



Stormwater360 was commissioned to carry out the design and installation of the living roof. Using the LiveRoof pre-vegetated modular system. Stormwater360 designer Greg Yeoman discussed the design. "The brief was to incorporate local grasses and stonecrop sedum. From this, we developed a palette of grasses suited to the lightweight pumice-based growing medium and mixed in locally sourced thyme for aromatics and sedum for colour." The design layout interacts with the surrounding hillside, where 4,000+ native plants and trees are being re-established as part of the development. "The flowing lines of the plant groupings emulate the hill contours. The dramatic hillside is a great backdrop with the scarred sluice marks from the old gold rush days and rugged central Otago grasses."

The 900m² LiveRoof system by Stormwater360 is designed for biodiversity, evaporative cooling (using process water), heat retention and aesthetic enhancement of the barrel store roof. Installation of the living roof was completed 30th March 2012 and due to ease of installation of the pre-vegetated modular system took 4 days to complete. The roof can be viewed looking down from the Mt Difficulty restaurant and tasting room while enjoying a glass your favourite wine.

At the time of completion, the 900m² living roof was the largest single extensive living roof in New Zealand.

Mt Difficulty had to scale up their boutique winery to cope with the demand. In an effort to cater for the larger volumes of wine, a new barrel store was required.

"The Mt Difficulty Winery was designed as a low-energy-input winery. The entire winery is housed in insulated buildings, and our new barrel hall is sunk below ground level to enable even more stable and lower energy inputs. Any tanks which are housed outside are also insulated. Our policy has always been to build in energy efficiency for the long term and to seek out innovative technology to keep us ahead of current practice. The Mt Difficulty vineyards are managed in a way that reflects our commitment to be as gentle with the environment as we possibly can. We use no harsh insecticides or herbicides, preferring softer alternatives instead, many of which are organically certified," (Mt Difficulty Wines).

The task for the new barrel store in Bannockburn, Cromwell, New Zealand was to create a temperature-controlled and environmentally conscious space that would fit into the surrounding Central Otago landscape. Winemaker and General Manager of Mt Difficulty wines, Matt Dicey, worked alongside Wild Rooster Design to develop a design to fit the brief. The resulting building is an earth-toned exposed aggregate pre-cast panel construction buried back into the hillside with a vegetated living roof covering the entire 900m² roof footprint.

Temperature control is a vital component of winemaking and was a key factor in the design. Matt Dicey comments, “In many ways, the design revolved around the functionality of the space. In an effort to keep the temperature at the correct constant temperature the building is set into the earth hillside at the back sides and a 150mm deep vegetated roof is being installed on the insulated roof slab. By spending a bit more money at the start on the design and construction, we will end up saving a lot on money on heating and cooling costs.”

