

Executive Summary

Beca Limited (Beca) was commissioned by Energy Farms Limited (EFL) to undertake a Preliminary Site Investigation (PSI) for the Solar Farm Grid Connection project at 1618 Wellington Road, Marton (site). As part of the development EFL is proposing to construct all-weather access roads, install a switch yard, install platforms for inverters and installation of solar panels on a tracking system.

The purpose of this PSI is to:

- Identify potential for soil contamination that may be present at the site due to historical or current land use/activities which may be disturbed by the proposed works.
- Comment on contaminated land consent requirements for the proposed works under the:
 - Contaminated land rules of Horizons Regional Council (HRC) One Plan (OP).
- Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS).

The scope of works included a desk-based review of a selection of historical background information, the Land Information Memorandum (LIM) report provided by Rangitikei District Council (RDC), discharge consents obtained from HRC, and a site walkover. No soil samples or analysis was undertaken as part of this assessment.

Based on historical aerial imagery and information contained in the LIM report, the site has been used primarily for rural grazing purposes, with the first onsite buildings constructed prior to 1942. These buildings were located in a cluster near the north-eastern boundary of site. Removal and development of buildings within this area has occurred during the time period of available aerial photographs (1942-2021). Given the age of the buildings, it is considered likely that asbestos containing material (ACM) and / or lead based paint were used in their construction and / or maintenance. The deterioration of these materials overtime or poor demolition practices may have resulted in localised shallow soil contamination. Two locations either containing or previously containing buildings were considered to have potential to be contaminated as a result. No evidence was reviewed relating to the condition of the buildings during their life, or the method of their demolition.

The consent documents and aerial photographs indicate that transmission towers and power lines cross the site. The transmission towers are first visible in the 2005 aerial photograph, indicating they were constructed between 1982 and 2005, within the historical aerial imagery gap. A discharge permit was granted in 2012 to undertake wet abrasive blasting of the towers. Abrasive blasting can mobilise metals potentially contaminating the surrounding soils.

During the site walk over a disused spray tank associated with a woolshed and an above ground diesel tank were identified.

Based on the information reviewed, the following Hazardous Activities and Industries List (HAIL) codes were applied to the hazardous activities identified with a 'more likely than not' level of certainty:

Historical Buildings (including woolshed):

- **E1:** Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition
- **I:** Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment

Transmission towers:

- **D1:** Abrasive blasting including abrasive blast cleaning (excluding cleaning carried out in fully enclosed booths) or the disposal of abrasive blasting material

Disused spray tank associated with woolshed:

- **A8:** Livestock dip or spray race operations

Above ground diesel tank

- **A17:** Storage tanks or drums for fuel, chemicals or liquid waste

Based on the above identified potentially contaminative activities, the identified contaminants of concern on-site included heavy metals, hydrocarbons, asbestos and organochlorines.

Potentially complete exposure pathways include:

- Exposure of workers to contaminants in soils and groundwater during site development – dermal contact, ingestion or inhalation of dust.
- Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust.
- Sediment and runoff directly into surface water.
- Migration of soil contaminants into surface water through shallow groundwater discharging into the Tutaenui Stream located ~225m northeast of the cluster of buildings.

Resource Consent under the NESCS and the HRC OP may be required if Permitted Activity thresholds cannot be met due to the following activities that is proposed for an area of the site identified as HAIL, as illustrated on the HAIL Map (**Figure 4**):

- Soil disturbance
- Fuel storage removal
- Soil sampling
- Subdivision
- A change of land use due to the identification of a HAIL that is reasonably likely to exceed human health criteria

The volume and duration of soil disturbance works to be undertaken within the identified HAIL areas should be confirmed. A DSI is recommended in areas identified as both HAIL and suspected HAIL to assist with the management of earth works.