

ORGANIZAÇÃO



REALIZAÇÃO



Concurso Internacional para o Plano Geral Urbanístico (*Master Plan*) do Parque Olímpico e Paraolímpico Rio 2016
International Competition for the Rio 2016 Olympic Park Master Plan

Rio's Olympic Festival

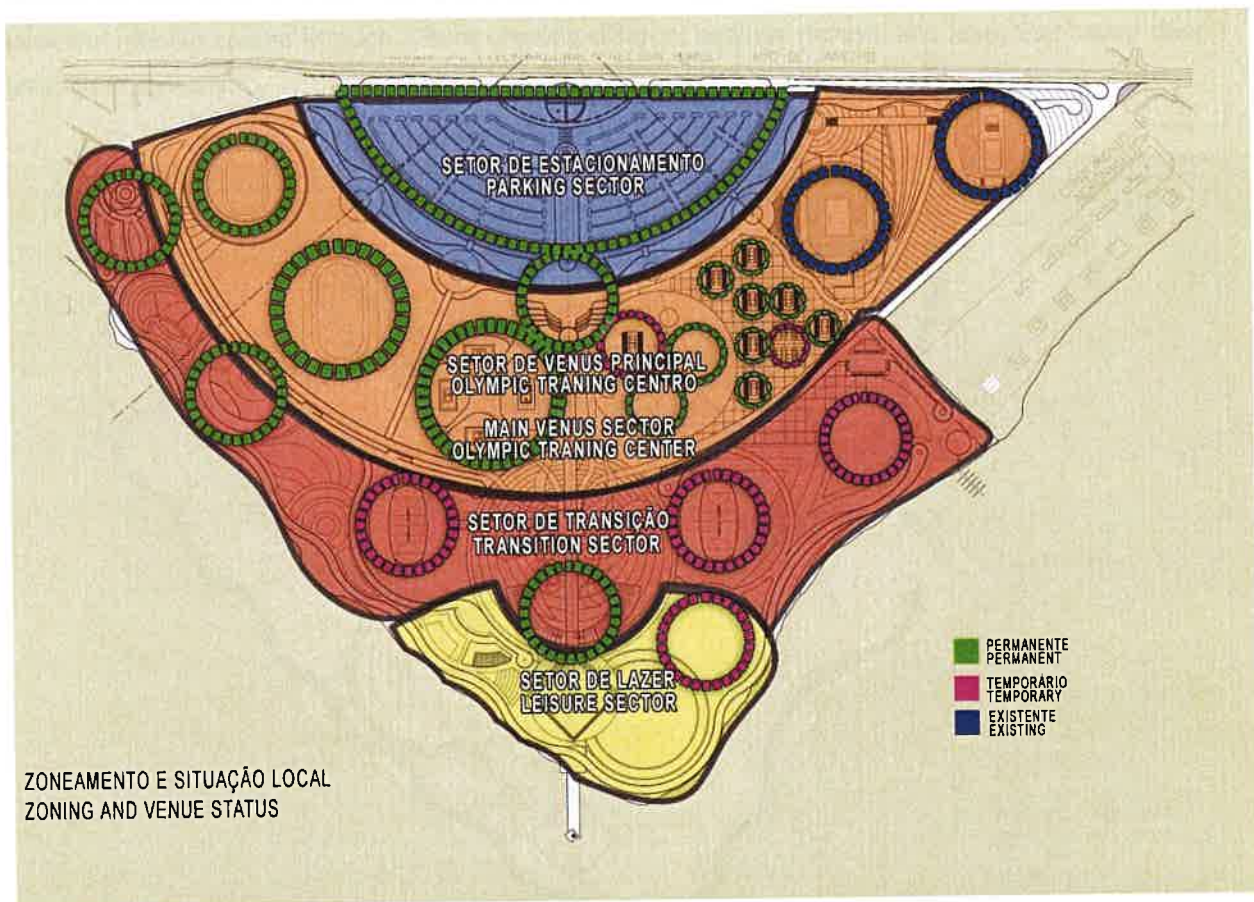


PARCEIRO GOVERNAMENTAL



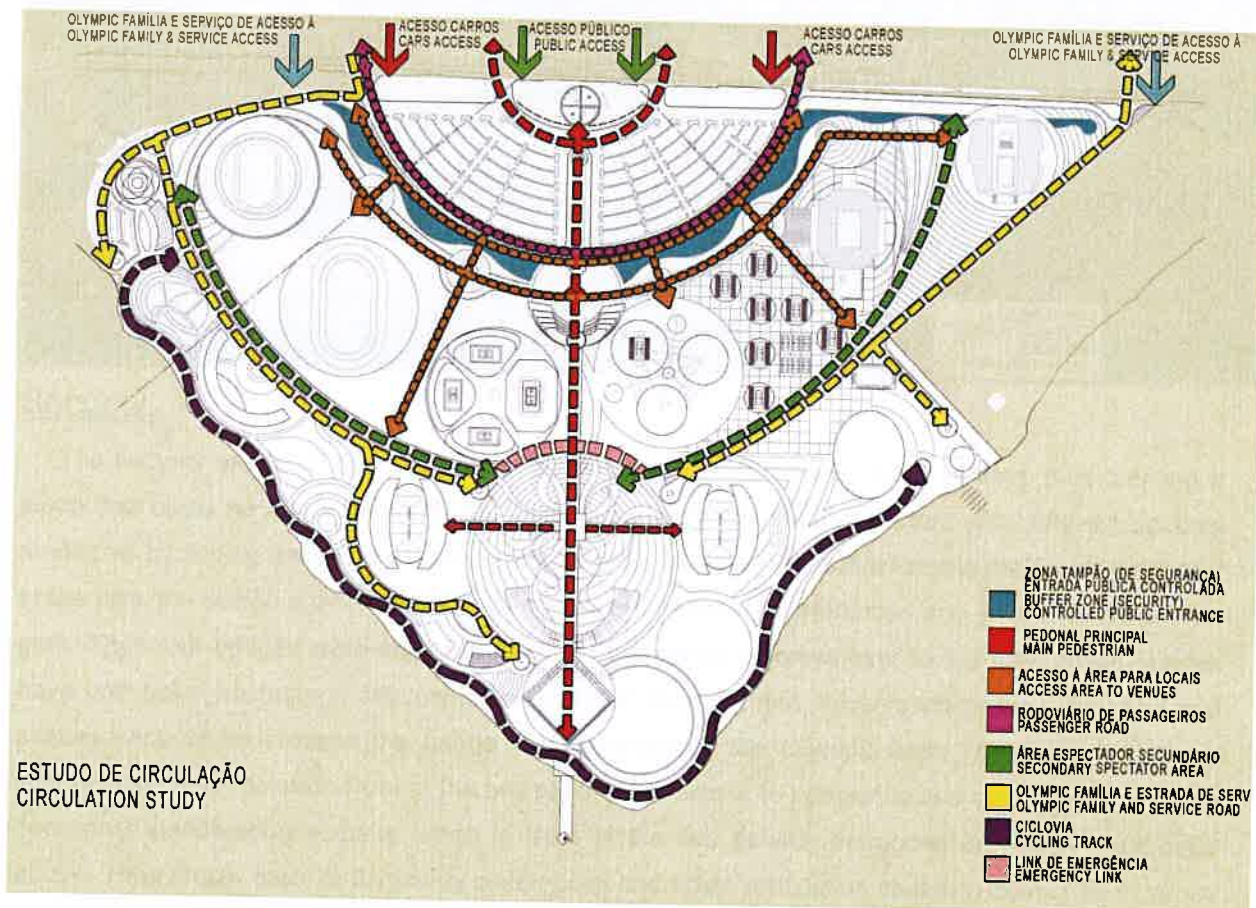
A) Zoning and Venues:

The site plan design was inspired by a radiant circular effect given from the main outside park entrance, a point that symbolizes friendship between nations in one great festival that is portrayed in the Flags Plaza. The site plan consists of a semicircular radiant containing the parking area that is full of trees reflecting Rio's forests, dividing the sectors that will take different colors to make parking easily for visitors. After that there is a major semicircular sector (zone) which contains most of the main Olympic venues, permanent and existing stadiums. To be more specific, it contains the Velodrome, the Athletics Track, the OTC halls, the Olympic Tennis Center, the Rio Olympic Arena and the Maria Lenk Aquatics Center. This major sector is covered by a shed that covers the areas between the previously mentioned stadiums (venues) connecting them together. There is a second concentric (parallel) semicircular sector containing the remaining temporary stadiums, which are the Hockey Fields and the Olympic Aquatic Stadium, in addition to the Athletes Accomodation, the medical centers and the MPC/IBC. There is also the third, smallest and outermost sector which contains the Sponsors Village, the Ceremonial Piazza and the Stage of Victory. Finally, the dancing colorful ribbons run throughout the whole project connecting the different stadiums and venues together to form one huge samba dance.



B) Circulation:

A transportation network is created to serve the different purposes and users. There are several circulation types that are divided into mainly four different categories of road systems in the design. The first of these is the pedestrian road system which consists of a main road called the Parade Axis (Boulevard) that begins from the pedestrian entrance and the Flags Plaza until it reaches the Stage of Victory and then surpasses it forming a marina and a landmark to inaugurate this historic event. The Flags Plaza has three semicircular side roads that surround the different sectors and cut through reaching every single venue in the park. Secondly, a semicircular road was designed in order to surround the main parking area and to connect the four commercial (private) car entrances/exits. The commercial car road has different drop off zones that later connect to the pedestrian road systems. Thirdly, two service roads that run throughout the park reaching all the different venues. These service roads can also be used by athlete buses and VVIPs to transport them from the entrances or the Athletes Accommodation to the different stadiums. The roads also take them through underground ramps to reach stadium basement entrances, thus protecting players and VVIPs and totally separating their paths from those of the park visitors. The fourth and final road is the cycling road that runs on the far edge of the park and overlooks the lake. The cycling road also has a pedestrian side to provide athletes and visitors with the beautiful view, and could also be used as a beautiful running course through nature creating different settings (forests and lake) that cause deep feelings of serenity.



C) Accessibility:

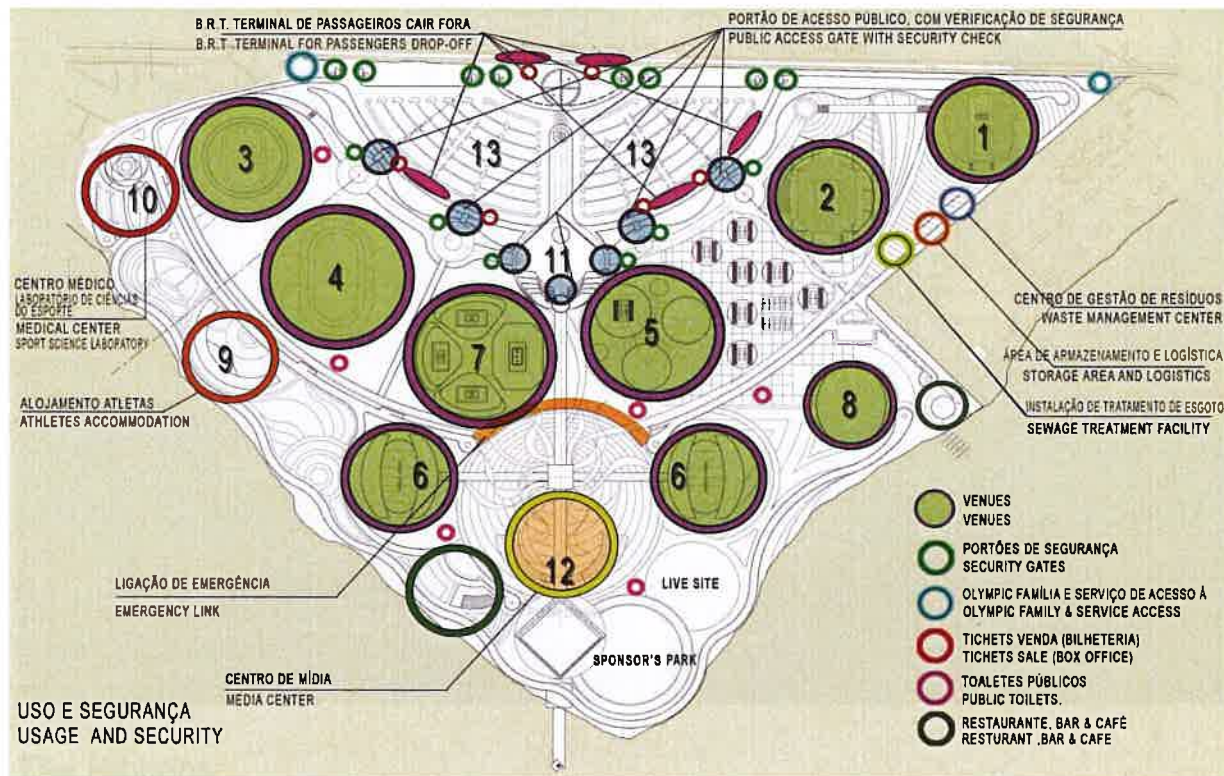
As for the accessibility aspect to the site, four main car entrances/exits that were developed to be used by the employees, the athletes and the spectators, and two car entrances/exits that were developed to be used by employees and for emergency uses only. All the four car entrances/exits that smoothly connect with the existing Aberlardo Bueno Avenue, in addition to the Transolimpica and Tanscarioca roads which are part of the future transportation system that will connect all the different Olympic parks, the stand alone venues and the city of Rio de Janeiro. In addition to the car entrances, there is a main pedestrian entrance that directly connects to the Flags Plaza. In front of the pedestrian entrance there is a bus stop/pick up and a taxi stop/ pick up, to provide more transportation options for visitors.



Security:

The security aspect of the design was achieved by creating an island of venues, thus creating a place that could be easily secured. By dividing the park into smaller sectors with different security measures by adding a moat to act as a natural border between the public access parking and the rest of the park the design enables security to control and monitor all entrances and exits to and from the park. Then four bridges were added in order for the people to cross over to the park, these bridges have both ticket booths and security check-points in front of them. When a visitor buys his ticket and passes security he crosses the bridge and experiences the Olympic fever. There are also three security car check-points in front of the two parking entrances, in addition to two car check-points and personnel identification security areas in front of the two service entrances previously mentioned above. Then finally, there is a security check-point and ticket verification center in front of each venue

and stadium to ensure the safety of the athletes and spectators of each event.

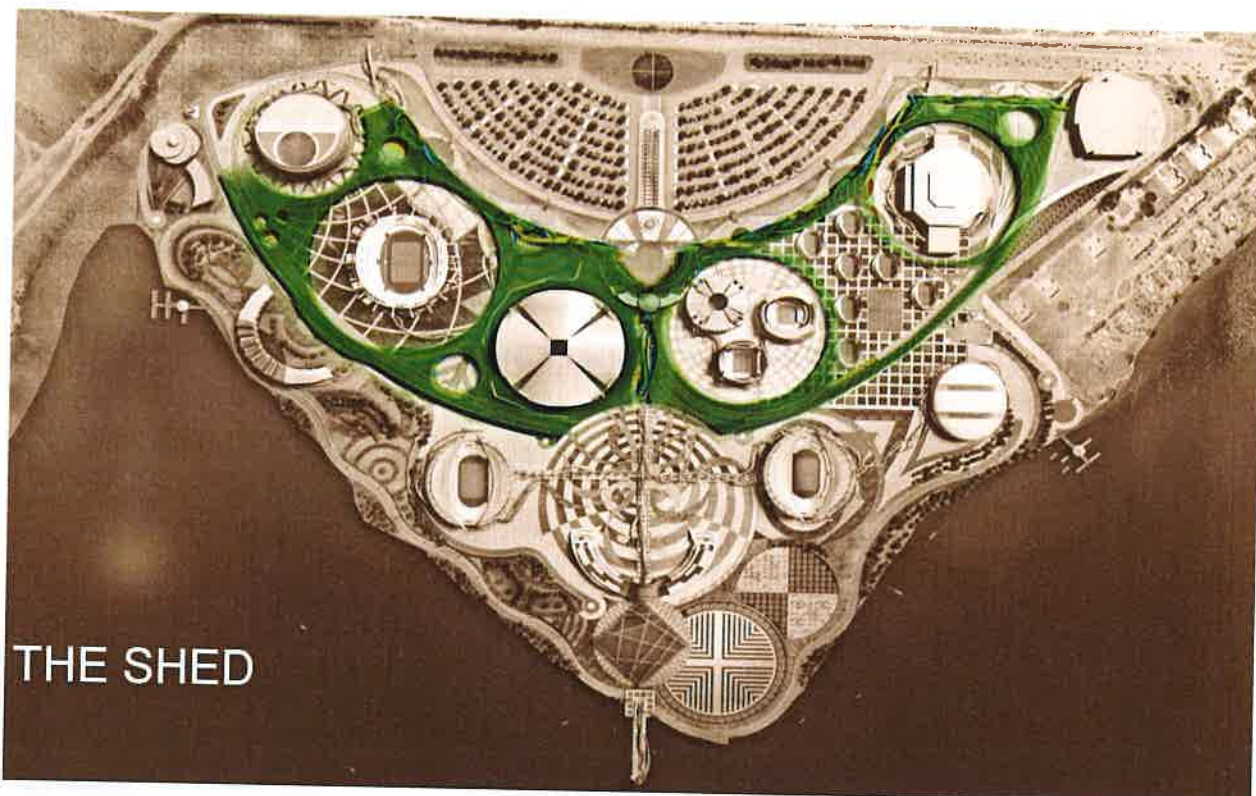


The Transition from Game Mode to Legacy Mode:

As mentioned above the plan is divided into 3 sectors, aside from the public access parking, the main sector which contains all the permanent and existing venues and represents 40% of the area, shall be turned into the Olympic sports center, while the other two sectors shall be redeveloped. The remaining two sectors, which contain the temporary venues shall contain the residential area of the Legacy mode, while still retaining it's large areas of greenery.

The Shed:

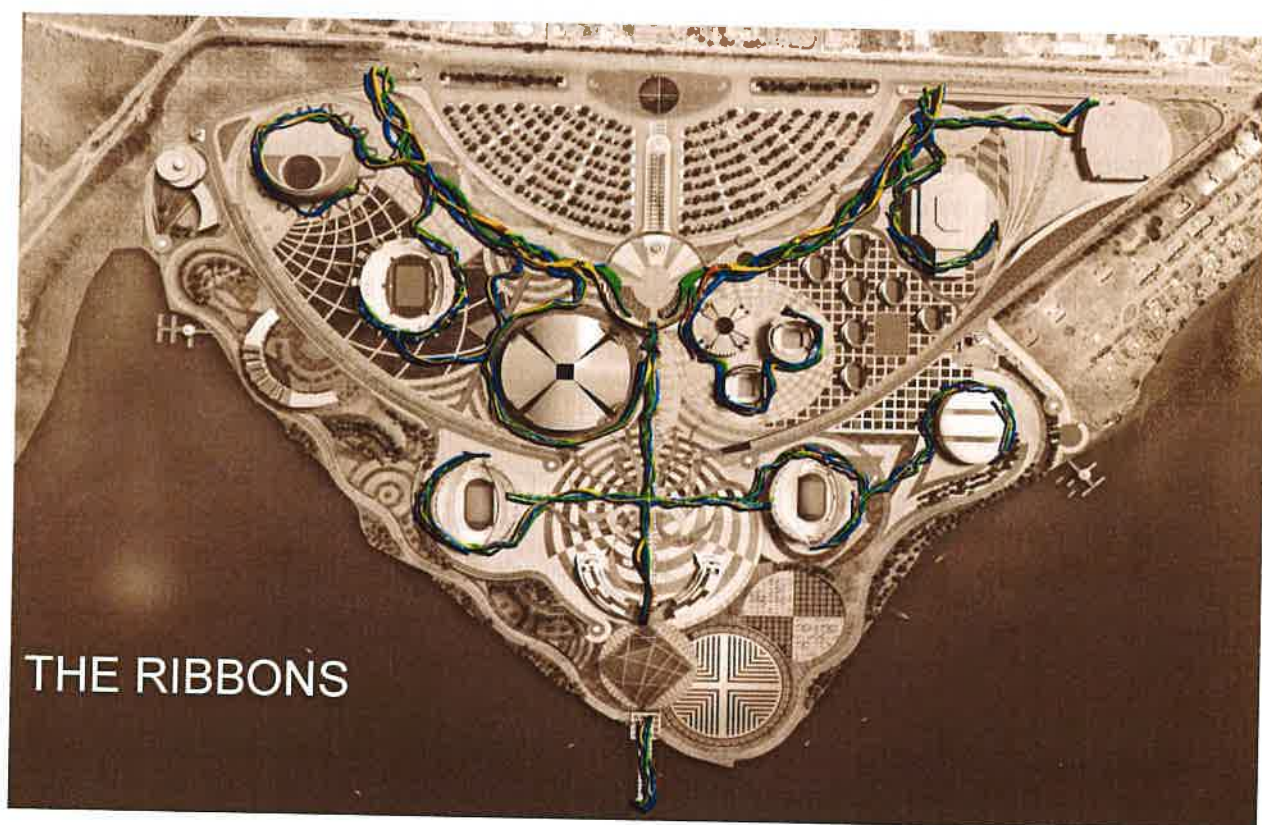
"The Great Shed" idea is merely to create a micro environment that surrounds the venues, enabling the visitors to move around in comfort. It acts as a great way of entertainment through large screens and sound systems. It also provides an easy way of direction and information, as well as a volume where temporary wiring or pipes can travel through. The shed acts as the artificial forest that engulfs the visitors in its arms entertaining and protecting them from the harsh sun. The shed also joins the venues together creating one big majestic dance floor that joins all the small parties and dance floors and combines them to create a single grande celebration. In the end, it is the Carioca way that sheds on this great event and that connects its games together.



THE SHED

The Ribbons:

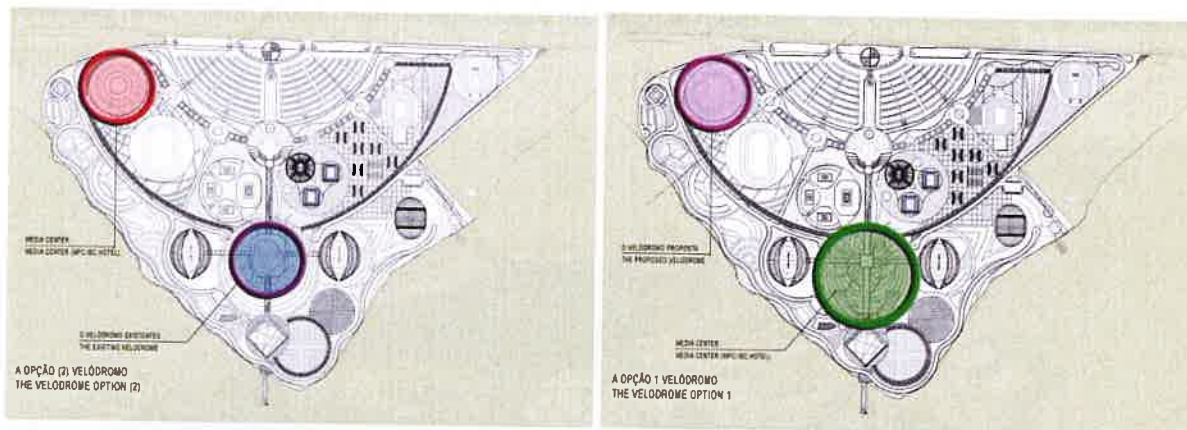
The dancing ribbons have a philosophical meaning besides their function. They are a physical representation of fun and movement, dancing in space representing the Carioca spirit surrounding the venues in a cheerful and festive atmosphere. Their function is to act as directional guides for the visitors on their way to the stadiums. They samba the visitors on their way to watch the event.



THE RIBBONS

The Velodrome Option:

The Velodrome proved to be a rather challenging aspect in the planning phase, but still two options were proposed. The first, and more recommend, one is to change the velodrome's location to the location seen in the layout, and thus continuing the flow of the central axis and keeping faithful to the original idea of sectors. The second option is to keep the Rio Velodrome in its original location and moving the MPC/IBC to the Velodrome's proposed location. The design concept is so flexible and powerful that both options are feasible and will virtually not cause any changes to the design plan or even the philosophy it represents.



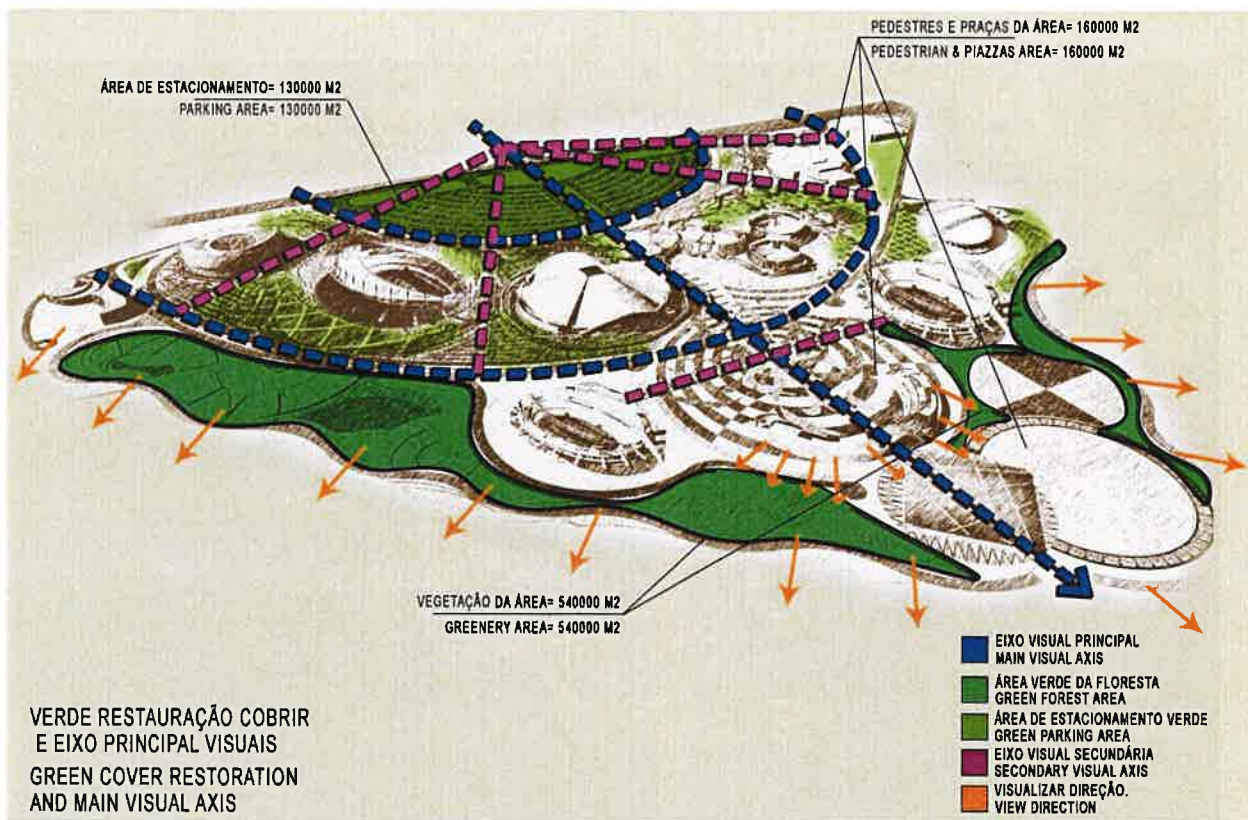
Sustainability and Greenery:

The landscape design in the site was based on, being bold and unpredictable while still trying to connect the park's feel with that of the city. While in the planning phase large areas of land were designated for landscaping out of a deep believe in the importance of greenery and its integration with the urban planning. The site has been designed as a green park or a forest that hosts the venues and buildings of the park. Greenery is important on so many levels. It provides a healthy environment for the athletes, the visitors and later on the residents, in addition to its psychological impact on people, greenery passively cools its surrounding by absorbing sunlight and heat, and by exerting water vapor. Beside the landscape's importance came its furnishing aspect which was to be another link between the park and the city/urban theme. The green areas are simply distributed in a manner that enables it to act as a form of border to the separate venues and as a border to the park as a whole. Finally, urbanization joins with nature to form a beautiful artistic painting.

The Cariocas have always lived in harmony with nature that surrounds them and the landscapes of Rio are the ultimate proof of this statement. As a result, sustainability and green architecture are very important aspects of the project for their importance in the Carioca way and of course for their huge environmental impact. The design tackles the issue of sustainability on many different levels. Energy use is minimized as much as possible through the use of renewable energy generation strategies. Solar panels were applied on several venues to decrease common power usage if not to totally replace it. The solar panels were applied to the roofs of the Velodrome, the athlete residential building, the Welcome Center, the MPC/ IBC building, the OTC halls and the medical center. Geothermal heating/cooling and trombe wall systems are proposed to cool/heat the Olympic Aquatics

stadium (and its Olympic swimming pool) and the athlete residential building. Also the OTC halls' roofs are proposed to be used as wind catchers to naturally ventilate the halls or at least the area surrounding the AirConditioned venues, thus lowering the temperature around them and the temperature difference. Large green areas, fountains and water bodies also help in passively cooling the surroundings, and thus decreasing the overall need for electricity and increasing individual comfort. Finally the use of sustainable materials and the reuse of building wastes are proposed to integrate the urbanization with nature. Walk ways and paths that are made of natural stone, pebbles, sand finished, wood and rough materials will integrate with the greenery surrounding it.

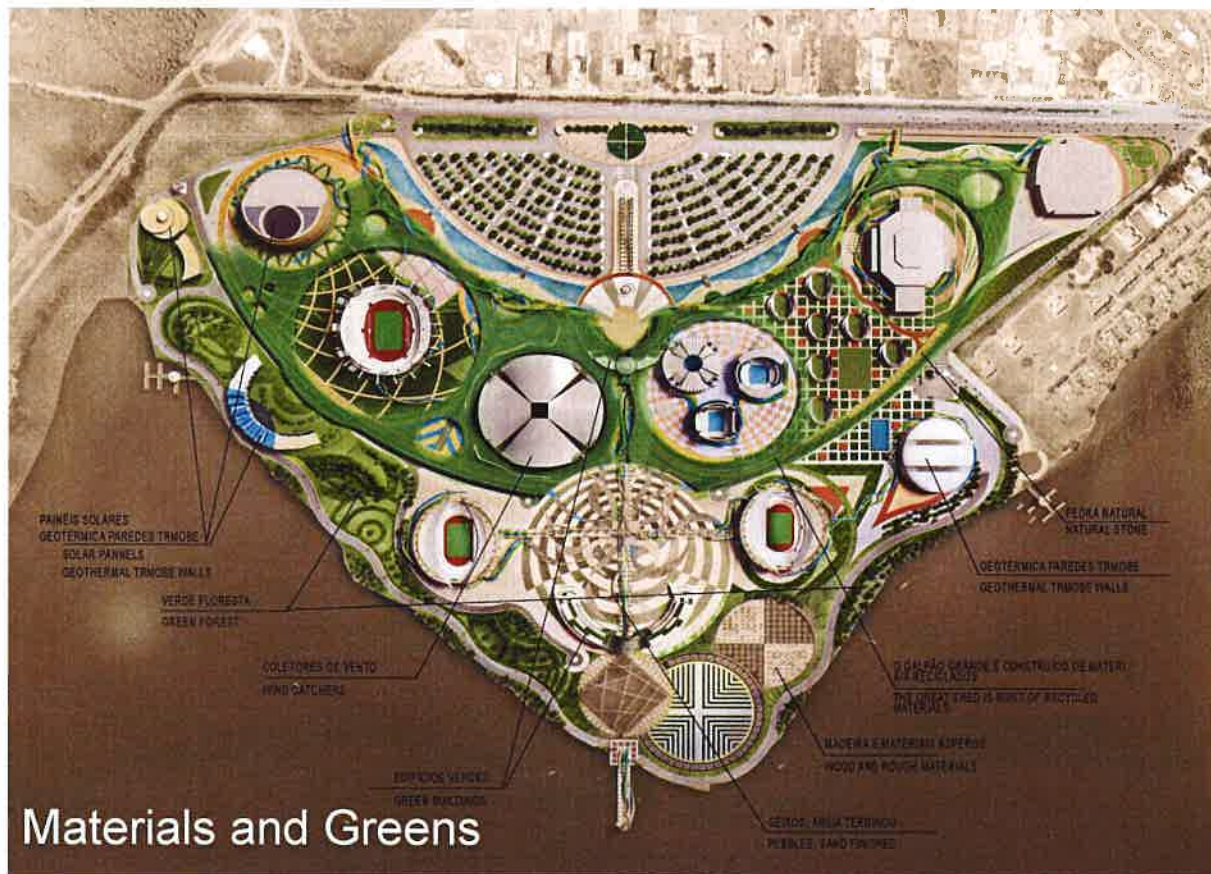
Piazzas and open areas with levels made of natural materials will complement the forests and greenery covered areas.



Materials and Greens:

The goals and the vision of the design set a really solid guideline for choosing the materials. Beauty, sustainability and the Brazilian eco system were the three basic and most important aspects that every choice had to adhere to. The shed had to be sustainably designed and so it is proposed to build the shed out of recycled metal, making it the largest recycled metal structure in the world, in order to raise awareness throughout the world for the importance of sustainable architecture. As for the walk ways and the different roads in the design it is proposed to use lumber, stamped concrete and the recycled stone (and other materials) remaining from the building process of the venues to finish them.

Choosing the flora was also a bit challenging due to the huge variety of flora that grow in Rio and Brazil but the following were chosen. The chosen trees are as follows, palm trees, *Eugenia Brasiliensis*, *Handroanthus Chrysanthu* and *Piptadenia Gohoacantha*.

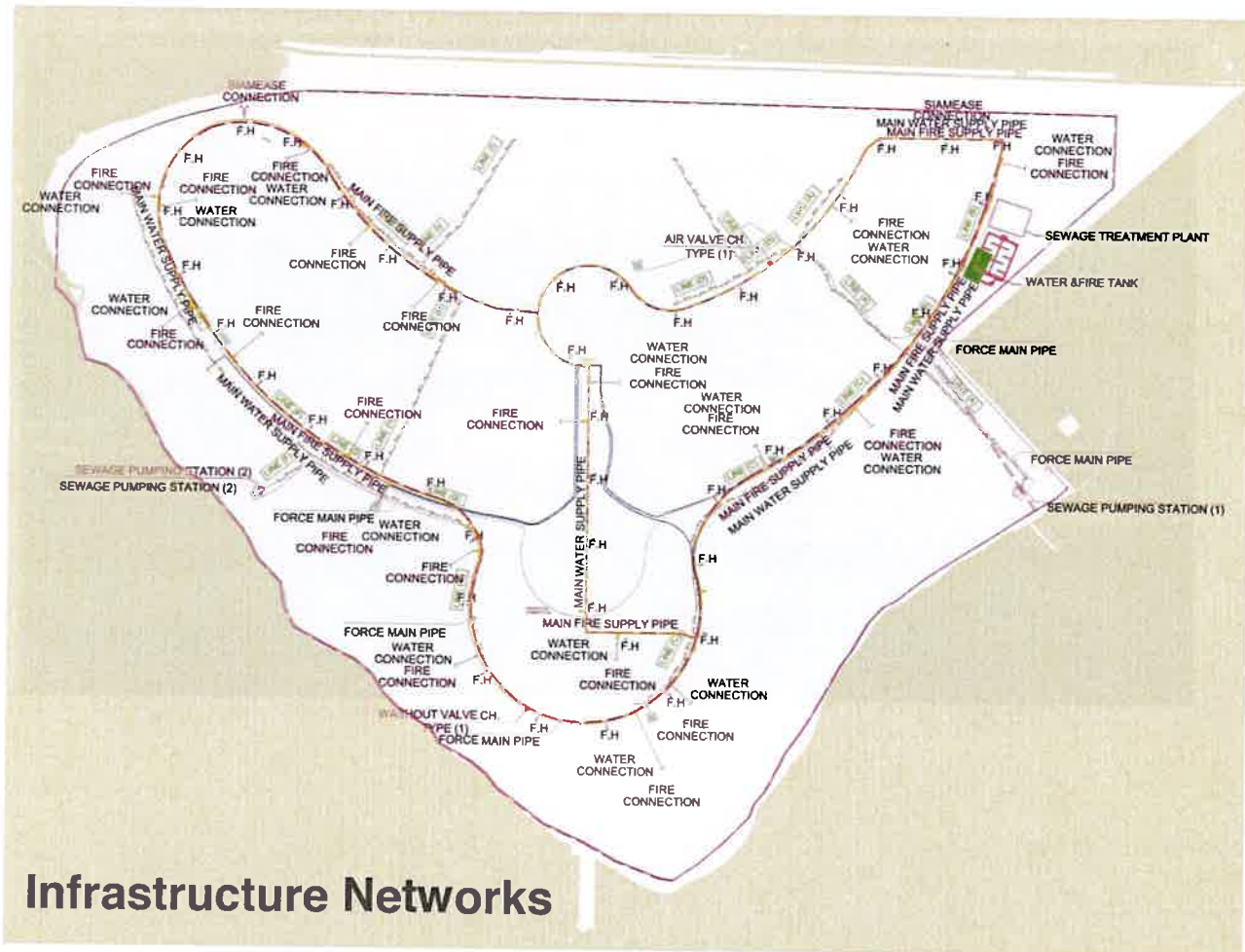


Infrastructure Networks:

Our design for electromechanical (plumbing – electrical – light current – fire fighting – air conditions and ventilation – mechanical) and infra – structures

(roads – potable water – irrigations – sewage – storm drainage – medium voltage – low voltage – communication Networks – sewage treatment plant unit – water reservoirs) will be according to the following parameters .

1. International codes .
2. Environmental requirements .
3. Depend on solar and wind energy when it possible .
4. Treatment of sewage water and recycle treated water to use in irrigation network .
5. The design will be as green house concept .
6. All networks (water – irrigation – fire - medium voltage) will be loop system to insure two sources for connecting building with main networks .



Infrastructure Networks