

20 years of EXPO 92 landscaping (XI): public spaces (and III) (originally in Spanish) - April 19, 2013

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We conclude with this entry the articles related to **public spaces** within the **Expo 92 landscaping**. On this occasion we talk about the access gates and other spaces that deserve to be commented on, such as the Palenque.



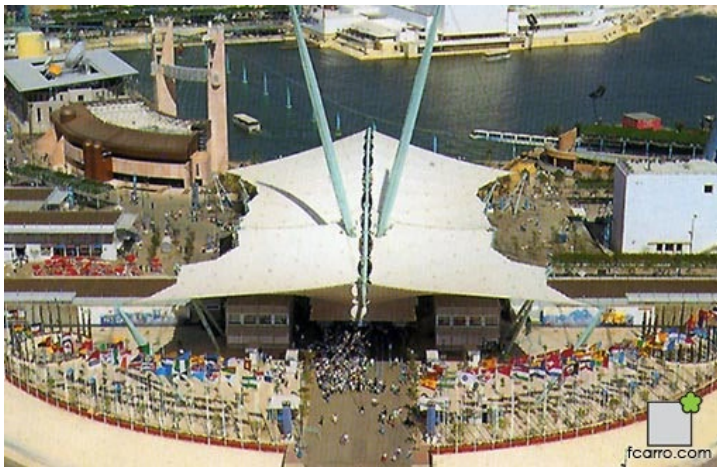
There were about **5 public access gates** in the Universal Exhibition grounds. Each one had a special treatment. The most important were the **Puerta Barqueta**, **Puerta Italica** and **Puerta Triana**. Another

one with fewer visitors was the **Puerta Cartuja**, which was the closest to the historic centre. The **Puerta Aljarafe** was the one that allowed access from the huge car parks of the grounds. Finally, there was the **Puerta Guadalquivir**, which was the river access that led to the Expo port.

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Barqueta Gate.

The **Puerta de la Barqueta** was considered a transit area. Although it was almost **integrated into the Camino de Andalucía** and the **extension of the Avenida de las palmeras**. **In addition, it was integrated into the lake of Spain with its design**. It was characterized by its PVC cover called **Oleada**. It was designed by **Harold Mühlberger**. Harold Mühlberger also designed the cover called **Diadema of the Puerta de Itálica** and the **cover of the Palenque**. It was composed of different modular buildings.



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Italic Gate.

On the North-South axis we found the **Puerta Itálica**. Here was another of the roofs designed by **Harald Mühlberger**. It was the so-called **Diadema** roof.





The layout of the buildings was similar to that of the Puerta de la Barqueta. It differed from this in that it was wider. In fact, it was the largest door. However, it was the entrance that led to the **parking lot for buses**. Before the turnstiles, it had a linear alignment and a double line of masts and planting of different tree species. Inside, the space was more open, there were rectangular planters with Cupressus and different shrubs.

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We walk along this road, leaving the Spanish Pavilion and the Spanish Lake on the left... Next, and before entering the **Canal de los Descubrimientos**, we come across the **Lake Footbridge**, the work of **Juan J. Arenas** and **Marcos J. Pantaleón**, which we can still see today.

The Palenque.

Immediately after this walkway, on the right side we find one of the most unique and well-known spaces of Expo 92. We are talking about the **Palenque**.

It was located in the **geometric centre of the Expo**, in the area of the international pavilions. It was a place designed to be a **relaxing and quiet meeting place** where people could rest during the hottest hours while attending a show. It faced the Camino de los descubrimientos, where it had its main façade, the Avenida de las Palmeras and the Avenida del Ombú. At the back it faced a service road. It was designed by **José Miguel de Prada** who conceived the space as a **covered plaza**, a place that could be accessed without having to go inside.



It eventually became the venue for the **central events of the day of honour of the participating country, organisation or company**, and where the shows were distributed throughout the day and into the evening.

Structure of El Palenque.

It was made up of **two separate squares**. A first square raised around 1.5 metres from the level of the streets it bordered, and which surrounded the second square, which was an interior square. It was a **rest area**, with kiosks and shops and numerous benches. It was a cool area that was protected from the bustling surroundings of the walks by fountains and micronized water, and vegetation consisting of bushes and trees.



The second square, which covers an area of 5,000 square metres, is the actual **performance area**. It consists of a **large rectangular central stage** with a stage box. It had a seating area surrounding the stage box with a capacity of 1,500 people. The seating area and the stage are formed by a two-level pool. In front of the stage there was a small building that housed the VIP box and the control booth.

Air conditioning at El Palenque.

The roof is made of **white PVC**. It was designed to make people feel like they are in an open space, without the inconveniences of such a space. It is **supported by 50 pylons** distributed evenly throughout the interior surface of the space, where the masts and support cables are anchored.



The cover had, in each of its cones, vents **that** evacuated **the hot air** that was stored in them. Despite this, the cover reached an average temperature under the design conditions of 45°C. Seeing that the comfort temperature was 26 degrees for the external area and 22 degrees for the stage area, it was seen that it was essential **to treat the cover by irrigation**. In this way, the cover was cleaned, which prevented the temperature of the cover from increasing due to dirt.



Roof irrigation.

Intermittent irrigation was used to ensure that the roof was always moist. During the design phase and in the experimental area, it was found that the water requirement in the most unfavourable situation was 50 cubic metres of water per hour. In this way, the temperature of the roof was reduced to 30 degrees, the perimeter square to 32 and the seating area to 28.

In addition to this treatment, there was a **specific treatment** in the two squares. In the stage and stands area, an air-cooling system had to be used as there were not enough cold surfaces to reduce the internal temperature loads that existed. This was needed to cool 70,000 cubic meters per hour to 20 degrees to combat the heat.

The outside air is **pre-cooled with water from the ponds surrounding the stage**. This was cooled by the fountains that were not working when there were shows because this water was heated. The air is distributed by diffusers placed on the seats in the stands. As you can see, the pond worked as a **cold accumulator** to reduce the temperature of the air for the stands area. It was, therefore, a key element in the air conditioning of this square.

External Plaza and perimeter barriers.



The outermost plaza of the square was considered as **an intermediate zone**. Outside air penetrates through the permeability of the existing vegetation barrier. Also, as in the central plaza, there are not enough cold zones to treat the air. Therefore, direct air treatment is necessary. Thus, 15,000 cubic meters were calculated in the northern perimeter zone and 20,000 in the southern zone during the design phase. The air was **distributed through the nozzles** integrated into the design of the existing kiosks.

The purpose of the perimeter barriers was to **pre-cool the air when there was wind**. Micronizers were used for this purpose, although the **jets that had been placed for aesthetic purposes** also served this purpose. These jets did not cool as effectively as the micronizers. In the end, these were only placed on the south, east and north sides. The jets always worked, however, the micronizers only depending on the use that was being given to the enclosure. In addition, they only worked in case of wind, working in the places that coincide with the direction of the wind.

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