

SUBSCRIBER ONLY

Irvine plans to make sustainability the heart of Great Park



The Great Park Balloon Ride rises into the air in a view from along Bosque in Irvine on Saturday, August 12, 2023. (Photo by Mark Rightmire, Orange County Register/SCNG)

By **HANNA KANG** | hkang@scng.com |

PUBLISHED: August 17, 2023 at 10:29 a.m. | UPDATED: August 17, 2023 at 10:42 a.m.

As [Irvine's](#) Great Park aspires to be an innovative urban park second to none, the city is planning ahead to make sustainability at its core.

"This is a beautiful park. This is meant to be a park for everyone," said Sean O'Malley, the managing principal of SWA Group's Laguna Beach studio, which is in charge of planning the next phase of the Great Park development.

The city, O'Malley said, has to be careful in how it chooses the material for the park to ensure it's doing its part in terms of sustainability. In the case of [Great Park](#), that looks like carbon reduction in terms of how materials used at the park are made, how they're shipped and how they can absorb carbon at the park, said O'Malley.

So he's proposed taking a five-pronged approach to a sustainability plan: planting, water, materiality, energy and maintenance.

Trees and mixed shrubs native to California are a big part of that plan.

Residents and visitors of Great Park can expect to see a forest of California native trees — mainly the native valley oak and coast live oak, which O'Malley said do "wonderful jobs of sequestering carbon" — when work is completed in the next 10 years or so.

Water recycling will also be one of the park's key features. The planned north and south lakes in the [1,300-acre Great Park project](#) will be a mixture of both recycled water and stormwater, O'Malley said.

And even if there's a drought, city manager Oliver Chi said, there will be enough water to keep the lakes at the planned level.

"We generate so much recycled water that the (Irvine Ranch Water District) is now undertaking the [Syphon Reservoir Improvement Project](#) in order to store more of that water," he said. "Given that we are looking to draw from a reusable source, at this point, all our modeling indicates we should be in really good shape ... given that we're not pulling from the local groundwater source."

Ducks, fish and geese will also be part of the lake, Chi said. The edges of the lake are being designed to discourage the geese and ducks from coming up to picnic areas, and an island will be built on the lake for the geese to roam.

Another critical element — and a potential educational opportunity for the public to learn more about the park's sustainability — is the wetlands on the edges of the lake.

Under O'Malley's proposed design, the water in the lake would be pumped to the top terrace of the wetlands, and as that water tumbles down through a series of wheels and pipes from the next terrace to the next, he said, it would get cleaner and cleaner.

People could "watch this natural filter working in real-time and learn about how we can better take care of and manager our water resources," he said.

Sustainability also comes in the form of materials used for paving, walkways, sidewalks and loop roads cars will be driving on, said O'Malley. For example, stone dust paving is a much better option than precast concrete, due to the latter using a lot of energy in its manufacturing process.

In a similar vein, O'Malley said he prefers to use stainless steel for Graet Park since it is "pretty good" in its non-utilization of carbon in its manufacturing. Stainless steel also hails back to the aviation era of Great Park; the 1,300-acre park was built on the former Marine Corps Air Station El Toro.

But not all materials planned for use at the park will be new. O'Malley wants to use as much "old" material as possible to prevent waste.

For example, most of the tarmacs that are still left in the park have been ground up and stored on-site to be used as base material for roads and other forms of construction at the park, O'Malley said. And some existing concrete will be repurposed for the veterans' memorial, he said.

O'Malley also plans to explore the light reflectivity of the paving to make sure it reduces some of the "heat island effect," which happens when structures absorb and re-emit sunlight, warming the air and worsening air quality.

"Asphalt, not so good. Dark material absorbs heat," O'Malley said. "White concrete can be blinding on a sunny day but reflects the sun very well. Colored or stained concrete, painted asphalt, would help to reduce some of the heat."

Chi said one of the improvements ready to be rolled out at Irvine Civic Center's parking lot includes applying a cool coat on the asphalt pavement. After the application, city staff will compare the results to a similar environment where there is no cool coat, Chi said.

"Using that information, we'll embed that learning into all of the planning we do at the Great Park and across the city moving ahead," he said.

O'Malley has big plans for Great Park to become a "power plant for the region." He said: "Energy is where we can make the greatest inroads in terms of sustainability."

The city is working with potential suppliers to install solar panels on rooftops of new buildings and parking lots, O'Malley said. An anaerobic digester — a structure that breaks down biodegradable material via fermentation — is also in the works.

"We think we can make more power than we use here at the park," O'Malley said.

A UC Irvine ecology professor, Councilmember Kathleen Treseder said she takes her students on field trips to see sustainable landscaping, and she looks forward to bringing them to the completed Great Park.

"Often, we like to compare the Great Park to Central Park," she said of the New York landmark. "I doubt Central Park is set up to be so sustainable or self-contained. I really like that (Great Park) can be a showcase for these techniques."

The Great Park Board will continue to discuss sustainability in the coming months, said city spokesperson Linda Fontes, as more detailed plans for the construction of the park's features are developed.