

“Around the show caves”

Te Anau Glowworm Caves, New Zealand

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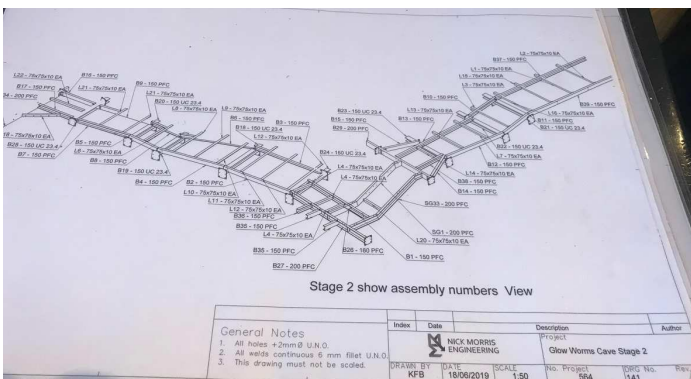
Work is progressing to replace the last 80 metres of original walkways in the cave. This is the final piece in a walkway replacement program that has been ongoing over a number of years. The priority, this time, has been to remove foundations from sitting on ledges that have been subject to time-related erosion from the streamway in the cave.

Some will recall that, about the time of the 2017 ACKMA AGM, I took a tumble when a ledge let go. This required a focus to design the new structures without reliance on ledges for walkway supports. This original section of walkway, now being replaced, was built in the early 1950s. The new walkway along the streamway needs to be very robust, despite being 1.5 metres above the normal water flow, because, at times, the narrow canyon section of cave will be totally submerged under the rushing water.



Above: Fitting the frame

Below: An example of a layout plan



The design needed to include all our path junctions

The new walkway has been prefabricated using measurements that were obtained from 3D-scanning the section - with reference to the contour of the walls at the new walkway level. The parts are all pre-drilled, pre-cut, pre-painted and have fitted better than anyone could have hoped for. Stairs have replaced inclined ramps in two locations.

Despite the scale of the job, the cave has remained open throughout the works, with engineers positioning the new sections - to check for fit; slotting them in between the old handrails and slightly above the level of the original walkway - outside the tour timetable.

Once the mounting plates were bolted to the walls, the cross-members were removed until time for final positioning. A team would follow the engineers to grout behind the plates. In places, the new walkway surface spans the cave's passage from wall-to-wall. A new lighting loom is also to be installed as part of the present works, with an upgrade to slightly newer technology. New data cabling will also enable improved data collection and communication to the surface.

There has also been an upgrade of the real-time rock monitoring system installed in the caves. New sensors have been fitted and the whole system linked to a web portal and text alert system advising of any movements of key features along the tour route. Once the new data cables are in place, this system will be upgraded further to include cave climate data and water flow sensors.

The team at work

