Rollforming SERVICES LIMITED

Steel Component Manufacturing for Smart Construction





Rolling out some community good

Being called upon to assist with a meaningful prototype housing project has been a thrill for the Rollforming Services (RFS) team.

What is extra special is that the project's objective is to deliver low-cost housing and worthwhile employment for the Maori community in the far North.

Called Te Whare, the project has been assigned by the Nga Whare Tahi Ltd, a not for profit organisation, with the first whare being built at the Ngaiotonga Marae in Whangaruru.

Licensed building practitioner and architect Robert Adams says the 30 square metre dwelling, which incorporates one-bedroom, bathroom and kitchenette, is a proof of concept project that is the first step toward a solution to long term unemployment and housing shortages among the region's Māori community.

Robert identified that steel framing was the way to go as it is manufactured with "high tech automation but requires low tech labour to put together". The latter is particularly significant in this case as many involved in constructing the whare are learning skills along the way.

Development of Te Whare prototype has involved a collaboration of parties including RFS which provided the detailing, roll-forming and expertise (in terms of training) in assembling the profiles. NZ Steel donated the steel which RFS roll-formed for free.

The framing is assembled by volunteers in the community, with the free-of-charge guidance of RFS Steel Specialist Mark Armstrong, and Robert working alongside.

"Te Whare confirms that low-cost housing with light gauge steel framing can be built with relative ease, without highly skilled labour, and in a short period of time," Robert is happy to report.

The steel framing for the prototype was put together in four days, and that included time spent on the foundation.

The general consensus is that Te Whare is proof that almost anyone can be taught to assemble walls, floors and roof panels to form house framing. It is like putting together a Meccano set with the guidance of drawings!

The lessons went beyond that. Robert not only designed the structure, he provided training for the completion of the rest of the house, such as cladding and flooring details.

According to Te Whare masterplan, other such homes will be built on iwi land. Funding applications will be made for materials, and labour will be provided by community members who will receive training from registered tradespeople like Robert. Self-sufficiency will be the prominent theme; the homes also will be powered off the grid, and have their own sewage and water tanks.

About the structure:

Te Whare prototype consisted of 37 panels. This comprised 11 sub-floor panels (150mm framing); seven roof panels (150mm framing); five floor panels (90mm framing) and 14 wall panels (90mm framing).

The steel profiles were flat packs to be assembled and installed onsite. In addition, 11 panels were manufactured for the assembly table, which was also assembled onsite.

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