

Bell Trucks help R&T Ellis to build largest roller-compacted concrete development in the world

Northeast of Houston in the United States, in the town of Plum Grove, a new subdivision is quickly growing with plans to be one of the largest in the area.

The Santa Fe subdivision is being developed by Colony Ridge Land, LLC as part of a number of new communities they are creating in this once sleepy part of Liberty County.

The 6 400-lot restricted residential neighbourhood and mixed-use community broke ground in March 2017 with section one of four, consisting of a total of 4 400 acres. To create such a large development Colony Ridge turned to R&T Ellis, Inc. of Cleveland, Texas for the over 70-miles of roads that would be needed in this section alone.

Patrick Thiel at R&T Ellis is the one who convinced Randy Ellis that this was a perfect project for them. "With experience in site work prep including clearing, grubbing, digging

ditches, building roadbeds and delivering soil stabilisation, RT Ellis was in a unique position to provide a comprehensive turnkey solution to the owner by adding RCC paving," said Patrick. "This was and is a natural fit that will deliver value to the owner, the industry and the community."

R&T Ellis worked closely with the owner and Liberty County to come up with specifications and plans for the new roads. They decided on Roller-Compacted Concrete (RCC) as the pavement method of choice.

RCC is made up of the same ingredients as a conventional concrete mix (cement, water and aggregates), but uses a much drier mix than conventional concrete. The

mix is placed with high density asphalt paving equipment then followed by additional compaction with rollers.

For most of the roads in the subdivision, R&T laid down the pavement out of a paver at 5.5 – 6 inches at 4 400psi, but for the major thoroughfares, they used 7 inches that they then compacted with a rubber coated double drum roller.

Going Above and Beyond

While the specs didn't call for it, R&T Ellis chose to go above and beyond with the project by adding expansion joints with fibre-fill and sealant every 500 feet and at every cold joint. "The specs that we had didn't originally call for the expansion joints but we knew that without them there was

potential for road blowouts," says Patrick. "We elected to go in and cut out and install the expansion joints to help ensure that wouldn't happen."

"I wanted to make sure we were doing this project the right way and perfecting the RCC technique here so that we could show other developers that this is a great method for building roads," said Randy Ellis. "We believe what we've done here is something that plenty

of other people are going to want to copy, and we've got the experience and expertise to do it for them."

Bell Trucks provide perfect fit

With the plan set, R&T Ellis needed a way to transport the concrete plant on site to the paver. For this, Kevin Phillips of Four Seasons Equipment had the perfect solution: "When Randy told me they were looking for trucks for this project I knew the Bell Trucks would be perfect for him. I showed him the new B20E model

and within three minutes of seeing it, he was sold."

"The best part about the B20E was the size of the bed. It fit into the hopper for the paver we had without needing to take three or four attempts to line it up just right," says Randy.

Another important factor was the low ground pressure thanks to the low profile, extra wide 800/45 R30.5 tyres that provide significantly



reduced ground pressure and market-leading flotation in very muddy or soft sandy underfoot conditions. This was important since the development has extremely fine-grade soil that most other trucks would get stuck in. “This is the best low ground pressure machine on the market,” said Mitch Nevins, CEO of Four Seasons Equipment and Bell Trucks America.

Since these were the first four B20Es sold in the United States, Four Seasons Equipment brought out two

Bell Trucks technicians to help ensure the R&T Ellis was getting everything they could out of the trucks. “We know how important uptime is to any contractor, so we wanted to be out here to make sure they weren’t having any trouble with their new machines,” said Kevin.

With Section One nearly completed, R&T Ellis has started to clear the next phase of the development. The over 6 000-acre section will require an additional 130-miles of roads, but Randy isn’t worried.

“We continue to learn and improve based on our experience from Section One, and we are excited about carrying this knowledge on to the remaining sections and the next phase,” Randy said. “It has been a pleasure having a collaborative environment with the owner and Liberty Country to deliver this high-quality pavement for their residents.”

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From left: Kevin Philips (Four Seasons), Shane Welch (R&T Ellis), Randy Ellis (R&T Ellis), Jan Prusinski (Cement Council of Texas) and Patrick Thiel (R&T Ellis).