



*Photo courtesy: Diego Otero*

## **From Channeling a River to Overseeing a Home Construction, Diego Otero Discusses the Many Hats of a Civil Engineer Project**

*Story by George North | Published: January 6, 2025 | Source: NY Weekly*

Each job comes with its own unique set of hats you have to wear. While, for most, these hats are not physical, they do represent the different jobs that are required within the overall field of employment. For many industries, these tasks are intrinsically related to each other allowing practitioners to learn each new job without too much effort. However, as a civil engineer project manager, Diego Otero must be able to schedule, plan, forecast, source and manage all the technical aspects of a new construction.

This of course requires a level of detail and determination which has taken Otero years to master. “At the beginning of my career, I didn’t get on top of plans, they got on top of me,” he says. Determined to change this, the Colombian born project manager has spent years dedicating himself to improving his organization and planning skills.

## So, What Exactly Does a Civil Engineer Project Manager Do?

They are the ones charged with the oversight of a given project. This means they have a hand to play in every aspect of a job. From the purchasing of the land to the planning of the building and eventual construction, Otero is there with a watchful eye, ensuring completion while maintaining high standards.

Currently working at OP Builders in Florida, Otero is focusing on house construction projects. Admitting “engineering projects no matter the size are my passion,” he has approached each new build with a measured approach. This approach he has learned over the many years of engineering projects he has worked on, taking lessons from each one.

A project that stands out not only to Otero, but also to his home country, was his work on the Las Ceibas River. The issue was simple enough to understand, “the Las Ceibas River was running perpendicular to the Magdalena River, and during periods of high flow, the Las Ceibas River could not easily evacuate all the sediments that the river carried, leaving it at the mouth causing a kind of dam.” While the locals, and Otero understood the issue at hand, finding a solution was going to be no easy matter.



*Photo courtesy: Diego Otero*

“By damming these sediments at the mouth, the river overflowed, when dammed downstream, there was flooded upstream,” he details. In order to solve these problems, the mouth of the river was going to have to be rechanneled, so that it flows parallel to the Magdalena River, without causing sedimentation in this area. For most of us, we have only ever heard of something like this in Greek Mythology, but Otero was ready to spring into action.

For the project to be successful, it was important for him to understand all the factors. The work had to be completed quickly as weather is unpredictable and floods can happen anytime. “After organizing the mouth, the work of channeling the river continued with retaining walls of up to 21 feet, reducing the cross-sectional area uniformly to 164 feet, the flow rate increased and by having a mobile bed, we now had to take into account the durability of the new river bed,” says Otero, when discussing one of the hurdles they had to consider.

In order to handle this they set up transverse structures along the new Las Ceibas riverbed. “These structures were like little dams, under the water and 6 and a half feet above the natural terrain at the river bottom.” What these did was essentially slow the flow of the river down during times of heavy flow and helped to reinforce the 21 foot concrete retaining walls. In the transverse structures were built other elements added in such as drainage pipes and serrations along the walls themselves which help deal with the issues of overturning and displacement of all the structures.



*Photo courtesy: Diego Otero*

The completion of such a monumental project can't be overstated. Otero helped spearhead a project that had a huge impact on local life. It provided relief from the constantly overflowing Las Ceibas river, with a unique solution. This, Otero says, "is my favorite project I have ever worked on." However, currently he is working on slightly smaller less Herculean tasks such as overseeing the construction of houses.

His work rechanneling the Las Ceibas River was on a massive magnitude, one that he does not even touch during the building of houses. But the project manager is content, "engineering projects are my passion, big or small they all have their magic touch." As such he approaches each new one with the same level of planning which went into the rechanneling.

This involves Otero believes, "setting the stage to develop the plan and defining the result or mission of the project for my clients." His main focus for any project is to ensure that he achieves the intended goals set forth by the client. He does so by meticulously planning each stage which includes preparing for any possible delays or issues that occur.



*Photo courtesy: Diego Otero*

While his career has been both long and successful, Otero believes he owes a lot of his success to running. The discipline instilled in him from sticking to his running schedule has allowed him to flourish in both his professional and personal life. The Colombian born project manager has learned, "the key is not in the hard work, but in the strategy."

With this ethos Otero has set himself apart as one to look out for in the future. With the success of his projects at OP Builders continuing, he has one eye towards the future. Looking at his industry as a whole he says, "I see it evolving and becoming more efficient in terms of time and

costs as we continue to implement new technologies including Artificial Intelligence.” The future doesn’t end there as the materials will continue to get lighter and stronger, and the impact on the environment will continue to shrink.

So, whether channeling a river or building a house, Diego Otero can do it all. His projects may have gotten smaller in size, but not in importance to him. And with his attention to planning and details, anything is possible. We look forward to watching his future unfold, overseeing the construction of beautiful houses while continuing to push his limits on his daily run.

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