

ASK

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RADICAL NEW DESIGN IDEAS



THE SLENDER BEAUTY WITH MYSTIC HEART!

Standing among the neighboring skyscrapers, the 101-floor Shanghai World Financial Center crosses the surrounding heights and challenges its friends with its slender form which some must have thought would be a serious threat. And yet, the structural system implemented by Leslie E. Robertson Associates (LERA) put the slender form of beauty, created by Kohn Pedersen Fox Associates, into actual reality and confident stability. But the engineering challenge was not all that has given the SWFC its great success; it's also the tough equation of mingling the high tech architecture of the building with tonychi and associates' creation of Chinese mystic interiors.



Drawing courtesy of **Kohn Pedersen Fox Associates**

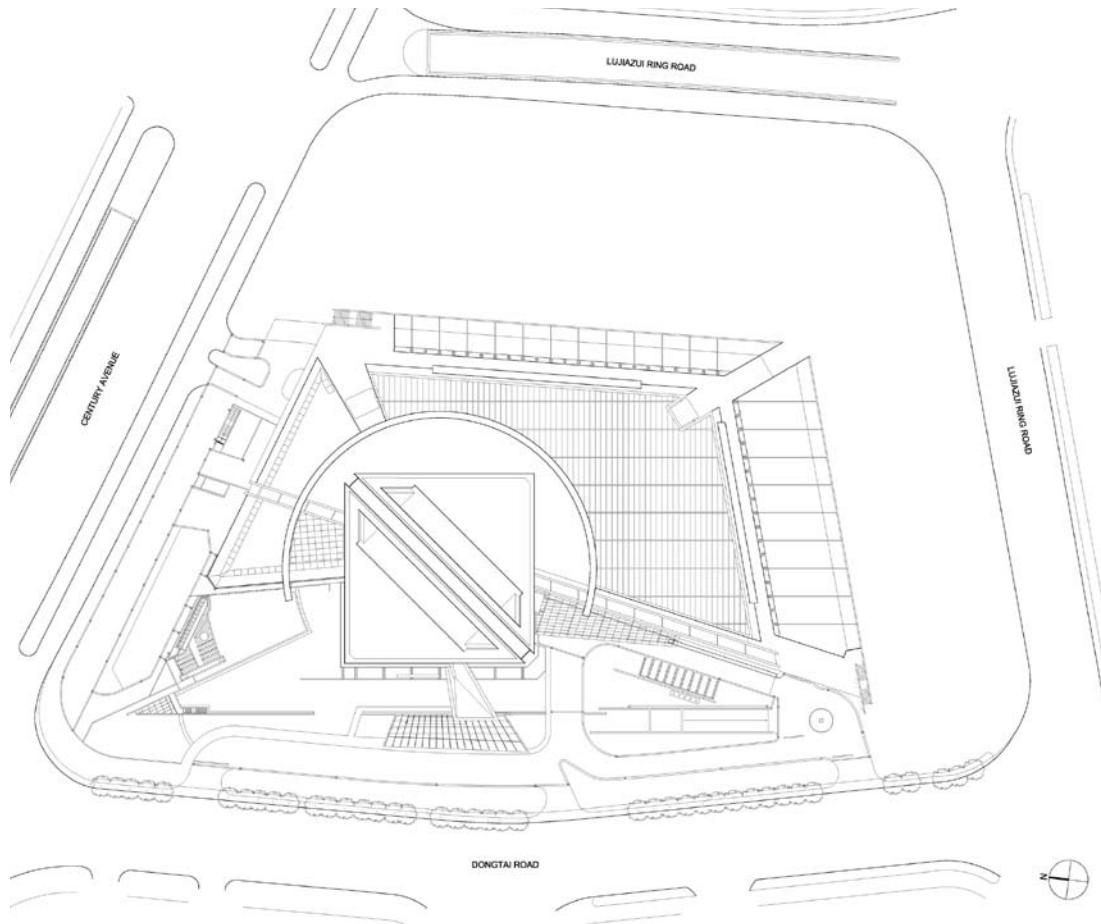


Image courtesy of Mori Building Co. Ltd.



The SWFC architectural form was inspired from the ancient Chinese culture with a square prism, (representing the earth) coming up in the sky to intersect with two cosmic arcs (representing the heavens). While the building begins with a squared layout, as we go upwards we gradually meet with two new symmetric surfaces (formed by the arcs) that transform the layout into a non-equilateral hexagon. And hence, by exploring the form; it's clear that no floor amongst the 101 is like another!

The vacant trapezoid at the head of the form adds an aesthetic value to the tall building while also reducing wind pressure. It was originally designed in the shape of a circle, representing a moon gate; which is an ancient Chinese icon that's widely used as a garden entrance, but Pedersen's Japanese identity created controversy amongst the Chinese public as whether their designed circle was actually symbolizing the Japanese sun. And hence a trapezium shape was made to please everyone!

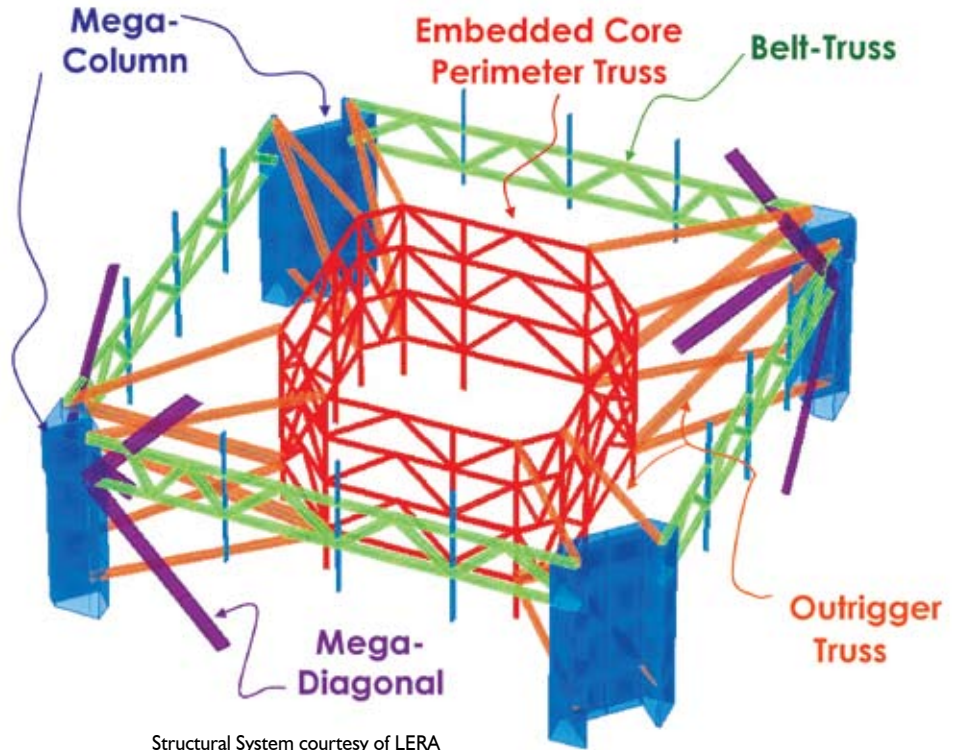
As for the closure of this trapezoid, way up at the top, it's not just a simple cuboid to complete the building form. It's an

observatory floor with reinforced glass flooring; which allows you to watch the city from over 400 meters above the ground. Here, the view of the Huangpu river and Lujiazui district, which is the top finance and trade zone in China, as well as the neighboring public park and super high skyscrapers; are all spread around and bellow-your eyes. And yet, if you don't have the heart for it, you can visit the concrete-floored observatory bridge on the 97th floor which is beyond 30 meters lower than the glass-floored one but has an interesting engineering trick with its operable ceiling that brings the view from the top along with a splash of fresh clean air!

Image courtesy of Mori Building Co. Ltd.



Image courtesy of Kohn Pedersen Fox Associates



Structural System courtesy of LERA

But how is this slender beauty actually standing still and how did it come to life? When Mori Building Company, the project owner and developer, asked Kohn Pedersen Fox to work on the design of SWFC, it was actually back in the early 90's. The project was paused during the construction phase; due to the Asian financial crisis and when the issue was tackled again, Mori had aimed for expansion!

The challenge was in implementing the expansion; represented in a 32-meter higher altitude and a 3.8-meter wider girth, after the piling had already been constructed. In order to do that, the building had to be lighter in weight than it was planned to be or else the piles wouldn't take the weight. And so the decision was taken that the building core made of concrete walls, which enclose the building's common services and act as a basic structural element; would have to be reduced.

But how would the slender beauty stand against the winds at that great height and with its new light weight? LERA found the solution in trusses that would connect the structure of the building's outer skeleton to the inner concrete walls





by connecting the walls' perimeter steel truss to the skeleton's mega columns that are actually filled in with concrete and to which attached are 12-floor high mega diagonals; also filled in with concrete. This system represented maximum

stiffness which LERA had accomplished while considering all possible threats of earthquakes or hurricanes and even taking into consideration the movement of the earth!

The structural diagonals support at the end of each set of 12 floors a refuge floor. These floors act as separators; adding an aesthetic touch to the building's façade, whereas a retail complex, present at the foot of the building; gives the 3D form extra visual elegance. This complex, which is accessed from the ground level, continues down and hosts the parking under it and continues up towards the slender form. As we go up from the retail floors, we find forum halls and then office spaces. These occupy the building from the 7th up to the 78th floors and are entered from a double leveled lobby which connects to the retail complex. And then higher above comes the Park Hyatt Shanghai hotel to host at the 91st floor its elegant three-floor restaurant; above which lies an arena for exhibitions.

The observatory on the 100th floor with glass ground. Image courtesy of Mori Building Co. Ltd.



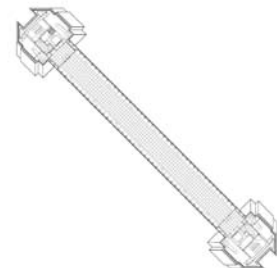
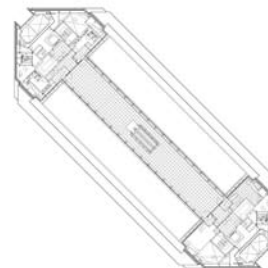
Entrance to office spaces (The double-leveled lobby). Photography by Tim Griffeth



Floor plans of office spaces (The lower floors with squared layouts and the higher floors with hexagonal ones).



Hotel floor plans (Left: hotel rooms, Right: the 87th floor hosting the bar, the living room and dining area).



Plans of the 94th floor hosting the sky arena space for exhibitions and the 97th and 100th floor observatories

Drawings courtesy of Kohn Pedersen Fox Associates

Inside the Park Hyatt, tonychi and associates have paid much appreciation to the building's steel/glass facades, and succeeded in secluding the residents inside the hotel's mystic Chinese ambience; which was designed with two basic elements in mind: quietness and a feels-like-home experience. Initially, an 18-meter high entrance pavilion leads to the reception desk behind which lies a watercolor painting by the artist Paul Ching-Bor showing Shanghai in warm welcoming colors. And unlike hotel lobbies which crowd with passengers and guests, the space here is very quiet; inviting you to take the elevators up through a passage that hosts a sculptural mural and is lined with walls of timber slates; holding between them silver groves which carry glass; hence giving interesting glitter to the walls.



Hotel entrance and lobby with the Shanghai artwork.
Photography by Marc Gerritsen



Private meeting/dining on the 86th floor.
Photography by Michael Moran

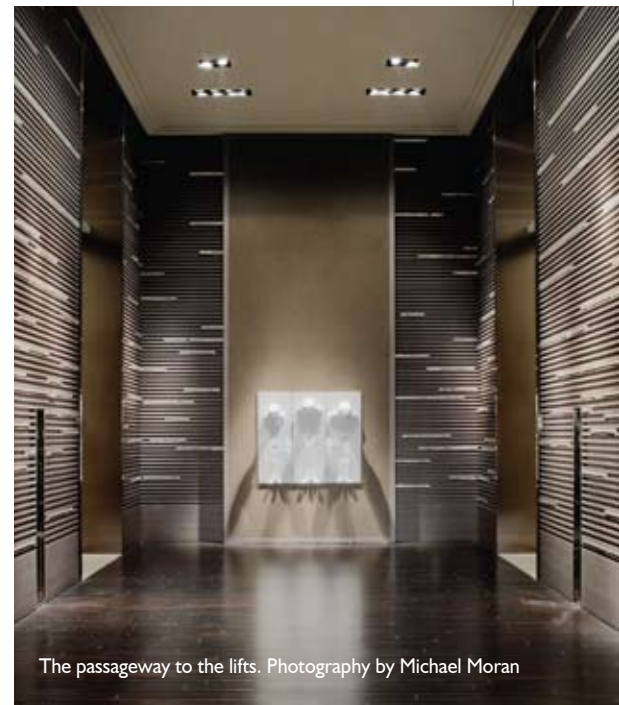


The fitness center and water pool on the 85th floor.
Photography by Michael Moran



The elevators take the guests to their rooms, or higher to the 85th floor; where an edgeless water pool is 3-sided by teak wood with the edgeless side facing the Shanghai sky. It is worthy to know, that amongst the SWFC's engineering perfection was making the necessary measures to maintain the water's perfect sheet-like surface despite the building's slight sway at the 85th floor's height!

At the 86th floor, lie elegant meeting rooms-which could also work as private dining- where hydraulic lighting fixtures are possibly lowered down to shed the light over each table and create an intimate atmosphere. The hotel lobby is on the 87th floor acting actually as a "hotel living room" with low comfy armchairs covered in linen; contrasting with which are black lacquered tables



The passageway to the lifts. Photography by Michael Moran



The suite living area with entrance court.
Photography by Michael Moran



The dining room showing the ornated glass partitions.
Photography by Marc Gerritsen

topped with a ceiling lacquered in white with rectangular groves of yellow light. The “hotel dining room” also lies here and is divided into two main sections; one hosting wooden armchairs with cushions of dark orange leather and ornated transparent glass partitions, and the other—more formal—one hosting white upholstered chairs with white or dark orange sofas in sets that are partitioned with white yellow-lit walls. Additionally, the bar—that wasn’t initially planned to exist—was successfully carved out of space on this floor and has a warm ambience with its earthy terracotta walls and cozy terra cotta leather arm chairs.



Living Room on the 87th floor.
Photography by Michael Moran



The guestroom sleeping area with sky view.
Photography by Michael Moran

Between the 91st and the 93rd floors, lies the "100 Century Avenue" restaurant with the higher two floors suspended over the 1st; giving interesting interior views especially with the presence of a huge installation artwork suspended from the 93rd floor's ceiling and looking down on the 91st floor's ground.

If you go further upwards you will reach the observatory on the 97th floor or the much higher glass-floored one on the 100th. And if you go downwards, you'll find the suites located on the 88th floor and the rooms between the 79th and 84th; where all the beds are directed towards the view of an irresistible sky at such elevated heights. The living area of the room feels like an actual small living space at home- enlarged of course in case of the suites- and as for the bathrooms; the tub gladly stays next to the sky; whereas the suite bathrooms have pampered Chinese baths where you can stand-or sit-under a rain shower. For each bedroom, a small court paves the way to the inside; creating

The guestroom bathroom with tub next to the sky.
Photography by Michael Moran

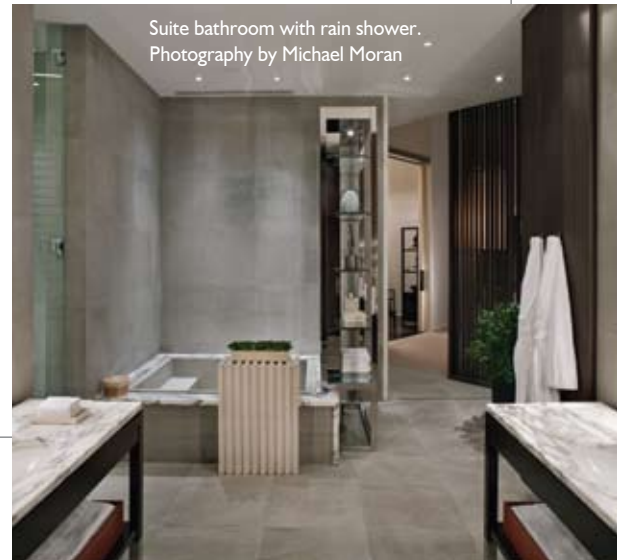


Suite bathroom with tub and sinks.
Photography by Michael Moran



Suite bathroom with rain shower.
Photography by Michael Moran

perfect seclusion where there would be no need for a "do not disturb" note since every room hosts a housekeeping cabinet as well as a hot/cold mini bar; eliminating the need for room service or any kind of disturbance to the rooms or corridors of the Park Hyatt Shanghai sanctuary.



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