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# ROOM TO WORSHIP: LINCOLN BAPTIST CHURCH

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STRUCTURAL LVL  
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90®

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LVL SCAFFOLD  
PLANKS

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LVL FORMWORK  
BEAMS

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FORM®

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LVL FORMWORK  
EDGE BOARDS

edge  
FORM®



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## PROJECT SPECIFICATIONS

### PRODUCTS:

hyONE®, hy90®

### ENGINEER:

LHTDesign

### FABRICATOR:

Ahead Buildings

### CONTRACTOR/BUILDER:

Ahead Buildings

On any build the team involved aims for the project to come together quickly and painlessly. A winning combination of clear communication and being able to offer flexibility with a product or service can make the world of difference, especially when adhering to a strict budget.



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Size really does matter – especially when keeping up with a growing congregation. The Lincoln Baptist Church in Christchurch is building with the future in mind. With a limited budget the brief to Mike Grace, Ahead Building's South Island Construction Manager, was initially simple: the church needed a specific footprint built at the least possible cost.

For Mike, the most cost effective choice for the large scale project was Futurebuild® LVL (laminated veneer lumber) from Carter Holt Harvey® Woodproducts. "Using the Futurebuild LVL range was the obvious choice based primarily around cost and design," he says.

"What we've come up with is a main auditorium measuring 28 metres by 28 metres. Basically we've given them a big box with a smaller lean-to at the side. Usually we would buy billets 1200 mm wide but on this occasion the size and length of the main centre rafter (17.400 m) was too big to manhandle so we got CHH Woodproducts to cut them to width (950 mm) and to the lengths we wanted which we then trimmed up. Then we drill and dowel them all for the joints, glue steel pins into them, then slide the next lot onto it and glue it together."

The frame was then put together on site and lifted onto the hy90® legs (950 mm wide by 90 mm thick) by crane. The height is 7.44 metres at one end and 4.29 metres at the other. "Absolutely bloody huge", confirms Mike.

Ahead Building originally planned to use hySPAN® but once the concept was in front of the engineers, LHTDesign in Hawkes Bay, their advice was to use hyONE® (premium Futurebuild LVL in grade strength) for structural support. Senior Design Engineer, Bryan Greig, says the brief called for a timber portal frame that would hold the entire building and hyONE was ideally suited to a

long mono span. Yet, "because the span wasn't quite long enough to use a composite beam like a box beam there was some flexibility needed in getting the result we wanted."

There are three portal frames with all the portal frame members 950 x 90 mm hyONE. The rafter is made up of three pieces of hyONE (7.450 m, 17.400 m, and 5.250 m).

That CHH Woodproducts was able to customise the order ensured a time efficient and achievable result. "Futurebuild LVL hits the nail on the head, and the price point, for this job. It has strength, looks good and, importantly, it's a sustainable product that has natural warmth to it," he adds.

LHTDesign Project Leader, Esther Smith, explains that the new Lincoln Church needed the strength without additional costs. "As there is just one pitch, not a roof line, Futurebuild LVL was the obvious choice. We also effectively used 600 x 90 I-beam purlins (with 45 mm top and bottom chords) between the rafters creating portal frames that support the whole strength and length of the building."

In addition, the smaller lean-to (20 metres by 12 metres with a height of 2.4 metres) consists of four portal frames with all the portal frame members 350 x 90 mm pre-cut hy90, as are the side walls for joining panels.

Essentially, says Mike Grace, the new church will house up to 500 people with the opportunity to extend without having to expand the outer building. "Within the auditorium we have used partitioning to make up the main hall, a prayer room and a parents room. All the internal walls making up these areas can be removed when or if they choose; giving our client a clear space should they need it. The idea is that the building has room to grow and accommodate the congregation's needs."

Once completed, the Lincoln Baptist Church will have a beautifully designed space that fulfils a functional purpose for everyone that worships there.

