

**BEFORE THE INDEPENDENT HEARINGS PANEL
OF HAMILTON CITY COUNCIL**

UNDER the Resource Management Act 1991 ("**RMA**")

AND

IN THE MATTER of Private Plan Change 17 to the Hamilton City
Operative District Plan ("**PC17**")

**STATEMENT OF EXPERT EVIDENCE OF SIAN REBECCA KEITH
ON BEHALF OF FONTERRA LIMITED**

ARCHAEOLOGY

7 OCTOBER 2025

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1. EXECUTIVE SUMMARY

- 1.1 Sian Keith Archaeology Ltd ("**SKA**") was engaged to provide an Archaeological Assessment for PC17 at Te Rapa, Hamilton, on behalf of Fonterra Limited ("**Fonterra**") ("**Archaeological Assessment**").
- 1.2 The scope of my evidence summarises the existing environment, historical background, key archaeological findings, and makes recommendations in line with the Heritage New Zealand Pouhere Taonga Act. My evidence responds to the Hamilton City Council's ("**Council**") Section 42A Report ("**Section 42A Report**"). There are no submissions relevant to my area of expertise.
- 1.3 The existing environment is predominantly rural farmland. The key archaeological finding is that Mangaharakeke Pā (S14/17) is within the "**Plan Change Area**," being approximately 91 hectares surrounding Fonterra's Te Rapa Dairy Manufacturing Site ("**Manufacturing Site**"). Traditional gardening site (S14/505) is also within the Plan Change Area. There are no registered heritage items on the Hamilton City Council Operative District Plan ("**ODP**") or items on the New Zealand Heritage List / Rārangī Kōrero ("**List**") located within the Plan Change Area. Evidence of settlement from the European era appears limited.
- 1.4 I provide recommendations that Mangaharakeke Pā (S14/17) be excluded from future development, and a site survey and conservation management plan be undertaken for Mangaharakeke Pā (S14/17). Future development should assess effects on traditional gardening sites (S14/505), the potential for European era evidence, and archaeological authorities will be required prior to earthworks that might affect archaeological sites.
- 1.5 The Section 42A Report confirms the results of the research and the recommendations provided in the Archaeological Assessment.

2. INTRODUCTION

Qualifications and Experience

- 2.1 My name is Siân Rebecca Keith. I am a Principal Archaeologist and the Director of SKA, a company I formed in 2016.
- 2.2 I have obtained a Bachelor of Science in Archaeology from the University of

Glasgow (1998) and a Master of Science in Maritime Archaeology from the University of Ulster (2001).

- 2.3 I am a member of the New Zealand Archaeological Association ("**NZAA**").
- 2.4 I have had 27 years' experience as a field archaeologist in New Zealand, Ireland, the United Kingdom, and Australia. I have been working in New Zealand for the past seventeen years.
- 2.5 I have a wide range of experience as both a field and consultant archaeologist, including site identification, assessments, interpretation, preservation, excavation and technical report writing. I have primarily worked within the Waikato, Bay of Plenty, and Auckland regions over the past sixteen years and am familiar with the archaeology of these regions. I have prepared archaeological assessments for a wide range of projects within the Waikato Region, including:
- (a) The Hamilton Section and the Cambridge to Piarere Section of the Waikato Expressway.
 - (b) A GIS review of the heritage landscape for the Coastal Marine Plan for the Waikato Regional Council.
 - (c) A GIS review of State Highway 1 from Piarere to Waiouru for NZ Transport Agency Waka Kotahi ("**NZTA**").
- 2.6 I have appeared as an expert witness at hearings on numerous occasions, most recently including a resource consent application for the State Highway 1 / State Highway 29 roundabout at Piarere for the NZTA.

Involvement in the PC17

- 2.7 SKA was engaged by Fonterra to provide the Archaeological Assessment to support PC17 at Te Rapa, Hamilton. The Archaeological Assessment was authored by my former colleague, Anne O'Hagan, and updated and reviewed by myself. I am familiar with the Plan Change Area being approximately 91 hectares surrounding Fonterra's Te Rapa Dairy Manufacturing Site ("**Manufacturing Site**").
- 2.8 To inform the Archaeological Assessment, the Plan Change Area was subject to a desktop assessment using historic documents including aerial photographs, historic maps, and archaeological data including the New

Zealand Archaeological Association's national database, ArchSite, consultant's reports for the wider area, and relevant council plans.

- 2.9 A field visit was undertaken to the Fonterra-owned land (approximately 84.5 hectares) within the Plan Change Area on 2 August 2023 by Ms O'Hagan, and assistant archaeologist, Isabella Caldwell. The majority of the Fonterra-owned land was inspected during this visit, with a series of hand augers excavated to determine the nature and extent of its horticultural soils, as well as to determine the condition of the wider landscape.
- 2.10 I undertook a further field visit with tangata whenua on 3 October 2024.
- 2.11 The field visits outlined above were limited to Fonterra-owned land. Additional field visits will be required as part of the resource consent process prior to any development being undertaken on the balance of the Plan Change Area (approximately 6.5 hectares).

Code of Conduct

- 2.12 I confirm that I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2023. I have complied with the Code of Conduct in preparing this evidence and I agree to comply with it while giving oral evidence before the Hearings Commissioners. Except where I state that I am relying on the evidence of another person, this written evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this evidence.

3. PC17

- 3.1 At present, most of the Plan Change Area is currently short pasture and used as farmland. The purpose of PC17 is to remove the Deferred Industrial Zone Area overlay from the Plan Change Area (with underlying zoning of Te Rapa North Industrial Zone) and amend some of the plan provisions relating to the Plan Change Area to enable it to be developed for industrial activities.
- 3.2 The extent of the Plan Change Area is shown in Figure 1.



Figure 1: Plan Change Area Boundaries (yellow shade not surveyed during the Field Visit).

- 3.3 The Archaeological Assessment identified the likely nature and probable extent of pre-1900 evidence of human occupation within the Plan Change Area and assessed the corresponding archaeological values in line with Hamilton City Council ("**Council**") and Heritage New Zealand Pouhere Taonga requirements.

4. SCOPE OF EVIDENCE

4.1 This statement of evidence will:

- (a) describe the existing environment and the historical background of the Plan Change Area;
- (b) summarise the key findings and recommendations from the Archaeological Assessment;
- (c) respond to archaeological matters raised in the Section 42A Report;
- (d) respond to archaeological matters raised in submissions; and
- (e) provide an overall conclusion on Fonterra's application for PC17 from an archaeological perspective.

5. EXISTING ENVIRONMENT AND HISTORICAL BACKGROUND

Existing Environment

- 5.1 The Plan Change Area is located on the true left bank of the Waikato River. The Plan Change Area is covered in Taupō Pumice Alluvium deposits. Soil maps suggest the Plan Change Area was historically covered in kahikatea, pukatea, and tawa forest. The Plan Change Area is within an extensive area of recorded Māori horticultural, or modified, soils (referred to as Tamahere series).
- 5.2 The Fonterra-owned land within the Plan Change Area is currently an operational dairy farm. It is mostly in pasture, with associated infrastructure including farm races, buildings, effluent ponds, trees, hedges, and fencing. Beyond areas of former and current land development, the ground is considered to be intact. This would indicate good survival of any subsurface archaeological deposits.

Historical Background

- 5.3 Māori are known to have occupied the inland Waikato Region from at least the mid-15th century. The archaeological record for the region identifies Māori settlement activity was focused along waterways, especially the Waikato River. The river was a major means of transport and attractive for the formation of traditional garden sites.
- 5.4 Pā sites were established on high points overlooking the river, often surrounded by cultivations. Mangaharakeke Pā is a three-pā complex (recorded as NZAA archaeological sites S14/112, S14/17, and S14/18) which is located at the river end of the Plan Change Area. Traditional kōrero suggests occupation of Mangaharakeke Pā started in the mid-17th century. Where Mangaharakeke Pā site intersects with the Plan Change Area is recorded as NZAA archaeological site S14/17 ("**S14/17**").
- 5.5 The riverbanks provided fertile soils for cultivation. Intensive Māori horticultural activity focused on the raised terraces along the Waikato River. Evidence includes modified garden soils and borrow pits. Borrow pits are quarries opened for the extraction of underlying sands and gravels. This material was used to improve growing mediums for kumara, yam, and taro, forming a 'modified garden soil'. This evidence extends between Arapuni and Meremere.
- 5.6 Pockets of evidence for traditional gardening sites were identified within the Plan Change Area. With the exception of one area (referred to as the southern

gardening site), this evidence has been recorded as NZAA archaeological site S14/505 ("**S14/505**"). This consists of borrow pits and modified garden soils.

- 5.7 Europeans initially viewed the Waikato as too swampy, but Māori farming successes changed this view. Increasing pressure for land for European settlement led to the Colonial Government's invasion of the Waikato in 1863, the subsequent confiscation of Māori land, and apportionment to militiamen.
- 5.8 The Plan Change Area was part of the confiscated land. However, initial European settlement focused on Ngāruawāhia and Kirikiriroa / Hamilton, both which were some distance away from the Plan Change Area.
- 5.9 The Great Southern Road opened in 1866, and services on the North Island Main Trunk railway line, located on the western boundary of the Plan Change Area, commenced in 1875.
- 5.10 Over the latter decades of the 1800s, wetlands across the wider inland Waikato Region were systematically drained and converted into pasture.
- 5.11 The Manufacturing Site opened in April 1967 and has expanded since then.

6. KEY FINDINGS AND RECOMMENDATIONS

Recorded Archaeological Sites

- 6.1 S14/17 is a recorded pā site located within the northern part of the Plan Change Area, immediately adjacent to the Waikato River. It is recorded as part of a wider complex of sites related to Mangaharakeke Pā (S14/18 and S14/112), located between the Manufacturing Site and the river. The portion within the Plan Change Area is considered the only part remaining intact, suggesting high archaeological value.
- 6.2 S14/505 (traditional gardening) is located within the Plan Change Area. This was identified from desktop research, including soils maps and aerial imagery, and ground-truthed during the field visit. S14/505 consists of three areas of pre-European Māori horticultural activity, and up to twelve borrow pits, some of which have been infilled.
- 6.3 Modified soils were identified based on the desktop assessment at the southeast end of the Plan Change Area, but this requires ground-truthing (which will occur as part of the works undertaken under an archaeological authority when the Plan Change Area is redeveloped).

- 6.4 There are no items registered on **the List** within the Plan Change Area or within the near vicinity.
- 6.5 No archaeological or heritage items are identified within the Plan Change Area in the ODP. Plan Change 9 proposes one archaeological site on the north-easternmost edge of the Plan Change Area, this is A32 which corresponds to S14/17. My recommendations for the PC17 plan provisions are set out below.

Potential Archaeological Sites

- 6.6 No conclusive evidence of pre-1900 European era settlement of the Plan Change Area was found during the preparation of the Archaeological Assessment.
- 6.7 Six dwellings (referred to as Structures 2, 3, 4, 5, 6 and 7) are visible on the 1941 aerial image used to inform the Archaeological Assessment, five of which have since been removed, and one which remains upstanding (Structure 7). One or more of these dwellings could have been built prior to 1900 and therefore meet the definition of an archaeological site. However, based on the distance from the main centres of Kirikiriroa / Hamilton and Ngāruawāhia most are likely post-1900. Furthermore, with the exception of Structure 7, all appear to have been modified or destroyed, with Structures 2 and 5 being the only structures to retain moderate archaeological potential (due to possibility of subsurface features such as wells and rubbish pits being present).

Archaeological Values

- 6.8 The known archaeological sites of pā S14/17 and associated traditional gardens (borrow pits and modified soils - S14/505) present within the Plan Change Area are common within the river environment of the Waikato Basin. Together they represent pre-European Māori occupation and horticultural activity.
- 6.9 Mangaharakeke Pā is likely to be intact but has not been formally surveyed for PC17. Previous archaeological investigations note that the portion of S14/17 within the Plan Change Area is the only aspect of Mangaharakeke Pā site that is still intact, as such there are likely to be high archaeological values associated with this site.
- 6.10 Mangaharakeke Pā has high amenity values which could be further enhanced in a similar fashion to the adjacent portion of Mangaharakeke Pā contained in S14/18.

- 6.11 The garden site, S14/505, has been affected by historical earthworks within the Plan Change Area, but likely has some intact archaeological values which can be investigated by archaeological methods before development begins.
- 6.12 Evidence from historic arial imagery indicated that portions of the Plan Change Area have been previously disturbed by earthworks. These areas are considered to hold no known or anticipated archaeological values.
- 6.13 Cultural values relating to PC17 have been determined by Tangata Whenua and are set out in section 5 of Ms Kukutai and Ms Hopa's cultural evidence.

Recommendations

- 6.14 S14/17 (Mangaharakeke Pā):
- (a) S14/17 be excluded from all future development.
 - (b) A field visit be undertaken to the Pā in collaboration with Tangata Whenua, that it be surveyed, and a conservation management plan be developed.
- 6.15 S14/505 (traditional gardening):
- (a) As part of any future consenting process, an assessment of effects be commissioned in relation to traditional garden site S14/505 once future development plans are known.
 - (b) If development on this site cannot be avoided, an Archaeological Authority must be obtained for any earthworks that might affect all or part of this site prior to the start of any future works.
- 6.16 Modified soils on southeast side of Plan Change Area:
- (a) The area of mapped modified soils on the southeast side of the Plan Change Area should be subject to a field visit to determine if this is an archaeological site.
 - (b) If it is found to be such, the recommendations for S14/505 should be adopted.
- 6.17 European Dwellings:
- (a) The six dwellings identified on the 1941 aerial image are not known to be pre-1900, and any future development within the Plan Change Area does not need to be restricted based on these potential values.

Structures 3, 4, and 6 are considered to have been so heavily modified that the risk of affecting archaeological values is low.

- (b) The risk of affecting archaeological values at structures 2, 5 and 7 (the latter is the only dwelling still present) should be assessed through a full assessment of effects if future development plans include impacts to these locations.

6.18 Tangata Whenua:

- (a) Tangata Whenua should continue to be consulted regarding this assessment and the conclusions reached, the cultural effects of PC17 and any possible future development.

7. SECTION 42A REPORT¹

7.1 The Section 42A Report confirms that Mangaharakeke Pā (S14/17) is within the Plan Change Area and has significant archaeological value. The Section 42A Report confirms my recommendation that S14/17 is to be excluded from future development and protected, and that a field visit to Mangaharakeke Pā in collaboration with Tangata Whenua will need to be undertaken.

7.2 The Section 42A Report confirms the traditional garden site (S14/505) is recorded in the southeast corner of the western area of the Plan Change Area, referred to as West Block. It acknowledges that S14/505 has been modified in the past and the traditional garden site is not considered rare and have limited amenity value, but, "more investigations will be conducted to assess their condition".

7.3 Overall, the Section 42A Report confirms;

effects on the heritage values of the area have been assessed as minor to moderate '

...

(W)hile the footprint of future development and whether sites would be impacted is yet to be determined, PPC17 acknowledges that all work will be subjected to an archaeological authority.

7.4 In conclusion, the Section 42A Report is in alignment with the conclusions reached and recommendations made in the Archaeological Assessment.

¹ Section 42A Report at [6.52] – [6.53].

8. RESPONSE TO SUBMISSIONS

- 8.1 There have been no submissions received on PC17 that raise concerns relating to archaeological matters.

9. CONCLUSION

- 9.1 The Archaeological Assessment and the Section 42A Report agree that the key heritage site within the Plan Change Area is Mangaharakeke Pā (S14/17). This site possess significant archaeological values and should be safeguarded from development impacts which may arise as a result of PC17. Mangaharakeke Pā (S14/17) should be formally surveyed and be subject to a Conservation Management Plan.
- 9.2 Traditional gardening site (S14/505) is within the Plan Change Area, as is a smaller patch of traditional gardening not yet ground-truthed. Whilst S14/505 has been affected by historical earthworks, it will still hold archaeological values and warrants further investigation. Should the future development plans affect this site (and / or the smaller section of unrecorded traditional gardening) an archaeological authority from Heritage New Zealand Pouhere Taonga will be required.
- 9.3 Structures 2, 5, and 7, similarly may hold archaeological values. These areas will require an assessment of effects to determine if an authority is required should any or all of these locations be affected by future development.
- 9.4 If the recommendations are adopted from the Archaeological Assessment, as confirmed in the Section 42A Report, the overall effects on heritage are considered to be minor to moderate.

Siân Keith
7 October 2025