

Power Station

Nina Rappaport talks with Jacques Herzog about his firm's transformation of an abandoned London power station into the Tate Modern, while Sara Hart gets under the building's seamless surfaces.

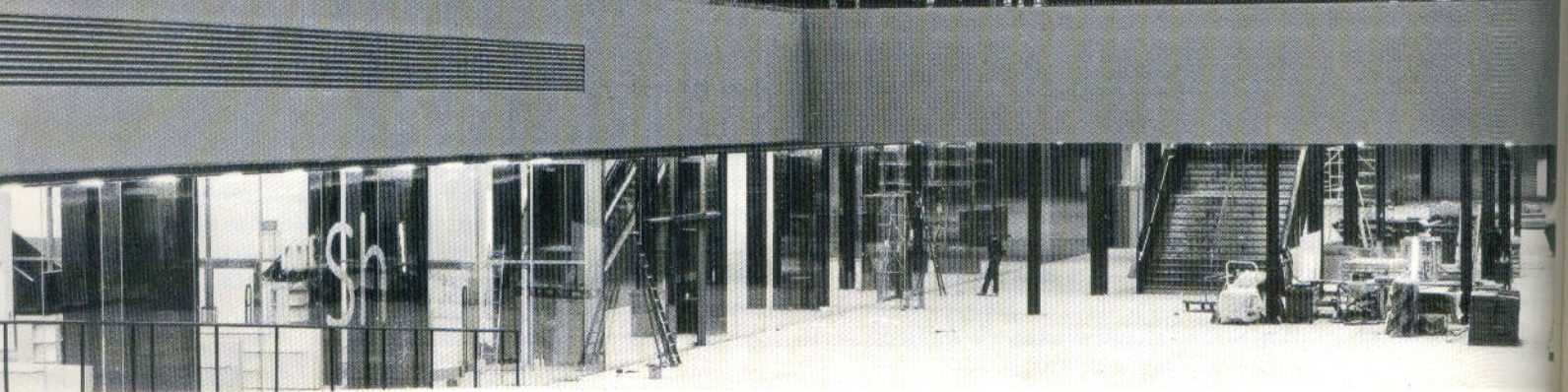


The new Tate Modern, London glows in the dark, inside and out. Fueled by many thousand points of light, the two-story “light beam” that runs 500 feet across the museum’s roof will signal the home of one of the world’s most important modern art collections when it opens this month.

By 1992, the Tate’s three primary venues could contain neither its expanding collection of 20th-century art nor the swelling crowds drawn to it, so the trustees went in search of a central London site on which to erect a new building. Two years later, they were offered an option on Bankside Power Station, a massive brick-clad steel structure sprawling ponderously across 650 feet of coveted real estate on the south bank of the River Thames, directly across from St. Paul’s Cathedral. Designed by Sir Giles Gilbert Scott, architect of university libraries at Oxford and Cambridge and designer of the famous red British telephone box, the station was built in two phases between 1947 and 1963. Except for a small electrical substation still in operation in the rear of the building, the 370,000-square-foot, oil-fired plant had languished unoccupied on its 8.5-acre site since 1981.

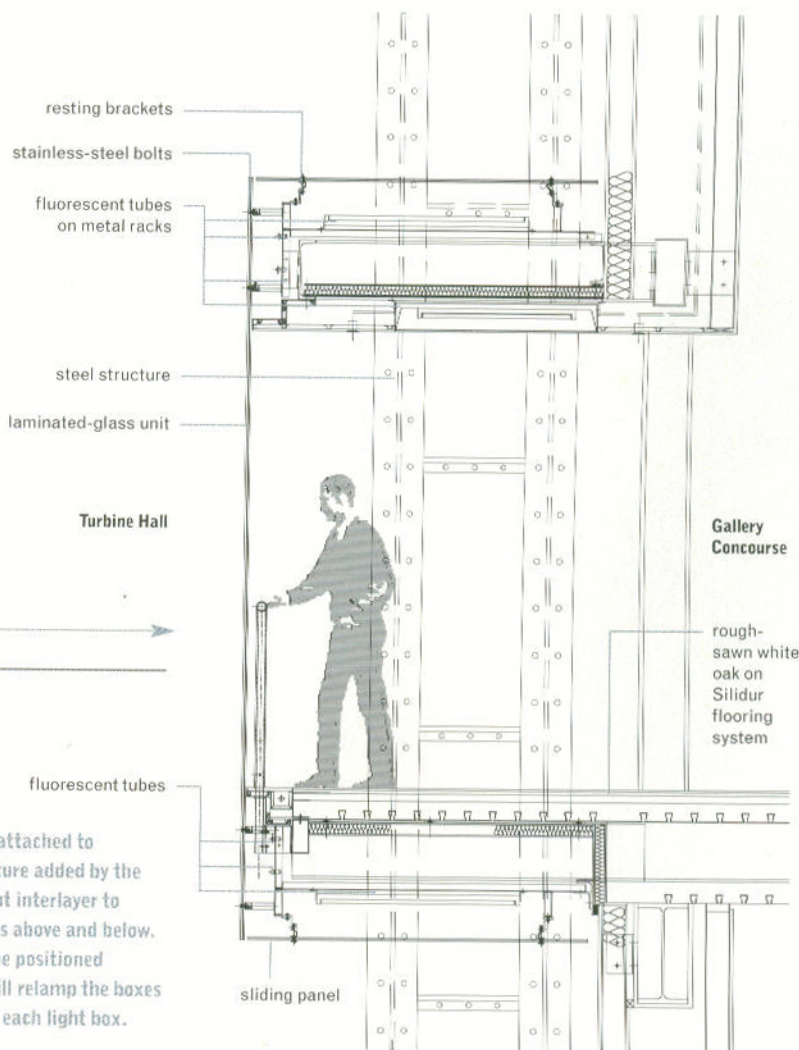
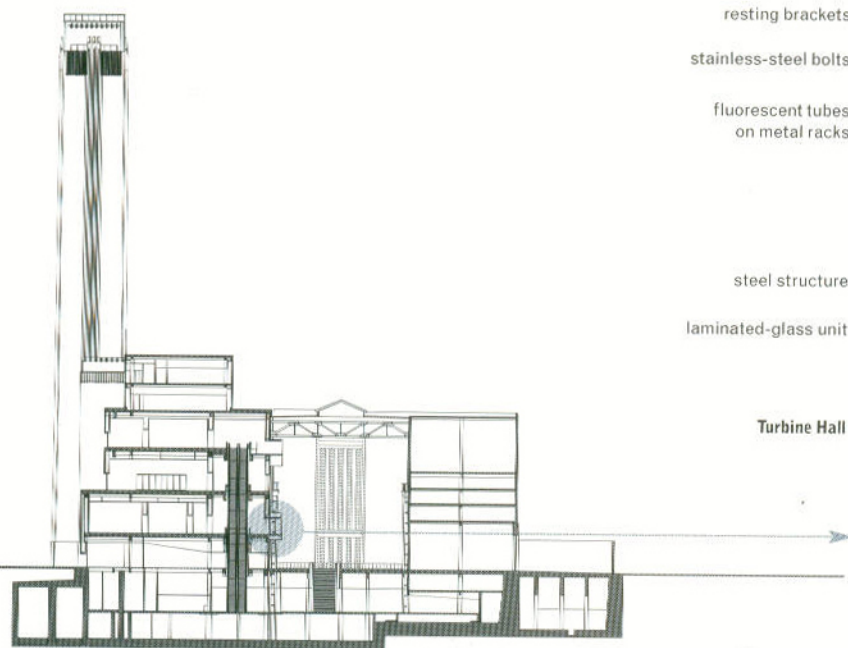
In 1994, the Tate sponsored an international design competition for the conversion of Bankside, which drew 148 entries from around the world. The Swiss architecture firm Herzog & de Meuron won the design competition, its most complex commission to date, with a scheme that uses light to transform the dim cavernous shell of the station into a remarkable stage where art prevails. This legerdemain resides in the firm’s signature minimalist detailing, which *Architecture* now reveals for the first time in any publication, along with an exclusive interview with Jacques Herzog. *Sara Hart*

Swiss architect Herzog & de Meuron envisioned “a huge body of light” hovering above the heavy brick structure of Sir Giles Gilbert Scott’s Bankside Power Station. The two-story glass structure they added atop the station serves as a skylight for upper-level galleries during the day. At night, lights within the beam turn it into a beacon. An as-yet-unfinished restaurant (above) on the top floor of the light beam offers patrons a spectacular view of St. Paul’s Cathedral across the River Thames.



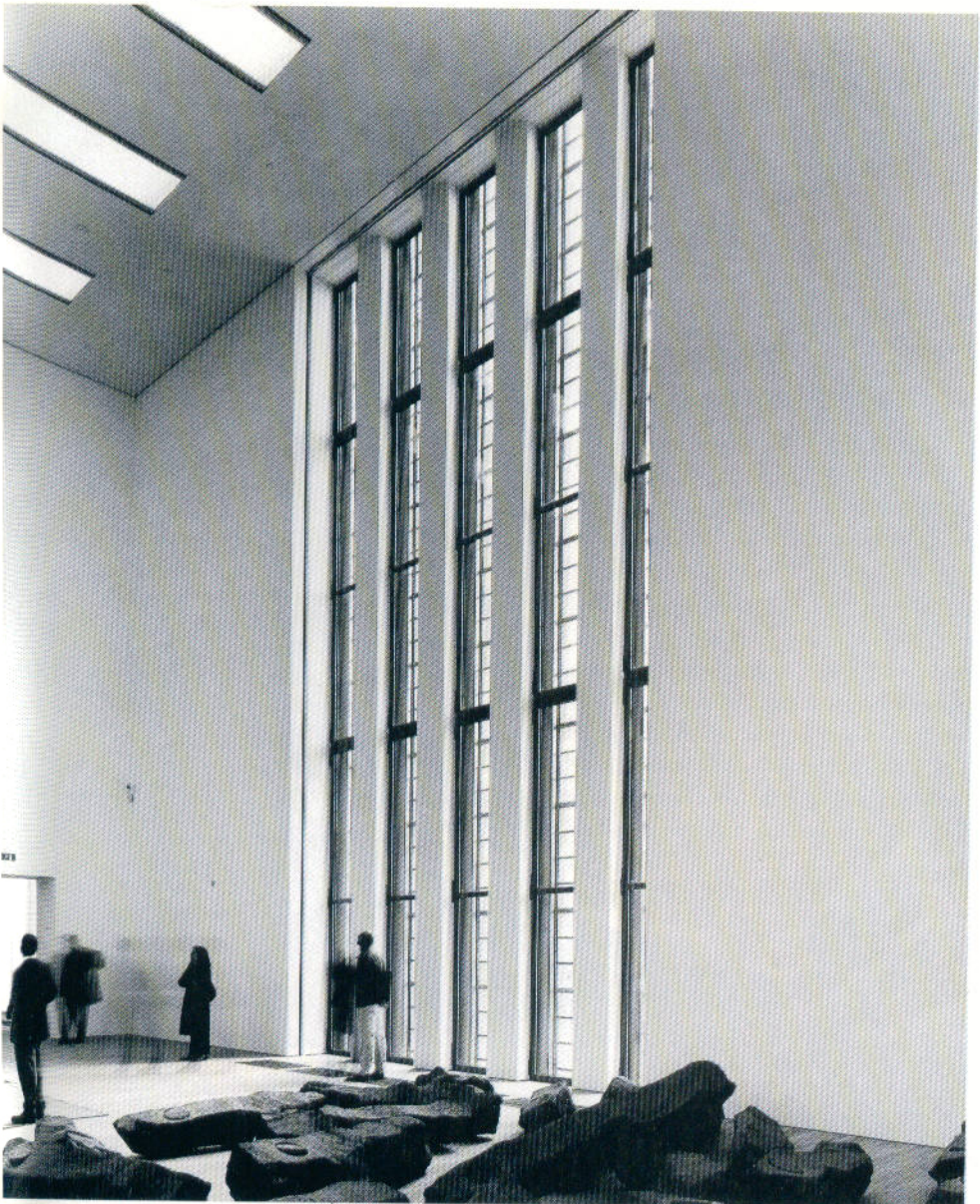


Herzog & de Meuron lowered the 500-foot-long floor of the power station's former turbine hall, and added a skylight 100 feet above to create a vast new lobby. Visitors descend a ramp from ground level to enter through the building's west facade. Three levels of galleries flank the north side of the hall; a switching station still occupies the south side. Four glazed balconies, glowing with 2,800 fluorescent tube lights, project into the space from upper-level concourses outside the galleries. Herzog & de Meuron retained an original gantry crane, which moves the length of the hall for use during construction and for the installation of large-scale art. The architect left white oak floors unfinished in the galleries and concourses (left), counting on visitor-created footpaths and wear to maintain the industrial feel of the space.

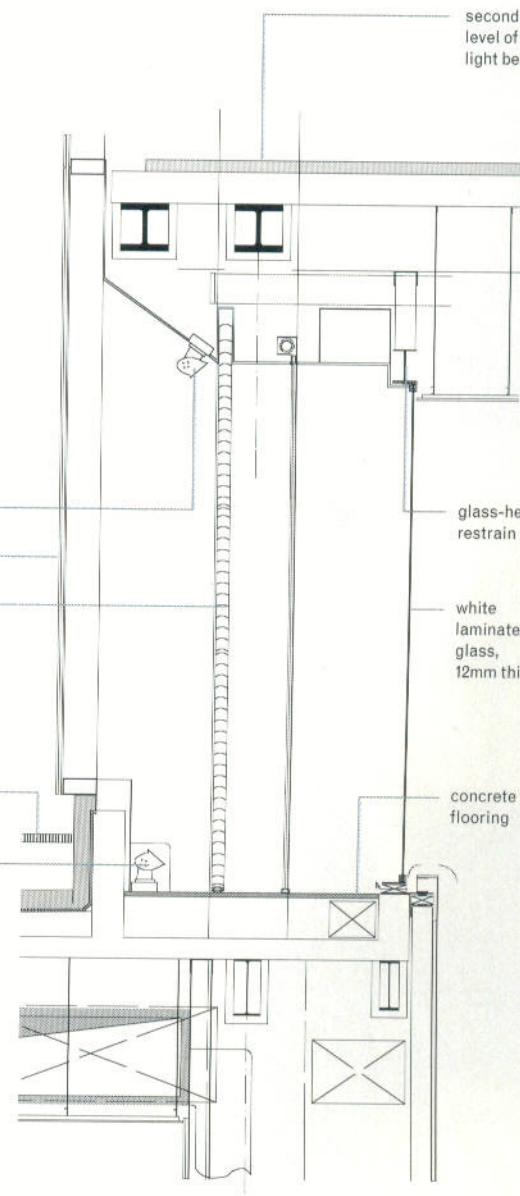
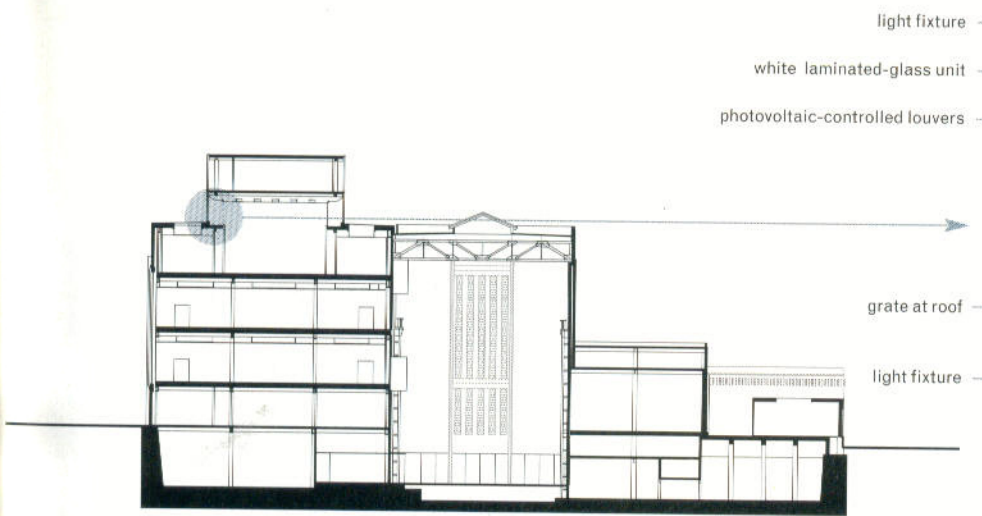


The turbine hall's light boxes (section detail, right) comprise laminated-glass panels attached to resting brackets with stainless-steel bolts; the brackets are bolted to a steel substructure added by the architect. [See caption, page 155.] The tempered-glass panels sandwich a transparent interlayer to open views along balconies, and a translucent interlayer to mask the fluorescent lights above and below. Full-scale mockups helped the architect determine that the fluorescent tubes should be positioned 23 centimeters back from the glass to keep them out of view. Maintenance workers will relamp the boxes from a cherry picker in the turbine hall via removable panels on the top and bottom of each light box. Side lights are accessed through doors within the boxes.





Gallery spaces vary in size and proportion, but all are at least 5 meters tall. A double-height gallery (left) incorporates Scott's original, 12-meter tall cathedral windows; to filter artwork-damaging light and heat, the architect added an second, inner layer of insulating windows. Two other double-height galleries, at the east (facing page) and west ends of the building, extend 9 meters from the fifth floor into the first level of the light beam (see building section below).



The architect performed a sleight-of-hand maneuver within the light beam to control the daylight that enters the galleries, where it acts as a clerestory. Two walls of white laminated, low-iron glass separate a 2-meter passageway (sectional detail, right) that contains photovoltaic-sensitive blackout blinds and louvered shutters. Artificial lighting between the exterior layer of glass and the louvered shutters makes the light beam glow brightly to the outside world.



NINA RAPPAPORT: HOW DOES THE TATE RELATE TO THE WORK AND PHILOSOPHY OF HERZOG & DE MEURON?

JACQUES HERZOG: We realized very soon that the Power Station is not beautiful, but it is real and stands in front of you like a rock. You can't fight the building, or make it invisible. So we decided to transform it by other means, in a softer way.

The way we place something, we reveal the quality of what is already there. This is the strategy in the Tate—the way you walk into or through something makes you aware of it. The ramp into the turbine hall does that, and the light beam does it with the tower. It is not a dialectic approach like Carlo Scarpa, where he pushes sharp metal against the old walls. We wanted to create a new entity composed of old and new elements.

YOU ACHIEVE THE MAXIMUM EFFECT WITH LIGHT AND MINIMAL FORM.

We use light like a family, or a language, throughout the building. The light box on top and the glass boxes inside are mostly immaterialized; ideally, they are only light. The boxes [in the turbine hall] are in front of the steel structure, physical, glowing. They cut through the steel, cut away the dominance of steel and the all-too-powerful verticality of the turbine hall. This was very important because you see the boxes mostly from an angle and you wouldn't see anything new if they didn't come to the front. It has to do with perception and orientation as you walk through the building. We reveal things that are already there, turn them into our own architecture, instead of always designing something ourselves.

HOW DOES YOUR TRANSFORMATION OF THE TATE RELATE TO YOUR PAST WORK WITH ARTISTS AND MUSEUMS?

The Goetz Gallery in Munich and Remy Zaugg's studio are in a way prototypes for gallery spaces at the Tate. You can't always reinvent and do new things. Big museums with different kinds of art are more successful with our neutral approach to galleries than with hundreds of gallery types.

WHAT WAS YOUR CONCEPT FOR LIGHTING THE GALLERIES?

In every gallery we have a subtle mixture of natural and artificial light. I like daylight from the sides more than daylight from the top—which is really a 19th- and early-20th-century idea and is overestimated by architects. We used a flush skylight that we had developed for Zaugg's Studio. It goes well with the building. We wanted everything to be connected. The galleries are connected to the walls and the windows so that spaces look as though they had always been there. But there is not one floor level that was there before; all the levels are new.

THE WOOD FLOORS ARE BEING LEFT UNFINISHED.

The floor is the most outstanding element. The Power Station is a huge, almost brutal building. To have something that is so soft and sensual is not normal; it is abnormal. There is something archaic about it, when you place a Picasso in such a simple space with a wooden floor and view of London. This wooden floor is really rooted.

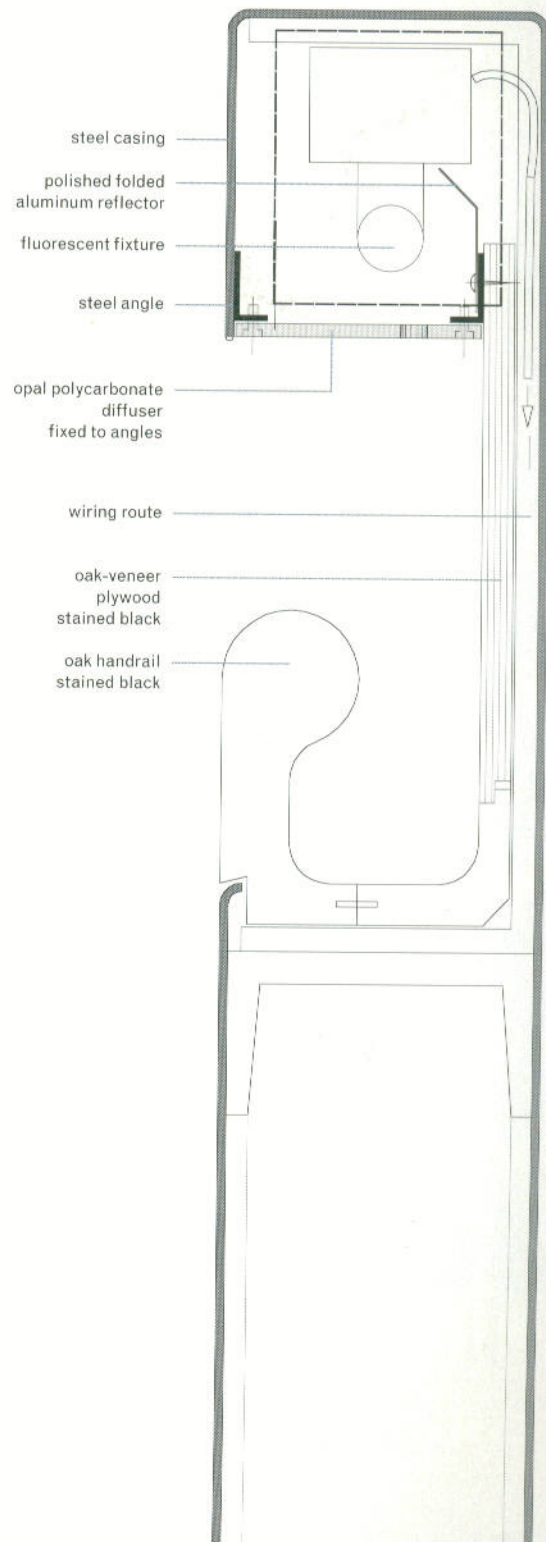
IT COMES BACK TO THE NATURAL.

To the most evident and normal things that people like and have, which are our senses. The building is so big and has so many impressive spaces, but it doesn't make you fly away. It has elements to root you and hold you back, so that not only are the size and the proportions of the spaces varied, the materials also have unexpected tactile qualities.

LIKE THE HANDRAIL OF THE MAIN STAIR WITH ITS HANDHOLD SLOT. YOU WANT TO ENCOURAGE PEOPLE TO TOUCH THE BUILDING.

Exactly. When you touch the black-stained wooden handrail, it is not cold steel. It is not back to the natural; it is back to your self. You stand, you sit, you touch, you look, you smell. It is neither old nor new; it is, I hope, contemporary. The bigger cities are, the bigger museums are, the more we have to be basic. This is what we tried to be. This is why Herzog & de Meuron's work is not about style; it is about how people live today.

A steel-faced staircase (facing page) connects the three levels of galleries.



A slot of space cut into the side of the stair doubles as light source and handrail (detail section, above). The architects tucked fluorescent tubes under the lip of the metal. The black-stained wooden handrail, like the rough-hewn floors, lends visitors a reassuring moment of tactility.





TATE MODERN, LONDON. CLIENT: Tate Gallery, London **ARCHITECT:** Herzog & de Meuron, Basel, Switzerland—Jacques Herzog, Pierre de Meuron, Harry Guggler, Christine Binswanger (partners-in-charge); Michael Casey, Thomas Baldauf, Ed Burton, Victoria Castro, Emanuel Christ, Peter Cookson, Adam Firth, Nik Graber, Konstantin Karagiannis, Angelika Krestas, Patrik Linggi, Yvonne Rudolf, Juan Salgado, Vicky Thornton, Hernan Vierro, Kristen Whittle, Camillo Zanardini, Irina Davidovici, Liam Dewar, Catherine Fierens, Matthias Gnehm, José Ojeda Marlos, Filipa Mourao (design team) **ASSOCIATE ARCHITECT:** Shepard Robson, London **LANDSCAPE ARCHITECT:** Kienast Vogt Partner **ENGINEER:** Ove Arup Partners, London (structural, electrical, climate control design, sanitary planning) **CONSULTANT:** Davis Langdon & Everst (cost) **CONSTRUCTION MANAGEMENT:** Schal **COST:** \$211.5 million **PHOTOGRAPHER:** Hélène Binet.

The light beam (opposite) is wider than the structure of the building, so its weight is carried on a transfer beam supported by a new 10-by-10-meter structural steel frame, added within the original shell so that the station's brick-clad steel perimeter frame (above) now carries only its own weight. The Millennium Bridge, designed by Norman Foster and Partners with sculptor Anthony Caro, currently under construction, will provide a five-minute pedestrian crossing between the Tate Modern and St. Paul's Cathedral on the opposite bank of the Thames.