

THE CITY GREENS
MARINA BAY SANDS

Text by Christine Liew
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“ IN LINE WITH THE GREEN VISION OF MARINA BAY, MARINA BAY SANDS FEATURES AMPLE GREENS AND CHARMING GARDENS ALL AROUND AND ON ALL LEVELS OF ITS PREMISES.”

Since 2003, the Urban Redevelopment Authority (URA) has hatched master plans to enhance Singapore's city centre. This includes ambitious and exciting plans to develop Marina Bay, 360 hectares of land on the Southern tip of Singapore, into an exciting space to live, work and play. Complementing the bustling activity planned for the district, the Marina Bay Master Plan also conceives the Marina Bay district as a “Garden City by the Bay”, where lush gardens, parks and open spaces thrive next to civic activity. Marina Bay Sands is certainly working to fit the bill on both counts of garden and city.

Marina Bay Sands is the widely anticipated hotel-casino integrated resort, the other being Resorts World Sentosa, which opened in Singapore recently. Facing the busy Central Business District from across the Marina Bay, Marina Bay Sands extends Singapore's downtown hub along the Bay front. Nestled between cool waters and greens, near the lush gardens of the future Garden at Marina South and Marina City Park, Marina Bay Sands is uniquely situated to extract the best from Singapore's contrasting urban and tropical environments.

The integrated resort is among the new and upcoming attractions that will open in the district, accompanying the Singapore Flyer, Double Helix Bridge, Waterfront Promenade, Gardens by the Bay and others.

VIBRANT ECO-CITY

Internationally renowned Boston-based Moshe Safdie, a leading architect and urban planner, is the design architect of this major project for Las Vegas Sands Corporation. Safdie shares that the project was conceived as an exciting public realm that is a mega mixed-facility but which remains inviting and accessible to people at the same time. It was also designed to be a compact urban

place completely blended with beautiful gardens. Committed to building meaningful architecture that is sensitive to the site's local culture, geography and needs, Safdie's design of Marina Bay Sands actualises Singapore's vision of a garden city, while the project reinforces Singapore as a financial hub and tourist destination.

While Marina Bay Sands is most known to people today as a hotel and casino, it will be much more than that by the time it is fully opened. The integrated resort also includes 121,000 square metres of exhibition space in the Sands Expo and Convention Centre, over 74,322 square metres of delightful retail and dining space, two performance theatres with 4,000 seats combined, the lotus-shaped Museum of ArtScience, an outdoor Event Plaza, the unique glass-steel Crystal Pavilions to host nightlife, and the innovative rooftop SkyPark.

Marina Bay Sands was inspired by the grand and open thoroughfares of ancient cities. The Waterfront Promenade is well blended into the architecture of the building, creating a main spine that connects the major facilities of the building and provides a multi-purpose space. In line with the green vision of Marina Bay, Marina Bay Sands features ample greens and charming gardens all around and on all levels of its premises.

The hotel's three towers intentionally refrain from creating a large intimidating wall, and instead create large open spaces between them that allow beautiful views of the sea from the city and vice versa. Lacking space for a large outdoor park with gardens and swimming pools on the ground, the SkyPark is a roof garden and park on top of and bridging the three 55-storey hotel towers.

ON THE PREVIOUS SPREAD

The new integrated resort reinforces Singapore as a financial hub and tourist destination. Its SkyPark is an iconic and latest addition to Singapore's city skyline. (Photo: Marina Bay Sands)

OPPOSITE, TOP In the hotel interiors, greens contribute to the beautiful interior design and humanize the surrounding urban architecture. (Photo: Adrian Koh/ milk photographie)

OPPOSITE, BOTTOM LEFT Plenty of trees along the Waterfront are an important source of shade for visitors exploring the place.

(Photo: Adrian Koh/ milk photographie)

OPPOSITE, TOP RIGHT The SkyPark's intriguing infinity pool is 151 metres long, and stands as the largest outdoor pool in the world at such a height.

(Photo: Adrian Koh/ milk photographie)





ON PREVIOUS SPREAD The 200-metre tall SkyPark offers visitors beautiful panoramic views of Singapore's city and the Marina Bay. (Photo: Adrian Koh/ milk photographie)

BELOW, TOP Sitting 200 metres high on top of the three hotel towers, the SkyPark is a unique place for relaxation and nature in the middle of surrounding urban architecture. (Photo: Adrian Koh/ milk photographie)

BELOW, BOTTOM Nested between cool waters and greens, Marina Bay Sands faces the busy Central Business District from across the Bay, extending Singapore's downtown hub. (Photo: Timothy Hursley)

OPPOSITE Image rendering of Marina Bay Sands in the day. (Photo: Marina Bay Sands)



As one wanders around, both indoors and outdoors, visitors are invited and welcome to appreciate the greenery, from the promenade, to the podium roofs in front of the hotel, where a public promenade features beautiful plants and trees and offers a brilliant view of the city, and to the SkyPark, which alone houses 250 types of trees and 650 types of plants. Half of the roofs of the hotel, convention center, shopping mall, and casino complex are also to be planted with trees and gardens.

In addition, the entire east façade of the hotel will be transformed into a delightful green wall, featuring bougainvillea and garden plantings on the hotel balconies. Such a green wall, or vertical garden, is part of the “layered parks” design concept of Marina Bay Sands. It also helps to support the overall shading of the building, by buffering sunlight into the spaces and cooling the surrounding temperatures.

To Safdie, a self-professed “garden man” and the author of “For Everyone a Garden”, gardens are the only conceivable way to develop a city. All senses of the word “garden”, including nature, plants, and the earth, are essential ingredients for creating any kind of humane and vital environment. For dense urban cities, such as Singapore, gardens play an important role in enhancing the quality of our lives and humanising hostile mega-scale architecture. This relationship between architecture and nature is a fundamental component of all of Safdie's projects.

Marina Bay Sands is an eco-city in every sense, not just the thriving greenery, or the water canal running through the retail mall, or the generous shades created. The building also exceeds the construction and energy standards set by the Singapore government, and is designed to optimise, minimise and recycle energy consumption when possible.

MARINA BAY SANDS SKYPARK

Among the Marina Bay Sands' structures, the SkyPark is certainly the most curious and notable structure of all. It sits 200 metres high, on top of the Marina Bay Sands' three 55-storey hotel towers, like a balancing boat. Occupying over 1 hectare of gracious space, it stretches an impressive length of 340 metres, which is more than the height of the Eiffel Tower. Its cantilever, at 65 metres, is one of the largest public cantilevers in the world. An interesting addition to Singapore's city skyline, the SkyPark is instantly noticed by

viewers near and far, and creates a distinct and unique identity for Marina Bay Sands.

The SkyPark's achievements are beyond visual. While not everyone is able to appreciate its shape, most would welcome its haven rest-stop, atop and amidst Singapore's surrounding dense urban architecture. Standing on the SkyPark and looking around, one is blown away by never-seen-before panoramic sights of Singapore and Marina Bay.

The SkyPark is one of the major green highlights of Marina Bay Sands, an inspired solution to the problem of limited space for such a major development project, and offers a unique place for relaxation and nature in the middle of surrounding urban architecture. In pockets of landscaped gardens lining the SkyPark, an array of plants can be found, providing important shade for the park's visitors which amount to as many as 3,900. These pockets of gardens are also an invaluable source of colour and life to the architecture.

A Marina Bay Sands spokesperson shares with us that the SkyPark's trees and palms were sourced from around the region mainly, from countries such as Malaysia and Thailand. These greens were chosen for their hardiness against tough windy conditions and for their aesthetic qualities, such as form, foliage shape and colour, and flower shape and sculptural features. For example, the Frangipani (*Plumeria rubra*) and Black Olive (*Bucida buceras*) trees were used to accentuate particular areas on the SkyPark, such as the main entry and perimeters, due to their sculptural forms. Some examples of palms featured include the Betel Nut (*Areca catechu*) and Bentinck Palm (*Bentinckia nicobarica*). The landscape architects behind the landscape design are from Peter Walker and Partners, Berkeley California.

Among the technical challenges of landscaping for such a high-rise garden were ensuring good irrigation and creating good living conditions for the plants. The transportation and planting of these greens were also a challenge; before they were moved to the SkyPark, it took about a year to prepare and grow those greens in a local nursery before they could be lifted up to the 200-metre high park by cranes. The latter was a logistically demanding task that required taking additional safety measures to protect the plants and using extra manpower to handle the fragile plant materials. An initial design consideration

was also the prevention of falling trees due to possible strong winds.

Apart from the public gardens, the SkyPark's other tempting attractions include a swimming pool, jogging paths, a public observatory, restaurants and lounges, all amidst sky and park. The infinity pool, an exclusive swimming pool open only to hotel guests, is an intriguing feature of the SkyPark. It is 151 metres long, and stands as the largest outdoor pool in the world at such a height, with an impressive 145-metre vanishing edge. For its guests, it is almost like dipping into an edgeless swimming pool in the sky.

Taking a mere four years from its design to completion, Marina Bay Sands is certainly a major feat and success for the whole team. In building today's Marina Bay Sands, Safdie and his team had to overcome a host of challenges, but Safdie shares that this is what the whole project is about. One of the biggest challenges was excavating five storeys deep into the landfill and water in order to construct the basement floors of the building. In order to accommodate the high pressure from the water and earth during excavation, the team had to employ additional large circular support structures. The installation of the immense SkyPark and its unparalleled 65-metre cantilever atop the hotel towers was another challenge, as well as managing the staff on site, which went up to a total of 18,000 members.

As it stands today, Marina Bay Sands is a promising development, and will continue to open new features over the next few months. The SkyPark, hotel, retail, convention center and entertainment venues were opened to the public on 23 June 2010, while the Museum of ArtScience and performing arts theatres will open this fall in 2010. The grass sure is greener on the other side, of Singapore's Marina Bay, that is.

For more information, visit:

Marina Bay Sands Official Website:

<http://www.marinabaysands.com>

Safdie Architects Official Website:

<http://www.msafdie.com>

Marina Bay Official Website:

<http://www.marina-bay.sg>

Peter Walkers and Partners Official Website:

<http://www.pwpla.com>



“ FOR DENSE URBAN CITIES, SUCH AS SINGAPORE, GARDENS PLAY AN IMPORTANT ROLE IN ENHANCING THE QUALITY OF OUR LIVES AND HUMANISING HOSTILE MEGA-SCALE ARCHITECTURE. ”