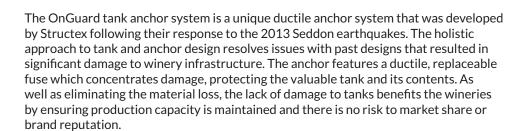**1** Installed tank anchors.   **2** Close up of the tank anchors once installed.   **3** OnGuard anchor range.

ONGUARD TANK ANCHOR DEVELOPMENT AND EARTHQUAKE RESPONSE TO THE WINE INDUSTRY
Structex for Yealand Estate
Project Location: Seddon

The OnGuard tank anchor system is a unique ductile anchor system that was developed by Structex following their response to the 2013 Seddon earthquakes. The holistic approach to tank and anchor design resolves issues with past designs that resulted in significant damage to winery infrastructure. The anchor features a ductile, replaceable fuse which concentrates damage, protecting the valuable tank and its contents. As well as eliminating the material loss, the lack of damage to tanks benefits the wineries by ensuring production capacity is maintained and there is no risk to market share or brand reputation.

The Kaikoura earthquake of November 2016 brought about more damage to the Marlborough wine industry, this time more widespread and with a short timeframe for repairs to be implemented before the 2017 vintage. For wineries, such as Yealands Estate, where Crown Sheetmetal had OnGuard anchors installed, the extent of the damage was reduced while many older style tanks and anchors failed spectacularly. Structex again assisted with the earthquake response, providing assessment of tanks and specifying a variety of repairs. The simple design of the OnGuard anchor allowed it to be retro-fitted to vulnerable tanks, and utilising capacity design meant that even under-designed tanks could be afforded better seismic performance in the future. Further innovation has arisen following the quake, with the OG Pro Max system being implemented where existing foundation slabs are inadequate to secure the anchors.

OnGuard has launched the anchor system in California with the first installations completed in 2016 and several more now complete or on order. With New Zealand and the United States considered leaders in wine industry technology, the adoption of the OnGuard system by some of the largest and most reputable brands demonstrates its uniqueness and success at mitigating a serious risk to the industry.