



1 Overall image of the roundabout in context to the geothermal landscape. 2 Rain garden along pathway. 3 Centre RTB seat over sculpture foundation. 4 Cocentric circle design within the underpass. 5 Sculpture foundation. 6 Geothermal lake along the location.

SH5/SH30 HEMO GORGE INTERSECTION IMPROVEMENTS

WSP Opus for NZ Transport Agency

Project Location: Rotorua



The intersection of Old Taupo Road (SH5) and Hemo Road (SH5/SH30) in the Hemo Gorge at Rotorua's southern entrance, was identified as the fourth riskiest intersection in New Zealand. WSP Opus were engaged by the NZ Transport Agency (NZTA) to undertake the integrated planning and design for the SH5/SH30 Hemo Gorge improvements. Work commenced late 2013.

Our solution was to replace the T-intersection with a roundabout to improve safety for drivers, cyclists and pedestrians, therefore reducing the risk of death and serious injury crashes. Fulton Hogan were the Contractor and undertook the physical works, which started in April 2016.

The reconfiguring of the intersection encountered issues and challenges, including the geothermal nature of the site and its high cultural significance for tangata whenua. The project also required detailed consultation to ensure sensitive elements were protected. All these elements had their own complexities, many of which were exclusive to the geothermal location and required innovative design, planning and engineering solutions, including:

- Innovative use of planning techniques due to complex ownership of land.
- Elevating the roundabout to provide grade separate pedestrian and cyclist facilities, while reducing the risks associated with the accumulation of geothermal gases.
- Design of a geothermal blanket to protect installed infrastructure by deflecting heat, and preventing build-up of geothermal gases in the underpasses.
- A sculpture at the southern entrance acknowledging the mana whenua and celebrating Rotorua's uniqueness.

The physical works were delayed due to unforeseen circumstances which WSP Opus adapted to. NZTA were pleased with the project management and outcomes. Construction was completed in March 2018.

Judging & Copyright Statement

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