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Flávio Rolfsen Laurini Helps Renew
BRAZIL'S HORTOLÂNDIA CITY
WITH HORTOLÂNDIA VIVA

An urban architect based in

São Paulo, Brazil, Laurini excels

in creating beautiful public spaces

like city halls. His Hortolândia Viva

project is a large undertaking

that's transforming the nondescript

and flood-prone area of Hortolândia

city into a thriving community

with many environmental

and social innovations.

The landscape plan shows the design intent for the park to include hardscapes, walkways, and plantings.

Striving for Efficiency

Flávio Rolfsen Laurini began practicing as an urban architect after graduating in 2000 from the Pontifical Catholic University of Campinas in São Paulo, Brazil with a degree in architecture and city planning. He then worked at Q5 Arquitetos Associados in Campinas for 10 years before venturing out on his own. Laurini has built a reputation designing large public spaces, including city halls throughout the São Paulo State countryside. For this work, he has earned several awards, including an award for a marina and revitalization of the Historical Center in São Sebastião, bestowed by the National Contest of Ideas in Brazil.

Laurini draws his architectural influence from a bevy of award-winning designers, including Brazilian landscape architect Roberto Burle Marx, Finnish architect and designer Alvar Aalto, and Pritzker Prize-winning Brazilian architect Paulo Mendes da Rocha, as well as the modern Chilean architecture and the new generation of Brazilian architects.

So what differentiates sole proprietor Laurini from his competition? "I feel I come up with spontaneous and innovative solutions," the architect notes. He is considered a quick problem solver with a talent for well-executed graphics and architecture. Laurini also believes that the CAD software he uses has given him a competitive edge over other firms. "As a Vectorworks user, I am able to differentiate myself from the competition with high-quality presentations and fast design development," he notes, even crediting the technology with guiding the future of architecture. "I believe the tools for drawing in architecture and city planning are very advanced; therefore, each new version helps even more professionals create better work."

To bring his own architecture and urban landscape designs to life in both 2D and 3D forms, Laurini has relied for many years on Vectorworks® software for all stages of design, from concept to client presentation to construction documents. He uses the application for all projects, no matter the size—and sometimes integrates other software like Adobe® Photoshop and Acrobat® Pro. Laurini also enlists tools within the Vectorworks suite, like the Site Model within Architect, as well as the Renderworks® application. "I tried other solutions," he says, "but the flexibility of the Vectorworks platform makes the difference when it comes to 2D and 3D. I can do everything, from basic drawings to complex projects, and it's all very intuitive."

The Jacuba River drainage basin undergoes construction to make way for the revitalization project.

Changing the Tides with Hortolândia Viva

Laurini is relying heavily on his CAD tool of choice for the Hortolândia Viva project, a three-part plan to reinvigorate an environmentally and socially challenged area in the city of Hortolândia in São Paulo, Brazil. The three aspects of this government-funded effort include the 100,000-square-meter Chico Mendes Social-Environmental Park, a 30,000-square-meter landscaped garden with colorful playground and fitness equipment, and an urban intervention designed to improve 167,000 square meters of the Jacuba River drainage basin. The city's main goal for the project was to recover and preserve the environment by preventing flooding. This initial focus was critical because the nearby Santa Clara and Jacuba Rivers had silted up, resulting in great overflow during big rain events. Second, the city wanted to add more infrastructure and social amenities to the 21-year-old city of Hortolândia, which lacks the support and cultural attractions that many larger, more established cities enjoy.

Laurini's three projects for Hortolândia Viva fold into an even grander initiative called Hortolândia's Ecological Corridor, already operating in the central region of São Paulo. It is a project of 6,300 square kilometers of public areas ripe for preservation, leisure, and recreation. Hortolândia's Ecological Corridor is comprised of the drainage basin, dams, and linear park around the Jacuba River. Once completed, the new green space will extend the city's area by 10 percent.

Working closely with the Hortolândia City Hall and a company called the Santa Clara Consortium, Laurini created a design that accomplishes their specific goals to manage the drainage basin, erect parks and bike lanes, transfer families within the dangerous flood zone to safer areas, and invest in environmental education, among other ambitious social and environmental efforts like inspiring the public to occupy and enjoy the area responsibly.

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–Flávio Rolfsen Laurini, Urban Architect, Campinas, Brazil

The Hortolândia Viva project was split into three phases. In phase one, which covers the Chico Mendes Social-Environmental Park near the Santa Clara River, the city instituted a cleaning project to remove waste and then added trees to stabilize the ground because an established ceramic factory had used the area for transporting products and disposing of their manufacturing by-products.

In the second phase, Laurini's team created an extended leisure area of about 840 meters. Using weekday, weekend, holiday, and event traffic numbers, Laurini worked with the city to devise a good strategy for the use of the various public spaces they planned. He used the numbers to urbanize the preservation space with an interlocking concrete pavement promenade, concrete bikeway, and a small arena theater for events like concerts. This park is close to the downtown area, so it's very accessible to a large population. It's designed to provide a higher quality of life for Hortolândia's citizens. For instance, the Chico Mendes Social-Environmental Park offers personal trainers to teach people how to exercise correctly. It also includes woodlands, gym equipment, benches, and a green area within a playground. The budget of R$14.8 million was financed by the federal government's Project PAC (Government Program for Support for Development).

Laurini urbanizes the space with an interlocking concrete pavement promenade, a bikeway, and a small theater for special events.

For the third phase, the main Jacuba River project required removal of the siltation and the canalization of the water. The project team built two flood containment ponds, nicknamed Jac 1 and Jac 2, to work alongside two tanks on the riverbanks, all funded by a R$47 million project grant from Project PAC.

Laurini is excited to be working on such a transformative project, but he has encountered difficulties along the way. During the first phase of the project, for example, a huge rainstorm erased much of the work that had been started, so the construction had to begin again.

Another challenge Laurini faced was working with a pre-approved budget since the project was subject to change depending upon the unreliable weather. Using Vectorworks Designer with Renderworks software, Laurini overcame these obstacles, saving substantial time and money by creating a quick and effective means of collaboration. He started with sketches from City Hall's files, topography maps from the Santa Clara Consortium, and photos and information he collected

from the site. The software allowed him to create many different levels of the sketches, and this greatly improved his organization of the information. For instance, he used his sketches as a location reference and then converted them into DWG files for the topography staff members. These same files were also used by engineers for material specifications and quantities. Laurini says that during the execution of the work, "our files were, according to the engineers, 'the best in terms of precision.'"

The Chico Mendes Social-Environmental Park and the system of canals for the Jacuba River are completed, but the barrage is scheduled to be completed in December 2013. In the section of the river named Jac 2, the reservoirs of flood restraint, currently under construction, will stop the floods in the central region, as well as provide alternative ways of storing water for the 200,000 city inhabitants. Ultimately, there will be 1.2 billion liters of water stored, enough for one month of water for the city's population.

Laurini is proud of the results. "We worked within the budget and created a space that respects the environment and provides a pleasant, everyday place for walking or other forms of recreational activity," says Laurini. "Just the day after opening, people went there to enjoy leisure time with their families. We made an excellent transformation of the city area."

As Laurini seeks to improve other areas in this region, he can apply the learnings from this large-scale project. Creating a beautiful, livable landscape from a place of unpredictability is an achievement in itself.