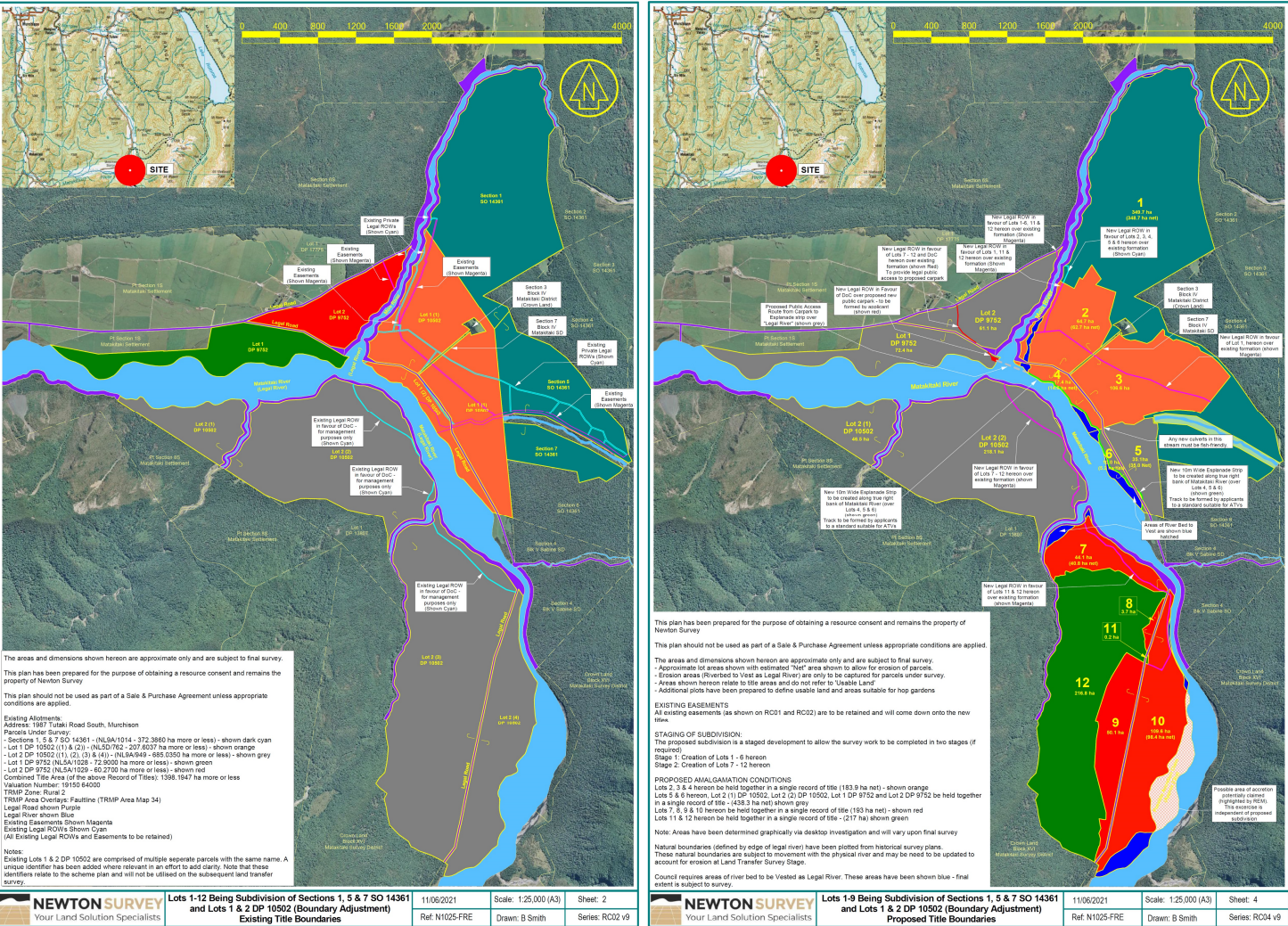


CADASTRAL SURVEY OF THE YEAR 2023 FINALIST
DP 572823 – BEN SMITH – MOUNT ELLA STATION

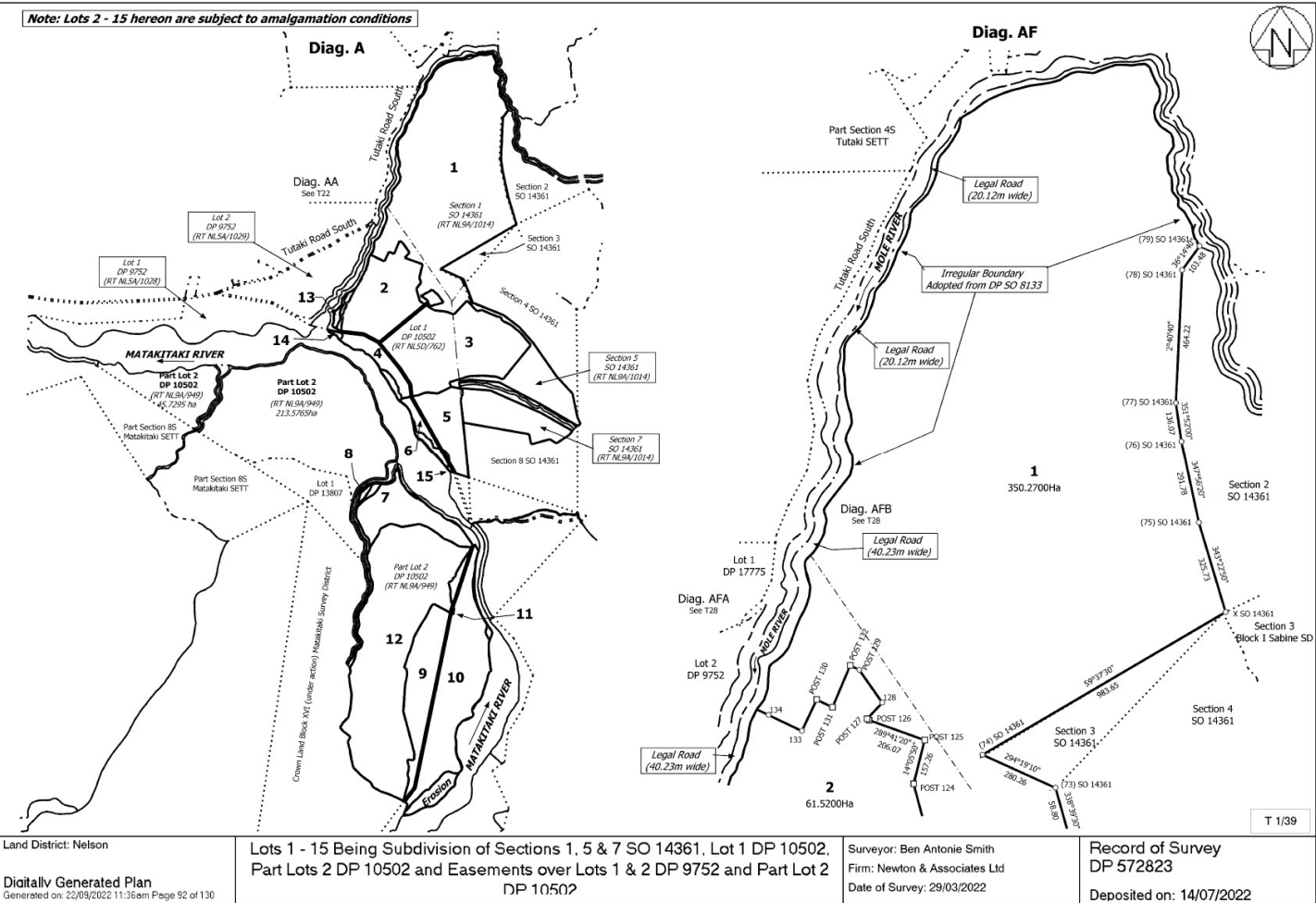


NEWTON SURVEY
LAND SOLUTIONS

Lots 1 – 15 Being Subdivision of Sections 1, 5 & 7 SO 14361, Lot 1 DP 10502, Part Lots 2 DP 10502 & Easements over Lots 1 & 2 DP 9752 and Part Lot 2 DP 10502



The scheme plans above depicts the subdivision with the existing title arrangement shown left and resultant titles shown on the right. The coloured graphical representation of the titles 'before' and 'after' helped aid discussions with clients, Council, and other interest groups.



An extract from DP 572823 showing resulting primary parcels is shown above.



Static GNSS was utilised at the beginning of the project to establish a robust control network over the site. The above photograph (facing north) shows a GNSS receiver setup on an old trig station with Lot 7 shown in the foreground and the Matakaiti River shown in the distance.

DP 572823 was completed to facilitate the conversion of Mt Ella Station from a remote dairy farm, east of Murchison, to a large scale hop growing operation.

Newton Survey assisted the client from the initial concept stage, through the resource consent process, land transfer survey and various other survey related aspects associated with the proposed development.

The primary objective of the subdivision was to rearrange existing title boundaries to better align with the topography of the site. Five existing titles were rearranged to facilitate the staged purchase of land suitable for hop growing with the balance to remain for grazing. The coloured graphical representation of the titles 'before' and 'after' helped aid discussions with the clients, Council, and other interest groups.

The survey presented numerous physical and technical challenges, so a variety of survey techniques were integrated to achieve the desired outcomes as efficiently as possible.

Other challenges included the remote location of a very large site, negotiation with various interest groups, realignment, and formalisation of public access to the adjacent national park.

The land transfer survey was complicated by existing and new easements, natural boundaries, irregular boundaries, erosion, and poor misclosures in historical survey work completed prior to the 1929 Murchison earthquake. In addition to this CSD, a proposed accretion claim is currently underway (captured on a separate dataset). Newton Survey prepared various plans that helped inform the negotiations and agreements.

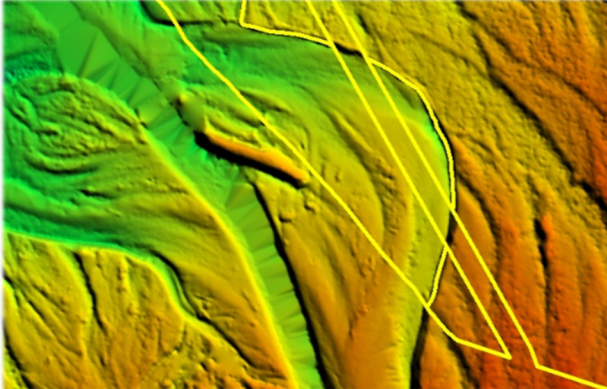
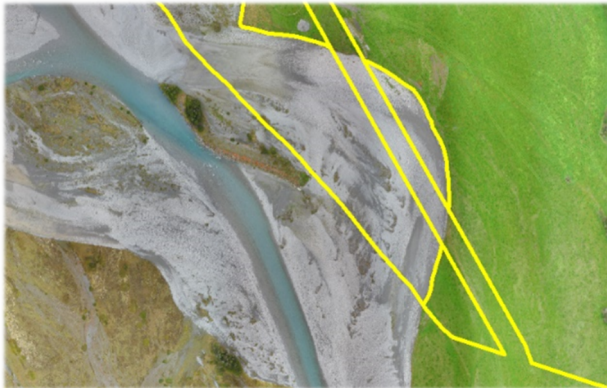
Various survey techniques and equipment used throughout the project included a static GNSS network to establish a robust control network over the site, fixed wing UAV and photogrammetry mapping of the site to assist with the definition of water boundaries and other mapping requirements outside of the land transfer survey.

RTK GNSS and robotic total station facilitated the installation of secondary control, boundary marks, and assisted with the construction of other infrastructure for the development.

It was great to be able to assist our client with their purchase of Mt Ella station and assist them with their goal of becoming the largest contiguous hop farm in the country.



Thanks to Lennon and Richard from Global Survey for their assistance with the capture of aerial imagery over the site using their PPK capable fixed wing UAV.



Photogrammetry techniques were used to assist with the identification of river banks when determining water boundaries. Geo-referenced aerial imagery and a 3d terrain model was utilised to capture river boundaries. The use of the fixed wing UAV provided significant time savings with the capture of approximately 10km of water boundaries.