



OCTOBER 2019



## **COASTAL RESILIENCE**

## Coastal projects bring Stantec a flood of work

The Canadian engineer may have stepped back from design-build work, but protecting coastal communities from storm surges has provided a new opportunity for growth.

limate change is coming to red states, and Canadian engineer Stantec is finding a big appetite for green solutions. The company has worked on a string of projects along the Gulf coast in Texas and Louisiana which could provide the model for climate change adaptation projects across the world.

New Orleans-based Steve Mathies, who is Stantec's coastal restoration and resilience practice lead, believes that it is impossible to live on the Gulf Coast and not see climate change. "For those of us who grew up here and lived through all of this, when you talk about climate change, sea-level rise, an increase in frequency of storms and intensity, and more heavy rainfalls, for us that's not an abstraction. It's something that we live every day."

It has led to Stantec being involved in the \$15 billion refit of New Orleans' hurricane protection infrastructure in the wake of Hurricane Katrina. This involved building three stormwater pump stations whose combined flow makes them the biggest in the world. But that is only part of the story. The company is also working on the Mid-Breton Sediment Diversion project for the state of Louisiana, and blue-green infrastructure projects for the City of New Orleans to ensure that stormwater in the city does not overwhelm its pump stations.

The sediment diversion project has been a long time in the making. Ever since the levees were built along the Mississippi river in the 19th century, it has been known that they were a mixed blessing. Mathies cites an article in National Geographic magazine from December 1897. "They said: 'You can levee the river and you'll have this great expanse of agricultural production for two or three generations, but you will starve Louisiana of the annual overflow of the river and sediment. But no big deal. You will have all these resources and you've got time to address the problem.' That was in 1897. Nothing was done." The Mid-Breton project takes 75,000 cubic feet per second (2,123m³/sec) off the Mississippi river and diverts it into neighbouring marshland, where its sediment creates a buffer against storm surges and hurricanes for New Orleans.

The project marks the beginning of a

## **GROUND ZERO OF THE CLIMATE CHANGE MARKET**

14 years after Hurricane Katrina, the Mississippi Delta has emerged as the starting point for a rapidly growing market in nature-based solutions for climate change adaptation.



market which is taking off across the Gulf region, driven by the fact that the economics of flood protection are changing. "When you did the math, it was 'OK, what's most cost-effective?' It was an economic driver," said Mathies. "'Do you spend the money to armour and protect or do we just rebuild once it is destroyed?' The math said, 'It is more economic to rebuild after.' But now, with the frequency and intensity of storms changing, the math is changing."

Mathies believes that the experience of Katrina, Harvey, and Sandy has made it easier to sell projects before disaster hits. Those who have been hit by disaster are also becoming more open to green solutions. "Once people get past the initial reaction of 'I don't want a flood again' and start looking at the price tag for building protection and then the maintenance of that protection, they are much more willing to say: 'Well, is there an alternative?' I believe that there has been a dramatic shift in people's minds about what protection looks like."

There has also been a big change in how projects are coordinated. In the past,

the response to disasters was typically left to the federal government. Now, cities and states are taking the lead in addressing their own vulnerabilities, in coordination with larger federal projects. "It is an integral system, and there are pieces that need to come together to get that overall protection from these flooding events and these increased storm events," Mathies states.

Stantec has just won two major projects in Texas for coastal armouring and protection. Marshall Davert, Stantec's executive vice president for water, feels that these opportunities help justify the company's strategy for acquisition-led growth. "Why get big?" he asks. "You get big because you get scale, you get balance sheet, you get global expertise that you can move around the planet. For these big projects, you have to mobilise hundreds and hundreds of people to do the work. If you have 5,000 people doing water like Stantec does, we are able to mobilise people quickly for projects like this. We can bring lessons learned from around the world. Scale and global expertise do matter." ■

**26 / GWI** OCTOBER 2019