

**BEFORE INDEPENDENT HEARING COMMISSIONERS APPOINTED BY THE  
WAIMAKARIRI DISTRICT COUNCIL**

**IN THE MATTER OF**

The Resource Management Act 1991 (**RMA** or  
**the Act**)

**AND**

**IN THE MATTER OF**

Hearing of Submissions and Further  
Submissions on the Proposed Waimakariri  
District Plan (**PWDP** or **the Proposed Plan**)

**AND**

**IN THE MATTER OF**

Hearing of Submissions and Further  
Submissions on Variations 1 and 2 to the  
Proposed Waimakariri District Plan

**AND**

**IN THE MATTER OF**

Submissions and Further Submissions on the  
Proposed Waimakariri District Plan by **Mike  
Greer Homes NZ Limited**

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**EVIDENCE OF DAVID JOHN ROBOTHAM  
ON BEHALF OF MIKE GREER HOMES NZ LIMITED REGARDING HEARING  
STREAM 12E**

DATED: 5 March 2024

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Presented for filing by:  
Chris Fowler  
PO Box 18, Christchurch  
T 021 311 784 / 027 227 2026  
chris.fowler@saunders.co.nz

## INTRODUCTION

- 1 My name is David Robotham. I am a Principal Environmental Consultant at ENGEO, a firm which provides specialist geotechnical, environmental, water resources engineering and construction services. I have been with ENGEO since 2012.
- 2 I hold a Bachelor of Science in Environmental Control from the University of Greenwich, London, UK. I am a Certified Environmental Practitioner (CEnvP) #516 with Site Contamination Specialist #CL40021, certified by the Environmental Institute of Australia and New Zealand. I also have international qualifications with the British Occupation Hygiene Society for the Assessment of Asbestos in Buildings (IP402) and Management of Asbestos in Buildings (IP405) and I am a WorkSafe approved Asbestos Assessor (AA22050015).
- 3 I have over 29 years' experience in environmental sciences and consultancy including experience in contaminated land for both residential and commercial developments.
- 4 I have particular expertise with environmental soil assessments and characterisation, remedial options assessment, site management, consenting and environmental due diligence. Relevant projects that I have project managed or provided technical reviews on include:
  - 5 Multiple site soil and building assessments for Government organisations including the Ministry of Education, Land Information New Zealand, New Zealand Defence Force, New Zealand Fire and Emergency, New Zealand Police, Christchurch City Council, Environment Canterbury (ECan) and Heritage New Zealand;
  - 6 Management and remediation of asbestos in buildings and in soils for numerous buildings for Southern Response throughout the Christchurch City area;
  - 7 Assessment and management of chemical and asbestos impacted soils for the new retail development on Langdons Road, Christchurch; and
  - 8 Management of other residential subdivision projects both north and south of Christchurch that assessed large areas previously used for agricultural purposes. One such example is Ravenswood.

- 9 My role in relation to the Waimakariri Proposed District Plan and Variation 1 is as an independent expert witness to Mike Greer Homes NZ Limited (**Mike Greer Homes**) on ground contamination matters.
- 10 Although this is not an Environment Court proceeding, I have read the Environment Court's Code of Conduct and agree to comply with it. My qualifications as an expert are set out above. The matters addressed in my evidence are within my area of expertise, however where I make statements on issues that are not in my area of expertise, I will state whose evidence I have relied upon. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in my evidence.

### **SCOPE OF EVIDENCE**

- 11 This evidence addresses:
- (a) The Site and the existing environment;
  - (b) Previous environmental/contamination investigations; and
  - (c) The findings of the PSI we have undertaken in respect of the Site.
  - (d) In preparing this evidence, I have reviewed:
  - (e) Preliminary Environmental Site Investigation 144 and 170 Main North Road, Kaiapoi (ENGEO, #24496, 27/02/24), and
  - (f) A proposed Outline Development Plan for the Site.

### **SUMMARY OF MY EVIDENCE**

- 12 ENGEO Limited (ENGEO) undertook a Preliminary Site Investigation (the **PSI**) of the Site at 144 Main North Road and 170 Main North Road, Kaiapoi (the **Site**) in February 2024 (attached as **Appendix 1**). The purpose of the PSI was to inform an assessment of the Site's suitability to be rezoned from Rural Lifestyle Zone (**RLZ**) to Medium Density Residential Zone. Development of the Site in accordance with that zoning would occur in accordance with an Outline Development Plan (**ODP**) attached as **Appendix 2**
- 13 Historically and currently, the Site has been used for agricultural / pastoral purposes alongside previous and existing dwellings and outbuildings.
- 14 Based on the information reviewed and our Site walkover observations, it is considered highly unlikely that the majority of the Site has been used for an activity included on the Hazardous Activities and Industries List (HAIL - Ministry

for the Environment Hazardous Activities and Industries List 2012) (**HAIL**). Therefore the majority of the Site is considered likely suitable for residential development and / or continued used for agriculture.

- 15 A number of activities and potential activities included on the HAIL were identified in localised areas during the PSI, as follows:
- (a) Burn area, 144 Main North Road (heavy metals, polycyclic aromatic hydrocarbons, asbestos);
  - (b) Greenwaste piles, 144 Main North Road and 170 Main North Road (heavy metals, pesticides); and
  - (c) Current / historical buildings, 144 Main North Road and 170 Main North Road (asbestos, lead).
- 16 These areas have the potential to have caused localised contamination and further investigation of that potential contamination will therefore be required prior to soil disturbance activities. This can be managed via the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (**NES-CS**) and should not preclude the Proposal.

## **THE SITE**

- 17 The Site is approximately 14.8 ha and is located adjacent to the southern extent of the Kaiapoi residential area.
- 18 The Site is relatively flat rural land and is bound by Kaikainui Stream to the north (approximately 1.5 m high bank height) and by Courtenay Stream to the south (approximately 2.5-3 m bank height). A portion of the Site along the south eastern boundary is lower lying, likely representing a historic river plain / channel. An elevated railway line (Main North Line) forms the southeast boundary of the Site.
- 19 The Site has been regionally mapped by GNS (Brown & Weeber, 1992) to be underlain by dominantly alluvial sand and silt overbank deposits of the Springston Formation, and by Forsyth et al. (2008) as being underlain by river alluvium.

- 20 The Site is overlying a coastal confined gravel aquifer system. Standing groundwater was identified during the geotechnical investigation as between 1.3 m and 2.6 m depth.
- 21 There is one groundwater abstraction on site for domestic supply and three active wells within 250 m used for domestic and stock water use.
- 22 There are no active discharge consents on site or within 250 m of the site.

### **Current land use of the Site and land in the vicinity of the Site**

- 23 The Site is approximately 14.8ha in total and as already stated the topography is relatively flat. It currently has a mixed rural residential and agricultural use.
- 24 A residential dwelling is located at 144 Main North Road and includes a garages, sleepout, barn and chicken coop.
- 25 170 Main North Road is an open paddock used for crops and grazing. There is an animal loading bay, accessway and pump shed below a water tower.
- 26 A railway is present along the eastern / south-eastern boundary line of the Site which raised up above the Site by 1.5 to 2 m.
- 27 Surrounding the Site are a railway to the east followed by agricultural grazing land, Kaikainui Stream to north across which is a residential subdivision, Courtney Stream to the south across which is a commercial / industrial site (builders yard) and Main North Road to the west across which is another commercial / industrial site (Easylawn and Waghorn builders).

### **THE PROPOSAL**

- 28 It is proposed to rezone the Site from Rural Lifestyle Zone (RLZ) to Medium Density Residential Zone. Development of the Site in accordance with that zoning would occur in accordance with the ODP.

### **PRELIMINARY GROUND CONTAMINATION ASSESSMENT**

- 29 ENGEO undertook a PSI at the Site to identify known or potential activities at the Site (current or historical) with the potential to cause ground contamination. The scope of the ENGEO PSI comprised:
- (a) A review of historical and current aerial photographs;

- (b) A review of ECan's LLUR statement and Waimakariri District Council's (WDC) property files to determine if significant contaminating activities have occurred on Site;
- (c) A Site walkover to view current activities, structures and ground conditions;
- (d) A review of publicly available information on the geology and hydrology of the Site, including sensitive water bodies;
- (e) Developing a conceptual site model for the Site to assess potential exposure pathways of hazardous activities to Site users; and
- (f) Providing recommendation for further detailed site investigation **(DSI)**.

#### **Documentation Review**

- 30 No HAIL sites of interest were identified in respect of the Site on the LLUR.
- 31 The WDC did not hold any property files for 170 Main North Road, Kaiapoi. Property files held for 144 Main North Road, Kaiapoi, related to building consents. No records were held by WDC that related to potentially contaminating activities.

#### **Historical Aerial Photograph Review**

- 32 Aerial photographs dating from 1940 to present were reviewed. All photos portrayed historical pastoral and agricultural activities over time.
- 33 Residential dwellings and outbuildings were incrementally added to the Site throughout the 1990s, to the general current configuration.
- 34 In the aerial photographs dating from the 1960s-1970s, a group of buildings (since removed) was located adjacent to a track bisecting 170 Main North Road.
- 35 In the aerial photo dating 2010-2014, a greenwaste pile was noted near the southwest corner of 170 Main North Road and a suspect burn area was noted east of the residence at 144 Main North Road.
- 36 No other significant activities were identified.

#### **Site Walkover Observations**

- 37 During the Site walkover (18 January 2024) the potential HAIL activities were noted:

- (a) The burn area located east of the residence at 144 Main North Road. Remnants of inorganic matter (e.g., metal, plastic) were observed in the burn area.
- (b) A greenwaste pile was noted near the north-western corner of 144 Main North Road.
- (c) No asbestos containing materials (ACM) were observed during the Site walkover; however, several buildings were constructed during the era when ACM and lead based paint were in common use.

### **Potential HAIL Activities**

38 The following potential sources of contamination (and contaminants of concern) were identified during the PSI indicated on figures 2 and 3 from the ENGEO PSI:

- (a) Burn area, 144 Main North Road (heavy metals, polycyclic aromatic hydrocarbons, asbestos);
- (b) Greenwaste piles, 144 Main North Road and 170 Main North Road (heavy metals, pesticides); and
- (c) Current / historical buildings, 144 Main North Road and 170 Main North Road (asbestos, lead).

### **Conceptual Site Model**

39 Ground contaminants may be present in localised areas around the Site (i.e., burn area, beneath greenwaste piles, in the vicinity of current / previous buildings).

40 These activities and contaminants have the potential to affect on-site redevelopment workers, the surrounding environment and long-term users of the Site through dermal contact with impacted soil, inhalation of dust / fibres and incidental ingestion during earthworks and long-term use of the Site.

41 There were also building materials in a degraded condition at various locations on the Site. These materials have the potential to release asbestos fibres, which pose a risk to on-site redevelopment workers and long-term users of the Site through inhalation of fibres.

**Analysis**

- 42 Further intrusive investigations of these potential contaminated areas / activities will be required to determine the nature and extent of any contamination and the risk it may pose to human health and to the environment. Those investigations will be required under the NES-CS prior to any soil disturbance, change in land use or subdivision taking place.
- 43 In my opinion, the provisions of the NES-CS will ensure that any contamination found through these investigations can be appropriately addressed and remediated, if required.

**CONCLUSION**

- 44 The Site is not identified on the LLUR for accommodating HAIL activities. From our Site inspection, we were able to confirm that it is highly unlikely that HAIL activities would have occurred or are currently occurring on the majority of the Site. A number of discrete activities and potential activities included on the HAIL were identified during the PSI.
- 45 These areas have the potential to have caused localised contamination effects and an intrusive investigation (DSI) is therefore required to confirm the extent of any contamination and whether remediation is required. In our opinion, this can be appropriately managed through the NES-CS, and therefore should not preclude rezoning of the Site to Medium Density Residential.
- 46 Thank you for the opportunity to present my evidence.

David John Robotham  
Date: 5 March 2024



**APPENDIX 1**

**Preliminary Environmental Site Investigation 144 and 170 Main North Road,  
Kaiapoi (ENGEO, #24496, 27/02/24)**

Proposed Outline Development Plan for the Site

