put into the dock fairly early on in the commencement of the project. And then, uh, we had a nine, from memory, I think we had a nine month program to, um, to get the tend, the project out to tender. Um, and again, Roland Paoletti was very clear that if you didn't get the documents out for tender.

There was always the danger that projects like this would be stopped, and he wanted it to happen. So he said, you know, you've got nine months, we've got to get these documents out the door. So we did nine months work, got the documents out the door, and then the whole thing went on hold. Well, the government rethought the status of the project, but it was actually the fact that he'd gone out to tender and the contractor's prices were in, that it made it very difficult to, to kill the project.

And that he, he'd seen in Hong Kong that that was absolutely a critical part of building big transport infrastructure projects like this, that you, you needed to move them fast. So we then went on hold for about two and a half years. Except it wasn't on hold, and we then went through a terribly painful process where we went back through all the drawings and effectively refined the building.

And, um, we, uh, everything was questioned, everything was back, went back through. And then, eventually, we, we, we had a project that we thought was, Absolutely right. And what then happened was it then restarted. And when it restarted, what was interesting was that London Underground suddenly had introduced a whole new series of regulations.

They had new ideas about how they were going to staff the building. And so we went through yet another process of redesign, um, to look at the efficiency of the building, how the building would be operated. Um, and so the building through the process, the building became more and more refined for its function.

Um, so what we ended up with was something that was, you know, incredibly dynamic. But, again, going back to the early vision, you know, one of the things that, That was in the brief to us from day one was you've got to make this building flexible. These guys will change it. These engineers will come and change everything, uh, London underground, they, they'll, they'll take bits away.

They won't put them back. So you've got to bolt everything down. You mustn't allow things to be removed easily. You've got to be able to refit this building

without taking cladding away. And that was how the building was designed. So, you know, uh, what is it now? 20 odd years on, we've got a building that still retains pretty well all its original cladding.

There aren't ceilings missing. And I think one, very interestingly, which again goes back to the original brief, Roland always said that you should have a provision for advertising. And at the time, London Underground said, well, we're not going to advertise in this station. There's no call, there's no market for advertising.

Today, uh, you know, we've just recently been through a process where a screen has been added to the main concourse. Uh, and a huge advertising screen. And, you know, That could only have been done in the way that it's been done Had we thought about it day one and had we thought about the flexibility that those things would come and you know The experience was there from hong kong Of what happens and what happens when these buildings become?

You know popular and they get well used they have to be tough and they have to be robust to take that and the architecture had to do that and so We were always designing a building That was going to change and it was how to design a building that's going to be changed but it's tough enough to resist the change without losing the big picture and the big concept which I think Canary Wharf had.

Yeah well the, the retail was another interesting aspect because again, uh, in the early days London Underground were adamant that no retail would work and that there was to be no connection into Canary Wharf and that it was a standalone station. And actually, after Olympic York disappeared and Canary Wharf Ltd.

were formed, and really with, with the emergence that the Jubilee Line was real and it was going to happen, and then with the, you know, when the real construction began. began. Um, the, uh, Canary Wharf suddenly woke up to the fact that there was this amazing opportunity for footfall directly out of the station.

And so we would be able to build two exits from the, from the ticket hall back up directly into the, into the retail of Canary Wharf. And again, that was. The foresight of, you know, the wall had been designed, that part of the wall was a, was a retaining wall as opposed to a diaphragm wall. So it was much more simple structure to cut into.

And so we were able to make that connection up into Canary Wharf. The connections from the shopping mall was not there in the original scheme. That came, that came much later. In fact, that came after we'd finished constructing the building. And that was a late addition. Uh, very late. The building was, I think

actually the building may even been opened by the time we, uh, we started the construction work on those links, the links into the shopping mall.

Yeah, in the, in the early days, there was no retail in the concourse at all. The retail in the concourse has come later because again, and part of what we call the ticket hall cabins, which were the, the, the cabins which run down either side. Yeah. Day one, those were seen by London Underground as areas for public toilets and for offices for London Underground.

And they weren't seen as something that could be turned into retail. Of course, that happened later, um, as these things do and of course the, the, the design of those, those, um, ticket hall cabins was such that they were, they were able, again, they were able to accommodate that change. You know, we had the whole advent during the, during the process of design, we had the whole advent of ticket machines changing and, um, how would we accommodate change in the ticketing system?

Um, And, um, again, of course, you know, because those walls are designed as they are, they've been able to accept the change and there's a system there for plugging in and plugging out new machines, changing the technology, so it's accommodated the technology. The brief for the building was for 500 year life.

In the, in the very early scheme it had two exits and then a third one was added because it was seen that at the east end of the station there would be increased traffic with the development of Canary Wharf. And so what we call the Fosterito was added, which is the small entrance. The Fosterito was a term that was picked up from Bilbao, from the Bilbao entrances to the Metro in Bilbao.

Uh, where, uh, they, they'd nicknamed the entrances there Fosteritos, which was Little Foster's. Um, and, um, so when it, when, when we needed an extra entrance at Canary Wharf, we added a Fosterito. So it got a little entrance. Bilbao's very different to Canary Wharf in that the entrance is at Canary Wharf.

We're all about really the, the, the geometry of the entrance is a canary wharf, we're all about spreading light and daylight inside. So the aperture in the, in the, in the roof is actually quite small, the glass aperture, but it's, of course, it's the curves that spreads the light. Down across the escalator.

This is much deeper hole because you're going through, uh, I think it was 2.5 m of concrete roof, um, down into the ticket hall. Um, and so those, you know, the glass entrances there were very much for, uh, for the capacity of the station to bring daylight down into the ticket hall. In Bilbao, the entrance had been designed because of the, the, the, the Fosterito that we do, we created there.

was generated by the fact that it was a board tunnel that came to the surface and the board tunnel got squeezed as it came out onto the pavement and that

formed a shape. Um, but when we had to, at a late stage, add an extra entrance to Canary Wharf, the Fosterite fitted in perfectly with the other two big, big entrances.

The sunlight does penetrate right down onto the platforms. Um, and that was always seen that that would do that. At the time, I think when you, what's really interesting now looking back, is the fact that at the time when we built those glass entrances, um, the idea, the sort of CAD technology, the, the computer technology available to calculate geometry and so on, was all very early days.

It was still early days, really. I think in the office, we, in the office here, we had three computers at that time. And, um, and people, there were three guys who sat at the computers with digitizers and everything else was still hand drawn. So we were trying to work out how to build those canopies. Um, there's, uh, 96 different glass panels.

And they're curved in two directions in the canopies. Um, and it was very interesting because again, glass technology wasn't really there to produce the sort of laminated glass panels that we needed. And in the end, we found a company down in, in Italy, um, who, um, who were makers of windscreens. And they had technology that they could do a double profile curve.

And it was, it was, uh, then that we were able to manufacture the glass with a double, double curvature, which I think that was the first time anyone had done that. So the technology in the glass was way ahead of its time and the, and the, and the sort of getting in there, you know, to produce those things.

to produce the geometry of those domes at a time when there was really, the computer system was only really up and beginning to develop into a sort of three dimensional, the sort of three dimensional route that we see today. I think the sense of arrival at Canary Wharf, um, what's interesting is there's two arrivals.

One is when you arrive on the train, and, you know, the daylight is an enormous component. It draws you up to the surface. Um, and we'd been, you know, We'd looked at a lot of studies about human, um, sort of, uh, perceptions of going underground and the, the perception of burial. And actually that by introducing daylight in and the people come off a train and they look up and they see, see the daylight that draws them up to the surface and people feel more comfortable.

So that was a huge, huge thing from the arrival point of view from the train. And then you move up through the cathedral like space. But then, of course, the arrival into the station. Um, where you drop down the escalator to this vast 10.7 meter high cathedral, which is structural engineering, you know, civil, true civil engineering.

It's big concrete, you know, um, uh, big engineering, and it's just exposed. And that was always our vision, you know, we weren't going to put tiles on the walls, we were going to do big engineering, and that's what I think we did. It was always, it was, it, it's always been a, um, a sort of dictate of the, of the, of the practice here that, um, we don't design things that aren't needed.

We don't do decoration. We do things that are needed. We do, we put what's needed in a building and that's what the building is. And, you know, the building design is driven purely by function, by passenger flows, and by the need for engineering. And, you know, you build a big box like that in the ground, engineers for years in cut and cover stations have dug the hole for the box, put the platforms in.

Connected to the surface with a, with a, with a tunnel connection and then poured soil back on top and buried the box again. We couldn't do that because we, we said, well, if you, if you're digging this huge hole, you've got to keep the hole. But of course, this hole is as big as Canary Wharf Tower. Uh, one can of the square is, will fit inside the hole.

Um, I think it's, uh, it's 395 meters long. That's pretty cool. as a box in the ground, which it, it wanted to float like a boat. Um, so there were 186 friction piles, uh, which were drilled deep into the ground below the base slab of the building to hold the base of the building in the ground and to stop this thing from floating out.

And throughout the whole construction process, we were pumping away all the water from around the building in order to stop the flotation of the, of, of the building. And then it was only when you got the, the big concrete slab on top of the roof and, uh, it was a combination of the, the, the self weight of the slab on the roof and then the, um, the friction piles on the base slab which held the whole thing down in the ground.

That's it. No engineer would ever have built that space. No engineer would have ever built that space. And had it not been for Roland Paoletti saying, No, we can create a piece of architecture here. Why don't you create a bit of architecture? We won't tell the engineers. And, um, you know, the, the, uh, the ticket hall slab is the prop.

So, we have a, we have a whaling beam in the ticket hall slab and that props the walls and, and, and, um, you know, the whole thing is pure engineering, but it isn't what a normal, uh, railway engineer would have done. The normal railway engineer would have dug the box and then re buried it. Um, the point was, we were digging a box, so why not capture the air that we were digging?

And make the space airy and big. And if you've got this flow of passengers, this, you know, this peak of a hundred thousand going through it every morning and

every evening, then, um, uh, you know, uh, people feel better if they've got space around them. People feel less buried. So we pushed the engineers and we made it difficult for them.

And, um, and we got what we wanted.

I think, I think the Jubilee Line was a changing point for London Underground. And I think that the Jubilee Line really moved the railway from being a kind of slightly scruffy, seedy place into something that was more akin to an airport. And that the fact that passenger experience was absolutely very high on the agenda.

And one of the things with the passenger experience, and one of the, the, um, going back to the, the melody with a little bit of jazz, um, Roland Paoletti always used to say that, uh, there needed to be a little bit of rhythm that ran through, and that little bit of rhythm, was the common parts of the station.

So the speaker systems, the camera systems, the platform edge doors, and they developed, and we, we were very much involved with the platform edge door. Um, which was slightly frustrating at the time. In a way, in a way, it was as frustrating as the escalators, because, uh, in, in, in Bilbao, we'd used, uh, glass sided escalators and the latest technology.

In London Underground, uh, the escalators were specified that they would be the London Underground standard escalators, which been designed back in the 1950s and that was what they could maintain. And that was what they, they, they tested them for robustness and that was what they were going to have.

Platform edge doors was a completely new thing. And, um, yeah, in Hong Kong platform edge doors had already been introduced and they were working. And the interesting thing about the platform edge doors out in Hong Kong was that they sealed. The tunnel, uh, which kept the brake dust off the platforms, which kept the platforms cleaner.

Um, but also they allowed, they, they allowed the, the train air conditioning systems to work. Um, but, but when we came to, uh, look at the implementation in London Underground, um, there was a requirement because of train fires that they wanted the, uh, platform edge doors to be open. To deal with the, uh, piston effect coming through in the station to alleviate, um, the danger of fire and we had to have a smoke hood over the, over the top of ours to, to control smoke and hold smoke if the train was on fire.

So, um, they never got sealed, um, which was a shame because that would have solved a huge amount of issues with brake dust. and, and the cleanliness of the stations. However, the stations are much cleaner. And I think again, you know, we broke all the rules because London Underground, for example, on, on their

roundel size, they had specific rules over the size of a roundel that you could have.

At Canary Wharf, if you look at the seats on the platform, you'll see the roundels are bigger than anywhere else on London Underground. And the reason for that was we said they had to be bigger because the station was bigger. Um, and um, and I think it was all a combination of these things. And actually looking at quality, looking at the quality of the systems that were being put in, that then lifted the whole quality of the Jubilee line.

And, um, you know, it was really, uh, you know, it was driven by architecture. It was driven by product design. Um, and, and it's always very difficult with products because there's always a tendency for products to get out of control in terms of what they look like. And there are many, there were many examples on London Underground where there were chocolate machines and there were crazy information points that had been designed by independent product designers who obviously wanted to make something of their design.

And Roland and his team worked with us very hard to actually almost dumb the product design down to something that was almost timeless and simple. Because if it was timeless and simple, then it wasn't arguing, it wasn't shouting against any the architecture and therefore it wasn't affecting. this tune that was running through all the stations.

It was just a little harmony that ran through and that was how Roland always described it.

On top of the station there was always a park. Um, the park was always planned. Um, the, the situation was we needed the park because we needed the weight of the soil on top. Um, it wasn't a station that was designed with air rights. In, in, in the future, it wasn't, it wasn't to have a building built over it.

Some of the stations on the Jubilee line, Bermondsey, for example, um, uh, they were designed to actually take structures on top. Um, Canary Wharf wasn't, but we needed the park as part of the, part of this process of holding the building in the ground. It was also part of the overall master plan that Canary Wharf was going to have this public park.

Now into the park, we're going to come the. The entrances that dropped everybody into the park and it became an amenity. Um, the park over the, the park originally was quite a flat park. Um, uh, after the station finished and more money became available, there was more topography, more, um, uh, more elements added to the park than there were, um, in the early days, um, but, uh, and those were added by, by Canary Wharf Limited later, which was great.

You know, it was a great thing to see. I think the other thing that, um, is very interesting is the lack of signage in the station, which was something else that we fought for. Because, you know, London Underground was confusing. It was a confusing place. It had too much signage. And signage, the signage manuals were completely mad and didn't look at buildings as, as, as, or didn't take account of what the buildings were.

And again, if you create a great big box that you could see the surface through and you can see when you enter it where the trains are, you don't need much signage. And so Canary Wharf, the signage became very much reduced to the freeze, which runs along the wall, which was the, the traditional way of signing in the underground.

Um, but we try to, again, control as much of the signage as we possibly could. Yeah, I think, I think, um, what was interesting was that Canary Wharf was, um, it wasn't the first building that the practice had done in the UK. Um, obviously the practice had been going a long time already and, and, um, but, um, and, and, but it was the, the sort of first major project that we'd done in the UK following the Hong Kong and Shanghai Bank.

And, um, And that was, that was really, I think, quite important for the practice because it was a significant moment in time where there was suddenly a real, a really very important building in London. Um, and it was, uh, it was, it was a project that I think lots of other projects sprang off of. in the period that it was taking to construct, but, um, you know, the practice changed, uh, rapidly through that period, um, with things like Swiss Re occurring and, uh, and, uh, obviously next door city bank and, and then HSBC, uh, the European headquarters there.

Um, and, um, you, you know, it was, it was, it was a stepping stone in the history of the practice. I think we brought, we, I think a lot of. I think a lot of the open thinking from the office has always come from outside of the country, and, and, you know, the, it's because the, because the practice has been, uh, always focused internationally and, and not just locally, that, um, we've been able to, Produce some of the buildings that we've produced and I think yes, you know, it's that experience of working widely that actually affects what you, what you eventually achieve.

I think what's interesting is I think that Canary Wharf set a benchmark, uh, for railway developments. And I think the Jubilee Line particularly, um, set a benchmark, which will be very difficult to beat. Um, we've got Crossrail on the way now, but I think that, uh, you know, Jubilee Line set a new standard. And that was very important, um, and not only in, in the UK, but elsewhere.

And we've gone on to build other major railway systems. Um, around the, around the world, you know, Singapore, uh, following Canary Wharf, we went on to build in Singapore, uh, on the, on the MRT, uh, on the, um, Land Transport, with the

Land Transport Authority out there, um, uh, and again, where they began to think it before.

Before Canary Wharf, they weren't particularly thinking much about architecture. They were thinking about, um, engineering and running a, running a metro system. Um, after the Jubilee Line, people started to think about architecture and, you know, uh, the MRT in Singapore has changed. Architecture, you know, architecture is now, you know, Been introduced more and more into the system there, um, and elsewhere in the world.

Um, we, we're seeing that, that change. And, and I think, you know, that was, uh, that was a very important point. I think also, um, one other thing just to, to, to mention, to close is that, um, you know, uh, Roland once said to me, he said, you know, the reason the Olympics came to London. was because we built the Jubilee line.

And it was actually because the Jubilee line made it possible to move from Westminster to Stratford in 13 minutes. Um, that was a huge piece of our, our bid for the Olympics. And, um, I think it did have a major influence on, on, on that coming to London, which was a great thing.

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