The Height of Ambition: Part Three

September 8, 2002
The Height of Ambition: Part Three
By JAMES GLANZ and ERIC LIPTON

inoru Yamasaki was sure there had been a mistake. Yamasaki, a Seattle-born architect, had designed only one high-rise office building, the 28-story Michigan Consolidated Gas tower in Detroit. His small Midwestern architectural firm had never had a single job in New York City. Now, in the spring of 1962, the Port of New York Authority had just sent him an unsolicited letter asking if he wanted to join the competition to design something called the World Trade Center, with a budget estimated at $280 million. Yamasaki, a modest man, was sure it was a typo.

''An extra zero,'' Yamasaki explained to his young staff members, pointing out the error to them as a lesson in the importance of precision in business correspondence. Finally, though, at the insistence of his partners, a call was put through to New York. ''No, sir, this is not a mistake,'' a Port Authority official said, as Henry J. Guthard, then the director of operations in Yamasaki's office, remembers it. ''We do have a project of that size.''

Yamasaki, 49, lacked the stature, and the ego, of such internationally known Modernist architects as Mies van der Rohe and Walter Gropius. As a reserved son of Japanese immigrants growing up in Seattle, he was called a sissy by the neighborhood boys; as an adult, he was sensitive, introspective, small and delicate: he had a bony face, thin brown hair and a skinny build. Weakened by a battle with bleeding ulcers that nearly killed him in the mid-1950's, he took long trips through Asia and Europe to try to rebuild his strength, journeys that left him with an original, but somewhat conflicted, aesthetic sensibility. He was a Modernist, enamored like many of his contemporaries with the sleek new materials and minimalist techniques that defined van der Rohe's ''less is more'' philosophy of skyscrapers. But he had also fallen in love with the romantic, rhythmic arches on the Doge's Palace in the Piazza San Marco in Venice, the curves and vista of the Taj Mahal and the austere elegance of traditional Japanese gardens.

Tozzoli had seen a hint of Yamasaki's aesthetic journey even before he met the architect. On a visit to the 1962 Seattle World's Fair, Tozzoli walked through the Federal Science Pavilion, which Yamasaki had designed. It featured a contemplative arrangement of interconnected low-rise buildings and a collection of Gothic arches and colonnades, all set around a central courtyard with pools, fountains and flowers. When Tozzoli went to Detroit to interview Yamasaki, the two men met at the architect's Consolidated Gas tower, whose exterior was defined by a series of white marble columns and narrow windows that ran floor to ceiling. The design forced the eye straight up toward the sky, evoking, as Yamasaki explained it, the transcendental aspirations of a medieval cathedral. Tozzoli, for all his uncompromising focus on the practical, could not help being impressed by these compositions. ''This was a guy who really was building more than just space,'' Tozzoli recalls.

Yamasaki's formal proposal argued that his previous work made him uniquely qualified to find ''a beautiful solution of form and silhouette which fits well into Lower Manhattan.'' But there were other, more practical, considerations that helped the mild-mannered Yamasaki edge out his

competition, which included I.M. Pei, Philip Johnson and Gropius. Tozzoli and his evaluation team were not looking for an obstinate aesthete who would try to dictate the terms of the project. The Port Authority -- meaning Tozzoli -- would be calling the shots. Above all else, the winner of this architectural contest would have to follow Tozzoli's nonnegotiable Program.

Yamasaki's official selection, made in August, was marked with a pizza-and-beer party back at his Birmingham, Mich., office. His team of 20 architects and model makers now had to find a way to wrap Tozzoli's 10 million square feet in a package that, as David Rockefeller and Austin Tobin conceived it, would telegraph to the world the economic might and pre-eminence of New York.

Yamasaki started off by canvassing the grid of Radio Row streets: Greenwich, Cortlandt, Vesey, West Broadway, Church, Liberty, Dey. He strolled past the grand Hudson Terminal buildings, turn-of-the-century twin towers that had themselves once been the largest office buildings in the world. He felt little sympathy for those buildings, or for the many others that his project would soon raze. Nostalgic radio buffs might bemoan the loss of the legendary district, but Yamasaki was unmoved. ''It was quite a blighted section, with radio and electronic shops in old structures, clothing stores, bars and many other businesses that could be relocated without much anguish,'' he later wrote. Yamasaki's verdict on Radio Row: ''There was not a single building worth saving.''

Repeated walks around the Empire State Building helped determine another basic choice. It was the tallest building in the world. But when you strolled the sidewalks near its base, Yamasaki noted, you could almost miss it. The trade center would be different. ''There was a wish and a need to be able to stand back from it, to see and comprehend its height,'' Yamasaki wrote. These prerequisites -- which happened to coincide exactly with the Port Authority's wishes -- dictated that the project had to start with a vast empty lot, the interior streets eliminated, and that the building or buildings would rise from a broad, open plaza. But the question of how many buildings, where they would be placed, what they would look like and how tall they would be -- that all still needed to be decided. So Yamasaki's staff built a 10-foot-long dark gray mock-up of Lower Manhattan displaying everything from City Hall to the Battery, right down to the miniature freighters and tugboats on the Hudson.

Almost exactly four decades later, the same technique is being used to decide again what to build on this boxed-in Lower Manhattan lot. A new generation of architects, shuffling a set of eerily familiar models, is wrestling once more with the complex question of what fits and what does not on this riverside plot. In 2002, the vox populi is emerging as the arbiter, forcing the Port Authority to revise early and resoundingly disliked compositions. But back in 1962, it was a much smaller set of critics -- Tozzoli and his staff -- who kept exceptionally close tabs on the progression of Yamasaki's initial work.

Yamasaki's team would circle the scale model, trying out one arrangement after another. His staff would lower each trade-center model into place, and Yamasaki, hands on his hips, would walk around the miniature version of Lower Manhattan like a wary Gulliver. Someone would snap a few pictures to present to the Port Authority, and then an assistant would grab the model, lift it away and replace it with the next candidate.

There was a triplet of slim towers, slightly staggered, reaching just above the height of the nearby Woolworth Building. Next came a cluster of four towers erected face to face in a tight square. Then two long, thick, slablike buildings, running parallel to the shoreline and enclosing, like hedgerows, a modest-size duo of towers. There was even a single,

monstrous, bulky tower on a huge raised pedestal that perhaps represented the ultimate parking garage.

The trouble with many of the World Trade Center arrangements was obvious to Yamasaki. A single tower was just too unwieldy. The long, low slabs created a wall blocking views across Lower Manhattan. The face-to-face towers -- at one point six or even seven towers were considered -- looked too much like a housing project,'' Yamasaki later observed.

On top of his own aesthetic angst, Yamasaki had to contend with constant second-guessing from New York, mostly from Tozzoli and his chief aide, Mal Levy. Tozzoli's demands would ultimately wound Yamasaki's pride so deeply that it affected the architect's already fragile health. ''He would suffer and he would burn and he would smart,'' Henry Guthard says. ''It hurt him physically.'' Yamasaki's answer was to push harder, to demand yet more models, to work his ideas over and over until there could be no question that what he arrived at was correct. It was an exhausting process for both the architect and his staff, who together eventually produced 105 possible arrangements for the trade-center site.

It was while looking over the model, standing on the imaginary Hudson River, that Yamasaki first saw a vision of his final design. Two tall but slender towers, framed by a collection of boxy low-rises, would stand out boldly in a plaza. They should be between 80 and 90 floors high, Yamasaki thought, and if they were positioned correctly -- at a diagonal, instead of right next to each other -- office workers in both towers could have expansive views on all sides. ''Two just seemed right,'' says Aaron Schreier, who led Yamasaki's team. ''In terms of the distribution of the mass, in terms of the elegance of the shafts, in terms of the symbolism.''

The Port Authority bosses liked the look of the twin towers. But Tozzoli growled a simple question at Yamasaki: ''Do they meet the Program?'' The answer was not what Tozzoli wanted to hear. At Yamasaki's proposed height, the towers would contain eight million feet of commercial real estate -- two million short of the goal.

Now it was Tozzoli's turn to shape Yamasaki's sculpture. When he took over the project, he had read a memo written two years before by the Port Authority's public-relations director, Lee Jaffe. If the authority really wanted to build an international landmark, her memo asked, why not erect the tallest building in the world? Tozzoli knew that the Port Authority had the money and the engineering know-how. So why not rub the world's nose in it? Ever since he had read Jaffe's memo, Tozzoli had liked the idea. But only now did he see that the architecture team had arrived at a composition that, without too much tinkering, could be pushed to grab this prize.

''Yama, I have to tell you something,'' Tozzoli recalls instructing the architect. ''President Kennedy is going to put a man on the moon. You're going to figure out a way to build me the tallest buildings in the world.''

Yamasaki's aesthetic compass told him that 90 stories was enough, offering the proper balance between width and height and an eye-catching but not overpowering presence above the rest of the Lower Manhattan skyscraper canopy. But Tozzoli had his architect pegged correctly. Yamasaki was not going to question his marching orders.

Yamasaki turned to technical experts to assure him that something that high could be built, at least in principle. The engineers said they would find a way -- even if they were not sure exactly how yet -- to push higher than he had ever dreamed of going. And so Yamasaki yielded to Tozzoli and offered up the 110-story twin towers. When the final model was prepared, it was so tall that the ceiling tiles in Yamasaki's office had to be

removed.

In the end, the towers were not only big; they were also unmistakable: Yamasaki lined the exterior of his creations with row upon row of precise, narrowly spaced vertical columns that became the trade center's signature motif. But in a bow to his romantic urges, he softened the effect at the base by branching the columns into Gothic arches. The buildings would earn the Port Authority, and New York, a global profile that could not be matched. And perhaps most important of all -- with two 110-story towers, each with floors an acre in size -- the Program had been met. Profits, Tozzoli figured, were all but guaranteed.

Once the plans were released, architecture critics savaged them, describing the resulting design as ''graceless'' and as a ''fearful instrument of urbicide'' and ridiculing the touch of ornament Yamasaki had provided at the base as ''General Motors Gothic.''

Yamasaki took it very hard. But Tozzoli and the Port Authority didn't care what the architectural elite thought of the design. They had made their decision. Now they had to figure out how to build towers 110 stories into the sky that wouldn't crumble under their own weight.

Go to the next chapter

James Glanz is a science reporter for The Times. Eric Lipton is a metropolitan reporter for The Times. Since Sept. 11, they have been investigating the attack on the World Trade Center and its aftermath.