

# Gulf Construction

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# JEDDAH

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Kingdom of Saudi Arabia,  
P.O. Box 65697 Riyadh 11566  
Tel: +966 11 2931193  
Fax: +966 11 2931170  
[www.albawani.net](http://www.albawani.net)

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# REVVED UP!

The world's fastest drivers are set to roar onto the streets of Jeddah for the first time on the weekend of December 3 to 5 and take on the formidable challenge of the 27-turn Jeddah Corniche Circuit. *Gulf Construction* looks at what the fast-track project, undertaken in record time, has entailed.



Jeddah Corniche Circuit ... a 27-turn challenge.

**T**HE finishing touches are being put to the world's newest, fastest and longest Formula 1 street circuit (as the magazine went to press) has reached its last lap of construction in record time in the Saudi city of Jeddah, in what has been a race against the clock.

With just days to go until the inaugural Formula 1 STC Saudi Arabian Grand Prix 2021 makes its long-awaited debut, anticipation is high for the moment the world's greatest drivers roar onto the streets of Jeddah for the first time on the weekend of December 3 to 5 and take on the formidable challenge of the 27-turn Jeddah Corniche Circuit.

Situated between the new marina and island mosque on a narrow stretch of land north of the city, the Jeddah Corniche Circuit is expected to set a new standard for Formula 1.

The Jeddah Corniche Circuit has a track length of 6.175 km making it the second longest circuit on the calendar after Spa-Francorchamps in Belgium and the longest street track in F1. The average speeds are expected to reach 252 km/h – the fastest street circuit on the calendar with high-

est speeds estimated to peak at 322 km/h between Turns 25-27.

Construction of the circuit included building seven stands and seven permanent landmarks and statues positioned inside the Jeddah Corniche Circuit.

Work on the track – which is officially termed a temporary facility – began last April in Jeddah's corniche area on the Red Sea, which frames the racing action against

a spectacular coastal backdrop.

Developed in partnership by Tilke Engineers and F1's own Motorsports Division, the circuit design has made strong use of the long, sweeping roads along the corniche area, utilising this feature and existing roads as much as possible along the narrow stretch of coastal land within the confines of the general infrastructure, resulting in one of the most unique and challenging circuits yet to feature in Formula 1.

Designed to deliver spectacular racing, the Jeddah Corniche Circuit is rich in many exciting features. These include a record-equalling number of turns (27 in total: 16 left and 11 right), in addition to three potential high-speed DRS sections and a remarkable 12-degree banked corner at Turn 13 that is expected to become a favourite of drivers, broadcasters and ardent photographers alike.

Commenting on the new circuit, Martin Whitaker, CEO of the Formula 1 STC Saudi Arabian Grand Prix 2021, says: "The new 6.175-km track is on a narrow strip of land which will form a northerly extension to the current Jeddah Corniche, linking the existing 4 km of walkways and cycle paths to an additional 3 km that will encompass both the island mosque and the new marina. The 27-turn circuit will be both the



The circuit design has made strong use of the long, sweeping roads along the corniche.

longest and fastest street circuit on the Formula 1 calendar and will literally be a stone's throw from the shore of the Red Sea. Perhaps the most spectacular corner will be the Turn 13 parabolica, next to the marina, after which the drivers will accelerate to 322 km/h past the new luxury hotel that has been built in time for F1's arrival."

Set to host the penultimate round of this year's enthralling F1 season, the newest race on the calendar will be staged under the lights at night, and everything is in place for a truly electrifying atmosphere in Jeddah when the pinnacle of motorsport finally arrives in Saudi Arabia, says the organiser.

Getting the circuit ready for the much-awaited race has required careful planning right from the day Jeddah was selected as the venue for the Saudi debut of the Grand Prix.

In line with the ambitious sustainability strategy Formula 1 announced in 2019, the Saudi Automobile and Motorcycle Federation (SAMF), promoter of the Formula 1 STC Saudi Arabian Grand Prix 2021, says it has exerted efforts to ensure that the Jeddah Corniche Circuit becomes one of the most sustainable venues on the Formula 1 calendar.

Before the construction of the circuit and its adjacent infrastructure could even begin, an extensive clean-up and regeneration of the whole lagoon – on which large parts of the track are situated – had to be implemented.

The lagoon regeneration project was divided in two stages. The first started in May 2021, covering a land reclamation area of 20,025 sq m, while the second stage covering an area of 3,000 sq m was completed in late October. The process included the removal of algae and waste and the sub-



The area has been developed to provide an environment-friendly space for the city that will add lasting value to the general public.



## The Jeddah Corniche Circuit has a track length of 6.175 km, making it the second longest circuit on the calendar after Spa-Francorchamps in Belgium and the longest street track in F1

sequent installation of a system to purify and treat the water to prevent the future formation and accumulation of algae.

Furthermore, a staggering 162.814 tons of sludge and debris were dredged from the lagoon and divided into separate stocks, with the former treated and recy-

cled while the latter was safely and responsibly disposed of.

As a result, the surrounding area has already seen a welcome return of wildlife, while the lagoon is already teeming with fish, says SAMF.

The final stage of cleaning involved a process called bioremediation, which uses micro-organisms or other forms of life to reduce pollution through the biological degradation of pollutants into non-toxic substances.

Positioned right in the heart of Jeddah's magnificent waterfront, the Jeddah Corniche Circuit has been designed and built to serve the city of Jeddah well beyond the F1 race weekend, says the SAMF. Indeed, it is a central element of the city's grand corniche renovation project.

The brand-new circuit's infrastructure and design has been built specifically to develop an environment-friendly space for the city that will add lasting value to



Jeddah Corniche Circuit is situated between the new marina and island mosque on a narrow stretch of land north of the city.

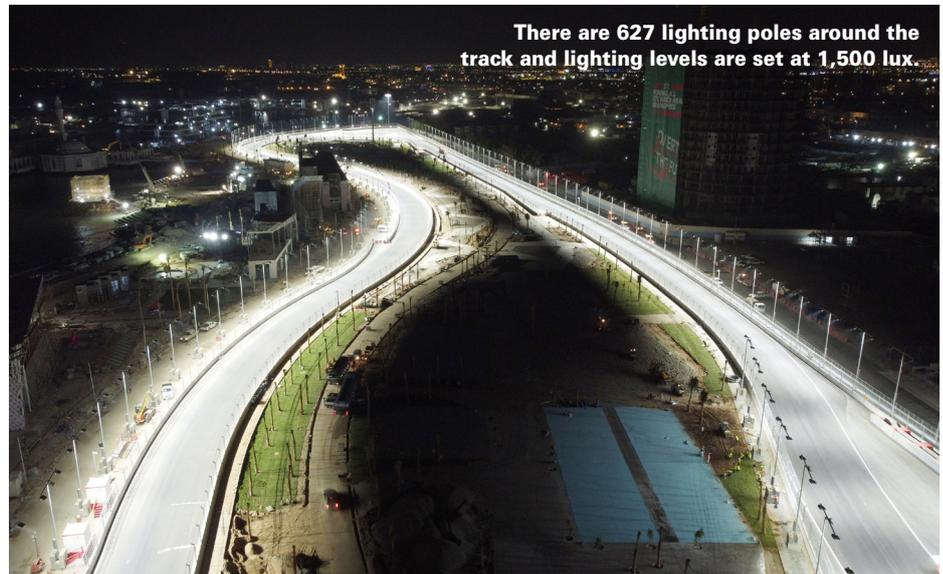
the general public. To this end, the lagoon regeneration has seen the establishment of a welcome place of respite along the city's magnificent coastline for locals and tourists alike, in an area where once there was none.

Moreover, an extensive recreational area is being developed along the banks of the Red Sea, extending the popular corniche walkway even further and populating it with a series of outdoor recreational opportunities for children and adults – such as beach volleyball, paddle and tennis courts, new walkways and cycling paths – as well as the establishment of family-friendly restaurants, public restrooms, increased parking spaces and much more.

In all elements of this regeneration project, the primary goal was to preserve and enhance the surrounding soil conditions and the local environment to ensure that via the use of sustainable earthworks and landscaping methods, a flourishing and biodiverse vegetation is sustained alongside the extensive redevelopment in the area, says the SAMF.

Construction of the track itself began in April this year. In an earlier interview with Motorsport.com, the founder of Tilke Engineers Hermann Tilke said: "It's not a normal street circuit. We had to build most of the streets ourselves and we had to instal a complete drainage system, which meant we had to lift the whole track one-and-a-half metres. So there was a lot of engineering involved.

"We also had to deal with the construction of a number of large buildings and



There are 627 lighting poles around the track and lighting levels are set at 1,500 lux.

there is still construction going on in the whole corniche area. It will make for a beautiful setting though."

Overall, the organiser collaborated with 3,000 on-site contractors from approximately 50 separate companies. While many of these partners are Saudi Arabian, the event organisers also utilised the support of suppliers from countries such as Germany, Austria, the UK, Spain and Italy. In addition, and at all times, the rigorous standards and scrutiny of both Formula 1 and their monitoring consultants were applied, says SAMF.

More than 300 engineers from various disciplines have been involved in the construction of the circuit.

Construction of the circuit required 600,000 tons of cement, 30,000 sq m of bricks and more than 1,400 tons of glass

and some 37,000 tons of asphalt have been used in the track's construction.

There are 627 lighting poles around the track and lighting levels are set at 1,500 lux, with more than 200,000 m of cabling, including power and fibre, already laid to ensure everything is lit to perfection. When construction is complete, about 2,000 trees will be planted around the circuit.

More importantly, this achievement was accomplished under the strictest health and safety conditions, with millions of man-hours of work taking place on site with no serious incidents. All work was carried out according to the detailed Saudi labour laws, according to the organiser.

To further ensure all work was carried out in the safest conditions, all workers involved in the construction of the Jeddah Corniche Circuit were required to participate in the Atlas safety induction programme.

Tilke said while the company has developed a lot of big Formula 1 circuits before, but never in such a short time frame.

"This is really a new world record for us," he stated.

Tilke provides some interesting facts on its Twitter handle: the Jeddah Corniche Circuit is the first street circuit in the Gulf region to feature LED floodlights; it is the first street circuit to feature only slot drains, which have a higher drainage capacity, on the race track. The circuit has 1,025-m of Safer (steel and foam energy reduction) barriers, the largest quantity installed on an F1 circuit. It is the first time such barriers have been installed in the Middle East. ■



The pit lane area of Jeddah Corniche Circuit ... ready to receive F1 drivers.

# Innovative urban hub on anvil near airport



Overview of Airport City.

**A** NEW transport-orientated urban development is set to take shape adjacent to King Abdulaziz International Airport in Jeddah, Saudi Arabia.

Chapman Taylor, a multi-award winning practice of global architects and masterplanners, has created the 1.91-million gross building area (GBA) masterplan for a new urban district that introduces an innovative mixed-use community concept to the region, creating diverse tourism and business opportunities while providing a dynamic lifestyle and family entertainment venue.

The development, for SARH Airport Development and Real Estate Investment, will be located directly in front of King Abdulaziz International Airport, acting as a new hub gateway to Jeddah and beyond.

“The Airport City masterplan vision creates a sustainable new-generation city district, unique for its human scale and fully pedestrianised urban community, with a perfect synergy between landscape and architecture,” says Chapman Taylor’s Madrid Director Jan Dijkema.

The masterplan design emphasises plug-and-play flexibility and high connectivity,

with designs inspired by nature, history and traditional local architecture and art, in addition to careful planning, well-curated community spaces and an in-depth understanding of user requirements. It will be a special place in Jeddah, creating a new type of urban destination in a strategically important gateway location, he adds.

Airport City is divided into four zones surrounding the masterplan’s central spine and interconnected via a green circuit with a low-speed tramway, according to Dijkema.

Zone One is the Exhibition Circuit, which will host a stunning, 70,500-sq-m

international exhibition centre with 5,000 sq m of additional exterior exhibition space, directly connected by an air-conditioned bridge promenade to an adjacent five-star hotel. There will also be a large three-star hotel, a mall and a modern vil-

lage retail and food and beverage (F&B) street surrounded by a green central park with attractions and water features.

Zone Two is the Business District, with 126,500 sq m of flexible, future-orientated office space, a mosque, a four-star hotel, a three-star hotel and serviced apartments next to a “floating village” with restaurants and terraces, all connected to the central park.

Zone Three is the Lifestyle Centre and Fun Zone, hosting a wide range of spaces and activities. It will include a four-star hotel, a three-star hotel, a health and wellness centre and more office and co-working space. There will also be a 20,000-seat multipurpose arena, a sport and leisure area

and a co-retail patio courtyard with fully furnished workshops. The latter will sit within the Lifestyle Centre, which contains an “art walk”, a showcase area for future retail, an F&B street, a cinema, retail, family entertainment, a festival plaza, an aquarium, media/financial offices, a food market, a food hall and a sport-branded pavilion.

Finally, Zone Four will be the setting for a ‘Calm Community’ containing duplexes and apartments within the quietest area of the site, all sitting above a ground floor level which includes amenities such as laun-



The international exhibition centre in Zone One.

dries, children's play areas, a nursery, prayer rooms and common social areas. The Museum of Saudi Art and Culture will be a landmark feature in this zone's landscape, with an outdoor sculpture park surrounding it. It will include exhibition galleries for permanent and temporary exhibitions and interactive zones for adults and kids.

Airport City will have a well-connected urban structure with interaction between activities. Sustainability is embedded in the design, including the use of responsibly sourced materials, renewable energy technology and efficient space design. Ecological conservation is considered throughout the masterplan design, he adds.

The architecture blends the modern with the traditional. The designs of some buildings refer to the local architectural vernacular of Jeddah's historic Al-Balad district; two special elements on their facades will be the Rowshans – which are projected wooden skeletons covered with decorative wooden panels – and the Mashrabiyyas. These will respond well to climatic (ventilation and lighting) and social (privacy and decorative) factors.

The compact urban design provides many cooler, shaded spaces, while the masterplan proposes a vehicle-free above-ground space, where the pedestrian is the priority. The vehicular circulation is in the basement, leaving access to the drop-off spaces on the perimeter of the plot. Ground level only allows the circulation of buggies, public trams and bicycles that will circulate at low speed, says Chapman Taylor.

The masterplan incorporates several strategies for maximising the environmental sustainability of Airport City. The aim of the architectural approach is to mini-



The central park in Zone One.



The Museum of Saudi Art and Culture ... a landmark feature in Zone 4.

mise or eliminate any negative environmental impacts through skilful, sensitive design, efficiency and the responsible use of materials, energy, development space and the ecosystem at large.

According to Dijkema, key sustainability tools will include evaporative cooling; the various areas of the masterplan will be linked by numerous water features that will connect with the buildings and the landscape, with these features lowering the temperature. Areas will be shaded by indigenous trees and well-considered canopy compositions.

Rainwater will be harvested and stored while greywater will be recycled to be used for irrigation. Creepers and succulent plants and drought-tolerant wildflowers will be planted throughout the scheme. There will also be abundant use of green roofs and shaded courtyards.

Shading elements will be used for windows and walls to control the amount of solar radiation that the buildings receive, he says. Ventilated façades and roofs will be built and the designs also make use of high-efficiency glass. Meanwhile, the green roofs will retain rainwater, purify the air, reduce the ambient temperature, insulate against noise, save energy and promote biodiversity in the city.

The plants will absorb heat, protecting the buildings from overheating.

The masterplan also foresees the use of resource-efficient equipment such as LED lights, presence detectors that avoid illuminating uninhabited spaces, taps that limit water flow, etc. Inmotic or domotic systems will control and optimise the operation of all mechanical equipment. Photovoltaic solar panels will be placed across building roofs, he adds.

"Airport City will be a central element to the future development of the city to the north, and the site will act as a link between the city and the airport, with excellent connections to the rest of the city," says Dijkema.

"The client's objectives are to capitalise on the wonderful strategic location, creating an elegant, modern and human-scale community. A central part of the brief is to design flexibility into the development to allow for easy adaptation to social and market-led changes and to achieve the most efficient and sustainable solutions," he says.

When putting the Airport City masterplan together, Chapman Taylor aimed to create a vibrant new community in Jeddah, with designs inspired by nature, history and art in addition to careful planning of well-curated community spaces.

"The Airport City's vision is to capture broad opportunities in tourism and business while also providing a dynamic lifestyle and family entertainment hub," he says. ■