

**BEFORE THE COMMISSIONERS APPOINTED BY
THE DUNEDIN CITY COUNCIL**

LUC-2020-293

IN THE MATTER

of 20 Bay Road, Warrington

BETWEEN

**NEW ZEALAND MOTOR
CARAVAN ASSOCIATION**

Applicant

**BRIEF OF EVIDENCE OF KELLY BOMBAY FOR NEW ZEALAND MOTOR
CARAVAN ASSOCIATION**

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BRIEF OF EVIDENCE OF KELLY BOMBAY

QUALIFICATIONS AND EXPERIENCE

1. My name is Kelly Marie Bombay. I hold the position of Senior Planner at Stantec NZ. I have been in this position since July 2018.
2. I hold a Bachelor of Planning from the University of Auckland. I have ten years of planning experience in resource management planning. I am an Intermediate member of the New Zealand Planning Institute. I have experience working with district, regional and unitary consent authorities and the private sector, both as a consultant and council planner.
3. Previous employment included four years as a Consents Planner, in the Subdivisions Team, with Auckland Council. My experience includes the assessment and processing of resource consent applications (land use, subdivision and regional consents), against the Operative District Plan (at the time being the Auckland Isthmus and Hauraki Gulf Islands Section), Auckland Regional Plan and the (then) Proposed Auckland Unitary Plan.
4. More recent experience as a consultant planner includes providing resource management advice and preparing and leading resource consent applications on a range of residential land development projects for the public and private sector and infrastructure projects for primarily local and central government clients. I have experience in the business case process including Environmental Social Responsibility screening and providing advice on statutory approvals and consent pathways. I also have practical experience in how policy is drafted having contributed to the Christchurch District Plan, Queenstown Lakes District Plan and Selwyn District Plan. For both the Christchurch District Plan and Selwyn District Plan reviews I was the planning lead for developing the Noise provisions through several stages of those processes.
5. From this experience I have a sound understanding of the effects of land development including infill subdivision and land use activities,

and matters such as effects on residential coherence, amenity, noise, traffic generation and infrastructure constraints.

6. I attended the pre-application meeting with Dunedin City Council ('the Council') in November 2019 in relation to the proposed activity. I was responsible for the preparation of the application dated 1 July 2020 for resource consent ('the application') on behalf of the New Zealand Motor Caravan Association (NZMCA) ('the applicant'). I have provided further information requested by Council throughout the processing of this application. I have been engaged by the NZMCA to prepare this evidence.

CODE OF CONDUCT

7. Although not necessary for a Council-level hearing, I have read the Code of Conduct for Expert Witnesses in the Environment Court Consolidated Practice Note (2014). I agree to comply with this Code of Conduct. This statement of evidence is within my area of expertise except where I state I am relying on evidence provided by another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

SCOPE OF EVIDENCE

8. My evidence builds upon the application including the Assessment of Environmental Effects (AEE), subsequent information provided to the Council in response to requests for information and general clarification, and is structured as follows:

- (a) Executive Summary
- (b) Proposal Overview and Background
 - (i) Further Information Provided
 - (ii) Submissions
- (c) Assessment of the Planning Framework
 - (i) Permitted baseline
- (d) Assessment of Effects

- (i) Vehicle movement along the driveway
 - (ii) Wastewater capacity
 - (iii) Traffic and safety effects on Bay Road and the local road network
 - (iv) Effects of the Activity (including earthworks) on heritage values
 - (v) Effects on biodiversity and indigenous vegetation
 - (vi) Effects of the activity on residential coherence and amenity
- (e) Comment on the s42A Officer's Report by Mr Robert Buxton, Councils Consultant Planner and recommendations.
 - (f) Proposed consent conditions.
9. I have recommended amendments to the draft conditions attached to Mr Buxton's report. Revised conditions containing my amendments are attached to my evidence as **Appendix 1** (Revised set of conditions).

EXECUTIVE SUMMARY

10. The applicant proposes to establish land at 20 Bay Road, Warrington (the site) with provision for up to 60 certified self-contained ('CSC') vehicles and caravans.
11. I agree with Mr Buxton's identification of the reasons for consent and the activity status under the Operative 2006 District Plan ('ODP') and the Proposed Second Generation District Plan ('2GP'). However, I include that an additional reason for consent was identified through further information provided to Council. Given the inability to reliably confirm compliance of the noise limit set by the 2GP during night-time hours (10pm to 7am) of 70 dB LAFmax, consent was sought under Rule 9.3.6.1 as a discretionary activity. I note that this reason for consent does not change the overall activity status of the application.
12. In addition to several other reasons for consent, the activity is non-complying under rule 6.5.7 of the ODP, as the activity is classified as visitor accommodation, which is not provided for as a permitted activity

in the Rural Zone. The activity is also non-complying under rule 13.3.3 of the 2GP, as the entire site is a scheduled archaeological site¹ and an archaeological authority has not been obtained for the proposed earthworks. The proposed activities should be bundled and the most restrictive activity classification, being 'non-complying' is applied to the proposal.

13. The application was submitted for processing on 2 July 2020 and was notified on a limited basis on 4 June 2021 for reasons outlined in paragraphs 36 to 38 of my evidence. In the months prior to notification, a section 92 request was received (dated 18 August 2020), along with various other clarifications by email correspondence and further information was provided to Council in response. Where appropriate the technical assessments were amended and replacement reports or addendums submitted.
14. The period for lodging submissions closed on 5 July 2021, and five submissions were received.
15. As a non-complying activity, s104D of the Resource Management Act 1991 ('RMA') applies. In my assessment, the activity passes the effects gateway test of s104D(1)(a), with the effects being no more than minor. The assessment of the activity in the context of the district policy framework in Section 8.2 of the application demonstrates that the activity also passes the policy gateway test of s104D(1)(b). Therefore, s104D does not prevent the application from being determined under s104B.
16. I generally concur with the findings of Mr Buxton, except where I have commented on matters of detail in my evidence. I concur with the recommendation that the resource consent should be granted, subject to conditions. There are some matters of detail in relation to the conditions which I consider need to be amended and I provide a revised set of conditions in **Appendix 1**.

¹ Heritage New Zealand Pouhere Taonga, listed I44/177 and IDA040, Appendix A.1.1 under 2GP.

17. Following the close of submissions, Councils '3 Waters' team advised that there is not enough processing capacity in the Warrington Wastewater Treatment Plant (Warrington WWTP) to accommodate additional wastewater discharge from the proposed development.
18. In his report, Mr Buxton states that the applicant will need to advise how the concern (regarding capacity in the Warrington WWTP) will be addressed. However, it is unclear to me whether Mr Buxton considers that the concern must be addressed through the decision of this consent, as no conditions relevant to this concern are proposed nor does he make mention of this in his conclusions at paragraphs 122 and 130 of his report.
19. With regard to wastewater disposal, the proposal remains unchanged. That is, the applicant proposes that NZMCA members utilise the existing public wastewater dump station within the Warrington Domain. The demand on the Councils wastewater public infrastructure is no greater, and in fact based on occupancy data will be considerably less, than the demand from residential activities. Any additional demand as a result of the proposal will be adequately avoided or mitigated through measures proposed by the applicant to encourage members to dump their waste prior to arrival or at the earliest opportunity after leaving the area.
20. Furthermore, I understand that the disposal of wastewater is a matter which is usually addressed outside the resource consent process, at the building consent stage. In the case of the proposed activity, the Camping-Grounds Regulations 1985 regulates the use of land as a camping ground and is the statutory process to deal with the appropriate drainage (including wastewater) arrangement for the activity.
21. In my opinion, an advice note to the effect that wastewater disposal shall be assessed at the time of application for a Camping Ground License, is appropriate.

PROPOSAL OVERVIEW

22. The proposal is to establish the site at 20 Bay Road with provision for up to 60 CSC vehicles and caravans. The landscape plan provided as Appendix A to the application, and included in **Appendix 2** of my evidence, indicates 56 parking bays (46 in Stage One and 10 in Stage Two). Consent for a maximum of 60 CSC vehicles is sought to provide flexibility for different types of vehicles albeit following the general aisle layout, to enable an efficient use of the site while not compromising the ability to safely manoeuvre vehicles and caravans and to avoid over-crowding in peak periods.
23. The scope of the application and the nature of the activity are described in the application document, and in some detail in the evidence of Mr James Imlach, Mr Chris Rossiter and Mr Jeremy Trevathan.
24. The application was submitted 1 July 2020 and allocated to Ms Connor Marner, Councils Planner, for processing. I note that no formal acknowledgement or acceptance of the application was provided from Council therefore I am unable to confirm the lodgement date. The application was handed over to Mr Buxton on 15 December 2020, for continued processing.

BACKGROUND

25. A combined subdivision and land use consent (Council reference SUB-2018-148, LUC-2018-555) was granted 31 October 2019, to subdivide 20 Bay Road (Part Lot 1 Deposited Plan 5855 and Lot 1 Deposited Plan 10272). The approved activities involved a 3 Lot subdivision to create a freehold lot around the existing Kings High School education facility on the site (Lot 1 – 0.5793 ha), a 4 m wide strip to the west of the leg-in along the rear boundary of 10 Bay Road (Lot 3 – 315 m²) and the balance lot (Lot 2 – 2.84 ha). The land use consent authorised existing non-compliances for the Kings High School education facility, and an internal setback infringement resulting from the subdivision. A copy of the approved subdivision scheme plan is provided as **Appendix 3** of my evidence.

26. Of relevance to this application is the condition of the subdivision consent SUB-2018-148 to register a consent notice on the Certificate of Title for Lots 1 and 2. The consent notice is to state that no earthworks or development other than the removal of vegetation using hand tools can occur on the site until an archaeological assessment is prepared and any necessary approvals from Heritage New Zealand Pouhere Taonga (HNZPT) are obtained. A condition of the land use consent also requires the right of way to be maintained to a minimum width of 3.5 m and have a minimum depth of compacted aggregate of 250 mm.
27. Mr Imlach and I met with Mr Campbell Thomson, Council's Senior Planner and other Council staff for a pre-application meeting on 5 November 2019 to discuss the proposal to develop a new site for camping by NZMCA members on the future Lot 2 (the site). To my knowledge there was no formal record of the meeting. I provided notes from the meeting to Ms Helen Dempster (Council) on 20 January 2020 to obtain feedback on particular matters raised during the meeting. I specifically sought confirmation from Council of the capacity of water supply and for the capacity and use of the existing dump station, and feedback from Council's Parks and Reserves (PARS) team regarding access to the site from the south via the Warrington domain. These two matters are discussed from paragraph 78 and 67 (respectively) of my evidence.
28. The current landowner, Mr Richard Hatherley consulted (through Aukaha) with Kāti Huirapa Rūnaka ki Puketeraki (the Rūnaka), the kaitiaki Rūnaka through the subdivision application process. Consultation was also undertaken at that time with HNZPT. Both the Rūnaka and HNZPT advised that they did not oppose the application for subdivision provided conditions were included relating to effects on archaeology, which resulted in a condition for the consent notice as noted above. The applicant therefore investigated different types of paving options to build up and/or provide a barrier over areas identified as being most likely to contain heritage artefacts near the top of the surface. The opportunity to hui with the Rūnaka was delayed due to COVID-19 and the subsequent lockdowns and travel restrictions during

the first half of 2020. The applicant therefore submitted the application advising the pavement options, noting that as little ground disturbance as possible was intended, and that consultation with mana whenua via Aukaha was in progress. The proposed earthworks and pavement treatment became more defined throughout the process and in response to requests for information as outlined in my evidence below.

29. I have read Mr Buxton's description of the proposal and consider this is generally accurate except one aspect regarding pavement options. Although three different types of pavement² options have been described in the Pavement Options Memo (Appendix F of the Application), only Pavement Type 2 is proposed to be implemented, while Pavement Types 1 and 3 will apply if circumstances require. I discuss those circumstances in paragraph 29(e) of my evidence below.

Further Information Provided

30. A request for further information was received on 18 August 2020 seeking additional information regarding transport related matters, earthworks, heritage and effects on mana whenua, and noise. I provided a part response on 18 September 2020³, as delays due to COVID 19 meant we were yet to meet with mana whenua to discuss the proposal and therefore not able to apply for an archaeological authority or confirm the method of 'pavement' treatment. I provided a second response on 5 November 2020⁴. Mr Rossiter discusses the response to transport related matters in his evidence.
31. Clarification of earthwork activities was sought in the request for further information. The proposal in respect of earthworks and ground treatment (specifically in relation to heritage values) was further defined throughout the consent process and after consultation with the Rūnaka. Appendix F of the application⁵ describes different types of paving treatment options which were investigated. The chosen method

² While the word "pavement" is used throughout the application, other than the access driveway, the nature of the proposed development is not for a standard road pavement to be constructed, rather a reinforced or unreinforced soil treatment.

³ Hearings Committee Agenda, page 333.

⁴ Hearings Committee Agenda, page 416.

⁵ Hearings Committee Agenda, page 202.

of paving treatment was confirmed through the first and second RFI responses. For clarity, the extent of earthworks, vegetation clearance and landscaping are indicated on the plan provided as **Appendix 2** of my evidence, and described as:

- (a) Minor excavations to establish two planting strips (along the eastern side of the parking row for smaller vehicles and along the northern internal boundary with Kings College). Over a combined area of 315 m², strip 100 mm of topsoil (cut of 32 m³) and place 150 mm of topsoil for planting (fill of 47 m³).
 - (b) Primarily fill to establish the north aisle (east-west direction) involving a 400 m² area to be cleared of vegetation and infilled with soil, nominally 300 mm (fill of 120 m³) and nominal 150 mm topsoil over 760 m² parking bay area (fill of 114 m³) to provide even grade for vehicles.
 - (c) Apply Pavement Type 2 treatment over area of 2050 m² (Stage Two) which involves no excavation, only the placement of geofabric followed by sand and topsoil.
 - (d) Excavation, 250 mm deep, along the length of the driveway from Bay Road.
 - (e) Balance of the area including the area from the driveway, circulation areas and parking rows, will remain undisturbed and grassed. It is proposed to monitor the ground conditions over the first winter season, in which the consent holder will provide visual documentation (photos) to Council's monitoring and compliance. Should the integrity of the ground be disturbed, i.e., grass or soil being exposed due to frequent circulation, then 'Pavement Type 3' shall be considered in the first instance, followed by 'Pavement Type 1' to remediate the situation.
32. Following the close of submissions, as a noise mitigation measure the applicant is proposing to fully seal the length of the driveway between Bay Road and Lot 3. The seal will be for a length of 135m and width of 6m. This is expected to reduce the noise levels from the vehicles when

received at the neighbouring properties by up to 5 dB, compared to a gravel driveway⁶.

33. The Council's request for further information also advised that for any earthworks proposed in the Stage Two area, the written approval from HNZPT would be required and an archaeological authority would need to be obtained. Mana whenua were also identified as an affected party.
34. A hui on site was held with four representatives of the Rūnaka on Saturday 26 September 2020. Mr Ken Foote, NZMCA Otago Area Committee Chairman, and I attended. The feedback received from the Rūnaka is summarised in the second further information response⁷. Also provided in the second response was a letter to Aukaha dated 12 October 2020⁸, which outlined our understanding of the hui outcomes, and the response from Aukaha⁹ stating that Rūnaka did not support the proposal. It was at this point the Council were made aware of a potential wastewater capacity issue that was raised by the Rūnaka.
35. In the second further information response¹⁰, I note that no change was made to the proposal, and that members would utilise the existing dump station in the Warrington Domain, if and when required. Ms Marner considered there was no issue with regard to wastewater capacity and this was later confirmed by Mr Jakub Kochan (Councils '3 Waters' Department) through email correspondence. In his notification recommendation dated 20 May 2021, Mr Buxton stated that '3 Waters has advised that they see no obvious technical issues with utilising the existing pump station for the caravan park or with the capacity of the treatment plant'. In a later memorandum dated 10 August 2021¹¹ (post notification period), it was identified by Council's 3 Waters team that there is a wastewater capacity issue. I discuss this matter further from paragraph 78 of my evidence to follow.

⁶ Brief of evidence, Jeremy Trevathan, paragraph 11.

⁷ Hearings Committee Agenda, page 416.

⁸ Hearings Committee Agenda, page 426.

⁹ Hearings Committee Agenda, page 448.

¹⁰ Hearings Committee Agenda, page 416.

¹¹ Hearings Committee Agenda, page 542.

36. Ms Marner advised on 15 December 2020 of her handover to a consultant planner (Mr Robert Buxton). To assist with the continued processing of the application I provided a letter dated 31 March 2021¹² of supplementary information in response to matters raised or ongoing since the application was re-allocated to Mr Buxton. As stated in that letter, several discussions with Mr Buxton were had to traverse the progress which had been made prior to handover. Mr Buxton also took a different view to Ms Marner on various matters of the proposal which I also sought to document in this letter of supplementary information.

Submissions

37. The application was notified on a limited basis on 4 June 2021 to the following parties:
- The owners and occupiers of 10, 16, 22 and 24 Bay Road, Warrington.
 - Kings High School as an occupier of part of the site.
 - Heritage New Zealand Pouhere Taonga.
 - Mana whenua, via Aukaha.
38. The reasoning provided by Mr Buxton for notifying the owners and occupiers of 10, 16, 22 and 24 Bay Road was set out on page 14 of the Council's notification decision as follows:

'...some of the site is zoned for residential activity, and therefore some residential activity and associated traffic may be expected. However, due to the nature of the traffic from the proposal (being generally larger vehicles, including some towed vehicles, compared to the usual traffic associated with residential activity), and that there is no permitted baseline for how much residential activity can occur on the site, I consider the adverse effect on the amenity for these persons will not be less than minor'.

¹² Hearings Committee Agenda, page 452.

39. The reasoning provided by Mr Buxton for notifying Kings High School was set out on page 14 of the Council's notification decision as follows:

'for similar reasons as given for 10, 16, 22 and 24 Bay Road' and that the traffic effects will not be less than minor.'

40. Mr Buxton also noted that the Kings High School facility was closest to the proposed parking area and that separation may not be sufficient to ensure the adverse effects from the camping area on the facility would be less than minor.
41. Mr Buxton states¹³ that the owner of the site [Mr Hatherly] was not included in the list of affected parties, and it may be considered that Mr Hatherly's submission cannot be accepted as a submission. I note that although Mr Hatherly was not identified as an affected party pursuant to s95B(1), he and the Otago Regional Council were served notice of the application¹⁴.
42. The submission period ended 5 July 2021 and five submissions were received. Four parties submitted in opposition and one in support, with three wishing to be heard (inclusive of the one in support). The name of each submitter and a summary of their submission is outlined at paragraph 61 of Mr Buxton's report. Full copies of the submissions are provided at pages 465 to 503 of the Hearings Committee Agenda.
43. I have broadly grouped the matters raised in the submissions as follows:
- (a) Nuisance effects including noise and light pollution from vehicles along the driveway ('Johnston and Marsh'¹⁵, 'Price'¹⁶, 'Muschamp'¹⁷);
 - (b) Traffic and safety effects on Bay Road and the local transport network (Johnston and Marsh, Muschamp);

¹³ s42A Officers Report, paragraph 62 (Hearings Committee Agenda, page 11).

¹⁴ As per letter to the applicant from Council advising of notification, 4 June 2021.

¹⁵ Quenton Johnston and Louise Marsh, owners and occupiers of 24 Bay Road.

¹⁶ Trevor and Terry Price, owners of 22 Bay Road.

¹⁷ Kevin Jack, Prudence Moira, Jye and Jessica Muschamp, owners of 10 and 16 Bay Road.

- (c) Capacity constraints of Councils Wastewater Infrastructure (Johnston and Marsh, Muschamp, Rūnaka);
 - (d) Disturbance and damage of archaeological artefacts (Rūnaka);
 - (e) Exacerbating effects within significant landscape and on biodiversity resulting from building of structures and proposed activities (Rūnaka);
44. I address matters raised by submitters throughout my evidence to follow.

ASSESSMENT OF THE PLANNING FRAMEWORK

45. In his report¹⁸, Mr Buxton identifies the reasons for consent and the activity status under the ODP and the 2GP, and that overall, the proposal is a non-complying activity. I agree with his description however, I include that an additional reason for consent was identified through further information provided to Council¹⁹. Given the inability to reliably confirm compliance of the noise limit set by the 2GP during night-time hours (10pm to 7am) of 70 dB LAFmax, consent was sought under Rule 9.3.6.1 as a discretionary activity. I note that this reason for consent does not change the overall activity status of the application.
46. In addition to several other reasons for consent, the activity is non-complying under rule 6.5.7 of the ODP, as the activity is classified as visitor accommodation, which is not provided for as a permitted activity in the Rural Zone. The activity is also non-complying under rule 13.3.3 of the 2GP, as the entire site is a scheduled archaeological site²⁰ and an archaeological authority has not been obtained for the proposed earthworks.
47. I agree with Mr Buxton that the proposed activities should be bundled and the most restrictive activity classification, being 'non-complying' is applied to the proposal.

¹⁸ s42A Officer's Report, paragraph 21 to 52 (Hearings Committee Agenda, page 5 to 9).

¹⁹ Hearings Committee Agenda, page 416.

²⁰ Heritage New Zealand Pouhere Taonga, listed I44/177 and IDA040, Appendix A.1.1 under 2GP.

48. As a non-complying activity, s104D of the RMA applies. The Hearing Panel must therefore be satisfied that the activity will either result in adverse environmental effects that are no more than minor to pass the 'effects gateway test' of s104D(1)(a), or that the activity is not contrary to the objectives and policies of the relevant district plans and passes the 'policy gateway test' of s104D(1)(b).
49. In my view, the information set out in the application and in the evidence of Mr Imlach, Mr Rossiter and Mr Trevathan, demonstrates that the activity passes the effects gateway test, finding that the effects will be no more than minor. Mr Buxton in his evidence²¹ also considers that potential adverse effects are no more than minor and therefore the first 'gateway' test of Section 104D is met. I acknowledge that this conclusion by Mr Buxton is subject to consent conditions. The assessment of the activity in the context of the district policy framework in Section 8.2 of the application demonstrates that the activity also passes the policy gateway test. This conclusion is also supported by Mr Buxton as stated in his evidence²². Therefore, s104D does not prevent the application from being granted and, if the Hearing Panel agrees, the application can, subject to Part 2, be considered in the context of s104(1) and 104(2A) and determined in accordance with s104B RMA.
50. In my view, the key matters for the Hearing Panel to consider are:
- (a) whether there is a permitted baseline for assessing the proposed earthworks, land use activity, and associated traffic generation (including noise and vehicle movements), and if there is, whether it is appropriate to apply that baseline in determining this application;
 - (b) Whether the frequency and type of vehicle movement along the driveway and the resulting generation of noise and effects is more than what the permitted baseline anticipates;

²¹ s42A Officer's Report, paragraph 119 (Hearings Committee Agenda page 29).

²² s42A Officer's Report, paragraph 120 (Hearings Committee Agenda page 29).

- (c) What effect the proposed use of the land will have on the capacity constraints of the wastewater network, and the conditions (if any) that might be needed to resolve any issues;
 - (d) The traffic and safety effects on Bay Road and the local transport network (and mitigation);
 - (e) The effects of the activities, including earthworks, on heritage values and archaeology;
 - (f) The effects on biodiversity and indigenous vegetation; and
 - (g) The effects on residential coherence and amenity.
51. I focus on what I consider to be the key matters, and I also address the matters raised by Mr Buxton where I hold a different view.

Permitted baseline

52. In his report²³, Mr Buxton states that if an archaeological authority has not been obtained there is no permitted baseline for work that may involve earthworks. Mr Buxton goes on to consider²⁴ what extent of earthworks would be permitted if an archaeological authority was obtained.

53. Section 104(2) RMA states:

...when forming an opinion for the purposes of subsection (1) (a), a consent authority may disregard an adverse effect of the activity on the environment if a national environmental standard or the plan permits an activity with that effect.

54. Case law (Queenstown Lakes District Council v Hawthorn Estate Ltd [2006] NZRMA 424) directs that the purpose of the permitted baseline is:

To isolate, and make irrelevant, effects of activities on the environment that are permitted by a ... plan ... Such

²³ s42 Officer's Report, paragraph 65 (Hearings Committee Agenda page 12).

²⁴ s42 Officer's Report, paragraph 66 and 67 (Hearings Committee Agenda page 12).

effects cannot then be taken into account when assessing the effects of a particular resource consent application.

55. I do not agree with Mr Buxton's statements²⁵ and identification of the permitted baseline. I note that obtaining an archaeological authority is just one of the performance standards under the 2GP which needs to be met for the permitted earthwork activities Mr Buxton identified.
56. The permitted baseline is relevant as it provides a means of comparing the effects of earthworks and the proposed land use activity (including the anticipated disturbance of ground, level of vehicle movements, noise and light resulting from the proposed activity and general occupation and use of the site) against other activities that could reasonably occur and are provided for in the 2GP as permitted activities in the Township and Settlement and Coastal Rural zones. It is the effects from the proposal, beyond this permitted baseline, which should be considered.
57. In my opinion it is more accurate to state that in the Township and Settlement zone, the permitted baseline for earthworks consists of a change in finished ground level of no more than 1.5 m, a volume (of combined cut and fill) over a slope less than or equal to 12° of 30 m³ per 100 m² of site, and compliance with performance standards as set out in Rule 8A.3.2(1). Performance standards include erosion and sediment control, setbacks from boundaries and structures and setback from the coast and other surface water bodies. I also note that earthworks subject to an approved building consent (except in the rural or rural residential zones or where they are located more than 1.8 m from the building) are deemed to be 'earthworks-small scale' and are permitted activities. Whether the proposal meets any or all of these performance standards is irrelevant to, and does not change, the permitted baseline for earthwork activities in the Township and Settlement zone.
58. Rule 15.3.3 of the 2GP sets out the activity status for all land use activities in the Residential zones (inclusive of the Township and

²⁵ s42 Officer's Report, paragraph 65 (Hearings Committee Agenda page 12).

Settlement zone). Permitted land use activities include standard residential, working from home, community and leisure²⁶ - small scale²⁷, conservation and grazing²⁸ activities. All land use activities are subject to performance standards where relevant, as listed in Rule 15.5 which include: density, hours of operation, light spill, location, maximum gross floor area, minimum car parking, minimum vehicle loading and noise.

59. The Township and Settlement zoned portion of the site has an area of 10,573 m², excluding the driveway. The Township and Settlement zone anticipates a density of one residential unit per 500 m², equalling 21 residential units. I note that a more realistic and achievable density for the site would be based on allowance for internal road and or on-site vehicle manoeuvring (typically 10% of the site area) and lot sizes of 600 m² to allow for the irregular shape of the site, and therefore up to 15 residential units would more likely be achievable on the site. Hours of operation do not apply to residential, conservation or grazing activities. Community and leisure activities are permitted Sunday – Thursday between 6.00am - 10.30pm and Friday – Saturday between 6.00am - 12.00am (midnight). Land use activities must not exceed the zone noise limits set through Rule 9.3.6 except for noise generated as part of ‘normal residential activities’²⁹ which are exempt.
60. I consider that the description in paragraph 58 and 59 of my evidence above is the appropriate permitted baseline for land use activities within the Township and Settlement zone.
61. Rule 15.3.4 of the 2GP sets out the activity status for development activities in the Township and Settlement zone. Development activities comprise the sub-categories of ‘buildings and structures activities’³⁰;

²⁶ Means: The use of land and buildings for the purpose of social gathering, worship, community support, non-competitive informal recreation, or leisure activities. These activities are generally not-for-profit and/or may make use of space in an existing building.

²⁷ ‘Small Scale’ means: Community and leisure that does not exceed an attendance rate of 50 people at any one time, except for a maximum of 10 days per calendar year, where the attendance rate does not exceed 100 people at any one time.

²⁸ Means: The use of land for the keeping of livestock, where not part of farming.

²⁹ As referred to under Rule 9.3.6.7 of the 2GP.

³⁰ Means: (new) buildings, structures, additions and alterations, removal for relocation, demolition; and repairs and maintenance.

and 'site development activities'³¹. The 2GP states that provisions for the residential zones are designed to manage the potential for development to adversely affect the amenity and character of streets and neighbourhoods. In some cases, provisions are designed to ensure new houses have a similar character to existing houses. A new building or structure is permitted in the Township and Settlement zone (subject to performance standards), however new buildings or structures greater than 2.5 m high or that have a footprint of 2 m² or more on a scheduled heritage site visible from a public place are a restricted discretionary activity (subject to number, location and design of ancillary signs). Performance standards in relation to all buildings and structures and development activities include (noting this is not the full list) managing building coverage, building length, height in relation to boundary, signage, parking and access, setbacks and materials and design.

62. I consider that the description in paragraph 61 above is the appropriate permitted baseline for buildings and structures and site development activities with the Township and Settlement zone.
63. Similar structured provisions (for land use activities and development activities) apply for the Coastal Rural (CR) zone which the balance of the site (1.55ha) is zoned. The Coastal Rural zone is also subject to the Natural Coast Character (NCC) overlay. Rule 16.3.3 of the 2GP sets out the activity status for all land use activities and Rule 16.3.4 provides for development activities. Permitted land use activities include domestic animal boarding and breeding (not including dogs), farming, grazing, mineral prospecting, mineral exploration that does not involve blasting, rural ancillary retail, rural tourism - small scale³², rural research - small scale, standard residential³³, working from home, conservation, community and leisure – small scale, stand-alone car parking and rural contractor and transport depots - small scale.

³¹ Means: outdoor storage, parking, loading and access, storage and use of hazardous substances, shelterbelts and small, woodlots; and vegetation clearance.

³² Means: Rural tourism that does not exceed the following attendance rate thresholds: An attendance rate of 25 or fewer people per day, except for a maximum of 10 days per calendar year an attendance rate of 26 to 50 people per day.

³³ Under appeal for Rural Zones however appeal relates to BP new hazard facility mapped area only.

64. It is my understanding that the 2GP does not result in any significant policy shift in relation to the activities anticipated under the ODP.

ASSESSMENT OF EFFECTS

Vehicle movements along the driveway

65. The frequency and type of vehicle movement and the resulting generation of noise along the driveway was raised through the submissions of 'Johnston and Marsh', 'Price' and 'Muschamp'. These submitters own/occupy the properties either side of the driveway and in their submissions express their concern regarding the level of noise and impacts on their health and quality of life (Johnston and Marsh, Price), annoyance from the arrival of vehicles, and additional noise and effects of headlights along the driveway during night-time hours (Johnston and Marsh, Muschamp).
66. Two submissions (Johnston and Marsh, Price) sought that access to the proposed NZMCA facility be via the reserve from the south of the site. I consider that access from the south would alleviate, if not avoid, many of the concerns raised by submitters. Subject to reaching satisfactory terms of agreement with the Council, this is also the preferred point of access for the applicant.
67. I understand that Council met and discussed the alternative access internally and the PARS department have provided a memorandum to Mr Buxton stating their position on the matter³⁴. The PARS department are generally unsupportive of the alternative access noting the use of the Warrington Domain as a freedom camping area has been met with ongoing complaints from the local community, with issues including volume of traffic, vehicle noise and headlights. This is contrary to the comments made from Council's Environmental Health Officer³⁵ which states 'Adjacent to this proposed activity site is freedom camping on the Warrington reserve, which Council acknowledges to date, has not resulted in any noise complaints being received from this activity'.

³⁴ Hearings Committee Agenda, pages 533 to 534.

³⁵ Hearings Committee Agenda, page 536.

68. As a result of the position from the PARS department, no amendment to the proposed access has been made. In the absence of being able to provide an alternative access, I address the potential effects of vehicle movement along the driveway off Bay Road.
69. The application and further information provided³⁶ stated the expected traffic generation of the Motor Caravan Park is 30-35 movements per day on average during the off-peak periods and approximately 100 movements per day on average during the summer peak period, typically the three-week period encompassing the Christmas and New Year holidays. During the summer peak period, the busiest hour of the day is expected to involve 15-20 vehicle movements along the driveway.
70. While analysis of the estimated peak and off-peak vehicle movements has been provided based on a 60-vehicle capacity for the proposed activity, further information from the NZMCA has been made available to Mr Rossiter in relation to recorded visits at other NZMCA sites and occupancy distribution across a calendar year. In his evidence³⁷ Mr Rossiter has made the following comment based on that information:

The average daily traffic generation during the summer with the 90th percentile occupancy level is likely to be closer to 50 vehicle movements per day with a peak hourly volume of less than 10. Outside of the main holiday period, the data suggests that the Warrington site would typically generate less than 20 vehicle movements per day.

71. With consideration of the permitted baseline for land use activities within the Township and Settlement zone³⁸, the expected traffic generation of 15 residential units and 21 residential units, based on a traffic generation rate of 10 vehicles per day per dwelling, is 150 and 210 vehicle movements per day (respectively). No hours of operation

³⁶ Hearings Committee Agenda, page 333.

³⁷ Brief of evidence, Chris Rossiter, paragraph 29.

³⁸ Paragraph 58 of my evidence above.

or noise limits for residential traffic apply as part of 'normal residential activities' which are exempt (Rule 9.3.6(7)(e) of the 2GP).

72. With regard to the Coastal Rural Zone portion, standard residential and other activities are permitted including small scale 'community and leisure' activities. The 'community and leisure-small scale' activity could anticipate an attendance rate of 50 people at any one time³⁹ and therefore 50 carparks would be reasonable to anticipate. This could result in at least 100 vehicle movements per day (one vehicle arriving and then departing from the site), similarly with no constraints on hours of operation. Small scale rural contractor depots are also permitted on the site, again there are no restrictions on the hours of operation. Noise from 'sport and recreation' (being a sub-category of community and leisure-small scale) not involving the use of motor vehicles is exempt from compliance with the noise standards.
73. Overall, I consider there are a variety of land use activities anticipated on the site within both zones, which could generate between 100 and 210 vehicle movements per day 24 hours, 7 days a week, and which would not be restricted to hours of operation, and normal residential activities being exempt from noise limits. Taking this into account, any adverse effects associated with vehicle movements along the driveway, including noise effects will be no more than minor and no greater than, or in fact less than, the permitted baseline for the following reasons:
 - (a) The proposed activity during the summer peak period will result in less vehicle movements than a level associated with other permitted activities, even during the summer peak period (estimated 50 – 100 movements per day).
 - (b) Unlike vehicle movements for residential activities which are consistent throughout the year, the vehicle movements for the proposed activity vary considerably during the year, and off-peak vehicle movements (20 – 35 movements per day) are

³⁹ As per definition of 'community and leisure-small scale'.

considerably lower than what could be anticipated by other permitted land use activities.

- (c) While there is no data to demonstrate the potential make-up of residents if the site was developed for residential purposes, it could be assumed that some residential activities such as shift work could result in vehicle movements at any time of day. Regardless, peak traffic generation in most residential areas peaks in the morning and evening associated with travel to and from work. The proposed activity would generally result in peak traffic generation during the day with low levels of movement in the early morning or evening, based on traffic surveys at other NZMCA sites which show members arrive or depart typically between 7am and 10pm.
 - (d) I consider the infrequent arrival and departure during night-time hours and the small percentage of larger noise generating vehicles will cause less nuisance, compared to the anticipated volume and frequency of traffic movements that would be associated with residential activity of the density that would otherwise be permitted on the site.
74. I acknowledge that some types of vehicles using the site will differ from those of standard residential activity, namely converted buses and 5th wheel large caravans which could be expected to be generally louder than motorhomes or standard vehicles towing caravans. I refer to the evidence of Mr Trevathan⁴⁰, and in his opinion as very few night time movements are expected of any vehicle type, and these vehicles only make up 10 % of the owner fleet such occurrences are expected to be very rare and any resulting noise effect will only be minor.
75. The Council's Environmental Health Officer (EHO) considers that potential noise from vehicles resulting from the proposal is unlikely to disrupt sleep to any nearby residential dwellings⁴¹. Taking this into account, as well as the evidence of Mr Trevathan (referred to in paragraph 71 above), I consider the condition recommended by the

⁴⁰ Brief of evidence, Jeremy Trevathan, paragraph 32.

⁴¹ Hearings Committee Agenda, page 536.

Council's EHO and supported by Mr Buxton, prohibiting vehicles from arriving or departing the site between 10pm and 7am to be unwarranted. Furthermore, and as Mr Imlach has noted in his evidence⁴², the location of this 'destination' site is such that members would only likely move to and from the site at night in an emergency. Therefore, not enabling people to arrive or depart the site between those hours creates a health and safety issue, as members should be able to leave if their health or safety requires them to. I therefore consider the more practical and appropriate solution would be that instead of prohibiting night time vehicle movement, NZMCA encourages members not to arrive or depart between 8pm and 8am (as a reasonable compromise between Mr Buxton's proposed conditions 17 and 19(c)). Many NZMCA sites operate within residential neighbourhoods, and as Mr Imlach notes in his evidence, members rarely move to and from the parks at night and if they do, to his knowledge, noise has not been an issue⁴³.

76. I refer to the evidence of Mr Trevathan for further discussion related to the proposed location of the gate and idling of vehicles, and that given the for the majority of the time the gate will remain open, except when the park is full, or if there is a public event nearby, the idling of vehicles while the gate is opened or closed is not expected to be part of the day-to-day activity.
77. In summary I consider that potential nuisance and amenity effects which may result from the frequency and type of vehicle movements, on balance will be less adverse than what might be anticipated from other permitted land use activities on the site. For reasons outlined above, and subject to consent conditions as amended in **Appendix 1** of my evidence, I consider the effects summarised above to be acceptable.

Wastewater capacity

78. The applicant proposes that members are to use the existing public wastewater dump station within the Warrington Domain located in the

⁴² Brief of evidence, James Imlach, paragraph 33.

⁴³ Brief of evidence, James Imlach, paragraph 26.

reserve directly adjacent to the site, however members are encouraged to dump their waste prior to arrival or at the earliest opportunity after leaving the area in order to minimise the volume of wastewater discharged to the public system.

79. In their submission, the Rūnaka state they do not support NZMCA members utilising the existing wastewater dump station. Wastewater from the dump station is conveyed to the Warrington Wastewater Treatment Plant (Warrington WWTP). The Rūnaka are concerned the Warrington WWTP is already under capacity to convey the wastewater discharged from the catchment.
80. Following the close of submissions, Councils '3 Waters' team advised that there is not enough processing capacity in the Warrington Wastewater Treatment Plant (Warrington WWTP) to accommodate additional wastewater discharge from the proposed development.
81. In his report, Mr Buxton states that the applicant will need to advise how the concern (regarding capacity in the Warrington WWTP) will be addressed. However, it is unclear to me whether Mr Buxton considers that the concern must be addressed through the decision of this consent, as no conditions relevant to this concern are proposed nor does he make mention of this in his conclusions at paragraphs 122 and 130 of his report.
82. Chapter 15.1.1.7 of the 2GP describes the activities anticipated in the Township and Settlement zone by the plan stating that 'In some cases this zone is applied in areas that are not reticulated with wastewater public infrastructure, identified by a 'no DCC reticulated wastewater mapped area'. In these areas a low density of residential development is required to enable on-site wastewater disposal. Where public wastewater infrastructure is provided, the anticipated pattern of development is the same as for the General Residential 1 Zone' which covers the majority of the middle to outer suburban areas of Dunedin and Mosgiel and is often applied when rezoning areas of greenfield land on the urban fringes⁴⁴. Under the provisions of the 2GP, the

⁴⁴ As described by the 2GP, Rule 15.1.1.1.

General Residential 1 zone provides for a variety of site sizes (between 400 – 800 m²) and typologies.

83. The site is not a 'no DCC reticulated wastewater mapped area' and therefore, it is anticipated that land use activities will be serviced by the Councils wastewater public infrastructure in this area and on this site.
84. The NZMCA has advised that the average self-contained vehicle is estimated to discharge 100 to 300 litres of black and grey wastewater every two to three days, therefore I consider an average of 100 litres per day per vehicle to be an appropriate estimate. This information was provided by email to Councils '3 Waters' Department at their request, on 11 August 2021. I understand that this information was requested by Council to gain a better understanding of the potential demand on the wastewater infrastructure from the activity compared to other activities, in particular residential that could be expected to occur on the site according to the zoning of the site.
85. In the absence of information from Council, the design flow criteria under NZS 4404:2010⁴⁵ has been used to estimate the average dry weather flow of domestic wastewater that could be anticipated from residential activities (per residential unit). Based on the NZS 4404:2010, applying the recommended average of 180 to 250 litres per day per person for domestic wastewater and an average number of people per dwelling of 2.5 to 3.5, the following volume could be estimated for residential activities:
 - 6,750 to 9,375 litres per day (based on 2.5 people per dwelling) for 15 residential units
 - 9,450 to 13,125 litres per day (based on 3.5 people per dwelling) for 15 residential units
86. Occupancy information for three of NZMCA's facilities that are of a similar size (50-55 sites) to the proposed site in Warrington indicate:
 - less than 10 vehicles are on site at one time for 69% or 252 days of the year,

⁴⁵ NZS 4404:2010 Land Development and Subdivision Infrastructure

- 11 – 20 vehicles are on site at one time for 23% or 84 days of the year,
 - 21 – 30 vehicles are on site at one time for 4.5% or 16 days of the year,
 - 31 – 40 vehicles are on site at one time for 2.1% or 8 days of the year,
 - More than 40 vehicles are on site for 1.4% or 5 days of the year.
87. The estimated wastewater volume from the proposed activity would be an average of 1,452 litres per day based on the occupancy information above, and up to 6,000 litres per day based on a maximum occupancy of 60 vehicles for 365 days of the year.
88. The analysis above and information provided to Council in the second RFI response⁴⁶ and supplementary information⁴⁷ demonstrates:
- (a) that the demand on the Councils public wastewater infrastructure as a result of developing the site as proposed would be no greater, and is expected to be considerably less, than the demand from the site if developed with at least 15 residential units.
 - (b) alternative options have been considered for on-site wastewater storage and removal off-site or disposal on-site via dispersal fields, all of which involve additional excavation of the site which the applicant is actively trying to avoid wherever possible due to the sensitive nature of heritage below the surface.
 - (c) the site is not a 'no DCC reticulated wastewater mapped area' and therefore, it is anticipated that land use activities will be serviced by the Councils public wastewater infrastructure
 - (d) I understand that the discharge permit held by Council for the Warrington Wastewater Treatment Plant will expire within the next few years, and it is expected that Council will need to

⁴⁶ Hearings Committee Agenda, page 416.

⁴⁷ Hearings Committee Agenda, page 452.

upgrade their infrastructure to meet existing demand and allow for forecast growth.

- (e) a reduction of 36% in the volume of freedom campers at Warrington was identified over the 2018/2019 season due to other options being available to freedom campers that summer in Dunedin⁴⁸. NZMCA members also make up a proportion of the number of people in caravans and self-contained motor vehicles visiting the Warrington Domain. Therefore, any additional demand may be offset to some extent.
 - (f) NZMCA have the ability to encourage members to discharge their waste tanks at one of the many other dump stations in the region, and a consent condition is proposed in this regard in response to the concerns raised by submitters.
89. For the reasons above I consider that additional pressure on the existing wastewater network as a result of the proposal will be adequately minimised.
90. With regard to wastewater disposal, the proposal remains unchanged. That is, the applicant proposes that NZMCA members utilise the existing public wastewater dump station within the Warrington Domain. The demand on the Councils wastewater public infrastructure is no greater, and in fact based on occupancy data will be considerably less, than the demand from residential activities. Any additional demand as a result of the proposal can be adequately mitigated through conditions of consent as set out in **Appendix 1**.
91. Furthermore, I consider the disposal of wastewater is a matter which is addressed outside the resource consent process, usually at the building consent stage. In the case of the proposed activity, the disposal of wastewater is a matter addressed through the Camping Ground Regulations 1985.
92. I refer to the following discussion provided in my second response to further information:

⁴⁸ Council public meeting on Friday 31 January 2020, Review of the Camping Control Bylaw 2015.

'...the NZMCA operate several motorhome parks nationwide without dump stations on site. Further to correspondence with Carlo Bell (DCC Team Leader Environmental Health) the NZMCA will apply for an exemption to the Camping Ground Regulations. Carlo has indicated that DCC would not consider an application for exemptions until a decision had been made on the consent. Therefore, it is not considered necessary to provide a dump station for the purpose of the consent and the exemption will be considered as part of a separate process from the resource consent process'.

93. In my opinion, an advice note to the effect that wastewater disposal shall be assessed at the time of application for a Camping Ground License, is appropriate.

Traffic and safety effects on bay road and the local road network

94. Concerns were raised in the memorandum from Councils Transport Planner⁴⁹ and through submissions regarding the traffic and safety effects on Bay Road and the local road network.
95. Effects from the proposal on the local road network were discussed with Council's Transportation Operations Department and Mr Buxton on the 2nd of March 2021. A summary of key points and a set of conditions that were proposed as a result of that discussion are provided in the Supplementary Information, dated 31 March 2021.
96. I refer to the evidence of Mr Rossiter for further discussion related to traffic and safety effects on Bay Road and the road network and his conclusion that proposed widening on the northern side of the road will be sufficient to address the safety concerns that have been raised.
97. Taking account of Mr Rossiter's assessment and conclusions, I hold the view that any adverse traffic and safety effects on Bay Road and the local road network resulting from the proposal will be minor given that motor homes and caravans can be expected to travel on the

⁴⁹ Hearings Committee Agenda, page 543.

proposed route currently, the additional traffic generated will not cause undue strain on the road network, the likelihood of two large vehicles meeting on Bay Road is low, and that residual effects can be adequately managed through the proposed conditions of consent including the shoulder widening along Bay Road.

Effects of the activity on heritage and archaeological values

98. In their submission, the Rūnaka state concerns that the development has the potential to damage the important cultural and historical site and that archaeological artefacts may be disturbed by activities such as earthworks or traversing vehicles.
99. The applicant proposes to minimise ground disturbance as much as possible, by limiting earthworks to stripping topsoil for planting and placing fill over parking aisles to achieve a level surface for vehicles. Excavation approximately 250 mm deep is proposed along the length of the driveway from Bay Road to form an all-weather (metalled) access to the site. To minimise the potential to uncover or disturb heritage artefacts the applicant proposes a paving treatment (Pavement Type 2) over an area of the site identified as Stage Two and shaded red on the plan provided as **Appendix 2** to my evidence. The area proposed for this treatment is located on the eastern part of the site which is identified by the archaeological assessment (Appendix C of the application) as one of the key areas of historic interest on the site. The ground surface has been lowered in this area as a result of rural land use and therefore more likely that any artefacts present are shallow below the surface.
100. The potential to disturb artefacts below the surface will be reduced by limiting excavation to the extent described in paragraph 31 of my evidence. The potential is further reduced avoiding disturbance in the identified area of significance. The proposed pavement strategy provides an overlying layer preventing disturbance or penetration of soils in this area to protect the identified area and potential artefacts within.
101. New Zealand Heritage Properties Limited (NZHP) prepared an archaeological assessment to accompany an application for an

archaeological authority and was provided as Appendix C of the application as a draft, noting that consultation with the Rūnaka was in progress at that time. The archaeological assessment has since been updated following notification of the application and consultation through Aukaha. The updated archaeological assessment is provided as **Appendix 4** of my evidence. The archaeological assessment makes several recommendations including as a first principle avoiding any damage to an archaeological site, obtaining an authority from HNZPT, requiring the preparation of a site instruction as a condition of an archaeological authority, consultation with mana whenua and observation and monitoring during ground disturbance.

102. I agree with Mr Buxton's comment⁵⁰ that the proposed activity is one that will likely have little impact on the site compared to a land use involving residential development of the site, as no substantial soil disturbance is proposed. I also agree that the effects of any earthworks can be adequately managed through consent conditions, noting I address some details of the recommended conditions in my evidence in paragraph 117 to 137 below.

Effects on biodiversity and indigenous vegetation

103. In their submission, Muschamp raises the concern that the proposed activity will exacerbate effects on the estuary coastline, including on native ground cover and wetlands which are currently at risk from foot traffic. Johnston and Marsh also discuss potential impacts of additional people in the Warrington area including the sensitive ecosystem, the increase in the number of dogs in the area and the access to walking tracks and the estuary.
104. Council's Biodiversity Officer has provided comment on the proposal⁵¹ stating that effects on the indigenous biodiversity values on the property from the proposal will be negligible. The Biodiversity Officer notes that adverse effects on indigenous biodiversity adjacent to the site can be anticipated and should be avoided. I do not agree with Mr

⁵⁰ s42A Officer's Report, paragraph 87 (Hearings Committee Agenda, page 16).

⁵¹ Hearings Committee Agenda, page 522.

Buxton's recommendation for landscaping and fencing along the western boundary to prevent access for several reasons:

- (a) the objective and policy suite in the 2GP applies to protection of habitat on the application site that might be affected by the proposed activities, and not values within the public domain.
- (b) the steep slope from the western end of the parking aisles to the estuary is a natural deterrent for access to the coast from this point on the site.
- (c) additional landscaping and the erection of fences will require additional ground disturbance and excavation for fence posts which the applicant is seeking to avoid, consistent with advice from NZHP.
- (d) enhancing and maintaining access to the coast is a matter of national importance (s6 of the RMA) and therefore restricting access as recommended would be in conflict. However, I do note that access would not be entirely prevented as access is still available at the northern extent of the site via the future public accessway.
- (e) the proposed landscaping at the western extent of the northern parking aisle provides a physical barrier preventing vehicles from parking too close to the western slope.

105. I agree with Mr Buxton that the proposal will have some improvement on biodiversity on the site as exotic pest plant species will be removed and native planting undertaken which will also serve to delineate parking aisles and soften the visual effects of the activity. Preparation of the ground will be carefully undertaken and monitored to avoid impacting archaeological features or items.

The effects on residential coherence and amenity

106. In their submission Johnston and Marsh raise what they describe as an issue of residential coherence with an increase of 60 mobile homes per night, increasing the transient population who have no connection to the Warrington community.

107. The site currently achieves no residential coherence as it is vacant, grassed and previously used for grazing activities. The proposal will have minimal impact on the site compared to development of the site for residential activity. I consider this to be positive, given the heritage of the site and coastal setting. While it is true that campers will be transient, so too are the effects of the activity, noting that the rural character of the site will dominate for much of the year. Conversely, residential occupation will permanently change the landscape, with an increase in built form, noise and vehicle movements (albeit generally anticipated on the site by the zoning).
108. Generator use on site will not be permitted between the hours of 8pm – 8am which is consistent with many other NZMCA parks across the country, therefore minimising potential noise effects in the evening and night-time hours.
109. In his evidence⁵² Mr Trevathan confirms that if generators similar to those measured by the WSP Memorandum⁵³ would be typical as to what would be used on the site and are limited to between 0800 and 2200 hours, they would comply at the nearest neighbouring boundaries.
110. Mitigation planting as indicated on the landscape plan as well as retaining grass cover will assist in the integration of the development into the rural coastal environment.
111. For these reasons, I consider the visual effects from the proposal on landscape and adjacent residential amenity to be less than minor and able to be adequately avoided, remedied and mitigated through the proposed development design and revised consent conditions as set out in **Appendix 1**.

S42A OFFICERS REPORT

112. I generally concur with the findings of Mr Buxton's report, except where I have commented throughout my evidence above. I agree with the recommendation that the resource consent should be granted, subject

⁵² Brief of evidence, Jeremy Trevathan, paragraph 35.

⁵³ Appendix H of the application (Hearings Committee Agenda, page 294).

to conditions. However, there are some matters of detail in relation to the conditions which I consider need to be amended. These changes are addressed in the conditions section below.

113. I note that while Mr Buxton states that wastewater management needs to be addressed, this is not addressed in his recommendation and no conditions relevant to wastewater are recommended.
114. The proposal remains unchanged in that the applicant proposes members utilise the existing public wastewater dump station within the Warrington Domain located in the reserve directly adjacent to the site. NZMCA members are currently permitted to use the existing public wastewater dump station within the Warrington Domain. I also consider that additional pressure on the wastewater network as a result of the proposal will be minimal.
115. I consider the disposal of wastewater is a matter which is addressed outside the resource consent process, usually at the building consent stage. In the case of the proposed activity, the disposal of wastewater is a matter addressed through the Camping Ground Regulations 1985.
116. In my opinion, an advice note to the effect that wastewater disposal shall be assessed at the time of application for a Camping Ground License, is appropriate.

PROPOSED CONSENT CONDITIONS

117. I have recommended changes to the conditions recommended by Mr Buxton in his evidence, and set these out in the Applicant's Proposed Conditions set attached as Appendix 1 to my evidence. I have shown deletions with a strikethrough and additions in bold and underline. My reasoning for the proposed changes to each condition is described below.
118. **Condition 2** – I have made the following amendments:
 - (a) Addition of the word 'earth' to the condition so it reads that notification is to occur in relation to 'earthworks'.

- (b) I have deleted 'This notice must also be provided at least five (5) working days before the works are to commence to Heritage New Zealand Pouhere Taonga (HNZPT) and Aukaha. The notice to Aukaha must include an invitation for a representative from Kāti Huirapa Runaka ki Puketeraki to attend the site during all earthworks'. Any earthworks which occur on the site must have an archaeological authority as required under the HNZPTA and the consent notice on the title.

119. **Condition 4** – I have made changes to:

- (a) Refine the scope of the condition, noting that 'to provide screening of the site from residential sites to the north (including the driveway), and from public places to the east, south and west' is too broad and the only landscaping which would actually achieve this would be dense and tall trees. The proposed landscaping will soften the visual effects but not completely screen the activities on the site (nor is it considered reasonable or necessary to do so, given the minimal scale of effect).

120. **Condition 5** – I have made the following amendments:

- (a) Removed reference to 'a multi-layered screening effect' as that term indicates multiple rows, whereas a single row of landscaping is proposed across the scheme to provide softening and amenity over the site.
- (b) Deleted 'The landscaping plan must include detail on the ongoing management of the existing native and exotic species to ensure that screening and context by vegetation of sufficient scale, is always maintained', as this is addressed in condition 6.
- (c) Deleted 'The landscaping plan must also set out the process for the eventual progressive removal of the existing older exotic trees as they near the end of their useful lifespan, and their replacement with appropriate indigenous species. This process must ensure the screening of the site is appropriately maintained throughout'. There is no mention of these works in the s42A

Officers Report, nor do I consider that this condition is linked to the proposal and goes beyond scope.

121. **Condition 8** – I have made changes requiring landscaping to be completed 'within 12 months of the site operating' as provides flexibility depending on when the consent is issued in relation to the planting season.
122. **Condition 10** – I have deleted as the technical specification of the pavement design is not within the scope of an archaeologist's expertise. Pavement design is addressed in later conditions of consent.
123. **Condition 13** – I have deleted as this condition is ultra vires. The requirement to submit a full report to HNZPT will be stipulated, if required, by the archaeological authority.
124. **Condition 14** – I have amended the wording for clarity.
125. **Condition 16** – The application did not propose a restriction and it is not clear why, from an RMA effects perspective, why the condition is necessary. Nevertheless, should the hearings panel find the condition necessary I have amended the condition to 10 days in any 60-day period, which is consistent with NZMCA's default restrictions.
126. **Condition 17** – I have deleted for reasons addressed in paragraph 75 of my evidence.
127. **Condition 19** – I have made amendments to:
 - (a) Incorporate condition 20, by stating the following information shall be conveyed through signage and other media.
 - (b) Conditions (a) and (b) for clarity.
 - (c) Condition (c) to increase the timeframe where members are discouraged from arriving and departing (between 8pm – 8am, which is consistent with condition 18).
 - (d) Condition (d) for clarity.

- (e) Have incorporated Condition 25 into the condition under '(e)' advising campers of the route to arrive and depart the site via Hill Road.
- 128. **Condition 20** – I have deleted, as no longer required due to the proposed amendments to Condition 19.
- 129. **Condition 21** – I have changed 'activity' to 'visitor accommodation' so it is clear that light spill and glare from camping on the site are to be controlled (not the broad category of 'activity' which could be interpreted to include moving vehicles).
- 130. **Condition 22** – I have deleted as these limits are specified in the district plan.
- 131. **Condition 23** – I have deleted, as archaeological sites are protected under Section 42 of the HNZPTA.
- 132. **Condition 25** – I have deleted, incorporating this advice to campers in Condition 19 as stated above.
- 133. **Condition 26** – I have amended to reflect the proposed hard surfacing of the entire length of the driveway (approximately 135 m).
- 134. **Condition 28** – I have amended to clarify that the 5 working days is after the time of which the photos are taken.
- 135. **Condition 31** – I have amended to specify a timeframe which I recommend is prior to operation.
- 136. Consequential re-numbering of conditions and references.
- 137. I consider an advice note to the effect that wastewater disposal shall be assessed at the time of application for a Camping Ground License, is appropriate.

CONCLUSION

- 138. Having considered the evidence presented by other witnesses, the matters raised by submitters, the s42A Officer's Report, and the provisions of the relevant planning instruments I do not consider that there any matters preventing the granting of the application. In

particular, the proposal is generally consistent with the applicable policy framework, such that it passes both the policy and effects gateways of s104D.

139. In my opinion, granting the application, subject to the revised set of conditions included in Appendix 1 to my evidence, is consistent with the promotion of the sustainable management of natural and physical resources envisaged by the RMA.

Date: 24 August 2021

Kelly Bombay

Stantec New Zealand

APPENDIX 1 – Revised set of Conditions

Conditions

LUC-2018-293

1. The proposed activity must be undertaken in general accordance with the approved plans attached to this certificate as Appendix One, and the information provided with the resource consent application received by the Council on 2 July 2020 and a range of further information which was collated, finalised and received on 22 April 2021, except where modified by the following conditions:
2. The consent holder must provide notice to the Resource Consent Monitoring team by email to rcmonitoring@dcc.govt.nz of the start date of the **earthworks**. This notice must be provided at least five (5) working days before the works are to commence. ~~This notice must also be provided at least five (5) working days before the works are to commence to Heritage New Zealand Pouhere Taonga (HNZPT) and Aukaha. The notice to Aukaha must include an invitation for a representative from Kāti Huirapa Runaka ki Puketeraki to attend the site during all earthworks.~~
3. The consent holder must:
 - a. be responsible for all contracted operations relating to the exercise of this consent; and
 - b. ensure that, prior to undertaking work on the site, all personnel (contractors) working on the site are made aware of the conditions of this consent, have access to the contents of consent documents and must be briefed by a suitably qualified archaeologist on the legislative requirements of working within archaeological sites; and
 - c. ensure compliance with the consent conditions.

Landscaping

4. Prior to any works being undertaken on the site, a finalised landscaping plan must be prepared in consultation with the Council's Landscape Architect, and approved by the Resource Consent Manager. The intention of the planting is to provide ~~screening of the site from residential sites to the north (including the driveway), and from public places to the east, south and west, and a softening effect between the rows of parking spaces. The landscaping plan must also provide planting and possible fencing to discourage users of the site from accessing directly from the site on to the indigenous saltmarsh vegetation located to the west of the site.~~
5. The landscaping plan must detail the: width of planting ~~to provide a multi-layered screening effect, and the location, quantities, grades, and species to be planted; the location and construction of any fencing; and the location, screening and colour of the kiosk and bins.~~ It must also specify the measures to be taken to ensure successful establishment and for ongoing management of the planting. All new planting must be comprised of indigenous species appropriate to the character of the site (as listed in Appendix Two of this certificate). ~~The landscaping plan must include detail on the ongoing management of the existing native and exotic species to ensure that screening and context by vegetation of sufficient scale, is always maintained. The landscaping plan must also set out the process for the eventual progressive removal of the existing older exotic trees as they near the end of their useful lifespan, and their replacement with appropriate indigenous species. This process must ensure the screening of the site is appropriately maintained throughout.~~
6. The consent holder must maintain all planting in a good and healthy condition. Any planting not in a good and healthy condition that is removed, dies or is defective in any way must be replaced by the consent holder so as to be in accordance with the approved landscaping in Condition 4.

7. All earthworks associated with the ground preparation for landscaping must be supervised by a suitably qualified archaeologist.
8. The landscaping must be completed ~~prior to the use of the site commencing~~ **within 12 months of the site operating.**

Earthworks and development of the site

9. As a first principle, every practical effort must be made to avoid damage to any archaeological site, whether known, or discovered during any development of the site.
- ~~10. Prior to earthworks being undertaken on the site, a technical specification of the pavement design must be prepared in accordance with construction considerations recommended in the Pavement Options Memo submitted with the resource consent application. The technical specification must be approved by a suitably qualified archaeologist and sent to the Council prior to the works commencing.~~
- ~~11.~~ **10.** All works that disturb the existing ground surface must be supervised by an appropriately qualified archaeologist. Any archaeological features or recovered material must be appropriately recorded and analysed.
- ~~12.~~ **11.** If at any stage during the development Māori material is discovered, the suitably qualified archaeologist must contact all relevant parties, including HNZPT, and Aukaha. If Māori material does exist in the area to be developed, damage to this should be minimised.
- ~~13. A full report on any archaeological material that is found must be prepared by the suitably qualified archaeologist and submitted to the HNZPT within three months of the completion of archaeological site works.~~

Camping activity

- ~~14.~~ **12.** A maximum of 60 motorhomes and caravans (excluding tow vehicles) shall be permitted to occupy the site for the purpose of visitor accommodation at any one time.
- ~~15.~~ **13.** The use of the site for camping on a temporary basis must be restricted to NZMCA financial members travelling in NZS 5465:2001 certified self-contained vehicles only.
- ~~16.~~ **14.** Any individual vehicle must only occupy the camping site for a maximum of ~~7~~ **10** nights in any ~~30~~ **60** day period.
- ~~17. Vehicles must not arrive onsite or leave the site during 'night time hours' of 10pm – 7am.~~
- ~~18.~~ **15.** Generators must not be used within the site between the hours of 8:00pm and 8:00am, and advice to this effect must be included on the camping information sign erected on site.
- ~~19.~~ **16.** ~~The camping information sign erected on the site must~~ **The consent holder shall advise members, through signage and other available media of the following:**
 - a. ~~advise campers~~ **are** to avoid damaging the indigenous saltmarsh vegetation located to the west of the site.

- b. ~~advise campers to that they must not disturb the ground within the~~ **break through the ground's surface within the** site.
 - c. ~~encourage campers not to~~ **are discouraged from** ~~arriveing/departing during the evening shoulder period~~ **the site** between 7 ~~pm~~ 8am.
 - d. ~~encourage campers~~ **are discouraged from** ~~to avoid~~ using the public dump station in the DCC Reserve **Warrington Domain** where possible, **and are encouraged to dump their waste prior to arrival or at the earliest opportunity after leaving the area.**
 - e. **Campers must arrive and depart the site via Hill Road following the existing signage indicating the route towards the Warrington Domain.**
20. ~~Information about the site that is circulated or made available to NZMCA members (such as on websites) must also include advice about condition 14-19 and 25. For condition 19d this would include advice that members should use dump stations either north or south of Warrington prior to arriving or after leaving.~~
21. **17.** The activity **visitor accommodation** must result in no greater than 8 lux of light onto any other site used for residential purposes during night-time hours, measured at the windows of any such residentially occupied building.
22. ~~Noise level measured at the boundary of the site must not exceed the following noise emission limits:~~

Daytime 7am to 7pm	7 pm to 10 pm	Night time 10pm to 7am
0700 — 1900 hours	1900 — 2200 hours	2200 — 0700 hours
50 dB LAeq (15 min)	45 dB LAeq (15 min)	i. 40 dB LAeq (15 min); and ii. 70 dB LAF max.

~~Noise must be measured in accordance with NZS6801:2008 Acoustics—Measurement of environmental sound, and assessed in accordance with NZS6802:2008 Acoustics—Environmental noise'~~

23. ~~If at any time during the operation of the camping ground the ground surface (other than fill that has been placed by the consent holder) is disturbed, a suitably qualified archaeologist must be immediately contacted and remediation work must be undertaken under the direction of the suitably qualified archaeologist.~~
- Vehicle Access**
24. **18.** Vehicle access to the site for the purpose of NZMCA members camping at the site must be via Bay Road only.
25. ~~NZMCA must communicate to their members that they must enter the site via Hill Road following the existing signage indicating the route towards the Warrington Domain, and~~

~~must include a sign on the driveway advising those leaving the site that they must turn right towards Hill Road. Note: one means of achieving this is an online route map.~~

- ~~26-~~ **19.** The vehicle access must be a minimum 6.0m formed width, hard surfaced from the edge of the Bay Road carriageway to the northern extent of Lot 3 (SUB-2018-148), a distance ~~no less than 15.0m~~ of approximately 135 m inside the property boundary and be adequately drained.
- ~~27-~~ **20.** The surfacing/pavement design for the vehicle access and Stage 2 parking areas must be specifically designed by a suitably qualified person, and the pavement construction of these areas must be certified by a suitably qualified person as having been constructed to an appropriate standard. The design and certification must be submitted to DCC Transport, prior to commencement of the activity.
- ~~28-~~ **21.** The consent holder must undertake photographic monitoring of the ground conditions over the first winter season and provide visual documentation (photos) to the DCC Transport Group within five working days (from the time of the photos). Should the integrity of the ground be compromised i.e., grass or soil is exposed due to circulation during wet weather then, in consultation with a suitably qualified archaeologist, Pavement Type 3 must be considered in the first instance, followed by consideration of Pavement Type 1 to remediate the situation. Note any remediation will need to comply with the earthworks condition 9 – ~~13~~ **11** above.
- ~~29-~~ **22.** The gate at the northern end of the vehicle access must be set back at least 15m inside the property from the boundary with Bay Road to allow sufficient vehicle queuing space.
- ~~30-~~ **23.** The vehicle crossing, between the road carriageway and the property boundary must be constructed in accordance with Dunedin City Council's Industrial Specification for Vehicle Entrances.

Bay Road Upgrade

- ~~31-~~ **24. Prior to operation,** ~~the~~ the consent holder must construct a gravelled/metalled shoulder on the northern side of Bay Road (between the site access and intersection Bay Road/Hill Road intersection). The shoulder must be no less than 0.8m wide and desirably 1.0m wide.
- ~~32-~~ **25.** Detailed engineering plans, showing the details of the upgrading/widening of Bay Road required by Condition ~~21~~ **24**, must be submitted to and approved by the DCC Transport Group prior to construction.
- ~~33-~~ **26.** Upon completion of upgrading/widening of Bay Road, all works must be tested to demonstrate that they meet the acceptance requirements of the DCC Code of Subdivision and Development and/or alternative land development engineering standards as accepted by the Council.
- ~~34-~~ **27.** Upon completion of all of the roading works, the works must be certified as having been constructed in accordance with the approved plans and specifications, and as-built plans shall be provided to the DCC Transport Group.

Note: The shoulder width may vary depending on physical constraints adjacent to the existing seal.

Road Safety Audit

~~35-~~**28.** *Within one year, but no sooner than six months, after the commencement of the campground activity (i.e., inclusive of the peak summer period) the consent holder shall engage a suitably qualified traffic/transportation engineer to undertake, and submit to DCC Transport Group, a Road Safety Audit (RSA) of Bay Road (between the site and the intersection with Hill Road) and the Bay Road/Hill Road intersection. The suitably qualified traffic/transportation engineer must either determine whether the intersection is operating to an appropriate level of safety/efficiency or make recommendations on the necessary improvements.*

Note: The applicant is only responsible for undertaking a post-construction RSA and will not be responsible for implementing any necessary physical works as recommended by the RSA. Instead, this responsibility lies with the Council.

Review

~~36-~~**29.** *The Council may review conditions 4, ~~17~~, 18, 19, ~~23~~ and 25 by giving notice of its intention to do so pursuant to Section 128 of the Resource Management Act 1991 at any time following the commencement of this consent, for the purpose of ensuring the provisions for the management of noise, the archaeological site, screening, biodiversity, wastewater disposal and traffic effects are adequate for dealing with the adverse effects of the activity.*

Advice Notes

Earthworks

1. An archaeological authority under Section 44 of the HNZPTA 2014 must be obtained from HNZPT prior to any modification of the site.

Transportation

2. The vehicle crossing, between the road carriageway and the property boundary, is within legal road and will therefore require a separate Vehicle Entrance Approval from DCC Transport to ensure that the vehicle crossing is constructed in accordance with the Dunedin City Council Vehicle Entrance Specification (note: this approval is not included as part of the resource consent process).

Noise

3. In addition to the conditions of a resource consent and the noise standards of the Proposed Second Generation Dunedin City District Plan, the Resource Management Act 1991 establishes through sections 16 and 17 a duty for all persons to avoid unreasonable noise, and to avoid, remedy or mitigate any adverse effect created from an activity they undertake.

Infrastructure

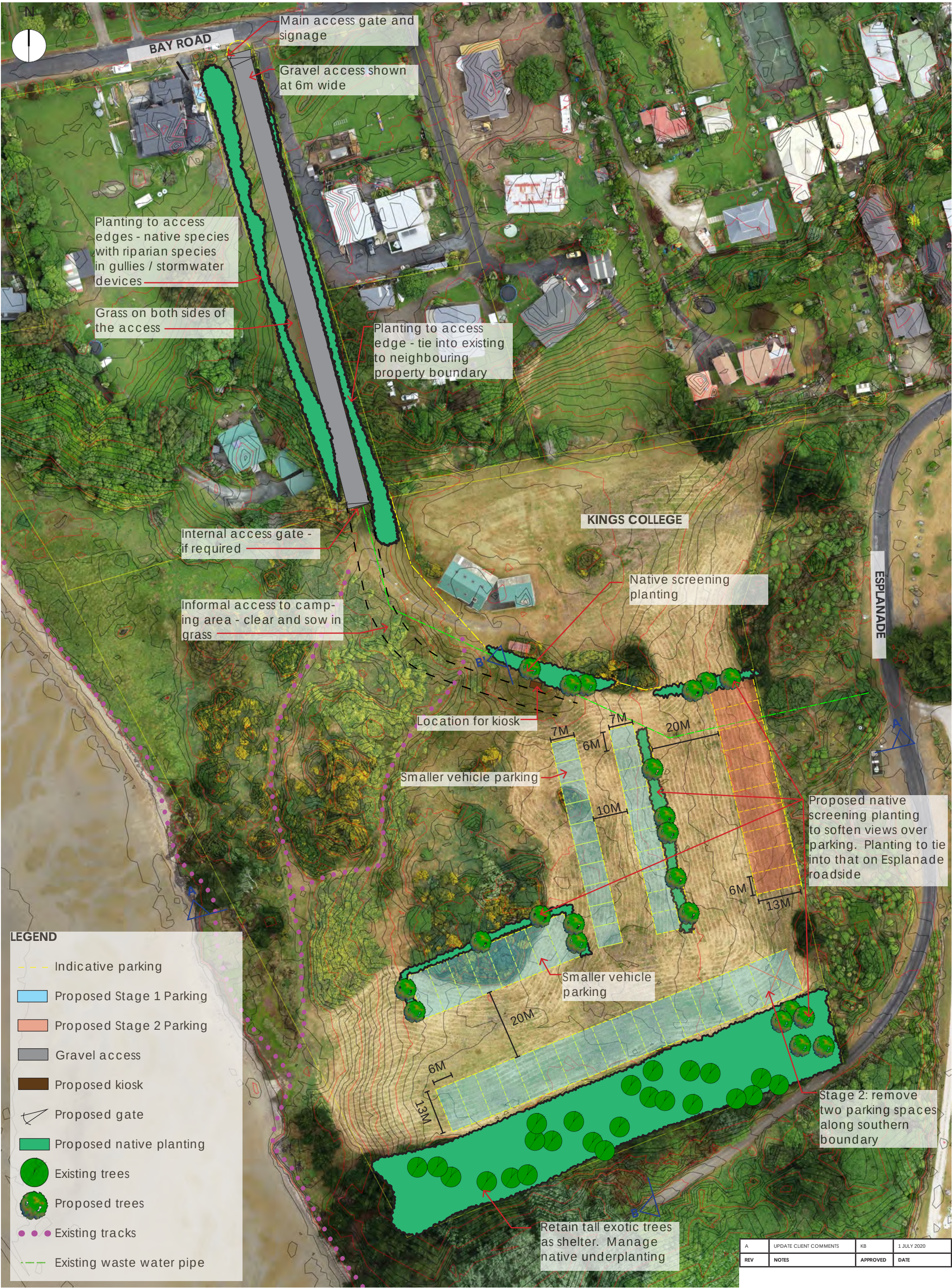
4. Detail of the water supply application process can be found at <http://www.dunedin.govt.nz/services/water-supply/new-water-connections>.

5. All aspects relating to the availability of water for fire-fighting should be in accordance with SNZ PAS 4509:2008, being the Fire Service Code of Practice for Fire Fighting Water Supplies, unless otherwise approved by the New Zealand Fire Service.

General

6. Resource consents are not personal property. The ability to exercise this consent is not restricted to the party who applied and/or paid for the consent application.
7. It is the responsibility of any party exercising this consent to comply with any conditions imposed on the resource consent prior to and during (as applicable) exercising the resource consent. Failure to comply with the conditions may result in prosecution, the penalties for which are outlined in section 339 of the Resource Management Act 1991.
8. The lapse period specified above may be extended on application to the Council pursuant to section 125 of the Resource Management Act 1991.
9. This is a resource consent. Please contact the Council's Building Services Department, about the building consent requirements for the work.

APPENDIX 2 – Landscape Plan and mark-up indicating areas of earthworks



Landscape Design

The NZMCA site at 20 Bay Road Warrington, lies approximately half an hour drive north of Dunedin via SH1 and the Coast Road. The site, not currently owned by the NZMCA, is vacant except for a building in the north-east corner which is used by Kings High School for outdoor education activities. The NZMCA have used the site for a short-time in the past as a short stay motor caravan park, under a previous informal arrangement with the current land owner. The NZMCA are investigating the permanent use of the site as a campground. Primary access to the site will continue to be from Bay Road. Pedestrian access to the coastal pathway, south of the site, will remain unchanged. Access arrangements with Kings High School will also be maintained.

20 Bay Road forms part of a small coastal peninsula bound by the calm waters of Blueskin Bay to the west, highly valued for recreational pursuits, and the Pacific Ocean to the east. There is an existing freedom camping site at the neighbouring Warrington Domain (managed by Dunedin City Council) off the Esplanade Road to the east. The site overall has a dome shape, with gently undulating plateau above the bay. The settlement of Warrington gives way to Porteous Hill, Hammond Hill and the Silver Peaks Range beyond, that provide the inland backdrop to the site.

On the western side, the site rises up inland from Blueskin Bay, with the existing coastal pathway outside the site boundary. A broad grass bank forms the main access down to the waters edge, with the remainder of the eastern bank covered in low growing scrub, in predominantly exotic weed species. The scrub is bisected by a small network of trails enabling walking and cycle access to and from the coastal pathway and the bay. The site is surfaced in pasture grass that is maintained by the landowner. Pockets of native and exotic vegetation, dominated by Ngaio, bracken, grass species and gorse exist at the top of the plateau on the eastern side. The site is sheltered from southerly winds by a wide strip of mature pines that run the length of the southern boundary. The land immediately beyond the eastern boundary of the site has been restored with native planting (Pittosporum, Mapou, Ti kouka, Toetoe and Harakeke, among others) that has achieved a suitable height and ground coverage.

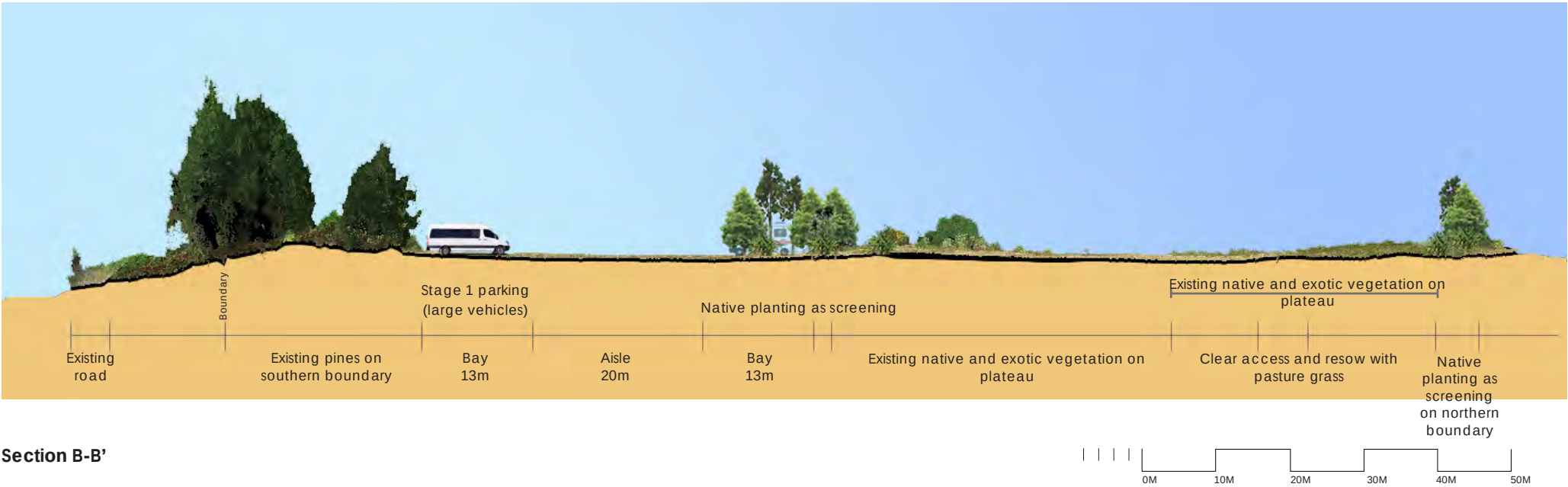
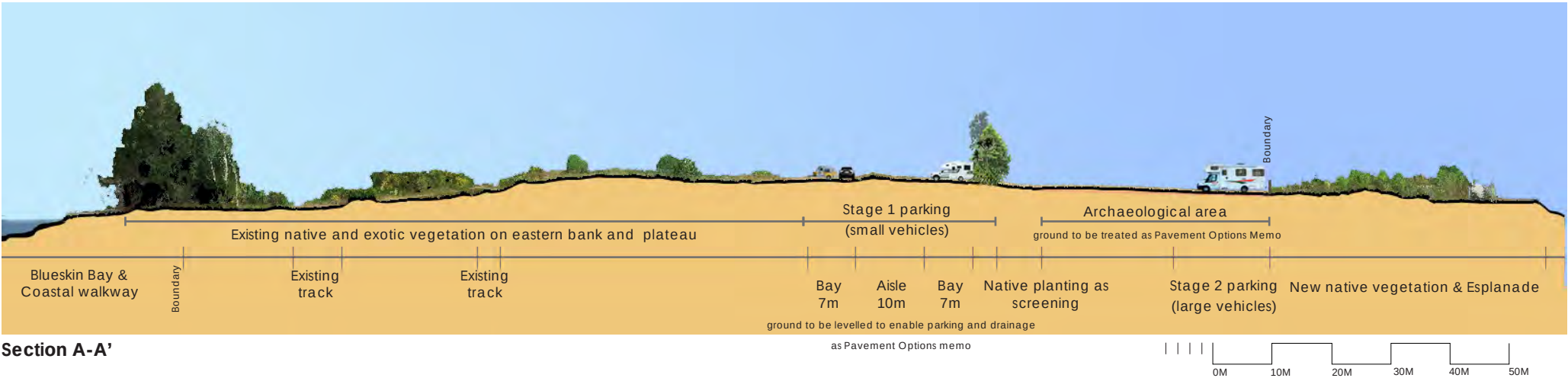
Access to the site is from Bay Road, down a gravel driveway, shared with the Kings High School property. The accessway is proposed to be widened to 6m. The gravel formation will end at the shared way between the camping area and the Kings College site. From there NZMCA members, as per membership rules, will travel along an unformed track, of which scrub will need to be cleared to enable, and sign in on arrival at a small

kiosk on the northern boundary. The site will be visually screened from the Kings High School buildings and surrounding residential properties with native planting to the northern boundary. This multi layered planting is to be of a depth and height to enable visual screening of camper vans and vehicles to adjacent properties. All planting on site is to be native, and eco-sourced, based on the list provided.

Parking as part of the Stage 1 proposal is focussed in the western part of the site. Small vehicles will be able to park in 20 No. bays, two rows that run north – south at the edge of the existing scrub. A strip of native planting will be included to the eastern edge of this to further provide screening to adjacent properties. Larger vehicles can park on the southern boundary (18 No.) and opposite, with a 20 m isle between. The eight parks opposite will also have a strip of native planting surrounding. The stand of pine trees on the southern boundary is to be retained and managed by the NZMCA.

Stage 2 parking will be along the eastern boundary, subject to archaeological protocols to protect artefacts. Surface treatment and drainage requirements are discussed in the Pavement Options Memo and the application for resource consent.

Cross Sections



Plant Lists

The soil is free draining with a sand base, and the site is largely dry throughout the camping season. The western edge of the peninsula is shown as Sand Dune Forest on the Dunedin City Council Native Planting Guide. The following species are recommended based on their suitability as 'generalists' and to flourish on 'dry sites' in the DCC NPG Sand Dune Forest list¹. The DCC list is supplemented with native species observed on Esplanade, beyond the eastern boundary of the camping area.

Trees

- Dacrycarpus dacridioides*
- Melicytus ramiflorus*
- Podocarpus totara*
- Prumnopitys taxifolia*
- Cordyline australis*

Shrubs

- Griselinea littoralis*
- Myrsine australis*
- Pittosporum tenuifolium*

- Kahikatea
- Mahoe
- Totara
- Matai
- Ti kouka

- Broadleaf
- Mapou
- Kohuhu

- Coprosma lucida*
- Myoporum laetum*
- Austroderia sp.*
- Astelia fragrans*

Ferns

- Asplenium obtusatum*
- Microsorium pustulatum*
- Pteridium esculentum*

- Karamu
- Ngaio
- Toetoe
- Kakahu

- Coastal spleenwort
- Hounds tongue fern
- Rarauhe, Bracken fern - areas of restoration only

¹ https://www.dunedin.govt.nz/_data/assets/pdf_file/0006/732858/DCC-NPG-ecosystems-species-list-Sand-dune-forest.pdf



A	UPDATE CLIENT COMMENTS	KB	1 JULY 2020
REV	NOTES	APPROVED	DATE

EVIDENCE OF KELLY BOMBAY - APPENDIX 2: MARK-UP indicating areas of earthworks



NOT FOR CONSTRUCTION

				SURVEYED					20 BAY ROAD, WARRINGTON ACCESS & SITE	SKETCH	
				DESIGNED						15.09.20	
				DRAWN		ROGER LISTER					
				CAD REVIEW						AS SHOWN	
				APPROVED						310003165-01-001-SK004-1	
				PROF. REGISTRATION				A			

APPENDIX 3 – Approved Scheme Plan (SUB-2018-148)

Appendix One: Approved Plans for SUB-2018-148 & LUC-2018-555 (scanned images, not to scale)



APPENDIX 4: Updated Archaeology Assessment

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20 Bay Road, Warrington

Archaeological Assessment for Site No.
I44-177 and I44-178

Report Prepared for NZMCA
Author: Victoria Ross
Reviewed by: Dawn Cropper
Submitted: August 2021

20 Bay Road, Warrington

Archaeological Assessment for Site No. I44/177 and I44/178

Report Prepared by:

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Project Details

Archaeological Site No.	I44/177, I44/178
Site Address	20 Bay Road, Warrington (Lot 1 DP10272 and Part Lot 1 DP5855, Block I, Waikouaiti District)
Client	New Zealand Motor and Caravan Association
Client Contact	James Imlach
Client Address	james@nzmca.org.nz
Report Authors	Victoria Ross
Reviewed By	Dawn Cropper
Approved Archaeologist	Dawn Cropper
Report Submitted To	NZMCA, Stantec, Aukaha
Document Control ID	J009809_AA_REV B

Document Control

Revision No.	Date Submitted	Description	Prepared By	Reviewed By
A	30 June 2020	Submitted to client and iwi for consultation	VR	DC
B	04 August 2021	Submitted to client for resource consent	VR	DC

Ownership and Disclaimer

This report has been prepared for James Imlach on behalf of the New Zealand Motor and Caravan Association in relation to a specific work program at I44/177 and I44/178 (20 Bay Road, Warrington). This report and the information contained herein are subject to copyright. Ownership of the primary materials created in the course of the research remains the property of the named researchers and New Zealand Heritage Properties Ltd. This report remains the property of NZMCA and New Zealand Heritage Properties Ltd.

The professional advice and opinions contained in this report are those of the consultants, New Zealand Heritage Properties Ltd, and do not represent the opinions and policies of any third party. The professional advice and opinions contained in this report do not constitute legal advice.

Cover Photo: Anonymous. (1910). Warrington Beach, File: 2779 01 027A, [Photograph]. Dunedin: Hocken Snapshop.

Executive Summary

New Zealand Heritage Properties Ltd (NZHP) has been commissioned by James Imlach on behalf of New Zealand Motor and Caravan Association (NZMCA) to prepare an archaeological assessment of 20 Bay Road, Warrington (Lot 1 DP10272 and Part Lot 1 DP5855, Block I, Waikouaiti District), to accompany the archaeological authority application as required by the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA 2014). NZMCA proposes to create a formal motorhome and campervan park at the location, providing a stable driveway and ample space for parking 46 vehicles. 20 of these 46 parking bays (north to south) are shorter in depth and accommodate conventional motorhomes up to 7 metres long. The remaining 26 parking bays have a depth of 13 metres and can accommodate motorhomes and caravans (with space also for the towing vehicle to park). To do this, they propose stages of development, including clearance of a small amount of vegetation, planting of native species, excavation of some areas to level and stabilise the land, and building up of some areas for levelling. This project area encompasses the whole of Lot 1 DP10272 and the majority of Part Lot 1 DP5855, Block I, Waikouaiti District, on the spit at the southern end of Warrington. The northeast corner of the property will not be developed as this area will be vested to Kings College, with shared access through the northern accessway.

This archaeological assessment has identified that the proposed works have the potential to affect two sites, I44/177 and I44/178. I44/177 was recorded by Allingham in the early 1980s, with the site varyingly described as a moa-hunter site, nephrite working site, kāik and pā site (Anderson, 1989; Anderson & Smith, 1996; Hamel, 2001). The site is referenced as an important site for the understanding of pre-contact Māori, covering approximately 2ha, despite no systematic excavations having been completed. I44/178 is a midden site located on the western shore of the Warrington Spit, also recorded by Allingham in the 1980s. A site survey conducted for this assessment, have identified that both sites I44/177 and I44/178 are present within the property boundaries, with archaeological materials observed on the surface. NZHP believes there is a high likelihood of archaeological material being encountered during the proposed development, and that an archaeological authority be sought for these works.

NZHP has identified that two previously recorded archaeological sites within the property to be developed, with Site I44/177 assessed as having moderate to high archaeological value due to its high amenity value, high contextual value, but fair to poor condition, while Site I44/178 was assessed as having low archaeological value based on its low information potential, poor condition and low rarity value. With the proposed works identified as having minor impact on I44/177 and negligible to minor impact on I44/178, NZHP has determined that there will be a slight to moderate significance of effects on the archaeological values of I44/177 and negligible to slight significance of effects on the archaeological values of I44/178.

Archaeological sites affected by the NZMCA motorhome and caravan park development at 20 Bay Road.

NZAA Site Id	Site Location	Brief Description
I44/177	E 1412783 N 4934860	Midden/cultural layers containing moa and other extinct birds, also artefacts.
I44/178	E 1412797 N 4934480	A midden/occupation layer with artefacts.

Based on the results of this archaeological assessment, NZHP makes the following recommendations:

1. As a first principle, every practical effort should be made to avoid damage to any archaeological site, whether known, or discovered during any redevelopment of the site.
2. An archaeological authority under Section 44 of the HNZPTA 2014 should be obtained from the HNZPT prior to any modification of the site.
3. A site instruction document and contractor briefing document should be prepared for NZMCA. Before the start of any on-site works, all contractors should be briefed by an archaeologist on the legislative requirements of working within archaeological sites.
4. NZMCA should undertake consultation with manawhenua to ensure all areas of cultural sensitivity are appropriately protected.

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5. If re-development plans are altered from those reviewed by NZHP for this assessment (Appendix A), then HNZPT need to be alerted in the first instance.
6. All subsurface works should be monitored by an archaeologist. Any archaeological features or recovered material should be appropriately recorded and analysed.
7. Before site works commence notification should be given with at least 2 working days' notice, to HNZPT, Aukaha. An invitation should be extended for a representative from local rūnaka to attend site during all earthworks.
8. If at any stage during the redevelopment Māori material is discovered, NZHP should be called in the first instance. NZHP will assist the NZMCA to contact all relevant parties, including HNZPT, and Aukaha. If Māori material does exist in the area to be developed, damage to this should be minimised. Any Māori artefacts will be, prima facie, property of the Crown and will be submitted to the appropriate institutions.
9. A full report on any archaeological material that is found should be prepared and submitted to the HNZPT within one year of the completion of archaeological site works.

Abbreviations

Abbreviation	Definition
DCC	Dunedin City Council
DCC 2GP	Dunedin City Council Second Generation Plan
HNZPT	Heritage New Zealand Pouhere Taonga
HNZPTA 2014	Heritage New Zealand Pouhere Taonga Act 2014
NZAA	New Zealand Archaeological Association
NZHP	New Zealand Heritage Properties Limited
NZMCA	New Zealand Motor and Caravan Association
RMA 1991	Resource Management Act 1991

Acknowledgements

New Zealand Heritage Properties acknowledges and thanks the following individuals who assisted in this project:

- James Imlach on behalf of NZMCA for providing documents and information relating to the history of the site.
- Kelly Bombay and Lee Paterson, Stantec, for assisting in the technical information for the proposed development.
- Tania Richardson, on behalf of Aukaha, for coordinating with NZHP to ensure manawhenua values are incorporated within the assessment process
- Jessie Hurford for monitoring the geotechnical testing and supplying GIS maps.

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1 Introduction

New Zealand Heritage Properties Ltd (NZHP) has been commissioned by James Imlach on behalf of NZMCA to prepare an archaeological assessment of 20 Bay Road, Warrington (Lot 1 DP10272 and Part Lot 1 DP5855, Block I, Waikouaiti District), to accompany the archaeological authority application as required by the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA 2014). This project area encompasses the whole of Lot 1 DP10272 and the majority of Part Lot 1 DP5855, Block I, Waikouaiti District, on the spit at the southern end of Warrington (Figure 1-1). The northeast corner of the property will not be developed as this area is vested to Kings College, with shared access through the northern accessway.

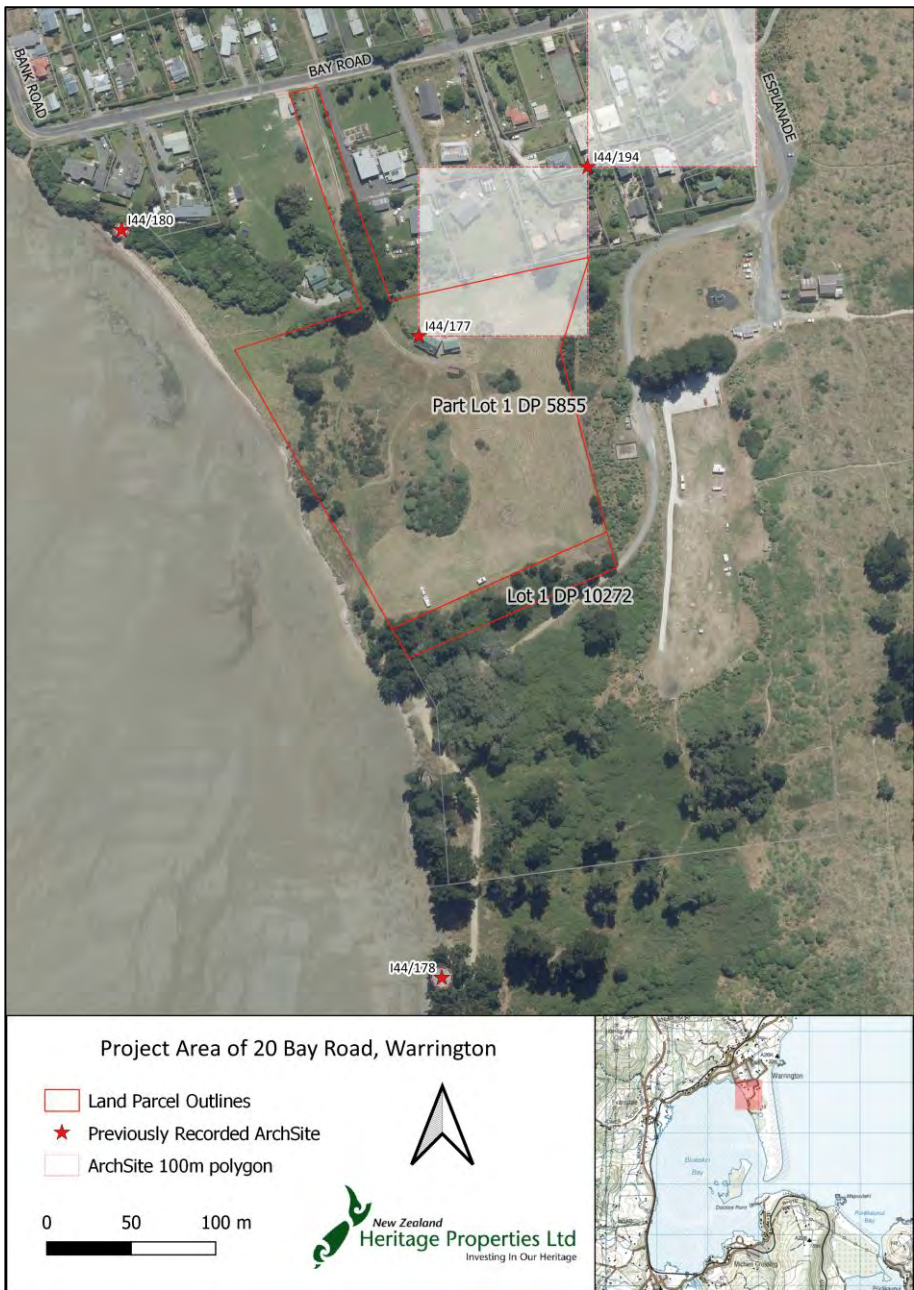


Figure 1-1. Location of project area at 20 Bay Road, Warrington (Lot 1 DP10272 and Part Lot 1 DP5855, Block I, Waikouaiti District). Including previously recorded archaeological sites.

NZMCA propose to develop large areas of the combined property at 20 Bay Road, creating a formal motorhome and caravan park, with a new sealed accessway. The research completed as part of this assessment has shown that archaeological sites I44/177 and I44/178 extend or are located within the project boundaries. I44/177 was recorded by Allingham in the early 1980s, with the site varyingly described as a moa-hunter site, nephrite working

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site, kāik and pā site (Anderson, 1989; Anderson & Smith, 1996; Hamel, 2001). The site is referenced as an important site for the understanding of pre-contact Māori, covering approximately 2ha, despite no systematic excavations having been completed. I44/178 is a midden site is located on the western shore of the Warrington Spit, also recorded by Allingham in the 1980s. A site survey conducted for this assessment, have identified that both sites I44/177 and I44/178 are present within the property boundaries, with archaeological materials observed on the surface. NZHP believes there is a high likelihood of archaeological material being encountered during the proposed development, and that an archaeological authority be sought for these works.

1.1 Project Area

The project area is defined as 20 Bay Road, Warrington, encompassing two land parcels, and a summary of the project area is provided in Table 1-1. The modern property of 20 Bay Road includes Lot 1 DP10272 and Part Lot 1 DP5855, Block I, Waikouaiti District (Figure 1-1). This property is a recreational property, currently utilised for camping. The property is not entered on the HNZPT List or known to be included in any statutory acknowledgement areas, covenant or heritage orders, reserve land or marine customary titles. The property is included within DCC 2GP recorded archaeological site areas, and three wāhi tūpuna.

Table 1-1. Summary of project area.

Site Address	20 Bay Road, Warrington
Legal Description	Lot 1 DP10272 and Part Lot 1 DP5855, Block I, Waikouaiti District
Territorial Authority	Dunedin City Council
Archaeological Site No.	I44/177, I44/178
Previous Archaeological Authorities	1983/11, 1984/51, 1985/38, 1986/40, 1988/26
New Zealand Heritage List/Rārangi Kōrero	n/a
Covenant or Heritage Order	n/a
Scheduled on District Plan	Archaeological site A040
Reserve Status	n/a
Statutory Acknowledgement Area	n/a
Customary Marine Title	n/a

1.2 Proposed Activities

NZMCA propose to complete development across the portion of the site not included in the vestment to Kings College. This area of the site includes the accessway (shared with Kings College), the east and south portions of the property where the land is mostly open with a slope to the south and access to the boat launch on the southwest of the site. NZMCA proposes to create a formal motorhome and campervan park at the location, providing a stable driveway and ample space for parking 46 vehicles. 20 of these 46 parking bays (north to south) are shorter in depth and accommodate conventional motorhomes up to 7 metres long. The remaining 26 parking bays have a depth of 13 metres and can accommodate motorhomes and caravans (with space also for the towing vehicle to park). To do this, they propose stages of development (Figure 1-2), including clearance of a small amount of vegetation, planting of native species, excavation of some areas to level and stabilise the land, and building up of some areas for levelling. Geotechnical investigations have been carried out at the site under an exploratory authority (2020/540) to inform the development plans.

Stantec, contracted by NZMCA, have planned for keeping the natural treatment of the ground where possible to mitigate impact on both the cultural and environmental resources of the land. A draft plan of the site has been provided in Figure 1-3. To do this, minor excavation is planned for the driveway area in the north of the site. This will then be built up where needed and sealed to a width 5m, to provide a durable and stable accessway for both the caravan park and Kings College. Planting will be completed the west side of the drive with established trees kept on the east. A gate will be installed at the roadside, with a second internal access gate installed if required, in line with the Kings College buildings. These gates will require minor excavations for postholes.

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Native bush and trees are planned for screening around the driveway, northern side of site (below Kings College) and the southern boundary. This will tie in with the existing vegetation where possible but will involve some earth disturbance for planting. In the centre of the site, planting is proposed to form boundaries to the parking spaces. In most areas this will involve only minimal earth disturbance. In the very centre of the site a small gully is currently filled with vegetation; where the proposed parking spaces encroach on this area, vegetation clearance will be necessary.

Across the majority of the site, as stated, a small amount of levelling of the ground surface will be undertaken to provide formal parking spaces for motorhomes and campervans. To do this minor scraping of the site will take place, while the majority of this levelling will be accomplished by introducing fill to bring the ground level up. Stantec are investigating options to do this by a combination of a geotextile matting below sand or gravel where appropriate. This will act to protect the cultural material below the surface while providing a solid platform for the carparks. These works are aimed to be completed as part of the Stage 1. Stantec have identified that there is the opportunity to slightly alter this stage of plans if areas of high archaeological risk are identified where excavations were to take place.

A small kiosk is to be installed at the south end of the driveway. This is to be within the gravelled area at the boundary between the Stage 1 and Stage 2 areas. The kiosk will require minor excavations. Slightly east of the kiosk, a small dump station is proposed. This will also require minor excavations.



Figure 1-2. Planned stages of development, as provided by Stantec. Red stars mark current accessways, with the blue line showing the property boundary.

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Figure 1-3. Development plans for 20 Bay Road, as provided by Stantec.

2 Statutory Requirements

The legislative requirements relating to archaeological sites and artefacts are detailed in the following sections. There are two main pieces of legislation that provide protection for archaeological sites: the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA 2014) and the Resource Management Act 1991 (RMA 1991). Artefacts are further protected by the Protected Objects Act 1975.

2.1 Heritage New Zealand Pouhere Taonga Act 2014

The HNZPTA 2014 came into effect in May 2014, repealing the Historic Places Act 1993. The purpose of this act is to promote identification, protection, preservation, and conservation of New Zealand's historical and cultural heritage. Heritage New Zealand Pouhere Taonga (HNZPT) administers the act and was formerly known as the New Zealand Historic Places Trust (Pouhere Taonga).

Archaeological sites are defined by this act as

- (a) any place in New Zealand, including any building or structure (or part of a building or structure), that--:
 - (i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and
 - (ii) provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and
- (b) includes a site for which a declaration is made under section 43(1)

Additionally, HNZPT has the authority (under section 43(1)) to declare any place to be an archaeological site if the place

- (a) was associated with human activity in or after 1900 or is the site of the wreck of any vessel where that wreck occurred in or after 1900; and
- (b) provides, or may be able to provide, through investigation by archaeological methods, significant evidence relating to the historical and cultural heritage of New Zealand.

Archaeological sites are protected under Section 42 of the act, and it is an offense to carry out work that may “modify or destroy, or cause to be modified or destroyed, the whole or any part of that site if that person knows, or ought reasonably to have suspected, that the site is an archaeological site”, whether or not the site has been previously recorded. Each individual who knowingly damages or destroys an archaeological site without having the appropriate authority is liable, on conviction, to substantial fines (Section 87).

Any person wishing to carry out work on an archaeological site that may modify or destroy any part of the site, including scientific investigations, must first obtain an authority from HNZPT (Sections 44(a,c)). The act stipulates that an application must be sought even if the effects on the archaeological site will be no more than minor as per Section 44(b). A significant change from the Historic Places Act (1993) is that “an authority is not required to permit work on a building that is an archaeological site unless the work will result in the demolition of the whole of the building” (Section 42(3)).

HNZPT will process the authority application within five working days of its receipt to assess if the application is adequate or if further information is required (Section 47(1)(b)). If the application meets the requirements under Section 47(1)(b), it will be accepted and notice of the determination will be provided within 20 to 40 working days. Most applications will be determined within 20 working days, but additional time may be required in certain circumstances. If HNZPT requires its own assessment of the Māori values for the site, the determination will be made within 30 working days. If the application relates to a particularly complex site, the act permits up to 40 days for the determination to be made. HNZPT will notify the applicant and other affected parties (*e.g.*, the land owner, local authorities, iwi, museums, *etc.*) of the outcome of the application.

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Once an authority has been granted, modification of an archaeological site is only allowed following the expiration of the appeals period or after the Environment Court determines any appeals. Any directly affected party has the right to appeal the decision within 15 working days of receiving notice of the determination. HNZPT may impose conditions on the authority that must be adhered to by the authority holder (Section 52). Provision exists for a review of the conditions (see Section 53). The authority remains current for a period of up to 35 years, as specified in the authority. If no period is specified in the authority, it remains current for a period of five years from the commencement date.

The authority is tied to the land for which it applies, regardless of changes in the ownership of the land. Prior to any changes of ownership, the land owner must give notice to HNZPT and advise the succeeding land owner of the authority, its conditions, and terms of consent.

An additional role of HNZPT is maintaining the New Zealand Heritage list, which is a continuation of the Register of Historic Places, Historic Areas, Wahi Tapu, and Wahi Tapu Areas. The list can include archaeological sites. The purpose of the list is to inform members of the public about such places and to assist with their protection under the Resource Management Act 1991.

2.2 Resource Management Act 1991

The RMA 1991 defines historic heritage as those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, and it may include historic sites, structures, places, and areas; archaeological sites; and sites of significance to manawhenua. It should be noted that this definition does not include the 1900 cut-off date for protected archaeological sites as defined by the HNZPT Pouhere Taonga Act 2014. Any historic feature that can be shown to have significant values must be considered in any resource consent application.

The heritage provisions of the RMA 1991 were strengthened with the Resource Management Amendment Act 2003. The Resource Management Amendment Act 2003 contains a more detailed definition of heritage sites and now considers historic heritage to be a matter of national importance under Section 6. The act requires city, district, and regional councils to manage the use, development, and protection of natural and physical resources in a way that provides for the well-being of today's communities while safeguarding the options of future generations.

Under the RMA 1991, local authorities are required to develop and operate under a district plan, ensuring that historic heritage is protected. This includes the identification of heritage places on a heritage schedule (or list) and designation of heritage areas or precincts and documents the appropriate regulatory controls. All heritage schedules include, but are not limited to, all items on the New Zealand Heritage List/Rārangi Kōrero. Additional sites of significance to the local authority may also appear on the schedule.

The regulatory controls for historic heritage are specific to each local authority. However, most local authorities will require resource consent under the RMA 1991 for any alterations, additions, demolition, or new construction (near a listed place) with HNZPT being recognised as an affected party. Repair and maintenance are generally considered permitted activities.

The RMA 1991 requires local authorities to develop and operate under a district plan. The Dunedin City Council (DCC) District Plan (2GP) identifies the significance of historic buildings to the character of Dunedin, noting that these buildings are irreplaceable and the city is critically dependent on them. Buildings are listed on the DCC Heritage Register (Schedule 25.1) for several reasons, including their architectural quality, historical associations, or other intrinsic values worthy of protection, and the council aims to protect these buildings in order to maintain the character of the townscape. The register includes all HNZPT Category 1 and Category 2 listed buildings in Dunedin, which have been evaluated according to criteria outlined in the HNZPTA 2014.

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Iwi/hapu management plans are planning documents that are recognised by an iwi authority, relevant to the resource management issues, including heritage, of a place and lodged with the relevant local authority. They have statutory recognition under the RMA 1991. Iwi Management Plans set baseline standards for the management of Māori heritage and are beneficial for providing frameworks for streamlining management processes and codifying Māori values. Iwi Management Plans can be prepared for a rohe, heritage inventories, a specific resource or issue or general management or conservation plans (NZHPT, 2012).

Aukaha (formerly Kāi Tahu Ki Otago) is a representative of the Kāi Tahu tangata whenua in Warrington and the wider Otago area. Kāi Tahu Ki Otago Natural Resource Management Plan was lodged with the Otago Regional Council in 2005. This plan covers mostly natural resources; however, wāhi tapu, mahika kai, and the cultural landscape are all addressed for each geographical area the plan covers.

2.3 Protected Objects Act 1975

The Protected Objects Act 1975 was established to provide protection of certain objects, including protected New Zealand objects that form part of the movable cultural heritage of New Zealand. Protected New Zealand objects are defined by Schedule 4 of the act and includes archaeological objects and taonga tuturu. Under Section 11 of the Protected Objects Act 1975, any newly found Māori cultural objects (taonga tuturi) are automatically the property of the Crown if they are older than fifty years and can only be transferred from the Crown to an individual or group of individuals through the Māori Land Court. Anyone who finds a complete or partial taonga tuturu, accidentally or intentionally is required to notify the Ministry of Culture and Heritage within:

- (a) 28 days of finding the taonga tuturu; or
- (b) 28 days of completing field work undertaken in connection with an archaeological investigation authorised by HNZPT.

3 Methodology

An archaeological assessment is required to accompany an application for an archaeological authority, as stipulated in the HNZPTA 2014. In order to assess the archaeological resources of the project area, NZHP conducted detailed documentary research, examined records of previously recorded site within the vicinity of the project area, and carried out an on-site visit.

NZHP consulted numerous sources of documentary evidence in order to determine the historical context of the project area. The results of the documentary research are provided in Section 5.3. The sources utilised in this research include:

- NZAA ArchSite Record Forms
- HNZPT Digital Library
- PapersPast
- Retrolens Aerial Imagery, LINZ
- Prover and QuickMaps, LINZ
- Statistics New Zealand
- Blueskin Days, by I. Church, Strachan S., and Strachan J.
- The Archaeology of Otago, by Jill Hamel

Section 6 documents the previous investigations of the sites within the project area.

A site visit was conducted by Dr Dawn Cropper and Victoria Ross, NZHP, on 5 February 2020, and a summary of the on-site observations is provided in Section 6.2.

The assessment of archaeological and other values is based on criteria established by HNZPT (2019):

- The **condition** of the site(s).
- Is the site(s) unusual, **rare or unique**, or notable in any other way in comparison to other sites of its kind?
- Does the site(s) possess **contextual value**? Context or group value arises when the site is part of a group of sites which taken together as a whole, contribute to the wider values of the group or archaeological, historic or cultural landscape. There are potentially two aspects to the assessment of contextual values; the relationship between features within a site, and the wider context of the surroundings.
- **Information potential**. What current research questions or areas of interest could be addressed with information from the site(s)? Archaeological evaluations should take into account current national and international research interests, not just those of the author.
- **Amenity value** (e.g. educational, visual, landscape). Does the site(s) have potential for public interpretation and education?
- Does the site(s) have any special **cultural associations** for any particular communities or groups (e.g., Māori, European, Chinese.)

The criteria outlined above help to build an overall assessment of significance of a site, and NZHP have adopted the following levels of overall archaeological significance (Table 3-1). These levels of significance follow the recommendations proposed by Department for Transport (2008); although, NZHP has steered away from the use of local, regional, and local importance, which Kerr (2013) argues is irrelevant to the assessment process. It is important to note that it is not possible to fully understand the archaeological significance of subsurface sites, and that the significance of a site may change on the basis of what is found during the work programme.

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Table 3-1. Levels of overall archaeological significance (adapted from DoT, 2008).

Level of Significance	Criteria
Very High	- World Heritage Sites (and proposed sites) - An archaeological site of acknowledged international importance
High	- Listed archaeological sites, including those of listing quality and importance - Category 1: places of special or outstanding historical or cultural heritage significance or value; - Category 2: places of historical or cultural heritage significance or value; and - Scheduled archaeological sites, including those of scheduling quality and importance - Archaeological sites with exceptional values
Medium	Archaeological sites that can be shown to have moderate values
Low	Archaeological sites with limited value, including those that are highly represented, have low information potential, have poor preservation, and/or poor survival of contextual association
Negligible	Assets with very little surviving archaeological interest
Unknown	The importance of the site is not yet known

After determining the history of the site(s) and evaluating its archaeological value, NZHP assessed the effects of the proposed work on those values. Specifically, NZHP considered the following matters as outlined by HNZPT (2019):

- How much of the site(s) will be affected, and to what degree, and what effects this will have on the values of the site(s).
- Whether the proposed work may increase the risk of damage to the site(s) in future. For example, change from farming to residential use may make sites vulnerable to increased pedestrian and vehicular activity.
- Whether a re-design may avoid adverse effects on the site(s). It is recognised that detailed evaluation of alternatives may be beyond the scope of the archaeological assessment, however, some consideration of alternatives should be considered where possible.
- Possible methods to protect sites, and avoid, minimise or mitigate adverse effects should be discussed. These will form the basis of any recommendations in the final section.

Risk of affects to archaeology represents the potential that archaeology will be affected by the proposed works. The magnitude of the impact on archaeology will be defined as follows:

- Major** Impact to the archaeological site, such that the asset is totally altered (*e.g.*, a site is totally destroyed).
- Moderate** Impact to the archaeological site, such as the asset is significantly modified (*e.g.*, at least half of a site is affected)
- Minor** Impact to the archaeological site, such that the asset is slightly different (*e.g.*, a small portion of the site is affected).
- Negligible** Slight changes to archaeological site that hardly affect it.

Assessing and evaluating the potential effects on archaeological values can be very difficult and subjective. To mitigate against this, NZHP follows systems that have been developed for heritage impact assessments by the Department for Transport (2008) and adopted by others, including ICOMOS (2011). The matrix proposed here has been adapted from these examples and can be successfully used to assess effects on archaeological values. The assessment of effects considers the magnitude of the proposed work against the overall archaeological significance (Table 3-2).

Table 3-2. Matrix of significance of effects on the archaeological values.

Archaeological Significance	Magnitude of Impact			
	Negligible	Minor	Moderate	Major
Very High	Slight	Moderate-Large	Large-Very Large	Very Large
High	Slight	Moderate-Slight	Moderate-Large	Large-Very Large
Medium	Negligible-Slight	Slight	Moderate	Moderate-Large
Low	Negligible Slight	Negligible-Slight	Slight	Slight-Moderate
Negligible	Negligible	Negligible-Slight	Negligible-Slight	Slight

4 Physical Environment and Setting

The Warrington area is characterised by a small settlement and a large sand spit. The settlement of Warrington is situated on elevated land in the north-east corner of Blueskin Bay. Coastal hills surround the township on the north and west sides, with the dunes on the east and the sandspit protruding from the south of the township, protecting Blueskin Bay from the open ocean (Goldsmith & Sims, 2014)(Figure 4-1). Dunes continue down both the east and west sides of the sandspit, with wide sandy beaches on the east only. With the estuary leading into Blueskin Bay, the area is populated with various shellfish, most commonly cockles. Hills on the southern side of the bay at Doctor's Point and Māpoutahi, overlook the bay and sandspit.

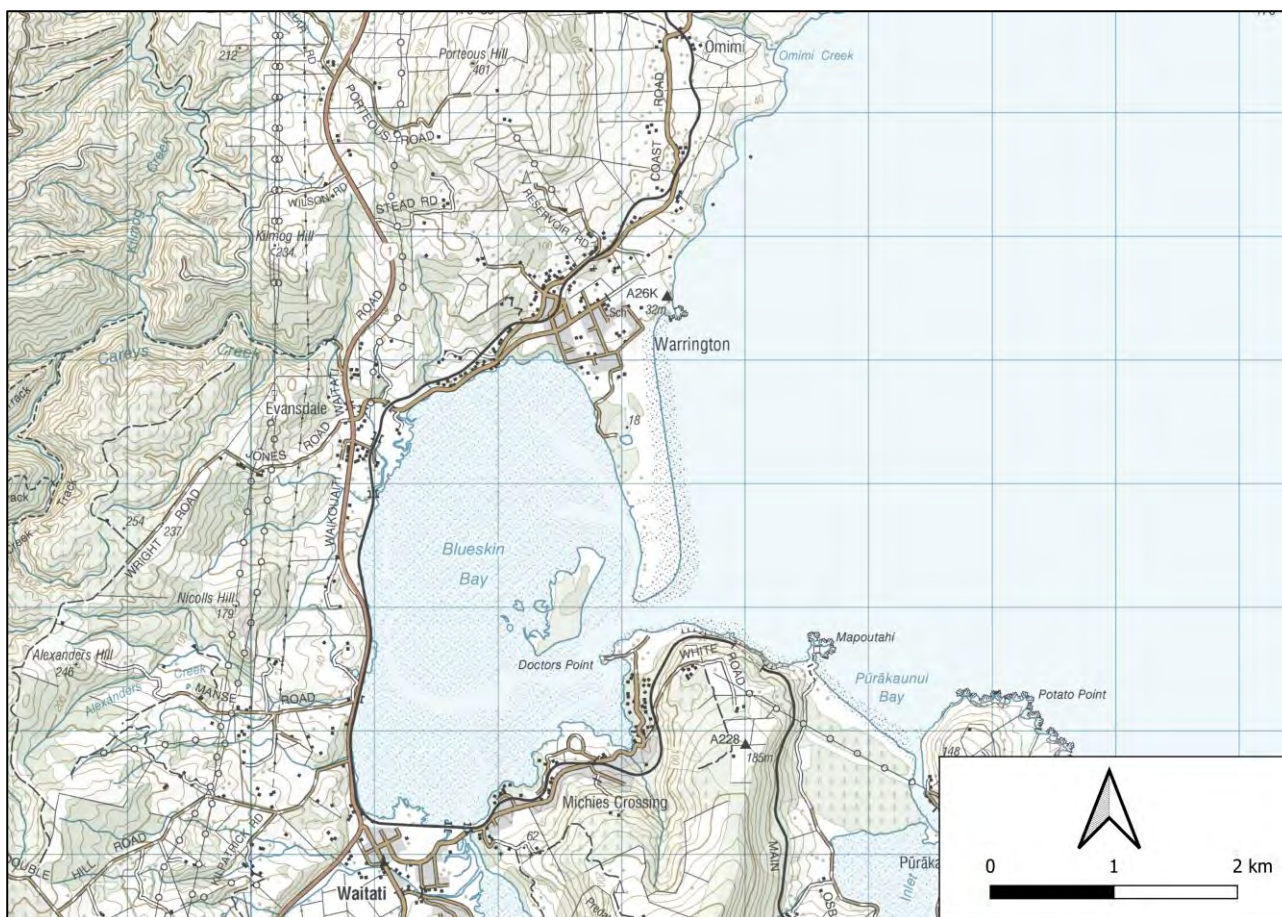


Figure 4-1. Topographical map of the Warrington and Blueskin Bay area, showing the mountainous terrain on the western side, and coastal dunes with beaches on the east. Map layer utilised is LINZ NZ Topo 50.

4.1 Land Transformation

The dunes along the eastern side of the sandspit are characterised as “a well-vegetated dune system with stable back-dunes and dynamic foredunes” (Single, 2015). The sandspit acts as the buffer for Blueskin Bay to protect against the effects of erosion and direct inundation from the open sea (Goldsmith & Sims, 2014). Single reports that the beach on the eastern side of the sandspit is experiencing progradation averaging $+4.4\text{m/yr}^{-1}$ (measured between 1990 and 2014).¹ According to Goldsmith and Sims, activities such as excavation or vegetation clearance that disturb the form of the sandspit and its vegetation cover may compromise the natural buffering ability of the spit itself (2014). This could result in further changing of the shape of the spit, influencing how storm surges and tsunamis effect the bay and surrounding area inland. As the dunes and sand formations are at this stage increasing and moving seaward (by up to 230m at the northern end of the spit between 1958 and 2013)(Figure 4-2), this has actually increased the buffering effect against coastal hazards for the Blueskin Bay communities, including the

¹ Measurements taken between 1862 and 1968 showed a total change of +30m, averaging $+0.28\text{m/yr}^{-1}$ (Single, 2015).

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inland areas of Warrington (Goldsmith & Sims, 2014). Despite this the dunes remain sensitive to rapid erosion during strong storm surges, with recovery a slow process.

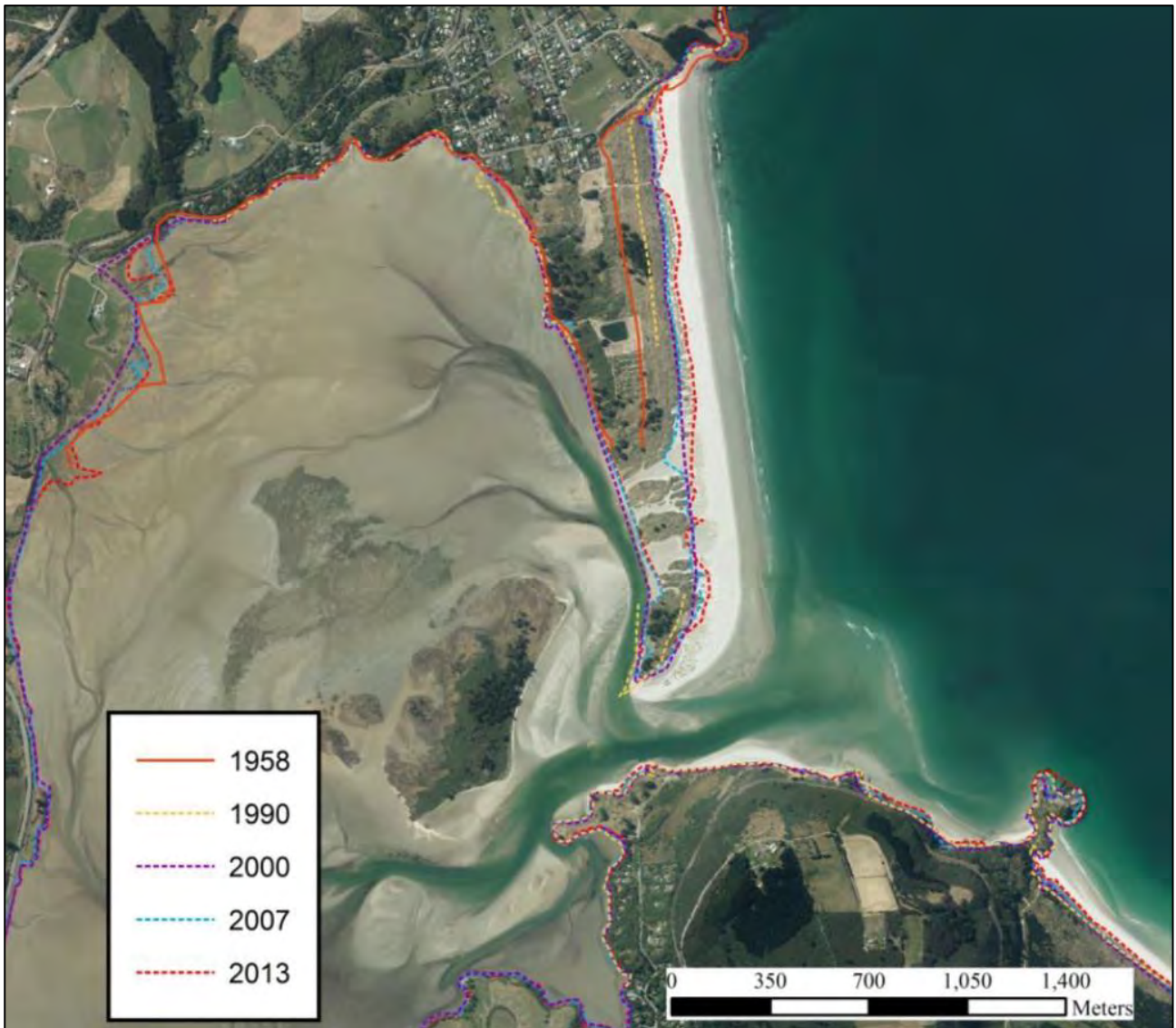


Figure 4-2. DCC map showing coastal changes at the Warrington Spit from 1958 to 2013 (as presented in Goldsmith & Sims, 2014).

5 Historical Background

Warrington is located at the north end of Blueskin Bay. It is located within Merton Riding, in the Waikouaiti County. While the land here is dominated by dune and estuarine landscapes, documentary evidence indicates that occupation of the Warrington area began as early as the so-called “moa-hunter period” Māori. Evidence of occupation and activity by mana whenua continues, in intermittent phases, through to the contact period and early colonial periods, through to the current day. The Māori and European histories of the area are discussed below.

5.1 Overview of Māori Activity in Warrington

As part of the larger Blueskin Bay area, Warrington was one of many places seen as a prime location for settlement due to its access to kai moana and sea birds (Pullar, 1957). Warrington and Blueskin Bay contained a number of occupation areas prior to European occupation. There are historic references to a Māori village at Warrington and as well as Kahuti (Blueskin) living at Doctor’s Point. Early occupation at Warrington has been identified from the later 1800s, as Aparata Renata (AKA Alfred Reynolds) reported “before arriving at the end [of Warrington Beach] the site of an ancient Maori[sic] residence is passed, on which no end of fine implements have been found, together with moa eggs almost complete. There are some very interesting stone floors of native construction here the use of which has not been satisfactorily explained so far” (Renata, 1894).

Within the wider Warrington Spit area there are a total of seven archaeological sites recorded (Figure 5-1). I44/177 and I44/178, both Māori occupation and midden sites are situated within the project area and are discussed in Section 5.3 below. Discovered by Brian Allingham, site I44/194 is a midden site to the north east of the project area, dating to the later period (Allingham, 1989). I44/200 is located to the south of I44/178, and records exposed shell middens covering roughly 60m x 30m (NZAA, 2019). Stone flakes were recorded at this site, although shell is the main component of the midden. This site was also recorded by Allingham, in 1986. In 1983 Brian Allingham also recorded site I44/125 to the northeast of the project area, at the corner of Esplanade and Church Road. This site records a narrow terrace with possible oven stones, although no midden or other cultural material has been recorded at this location. 100m north of the most western point of the project area lies I44/180. This site is recorded to be the location of a shell midden that is eroding out of the banks, similar to I44/178. This site, also recorded by Allingham in 1983, has little written on the site record form, except for “History and extent of site unknown” (NZAA, 2019). The final site within the Warrington Spit area is I44/179, which was identified as an oven site eroding from a low bank at the edge of the estuary to the east of Bay Road. The site was not relocated during the 2006 updates and is believed to have been completely lost to erosion.

The nature of the sites in this wider area, all Māori midden, oven or occupation sites, indicates heavy usage of the area by Māori prior to European contact. As Hamel refers to the area as a kāik, and early references discuss the “Warrington Beach” in general as site of early manawhenua occupation, it is fair to say that for a long time the archaeological sites that are located within the beach and spit area have been treated as a site complex, rather than separate and unrelated archaeological sites (Hamel, 2001).

In many of the large-scale discussions of early and late mana whenua occupation of the Otago region, the Warrington Spit area is referenced varyingly as a moa-hunter site, nephrite working site, kāika and pā site (Anderson, 1989; Anderson & Smith, 1996; Hamel, 2001). The site is generally discussed as an important site for the understanding of pre-contact Māori, covering approximately 2ha, despite no systematic excavations having been completed. Allingham generally discusses the Warrington Spit as a site complex, showing intermittent occupation, with fringe sites dotted along the coast. The high number of midden sites along the coast are likely indicative of further settlements or encampments. According to Allingham and Pullar, the “Māori name for the site at the time of European contact was Okahau, and apart from being a popular settlement, the area was reportedly a meeting place for foot travellers passing over the inland ranges to places such as the Kaikorai estuary or Central Otago” (Pullar, 1957).

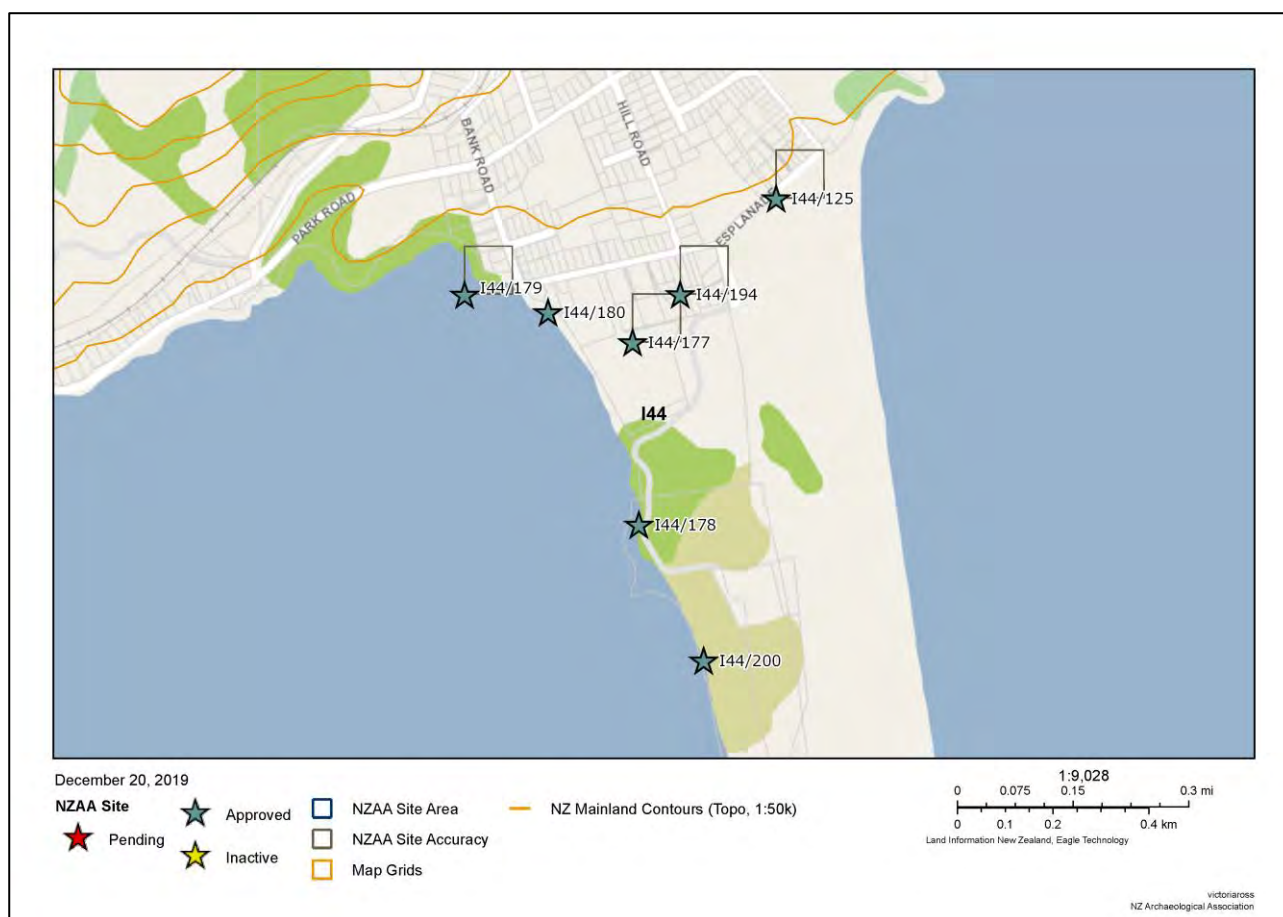


Figure 5-1. Map of previously recorded archaeological sites recorded within the Warrington Spit area (NZAA, 2019).

5.2 Pākehā Occupation and the Establishment of Warrington

The Warrington area was initially called Warrenton and the reason for the change to Warrington is uncertain (Church, Strachan, & Strachan, 2007). European settlement in the Warrington area began prior to the establishment of the official village. A Crown Grant plan from 1863 gives the indication that the area was occupied relatively early, as almost all of the sections in the area had been purchased (Figure 5-2). This plan also showed that land had been set aside for a scenic reserve, a quarry, and a school site.

The earliest indication of settlement in the area is seen in historic newspapers in an advertisement placed in 1865 (Otago Daily Times, 1865). This advertisement was for a number of animals and agricultural items to be sold at “Warrington Park, Blueskin District,” (Otago Daily Times, 1865). In 1866, it was advertised that “Warrenton Park Farm” was for sale, with the listing stating that the farm consisted of “about 400 acres, with good House, Sheds, and fenced in Paddocks,” (Otago Daily Times, 1866). Other advertisements of animals from farms in the area were placed during the late 1860s, reflecting the agricultural environment of the area.

Discussion of the establishment of an Anglican church in the area began in the early 1870s, with a foundation stone laid in April 1872 (Evening Star, 1872a). Prior to this, some 40 settlers would meet for services at the residence of Mrs Pitt, indicating a strong necessity for a church to be constructed (Evening Star, 1872b). Land for the church was donated by Mrs. W. A. Pitt from her property in Warrington (Evening Star, 1872b; Moore, 1958). The full funds for its construction had been raised from a concert in Dunedin held earlier in the year (Evening Star, 1872a). The St Barnabas Church was formally opened in November 1872 (Church et al., 2007). This opening event was very popular, with many travelling from Dunedin to visit, and it was noted that “so crowded was the Church that not a few were unable to gain admittance,” (Otago Witness, 1872). St Barnabas’ and its grounds were officially consecrated in June 1873 (Otago Daily Times, 1873).



Figure 5-2. Crown Grant plan of Warrington area 1863 (Otago Crown Grant Index Records Maps, 1863).

At this time, the Warrington area was situated on an important route northward from Dunedin to Waikouaiti. Thus, one of the major undertakings of works in Warrington was the formation of the Coast Road, which the later settlement was built around. In 1874, Captain Pitt was advised that as soon as the Waikouaiti Road Board received his rates, work on the Warrington Road would begin. Pitt had previously gone bankrupt, and so it is not surprising that the Board were waiting on his money before works began (Otago Daily Times, 1870). In 1876, it was announced that a Post Office was opened at Warrington, with post from Dunedin arriving daily (Otago Daily Times, 1876).

In 1877, Captain Pitt subdivided his land at Warrington Estate, between the Coast Road and the sand spit (Church et al., 2007). J. E. F. Coyle mapped out five blocks and 25 sections ranging from two to fifteen acres, naming Park, Bank, Bay, Hill and Church Roads, and an Esplanade with access off Church Road (Church et al., 2007; Otago Daily Times, 1877). These sections were described as being “in close proximity to the Main North Trunk line of railway, have a frontage to the Ocean and Blueskin Bay, with a background of magnificent timbered land,” (Otago Daily Times, 1877). The sale of the sections occurred in mid-1877 (Church et al., 2007). Around this time, the Education Board sanctioned the establishment of a school at North Blueskin, close to Warrington (Otago Witness, 1877a). In December 1877, it was announced that the settlement at Warrington was going to be extended (Evening Star, 1877).

By December 1877, the railway line from Sawyers Bay, and subsequently Dunedin, had been laid as far as Warrington, with the line planned to be opened late in the month (Otago Witness, 1877b). It was announced in January 1878 that a station would be built in Warrington (Otago Daily Times, 1878). Following this announcement, the new extension of Warrington was carried out, with the five large blocks subdivided into 18 sections on Station and Meadow Roads, and the Village of Warrington of 16 quarter-acre sections were laid out between the station and the coast road (Church et al., 2007). During the advertisement of these sections it was noted that “a portion

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has been set apart and surveyed for a township,” and that Warrington “must inevitably become the most favourite watering place in Otago,” (Evening Star, 1878).

Only a few houses were built in the new subdivisions initially, those of the Downes, Ferguson, and Bremner families (Church et al., 2007). In an 1880-81 directory, 16 men were recorded at Warrington. Over time the population expanded, as some staff at the Seacliff Asylum built their homes in Warrington (Church et al., 2007). The best-known house in Warrington was the Manor House, built in 1896 by Charles Ritchie Howden, which still stands today (Moore, 1958). Races were frequently held at Warrington until well into the twentieth century, with some 600 people attending the event in 1881 (Evening Star, 1881). In 1887, Sir George McLean established the Warrington stud farm, situated mid-way between Warrington and Omimi (Moore, 1958). This farm bred a number of successful horses, the farm described as being the “show place of Otago,” (Moore, 1958).

It was in the twentieth century that Warrington began to fully develop as a village. The population had increased to 108 by 1901 (Statistics New Zealand, 1901). A plan of the settlement from the 1901 military maps shows a number of buildings located around the railway line (Figure 5-3). Numerous farms can be seen around the settlement.

The township and its beach became a popular resort spot with its white sands and large safe breakers, more accessible than the beach at close-by Waitati (Moore, 1958). Many Dunedin families had summer homes at Warrington in the early twentieth century (Figure 5-4, Figure 5-5). One of the most notable residents was Arthur Barnett who rented the Manor House in 1901 (Moore, 1958). Barnett later bought the Presbyterian Church and converted it to a residence (Moore, 1958). Further development of the area, including the construction of a rest home and a school within the township, did not occur until the twentieth century.



Figure 5-3. Warrington in 1901 from the Military Maps.



Figure 5-4. View overlooking Warrington 1912 showing a number of residences. (Crombie, 1912).

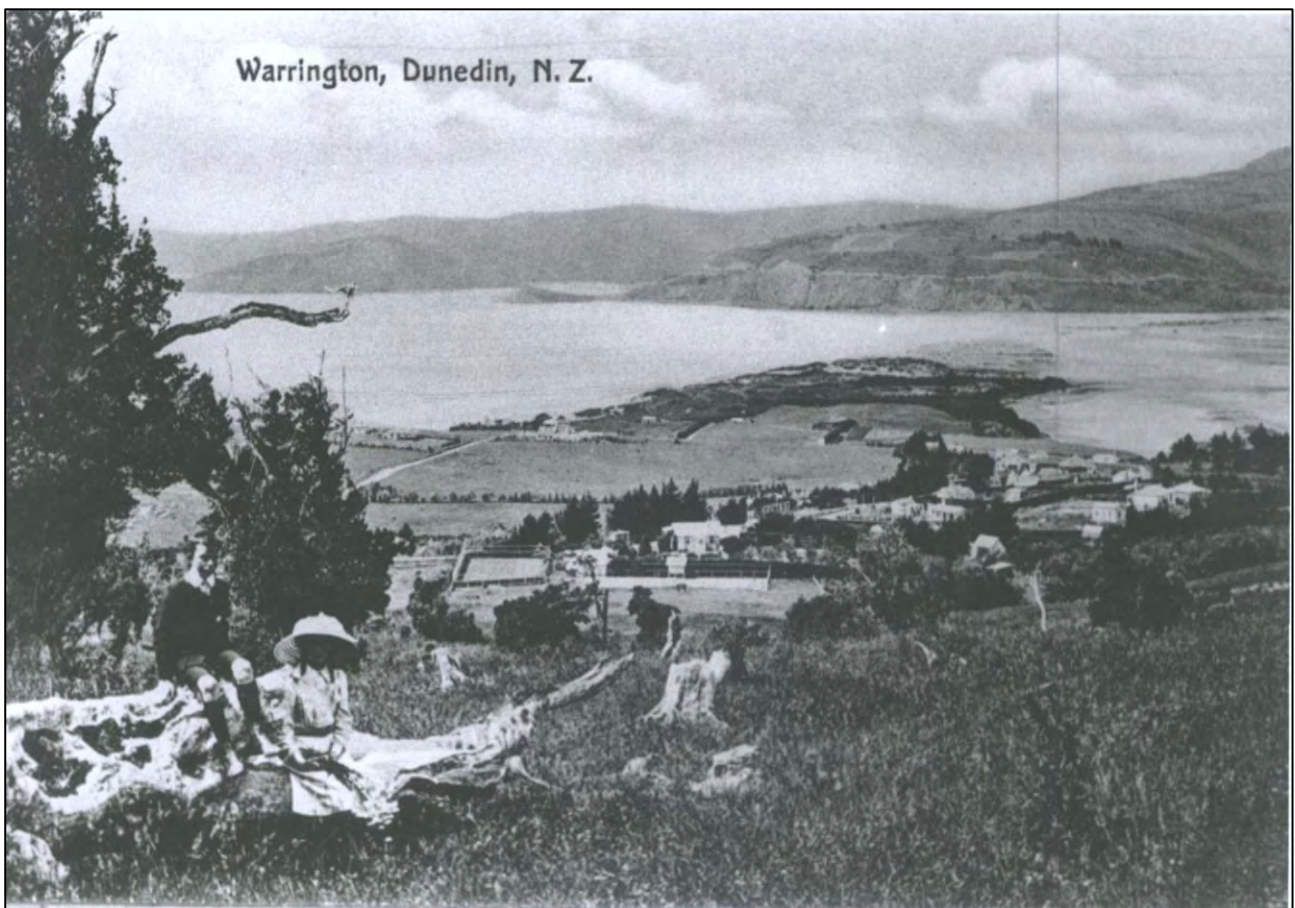


Figure 5-5. A circa 1910 photograph looking out over the Warrington beach area (Anonymous, 1910).

5.3 The History of 20 Bay Road, Warrington (I44/177 and I44/178)

The project area at 20 Bay Road, Warrington, has a history that echoes the surrounding area. Historic research and the archaeological record have shown that the property was occupied by manawhenua through many phases. After the arrival of European settlers, the property was apparently used as both a nature reserve and a rubbish dump, resulting in the modification of the land to accommodate new tracks and accessways to the shoreline. While

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ArchSite places only one archaeological site within the property, this assessment indicates a second site likely extends into this area as well (Figure 5-6).

5.3.1 Site I44/177

Site I44/177 was recorded in 1983 following a site visit completed by Brian Allingham in 1982, with numerous subsequent site visits. Allingham submitted a report on his site visits to I44/177 in June and July of 1983 (available as additional documentation for site I44/177 in the online SRF, NZAA, 2020). Allingham recorded what was termed as the “Warrington Moahunter site” and identified the site as being located at the northwest end of Warrington domain within an area of stabilised sand dunes, with the area defined by the presence of black sand, heat-shattered stones, shell fragments, and moa bone. Allington suggests that adzes (types 1A, 2A and 4A), harpoon points, minnow lures, slate knives and silcrete blades held in the Otago Museum likely originated from this site. These were collected largely by H. D. Skinner in the early twentieth century. A later phase of site use was also identified, with the area utilised as a rubbish dump during the nineteenth and twentieth century.

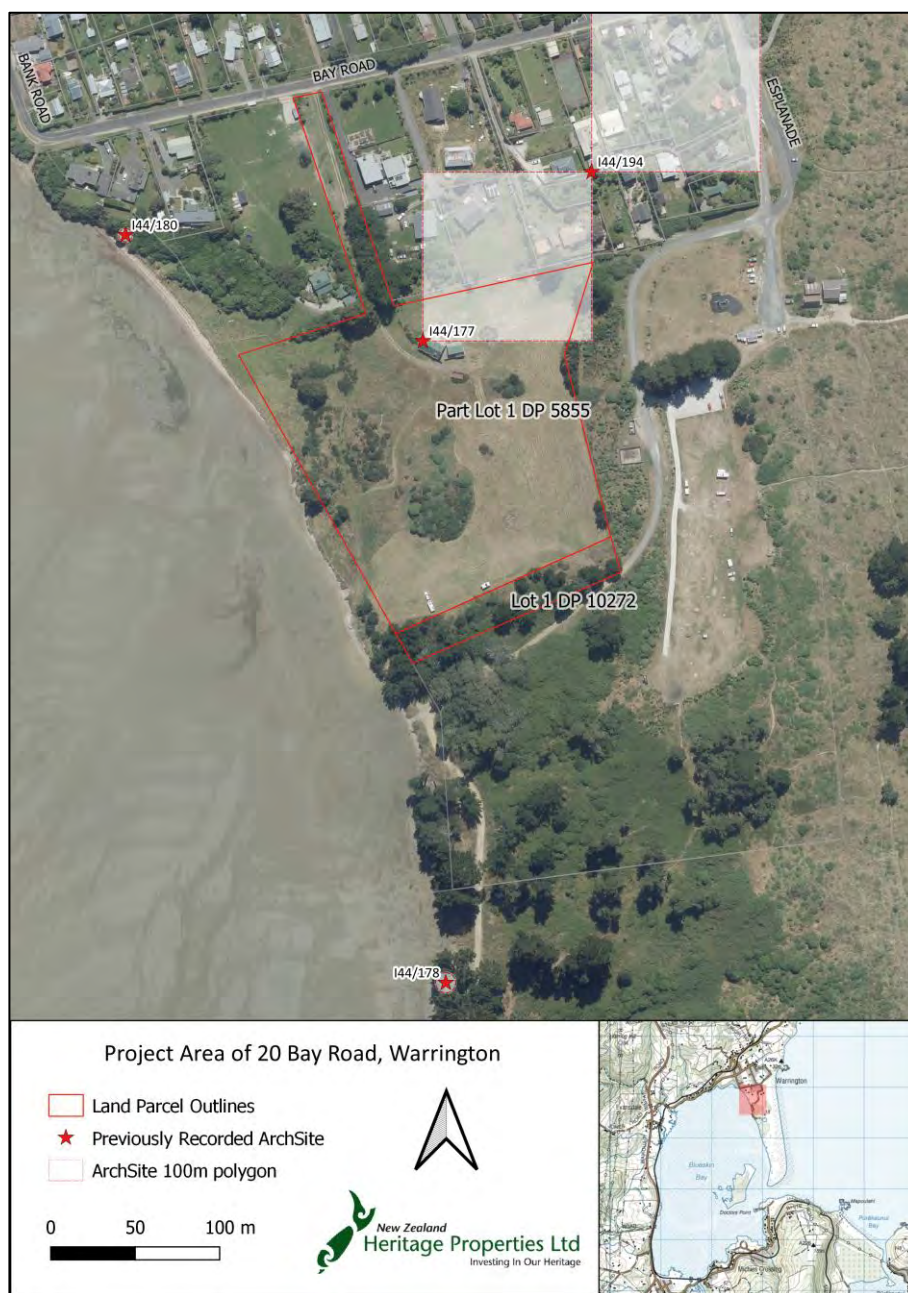


Figure 5-6. Project area with previously recorded archaeological sites in the area.

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Allington notes that the site may have been recorded unofficially as early as 1894 by Alfred Reynolds (under the name Aparata Renata) in the *Otago Witness*. Reynolds discusses a site of “an ancient Maori residence... on which no end of fine implements have been found, together with moa eggs almost complete” (Renata, 1894).

The site had been well fossicked by the early twentieth century, with it hypothesised that an A. Hamilton visited and reported on the site in 1904 and 1905;² however, Allingham notes that development and fencing of the area probably restricted public access since approximately 1900. A circa 1910 photograph looking out over the spit shows the area cleared and with divisions indicating fences (Figure 5-5). The exact site location remained unrecorded until Allingham visited the site in June of 1982. At this time, he photographed and mapped the area, as well as collected moa bones and artefacts from the surface.

Allingham revisited the site on many occasions, with reports submitted to New Zealand Historic Places Trust (NZHPT, now HNZPT) on site visits in combination with members of the University of Otago, in 1984, 1986, 1987 and 1989 (Allingham, 1986, 1987, 1989; Kooyman, 1984). Further details of the archaeological investigation of this site are provided in Section 6.

The work completed by Allingham resulted in the site at Warrington being included in many of the large-scale discussions of early and late Māori occupation of the Otago region, referenced varyingly as a moa-hunter site, nephrite working site, kāik and pā site (Anderson, 1989; Anderson & Smith, 1996; Hamel, 2001). The site is generally discussed as an important site for the understanding of early manawhenua lifestyle, covering approximately 2ha, despite no systematic excavations having been completed.

5.3.2 Site I44/178

A second, less known, archaeological site is also located on the boundary of the project area. This is I44/178, first recorded by Allingham in the same 1982-1983 visit as I44/177. This site is located on the western shore of the Warrington Spit, covering approximately 150m of the shore. Like many in New Zealand, the beach area is designated a legal road; however, based on Allingham's site plan I44/178 forms much of the western boundary of the project area. Allingham's original site record form records a blackened sand layer with sparse cultural material including mixed Māori midden deposits and cultural material, with European fence posts. Allingham's plan marks the area at the north west of the project area as the find spot for silcrete and basalt flakes. Little seems to have been recorded of this site, apart from its existence and a few artefacts that were taken to the Otago Museum, and no further authorities or site reports have been submitted to the current HNZPT. It would seem that this site is generally included in the larger site complex discussed across this beach under I44/177. The main threat to I44/178 was noted as natural erosion. The site appears to have been revisited during the 2006 field surveys completed by NZHPT, with the online NZAA ArchSite record noting the site is visible and still eroding along the shore. No formal investigations of the site have been carried out.

² Allingham makes this hypothesis in his site record form, however it is unclear what publications or reports this is referring to, as no references are given.

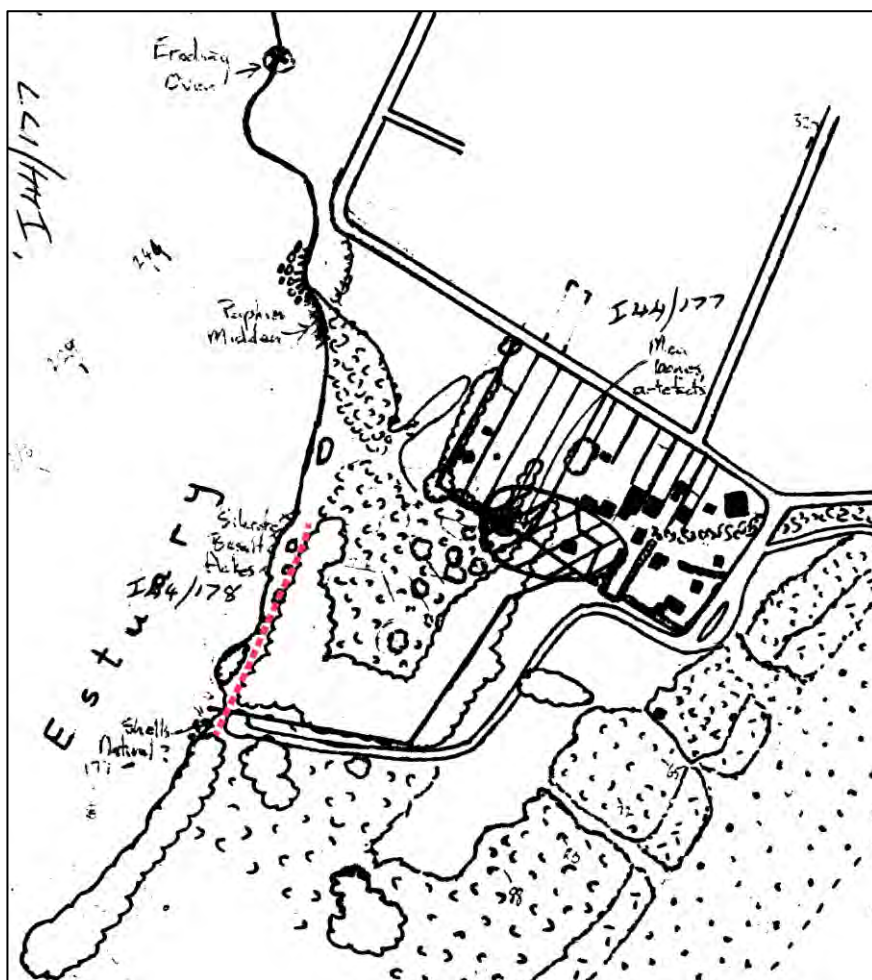


Figure 5-7. Site plan of archaeological sites at Warrington Beach, by Allingham, in his 1983 site record form for I44/177 and I44/178. Recorded extent of I44/178 marked by red dashed line.

5.3.3 Pākehā History of 20 Bay Road

20 Bay Road, Warrington, was originally surveyed as Part Sections 1 and 2 of 50, Waikouaiti Survey District (Otago Crown Grant Index Records Maps, 1863). This was owned by George James Warren, along with the large sections of land covering much of the Warrington area going north (Figure 5-8). The 1901 Military Map (Figure 5-3) shows the eastern half of Part 2 now occupied by Howden's Manor house, with a few other smaller houses marked. At this point, the area included as 20 Bay Road was not occupied. While Allingham mentioned a rubbish dump on the property within the SRF, no further documentation could be found associated with this.

A 1944 subdivision map indicates the land included as Part 1 of 50 was subdivided, starting to resemble the current land parcel (Figure 5-9). A 1961 map of the Lot shows the owner being a R.C. Bishop, of Dunedin and the southern portion of the lot being subdivided further; the surrounding land parcels within the spit are also owned by "R.C. Bishop of Dunedin & Warrington Improvement Society Inc." (Figure 5-9). Despite this, historic aerial images from 1958 and 1985 show buildings on the north and eastern lots, with no structures in the project area; however, varying levels of forestry and dune formation are evident (Figure 5-10). While the archaeological site record form for I44/177 references a European period rubbish dump on the site, this is not visible within the historical records, maps or photographs.

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Figure 5-8. Close up of the 1862 Waikouaiti Survey District Crown Grants Index Map (Otago Crown Grant Index Records Maps, 1863).



Figure 5-9. Left: 1944 subdivision map of the section, showing the new blocks to the east being separated from the main Part Section 1 (Paterson, 1944). Right: 1961 map showing the owner of much of the Warrington Spit is R.C. Bishop of Dunedin and Warrington Improvement Society Inc. (Warburton, 1961).



Figure 5-10. Retrolens photographs showing no structures within the project area. Left: 1958 (LINZ, 1958). Right: 1985 (LINZ, 1985).

6 Previous Archaeological Investigations

The Warrington area has long been the findspot for Māori archaeological sites, with reports dating to as early as the 1890's. The area was one of early interest to New Zealand's budding archaeologists at the turn of the twentieth century, along with other known settlement areas such as Whareakeake. These sites have fallen prey to fossickers and developers over the years, while remaining important sites for the archaeological communities understanding of manawhenua occupation within the area. Two archaeological sites intersect with the current project area: I44/177 and I44/178; these sites have been introduced above, and specific details of prior investigations at I44/177 are discussed further in this section. No formal investigations of I44/178 have been carried out.

6.1 Previous Investigations of I44/177

The exact site location for I44/177 remained unrecorded until Allingham visited the site in June of 1982. At this time, he photographed and mapped the area, as well as collected moa bones and artefacts from the surface. When he returned in June of 1983, he recorded the site was freshly disturbed, with portion of a basalt adze, silcrete and green basalt flakes found in the spoil of a bottle-collectors disturbance (Figure 6-1). A minnow lure shank was also exposed on the surface. Allingham returned with Jill Hamel to record the disturbed spoil. Within this they recorded early-period artefacts and "obvious midden"; the material included fire cracked rocks (FCR), shell, moa bones and artefacts. During recording Allingham noted lenses of Māori material within the stratigraphy of the European rubbish dump, to a recorded depth of 1.7m, presumably from the use of the surrounding dune sand to cover the rubbish. This visit found no intact Māori deposits. The area recorded in this visit falls in the most eastern point of the project area (see Figure 6-2).

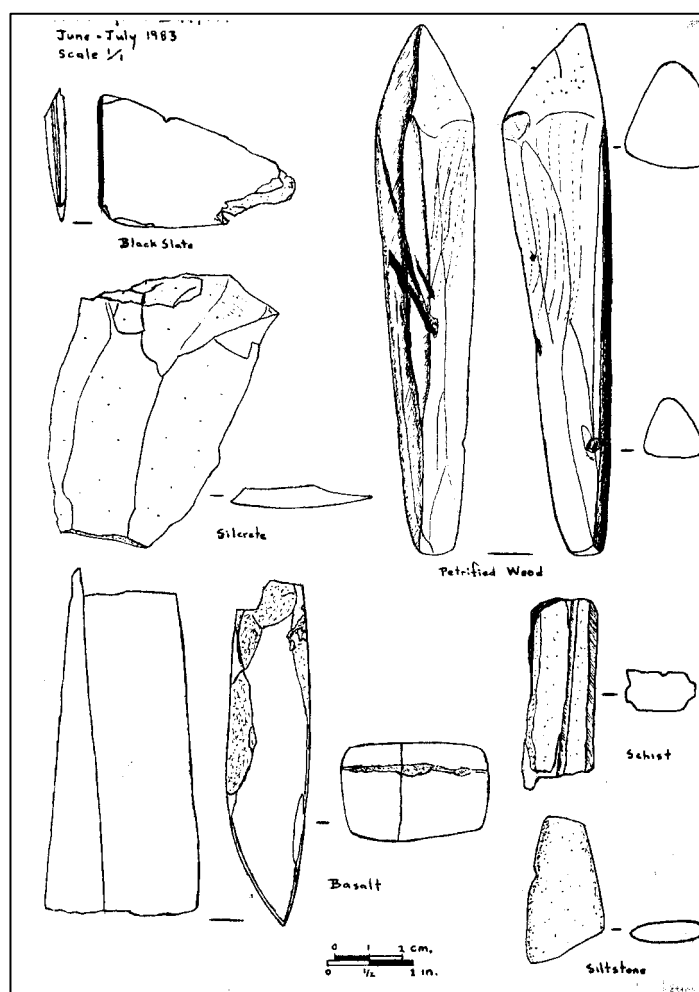


Figure 6-1. Artefacts recorded by Allingham during his 1983 site visit, included in his report (available as additional documentation for site I44/177 in the online SRF, NZAA, 2020).

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The 1985 to 1986 excavations involved trenches for a 2.5m x 1.2m septic tank, 3m x 0.5m overflow drain, and 6m x 0.8m sump in Allingham's Area A (Figure 6-2). These trenches found multiple cultural layers, dating to the "Classic period", intermediate period and early Māori, based on artefact type (Allingham, 1986). Fire scoops, FCR, lithic material, worked bone and kokowai were all found in this visit. The areas of excavation monitored in this phase were to the northeast of the current project area.

The 1986-1987 report covered excavations related to the development of two holiday residences by the Roman Catholic Diocese of Dunedin (Allingham, 1987). This included testing prior to works, and excavation of trenches for field drains and fencing. Two small areas of in situ cultural deposit were identified within the area excavated for the field drains, Excavation A and B. Excavation A found the intact base of an oven, including two quartzite flakes, with the broken butt portion of an adze in the disturbed topsoil above this; Excavation B encountered burnt oven refuse, midden and artefacts in a 20cm thick layer, under a 45cm thick layer of recent topsoil. The works in Allingham's Area C also encountered features such as post holes and pits. The area covered in these excavations was, again, to the north and northeast of the current project area. Allingham noted in his report that the original field drain plan was altered with permission from the client to minimise the effect on the archaeological site (Allingham, 1987).

Allingham's 1988-1989 works took place in site I44/177, as well as I44/194, the nearby midden site recorded further northeast from I44/177. These works took place for sewerage drainage with monitoring taking place daily for two weeks in August of 1989 (Allingham, 1989). This work was completed through a series of test pits taken at regular intervals along the path of the drainage. This work allowed for clear stratigraphy's to be recorded across the site. This phase of works indicated that the western extent of I44/177 (where it intersects with the northeast corners of the project area) has older dates closer to the surface than those in the east, due to the lack of later "Classic" period deposits. During these excavations lithics such as adzes, blades, tools and flakes made from various stone types were collected, along with a large collection of bone artefacts, generally related to fishing (Figure 6-3). Dentalium shell and moa bone were also recovered in these works. In comparison to site I44/194, I44/177 has a much greater quantity and variety of moa bone; however, Allingham believes the two sites are part of a greater, connected site complex (Allingham, 1989). Overall, Allingham concluded that the early moa-hunter phase indicated transient settlement on the western side of the site, visible in the thin lenses of occupation material, while the middle period deposits featured post holes and other evidence of structures, indicating long-term settlement (Allingham, 1989).

In 2006 a site damage assessment was undertaken by Jill Hamel on behalf of the NZHPT, following notification in the last months of 2005 that vegetation clearance and earthworks had taken place at 20 Bay Road (Part Lot 1 DP 5855). Following the site damage assessment by Hamel, Richard Walter was commissioned to further assess and clarify the nature of the site and how earthworks had, and could potentially, impact the archaeological sites in the area.

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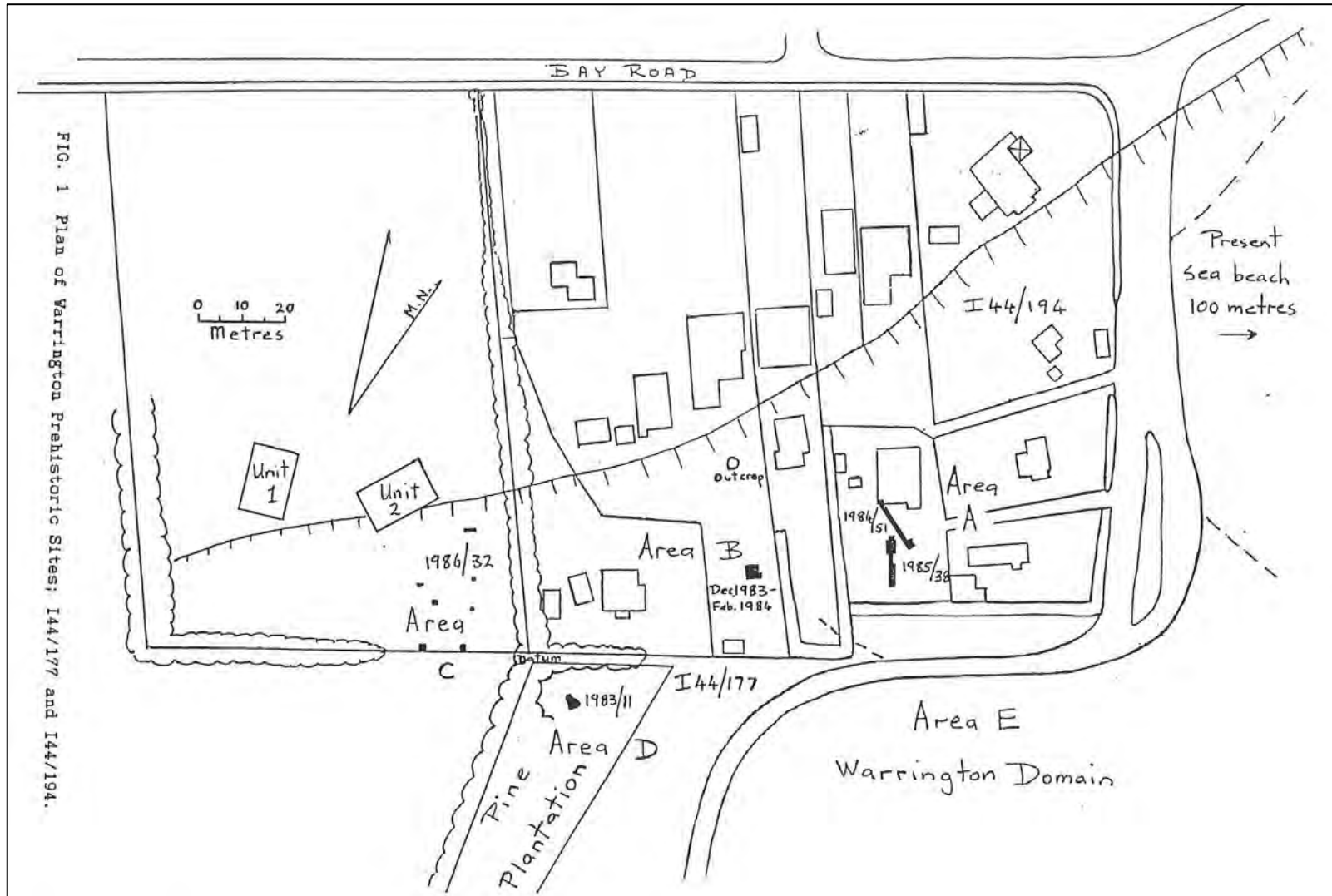


Figure 6-2. Sketch map of Allingham's various excavation areas from 1983-1987 for I44/177 (Allingham, 1987 Figure 1).

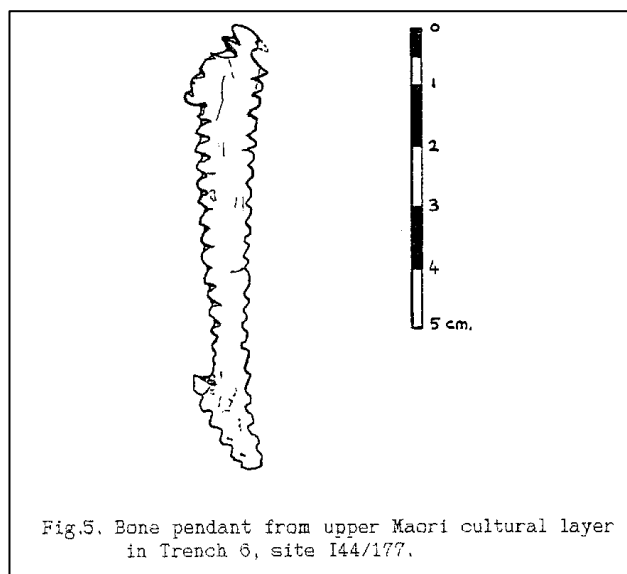


Figure 6-3. Example of worked bone artefact collected during the 1989 excavations (Allingham, 1989).

Walter notes that the damage to the site that took place first in 2001, following the subdivision of the land, and then again in 2005 included the removal of trees, slashing of scrub, contouring of the land removing the humps of some of the higher dunes, and harrowing. As expected, the contouring proved to be the most destructive activity (Walter & Jacomb, 2008). The activity took place across much of the land parcel, although the northeast corner where site I44/177 is located appeared to have suffered the worst damage. Walter and Jacomb completed a site visit including test pitting and augering for the 2008 report, noting that the visible extent of the site covered much of the northeast corner, a larger area than recorded previously (Figure 6-4).

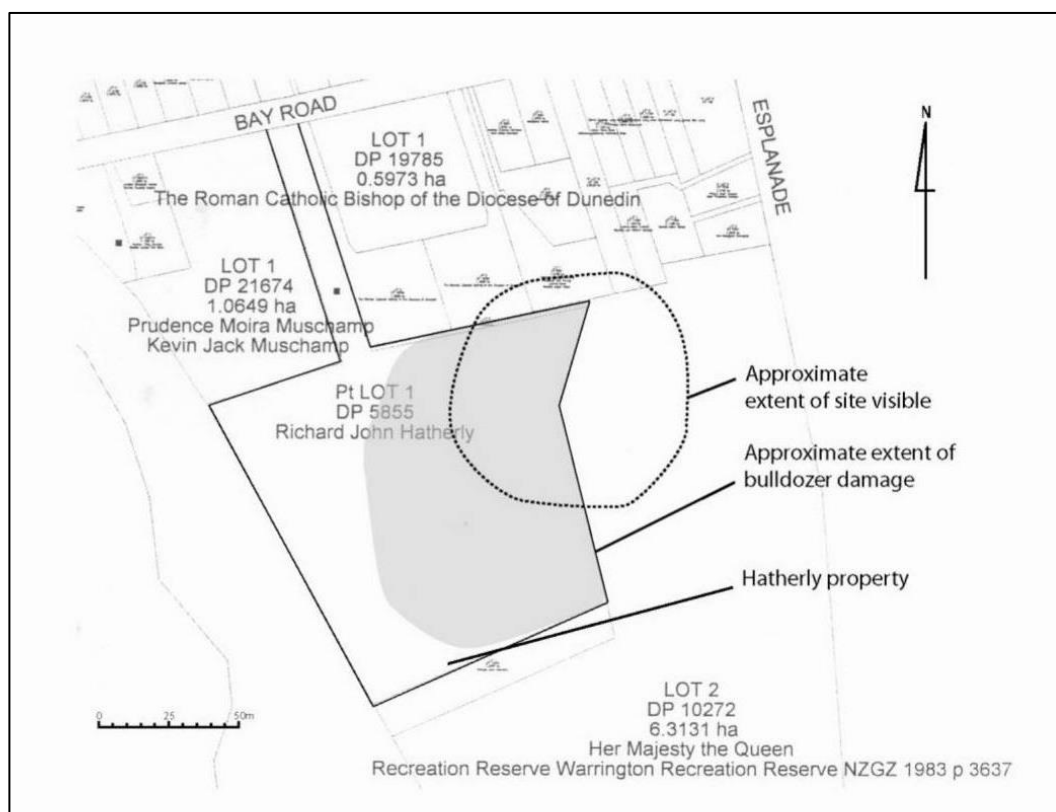


Figure 6-4. Depiction of site damage and visible site extent at 20 Bay Road (as seen in Walter & Jacomb, 2008 Figure 4).

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Despite the large amount of site damage that Hamel, Walter and Jacomb recorded, the conclusion of works from this period are that there are likely still intact deposits of both Māori and European origin buried under the sand dunes and bulldozed area in the northeast of the project area, possibly under at least 1.5-2m of this freshly bulldozed material (Walter & Jacomb, 2008). Walter concludes that “any such intact deposits should be protected since there may not be much left of the site”, discouraging any further development to the eastern area of the subdivided land (Walter & Jacomb, 2008).

In 2012 NZHPT was notified of further potential site damage to the land encompassed by 20 Bay Road. This was alleged to have occurred at Christmas of 2011, including vegetation clearance by a digger and works on the driveway. Upon a site visit by Matthew Schmidt in February 2012, it was noted that damage was ongoing due to the heavy vehicle traffic going over the exposed areas of I44/177 in the northeast of the project area. In March 2012 Richard Walter again submitted an archaeological assessment of 20 Bay Road to NZHPT, after completing a site visit to identify damage, site exposure and areas potentially at risk by proposed subdivision of land by owner, Richard Hatherly (Walter, 2012). Walter’s conclusion was that extensive damage had been done to the site (I44/177) previously, and that which remained was of high archaeological importance. All efforts should be made to avoid high risk areas of the land, particularly that in the northeast, and infilling of hollows was recommended. Access via the current right-of-way was deemed as damaging and archaeological involvement was recommended (Walter, 2012).

6.2 Geotechnical Investigations under Authority 2020/540

As part of the proposed redevelopment of the site, an exploratory authority (2020/540) was obtained to undertake geotechnical investigations (Hurford, 2020). This test pitting was completed by Stantec on 13 May 2020, monitored by NZHP archaeologist Jessie Hurford. This test pitting took place in six locations across the project area, including two in the north and one in the south accessways, two in opposite areas of the proposed parking area and one in the low ground in the western side of the project area (Figure 6-5). These test pits were approximately 300mm x 300mm and were excavated to a depth of approximately 500mm. Little cultural material was encountered during these tests, with the stratigraphy consisting of various coloured sand, clay and sandy loam. One bluestone cobble was encountered in TP6 which was ground tested and shown to continue in some form for approximately 1m. This cobble is an unexpected find on the site, and likely represents a manuport; however, it is unclear which phase of site use this may be associated with (i.e., occupation by manawhenua or pākehā).



Figure 6-5. Location of geotechnical test pits completed by Stantec under authority 2020/540.

6.3 Recognised Heritage Sites

While I44/177 is a recorded archaeological site, represented on the NZAA Site Recording Scheme, it is also recorded as an archaeological site on the DCC 2GP. This is recorded as the “Warrington moa hunter site”, A040 (Dunedin City Council, 2020). This reflects the importance of the site for manawhenua and for our understanding of the history of the area.

The project area is within or intersects with three wāhi tūpuna as recorded on the DCC 2GP. The project area is entirely within wāhi tūpuna, No. 15 Okahau (Warrington) and No. 14 Pūrākaunui to Hikaroroa to Huriawa, and

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the western shore also intersects with the edge of wāhi tūpuna, No. 16, Blueskin Bay. These areas further highlight the importance of the bay and the spit to manawhenua.

7 Results of the Site Survey

A pedestrian survey was completed on 5 February 2020 by Dawn Cropper and Victoria Ross, which identified clear areas of archaeological interest as well as modern site disturbance (Figure 7-1). The survey was conducted in 10m transects generally running in line with the property boundaries. Conditions on the day were clear and sunny; however, rain had inundated the site in the past week. At the time of the survey, the vegetation largely consisted of grass, with small bush areas in depressions and on rises. Sand dunes on the west were evident in multiple waves. The southern portion of the project area, located within Lot 1 DP 10272, was forested with an access track leading to a road. Overall, visibility was low, with grass and bush impeding identification of site extent and above ground features. However, it is thought that I44/177 extends further south than previously recorded, while I44/178 may exist only in the very southwest of the project area.

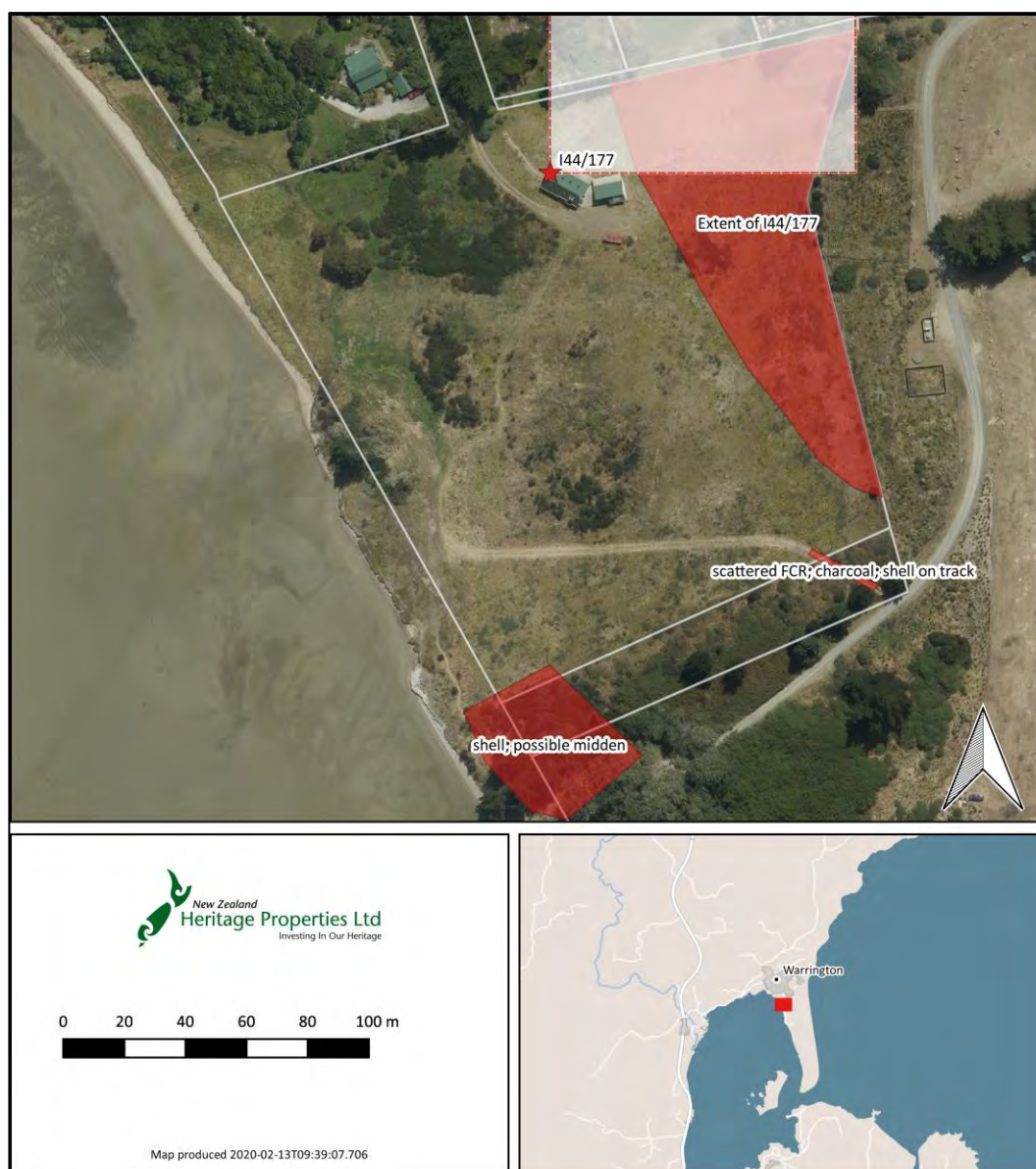


Figure 7-1. Areas of interest identified during the site survey, February 2020.

It was evident across the site that activity had taken place which involved minor earth disturbance. At least one recent small dig out for a fire was seen, with the turfed square placed to the side (Figure 7-2). Areas of vehicle movement were also visible in the crushed grass and sand. Levelling and landscaping of the northern half of the project area was also evident, as was reported on by Allingham and Walter. These works have created levelled areas with what appears to be at least one artificial hill on the west side of the property potentially for drainage.



Figure 7-2. Left: looking north across site showing the grassed and undulating nature of the area. Right: recent earth disturbance visible in the site, showing evidence of a small fire. Turf replaced by archaeologist. Looking north.

The eastern side of site had numerous sandy exposures. Where the grass cover was thinner, sand was visible with patches of cultural material. In the northeast of the site, bone (burnt and unburnt), shell, charcoal and FCR were visible on the surface (Figure 7-3). It is thought that this material belongs to archaeological site I44/177, and evidence seen on site indicates that this extends further than was previously recorded on the SRF, covering nearly the full length of the eastern side of property.



Figure 7-3. Shell and bone exposed in the sand in the northeast area of site. Looking north.

Most of the centre of the site was covered in grass, and in this area of reduced visibility no features were identified. In small areas charcoal was visible within the sand, but whether this is of archaeological origin could not be determined. In the southeast corner, where the secondary access comes into the site through Lot 1, further erosion was visible in the access track. In this area shell, bone, charcoal and charcoal staining, as well as small pieces of FCR were identified (Figure 7-4).

On the western side of the project area, where the land drops down to the shore, no evidence of any definitive cultural material was found (Figure 7-5). The shallow bank along the west side of the spit appears to be actively eroding. No evidence of archaeological materials or deposits were identified along the eroded face of the bank. Further inland and amongst the trees in the most southern corner of the project area, eroding shell was identified. This was found in small clusters around the roots of trees (Figure 7-5). This corresponds with Allington's the description of I44/178, and he suggests that this exposure may be natural due to the lack of charcoal and presence of waterworn boulders. NZHP's visual inspection of these deposits was unable to confirm if this is archaeological

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or is the remains of a naturally occurring layer of shell, washed up and disturbed in one of the many tidal surges recorded for the area. In this area there was also a single piece of under glaze transfer printed ceramics. As this was in the general area of the shell deposits, it is again unclear if this is related to the artefacts recorded in the archaeological site or is a post-1900 introduction.



Figure 7-4. Eroding cultural material in the access track on the south side of site. Looking northwest and east.



Figure 7-5. Left: the natural bank face at the western boundary of the project area, looking east. Right: shell deposit found in the forested area at the south corner of the project area, looking west.

From the findings of the site survey, it is clear that sub-surface archaeology is still present across the site in varying forms with some surface archaeology occurring where erosion is taking place. As this archaeology is likely to be impacted by the proposed development, NZHP recommends that standover monitoring by an archaeologist takes place during all earthworks in the project area as there is the potential for the previously recorded archaeological sites to extend further than is currently recorded. Furthermore, NZHP recommends post-excavation analysis of any artefactual finds, as well as reporting as per standard archaeological practice.

8 Constraints and Limitations

There were a few small constraints and limitations encountered during the assessment process. Access to the large number of previous archaeological investigations and reports was not always possible, therefore some information had to be relied on from second-hand sources. Similarly, with early work having taken place in the 1890s, it was not possible to verify some resources for accuracy or to clarify information.

During the survey process it was evident that there was a large amount of ground cover in the form of grass and bush. This impeded the ability to view the topography and surface of the site for archaeological features.

9 Archaeological and Other Values

Section 46 of the HNZPTA 2014 requires an assessment of the archaeological, Māori and other relevant values of the archaeological sites in the detail that is appropriate to the scale and significance of any proposed activity and proposed modification of archaeological sites within the project area. Archaeological value is determined by, but not limited to, its condition, rarity or uniqueness, contextual value, information potential, amenity value, and cultural association. The following sections summarise the archaeological values of archaeological sites recorded within the project area.

9.1 Assessment of Archaeological Value for I44/177

Archaeological site I44/177 records the “Warrington Moahunter site” identified within an area of stabilised sand dunes, with the area defined by the presence of black sand, heat-shattered stones, shell fragments, and moa bone, with a large number of site assessments completed and excavations showing the area had long term occupation by manawhenua which was then interrupted and disturbed by a Pākehā rubbish dump site. The work completed by Allingham resulted in the site being included in many of the large-scale discussions of early and late Māori occupation of the Otago region, referenced varyingly as a moa-hunter site, nephrite working site, kāik and pā site (Anderson, 1989; Anderson & Smith, 1996; Hamel, 2001). The site is generally discussed as an important site for the understanding of early manawhenua lifestyle, covering approximately 2ha, despite no systematic excavations having been completed.

An evaluation of the archaeological values is provided in Table 9-1 based on the criteria defined by HNZPT (2019). Overall, NZHP consider site I44/177 to have moderate to high archaeological values. It holds high amenity and contextual value as a core part of the larger site complex of the Warrington Spit, although the site is believed to be in fair to poor condition, based on the previous site damage.

Table 9-1. Summary of archaeological value for I44/177.

Value	Criteria	Assessment
Condition		The condition of the deposits recorded as I44/177 is fair to poor . It is well documented that site disturbance has been common in the past century and fresh erosion was encountered during the site survey. It is likely that subsurface archaeological deposits remain; however, it is uncertain in what condition these are.
Rarity or Uniqueness	Is the site(s) unusual, rare or unique, or notable in any other way in comparison to other sites of its kind?	Moderate . The site has produced notable deposits of early Māori artefacts in the past and is recorded as an important occupation site spanning many phases. Its later use as a European dump site provides an opportunity to view the history of the area from first settlement through to the post-contact era.
Contextual Value	Does the site(s) possess contextual value? Context or group value arises when the site is part of a group of sites which taken together as a whole, contribute to the wider values of the group or archaeological, historic or cultural landscape. There are potentially two aspects to the assessment of contextual values; firstly, the relationship between features within a site, and secondly, the wider context of the surroundings or setting of the site. For example, a cluster of Maori occupation sites around a river mouth, or a gold mining complex.	High . This site is part of a larger complex of sites recorded around the Warrington area that shows evidence of common and recurring settlement around Blueskin Bay and the east coast. Due to the size and well documented archaeological investigations that have taken place within this site, this results in a high level of contextual value to continue the building and understanding of the long Māori history of Blueskin Bay and Otago.
Information Potential	What current research questions or areas of interest could be addressed with information from the site(s)? Archaeological evaluations should take into account current national and international research interests, not just those of the author.	Moderate . While the proposed development does not include large scale excavation across the site, the site has the potential to tell us about the recurring, possibly seasonal, use of the site by multiple groups. As an area of early European settlement and interest as well, the site is able to show us of the relationship between the original Māori activity and that of the later Europeans.

Value	Criteria	Assessment
Amenity Value	Amenity value (e.g. educational, visual, landscape). Does the site(s) have potential for public interpretation and education?	High. As the proposed location of a formal motorhome and caravan park, the site has the potential to educate visitors and holidaymakers on the rich history of the area, encouraging respect for the natural and cultural environment around them. While most of the archaeology is subsurface, this could be achieved through information panels on site.
Cultural Associations	Does the site(s) have any special cultural associations for any particular communities or groups, e.g. Maori, European, Chinese.	Māori and European. The site has been recognised as part of a highly significant cultural area for manawhenua, as well as having a low level of significance as a popular area of occupation for Europeans.

9.2 Assessment of Archaeological Value for I44/178

Archaeological site I44/177 records a blackened sand layer with sparse cultural material including mixed Māori midden deposits and cultural material, including silcrete and basalt flakes, along with European fence posts. Little seems to have been recorded of this site, apart from its existence and a few artefacts that were taken to the Otago Museum. The site is generally included in the larger site complex discussed across this beach under I44/177.

An evaluation of the archaeological values is provided in Table 9-2 based on the criteria defined by HNZPT (2019). Overall, NZHP consider site I44/178 to have low archaeological values, as it is an ephemeral site. While artefacts have been recorded there in the past, only midden has been encountered since the original SRF. Outside of the larger site complex, I44/178 offers little new information to the archaeological understanding of the area as midden sites are recorded frequently around the bay.

Table 9-2. Summary of archaeological value for I44/178.

Value	Criteria	Assessment
Condition		Poor. Majority of site is likely subsurface and only eroded material is visible. Erosion is occurring across the viewed portion of the site.
Rarity or Uniqueness	Is the site(s) unusual, rare or unique, or notable in any other way in comparison to other sites of its kind?	Low. Site does not appear to contain any unique features and is possibly the remains of the southern fringe of larger site complex.
Contextual Value	Does the site(s) possess contextual value? Context or group value arises when the site is part of a group of sites which taken together as a whole, contribute to the wider values of the group or archaeological, historic or cultural landscape. There are potentially two aspects to the assessment of contextual values; firstly, the relationship between features within a site, and secondly, the wider context of the surroundings or setting of the site. For example, a cluster of Maori occupation sites around a river mouth, or a gold mining complex.	Moderate. Site is likely part of the larger site complex that covers much of the Warrington Spit. These sites as a whole, tell the story of the early and continued occupation of the area by Māori
Information Potential	What current research questions or areas of interest could be addressed with information from the site(s)? Archaeological evaluations should take into account current national and international research interests, not just those of the author.	Low. As the site is largely midden with some previously recorded artefacts, there is little new information to be gained from the site outside of the larger site complex.
Amenity Value	Amenity value (e.g. educational, visual, landscape). Does the site(s) have potential for public interpretation and education?	Moderate. The site has low amenity value on its own but has a medium value as part of the larger site complex, particularly when discussed in relation to I44/177.
Cultural Associations	Does the site(s) have any special cultural associations for any particular communities or groups, e.g. Maori, European, Chinese.	Māori. Identified as of significance to manawhenua as part of the occupation history of the area.

9.3 Other Values

NZHP has identified archaeological sites of interest to manawhenua may be affected by the proposed works. As such, NZHP recommends engagement with the appropriate manawhenua through Aukaha, to ensure all cultural material encountered is treated following appropriate tikaka practices. The DCC 2GP further recognises three wāhi tūpuna, Okahau (Warrington), Pūrākaunui to Hikororoa to Huriawa, and Blueskin Bay, indicating these areas have been identified through consultation with iwi as areas of interest to manawhenua. The Warrington Spit has been identified as having Māori values, but this is not an assessment of those values, which can only be provided by manawhenua.

No historic heritage values will be affected by the proposed redevelopment.

10 Assessment of Effects

This report considers the potential impact of the NZMCA development of 20 Bay Road, Warrington, on the archaeology of the Warrington area. NZMCA proposes to create a formal motorhome and caravan park on the property, providing a stable driveway and ample parking space for 46 vehicles. The proposed works will include the widening and sealing of the accessways, levelling of the eastern and southern areas of the property for parking – using a combination of shallow scrape and introduction of sand or gravel fill to build up the ground level, the installation of a small kiosk, gates, and a dumping station, as well as planting across the site for screening and area definition. These works involve minor earth disturbance, largely shallow scrapes or post holes, as well as the introduction of barriers and new fill material. Currently depth of excavations is undecided and are to be based on the outcomes of the archaeological assessment, resource consent, and consultation with stakeholders. The proposed works have been identified by NZHP as impacting less than 50% of archaeological site I44/177, and less than 10% of site I44/178. An assessment of the effects of earthworks is provided below along with recommendations.

10.1 Effects to Subsurface Archaeology

As earthworks are designed to be minor across site, keeping with the natural ground and building up as much as possible, it is likely that less than half of the archaeological site I44/177 will be impacted. The site is known to extend outside the north and east of the property, including in the portion vested to Kings College that will not be developed. Based on our current understanding of the archaeology and the proposed works, NZHP believes the works will have a minor impact on the potential subsurface archaeology of the site. Stantec are investigating options of building up the ground level, and this will have the beneficial affect of protecting these areas from future damage.

Where the site I44/178 is believed to extend into the project area, Stantec plan to complete managed native under planting. This is also planned on the eastern end where vegetated ground cover is less dense. This will involve minor earthworks that will likely disturb portions of the site. However, as the area is already forested it is possible that the site has already been highly disturbed by the tree roots. Digging of holes for new plantings may also provide the opportunity to gain more of an understanding of the composition and stratigraphy of this site to confirm if it is a natural occurrence or an archaeological deposit. As this site only extends a small way into the property and is centred further to the south with a recorded extent of over 100m, NZHP approximates that less than 10% of the site is at risk by the proposed activity, resulting in negligible to minor impact on the potential subsurface archaeology of the site.

To ensure that all archaeological material is protected and recorded where necessary, NZHP recommends that standover monitoring take place during all works involving earth disturbance and a site instruction document be prepared for the client outlining the archaeological history and legislative requirements of developing the site.

10.2 Methods to Avoid, Minimise and/or Mitigate Adverse Effects

The extent of the recorded archaeological sites is not fully understood, and the proposed development and upgrade of the area may affect small portions of two archaeological sites. All contractors undertaking work that may affect archaeology must undergo an archaeological briefing, and the contractors, archaeologists, and authority holder must follow the protocols identified in the site instruction.

Stantec have proposed that minor redesigns and alternative methods will be adopted if needed to avoid impact to archaeological or cultural material. Should a feature of high value or kōiwi be encountered, where there is flexibility with the location of the earthworks, such as plantings, kiosk base and postholes, NZHP recommends that works stop and a re-design be considered. NZHP would recommend that areas on the eastern side of site, where eroded material from I44/177 was identified during the site survey, be built up where possible as any form of site scrape is likely to encounter further archaeological material. In the southern parking area and towards the west shore,

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modern disturbance is visible along with a decrease in visible archaeological deposits. Because of this, NZHP believes there is a lower likelihood of encountering archaeological material in earthworks.

To mitigate damage to the site, Stantec is investigating methods for providing a stabilised/reinforced surface suitable for traffic ability while providing a barrier over existing ground level. This will reduce the impact on any features close to the surface of the vehicle traffic passing over, preserving the material in situ. NZHP recommends this method be utilised for all built up areas to ensure the protection of archaeological material from the weight and movement of traffic.

The proposed use of the project area as a formal motorhome and caravan park increases the risk of damage to the two vulnerable archaeological sites in the area. The higher volume of heavy class vehicles is likely to cause earth movement and has the potential to increase the erosion rate. NZHP believes Stantec's proposed methods will mitigate this potential for damage across the site by creating a buffer layer above the archaeology. Erosion will be mitigated by the introduction of more plants; however, erosion on the western shore where no planting will take place has the potential to increase.

10.3 Summary of Assessment of Effects on the Archaeological Values of Sites I44/177 and I44/178

Considering the minimal extent of the earthworks, the magnitude of impact on this site will be minor. With the archaeological values of the site being moderate to high, **NZHP considers that there will be a slight to moderate overall significance of effects on the archaeological values of I44/177.**

The proposed work across I44/178 is minimal, and NZHP consider the magnitude of impact will be negligible to minor. With the archaeological values of the site being low, **NZHP considers that there will be a negligible to slight overall significance of effects on the archaeological values of I44/178.**

10.4 Other Considerations

While NZHP recommends archaeological recording as the first step for mitigating for the loss of archaeological information expected by the proposed works, there are other steps NZHP recommends a client follow to ensure all aspects of an archaeological authority are satisfied.

10.4.1 Site Instruction

A site instruction will be required to accompany an application to HNZPT for an archaeological authority. The site instruction is designed to provide the practical steps for managing the archaeological requirements under the authority, defining the roles and responsibilities of the authority holder, contractors, and archaeologists. The document also outlines the requirements for archaeological briefings and archaeological monitoring, with the latter clearly defining what works are to be monitored by an archaeologist, when a variation may be required, and timeframes associated with the work. Methods to protect archaeological sites and features are also discussed, as are procedures for archaeological monitoring, protocols for the discovery of manawhenua archaeology and kōiwi tangata, and on-call protocols for the unexpected discovery of archaeology. Any changes to the site instruction will require prior written agreement of HNZPT.

10.4.2 Engagement with Manawhenua

This assessment has identified that archaeological sites of importance to manawhenua will be affected by the proposed works. Further, NZHP has identified that the project area is included within or intersects with three areas of wāhi tūpuna as identified by the DCC 2GP. These areas are recorded based on the acknowledged value to manawhenua; however, this report is not able to provide an assessment of these values, and the potential effect of the works on these values, which can only be provided by manawhenua. As such, it is important that manawhenua are engaged and have the opportunity to be actively involved. Stantec has actively engaged in consultation with Aukaha and Kāti Huirapa throughout the process of the design phase, and have been consulted

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on the contents of this assessment. NZHP recommends ongoing consultation occur throughout the application for an archaeological authority.

10.4.3 Education through Archaeological Briefings

Education is important to ensure that all parties engaged in the work understand the types of archaeology that may be encountered, the processes for engaging with archaeologists and manawhenua. It is essential that appropriate training contractors in the engagement of and consultation with an archaeologist in the planning stages of the project, as well as in the identification and on-site management of archaeological sites. Such steps will ensure that archaeological values, such as information value and possible amenity purposes, are increased through appropriate archaeological investigation and cultural engagement.

NZHP recommends that all project managers and contractors (including site managers and those contractors on the ground) undergo an archaeological briefing outlining their requirements under the HNZPTA 2014 prior to any works commencing. The briefing will outline the likelihood of encountering archaeological evidence, how to identify possible archaeological sites during works, the archaeological work required under the conditions of the authority, and contractors' responsibilities with regard to notification of the discovery of archaeological evidence to ensure compliance with the authority conditions.

10.4.4 Future Work

The archaeological authority will stipulate conditions that are required for future work on the basis of this assessment, which will include monitoring of earthworks, recording of archaeology, analysis of archaeological materials, and completion of a report documenting the results of all work.

11 Conclusions and Recommendations

NZHP has assessed the proposed development at 20 Bay Road, Warrington for its effects on previously recorded archaeological sites I44/177 and I44/178. This assessment has found that both sites are present within the project area, comprising Lot 1 DP10272 and Part Lot 1 DP5855, Block I, Waikouaiti District. With the proposed development of a motorhome and caravan park under the management of NZMCA, it is likely that the portions of both archaeological sites will be impacted. NZHP recommends that an archaeological authority be applied for to cover any earthworks undertaken during the intended development.

Historic research and the archaeological record have shown that the property at 20 Bay Road was occupied by manawhenua through many phases. After the arrival of European settlers, the property was apparently used as both a nature reserve and a rubbish dump, resulting in the modification of the land to accommodate new tracks and accessways to the shoreline. While ArchSite places only one archaeological site (I44/177) within the property, this assessment indicates a second site (I44/178) likely extends into this area as well. Sites affected are listed in Table 11-1.

NZHP has identified that two previously recorded archaeological sites within the property to be developed, with Site I44/177 assessed as having moderate to high archaeological value due to its high amenity value, high contextual value, but fair to poor condition, while Site I44/178 was assessed as having low archaeological value based on its low information potential, poor condition and low rarity value. With the proposed works identified as having minor impact on I44/177 and negligible to minor impact on I44/178, NZHP has determined that there will be a slight to moderate significance of effects on the archaeological values of I44/177 and negligible to slight significance of effects on the archaeological values of I44/178.

NZHP recommends that standover monitoring take place for all earthworks, with any archaeological material or features recorded following current best practice, as required by the HNZPTA 2014. Due to the significance of the sites for manawhenua, NZHP recommends that local iwi and rūnaka, as represented by Aukaha, be notified before all site works commence. Furthermore, NZHP recommends that an invitation be extended to rūnaka to attend site during all earthworks, provided this is possible following health and safety measures.

Table 11-1. Sites affected by the proposed development at 20 Bay Road, Warrington.

NZAA Site Id	Site Location	Brief Description
I44/177	E 1412783 N 4934860	Midden/cultural layers containing moa and other extinct birds, also artefacts.
I44/178	E 1412797 N 4934480	A midden/occupation layer with artefacts.

On the basis of this assessment, NZHP makes the following recommendations:

1. As a first principle, every practical effort should be made to avoid damage to any archaeological site, whether known, or discovered during any redevelopment of the site.
2. An archaeological authority under Section 44 of the HNZPTA 2014 should be obtained from the HNZPT prior to any modification of the site.
3. A site instruction document and contractor briefing document should be prepared for NZMCA. Before the start of any on-site works, all contractors should be briefed by an archaeologist on the legislative requirements of working within archaeological sites.
4. NZMCA should undertake consultation with manawhenua to ensure all areas of cultural sensitivity are appropriately protected.
5. If re-development plans are altered from those reviewed by NZHP for this assessment (Appendix A), then HNZPT need to be alerted in the first instance.
6. All subsurface works should be monitored by an archaeologist. Any archaeological features or recovered material should be appropriately recorded and analysed.

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7. Before site works commence notification should be given with at least 2 working days' notice, to HNZPT, Aukaha. An invitation should be extended for a representative from local rūnaka to attend site during all earthworks.
8. If at any stage during the redevelopment Māori material is discovered, NZHP should be called in the first instance. NZHP will assist the NZMCA to contact all relevant parties, including HNZPT, and Aukaha. If Māori material does exist in the area to be developed, damage to this should be minimised. Any Māori artefacts will be, prima facie, property of the Crown and will be submitted to the appropriate institutions.
9. A full report on any archaeological material that is found should be prepared and submitted to the HNZPT within one year of the completion of archaeological site works.

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Appendix A Development Plans



Figure A-1. Development plans provided by Stantec.

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Appendix B Site Record Forms of Previously Recorded Archaeological Sites

NZHP has identified that the sites listed in Table B-1 below may be affected by the proposed works, and site record forms for each site are provided in the following pages.

Table B-1. Sites affected by the development of 20 Bay Road, Warrington.

NZAA Site Id	Site Location	Brief Description
I44/177	E 1412783 N 4934860	Midden/cultural layers containing moa and other extinct birds, also artefacts.
I44/178	E 1412797 N 4934480	A midden/occupation layer with artefacts.

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Site Record Form

NZAA SITE NUMBER: I44/177

SITE TYPE: Midden/Oven

SITE NAME(s):

DATE RECORDED:

SITE COORDINATES (NZTM) Easting: 1412783

Northing: 4934860

Source: CINZAS

IMPERIAL SITE NUMBER:

METRIC SITE NUMBER: I44/177



Finding aids to the location of the site

Warrington.

Brief description

Midden/cultural layers containing moa and other extinct birds, also artefacts.

Recorded features

Ovenstones, Midden with moa bone, Artefact

Other sites associated with this site

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SITE RECORD HISTORY	NZAA SITE NUMBER: I44/177
Site description Condition of the site Refer to: Walter, R. and C. Jacomb. 2008. 'Archaeological Assessment of Damage to The Warrington Archaic Site I44/177'. Statement of condition Current land use: Threats:	

Supporting documentation held in ArchSite

AINZ 31(2) 1988

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RESULTS OF C14 ANALYSIS ON SAMPLES FROMTHE WARRINGTON SITE, OTAGOBrian Allingham
Dunedin

Salvage excavations in the eastern part of the Warrington site (I44/177 - see N.Z.A.A. Newsletter Vol.26, No.4) in December 1985 revealed a succession of undisturbed cultural strata, extending on average to 1.5 metres below the present surface, the lowest cultural layer resting on old beach deposits. Each cultural horizon was sealed by wind deposited sand in the part of the site the samples came from. The following radiocarbon results were obtained from cockles (*Chione stutchburyi*), originally brought to the site as a food resource - almost certainly from the adjoining Blueskin Bay estuary.

Lab No.	Layer	Age in years B.P. based on Libby half life	Conversion to years A.D.
NZ 7352	3	348±55	1602
NZ 7353	5	490±55	1460
NZ 7355	5b	455±55	1495
NZ 7357	7	580±55	1370

Midden and artefacts excavated from the dated layers generally support this chronological sequence.

Layer 3 contained typical Classic Maori artefacts such as a broken whale-ivory cloak pin, a perforated human tooth, and worked items of greenstone. Structural remains included postholes and scoops, and midden was mainly fish, shellfish, sea mammal, dog, small bird and rat.

Layers 5 and 5b are part of a cultural horizon that was split by a thin deposit of clean dune sand in places, and quite un-defined in the south part of the excavation where the sand coloration faded into a fairly clean matrix that was uniform with the sterile surrounds. Artefacts from the level 5 horizon include broken bone composite fish-hook points (barbed) and a bird spear, flakes of local cossyrite phonolite resulting from adze manufacture and solid pieces of moa bone that look sub-fossil. Postholes and fire scoops were present, and midden was similar to that in Layer 3.

Level 7 varied in complexity, from several clearly

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defined lenses at the southern end of the excavation to a single layer of cleanish sand containing sparse cultural material to the north. Midden was mostly the same as in the upper layers, but included the sternum of a small moa species. Artefacts included a barracouta lure point in moa bone and the reject end of a dog jaw that was probably made into hook points. The level 7 cockles that were dated came from the upper part of this moa hunter horizon.

The eastern part of the I44/177 site complex is overlapped by the Classic Maori site I44/194, comprising level 3 dated at 348 years B.P. by sample NZ 7352 above. Older deposits than the moa hunter aged material found in level 7 during the 1985 excavation may occur in higher dunes towards the western edge of the site where more recent excavation (permit 1986/32) has revealed the one prehistoric cultural level of moa hunter age - as indicated when the site was recorded in 1982. The extent to which site I44/194 overlapped site I44/177 was unknown at the time both sites were recorded on the basis of surface evidence, so in the excavations at Warrington so far (1983-1986) the number of the earlier site has been used on the basis of the presence of obvious moa hunter material in each excavated area. If the deposits sampled and the dates obtained are a true reflection, it would appear that moa became locally extinct sometime around 1500 A.D.

Sincere thanks are due to D.S.I.R. staff at the Institute of Nuclear Physics in Lower Hutt for processing the samples, to the old N.Z.A.A. scheme for financing the work, and to Atholl Anderson, Helen Leach and Foss Leach for procedural guidance. The excavation through which the dated samples were collected (permit 1985/38) was carried out on the property of Diane and Cris James, to whom I am most grateful. My sincere thanks go to the Huirapa Maori Committee for approval and feedback during the excavation, and to the New Zealand Historic Places Trust for providing the permit.

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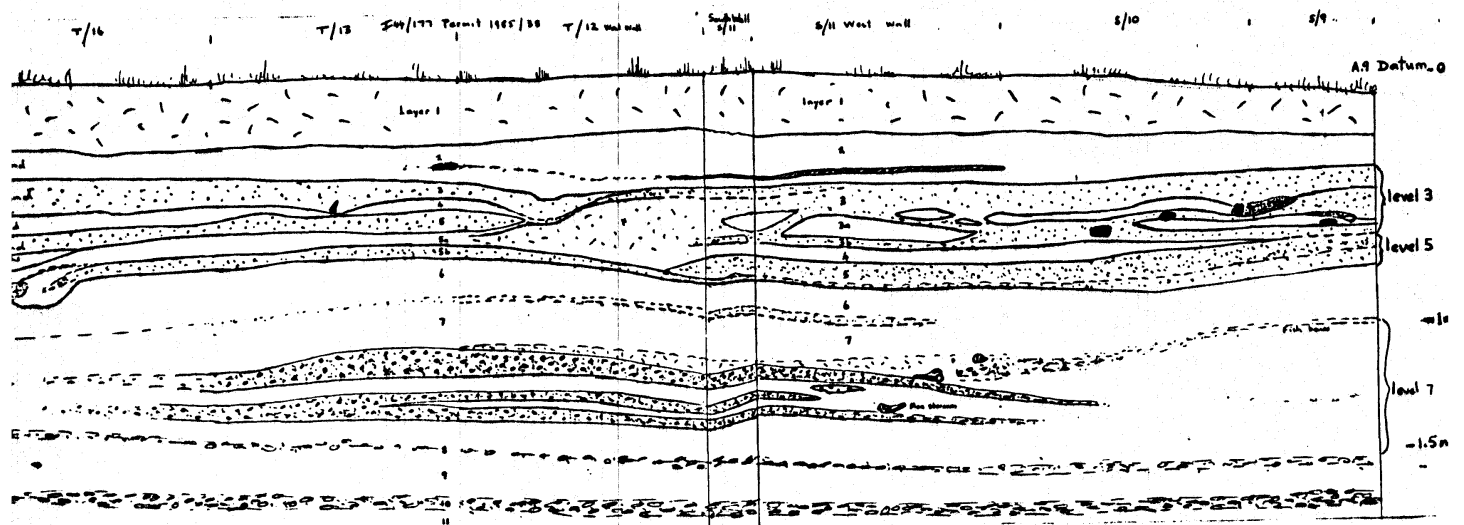
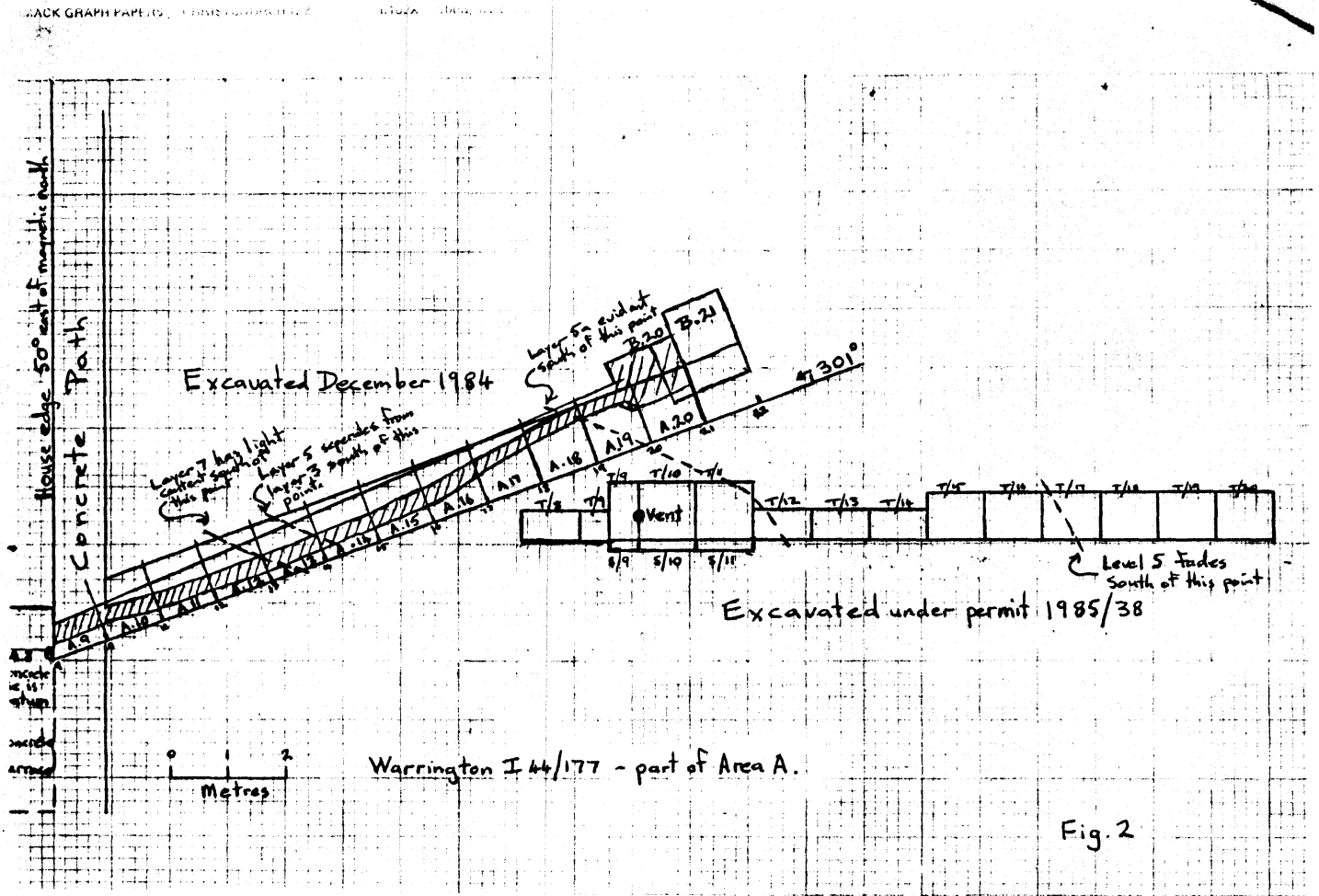
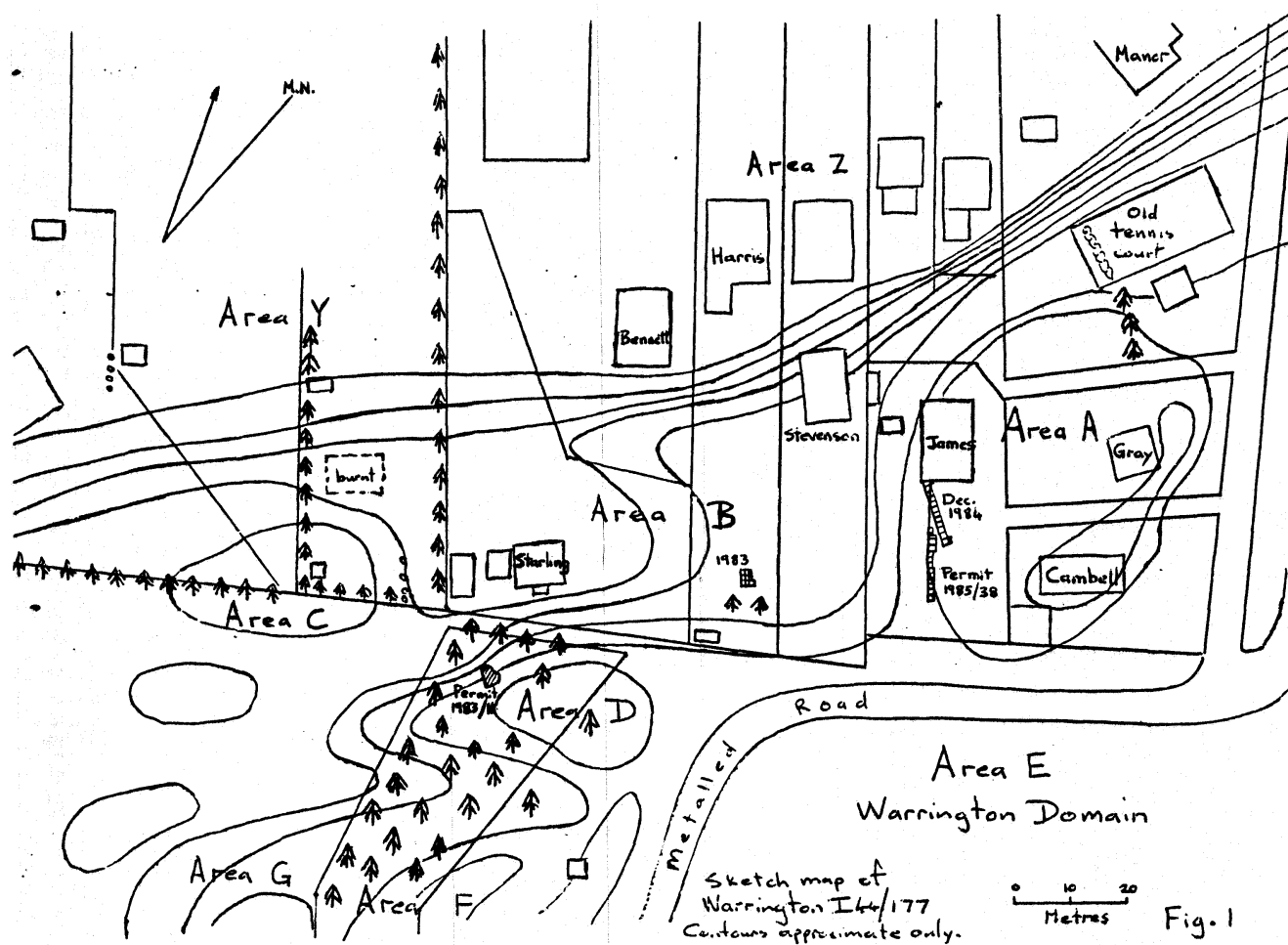


Fig. 3





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grateful to Professor Doug Campbell and family for their hospitality and valuable feedback during the excavation, and to the New Zealand Historic Places Trust for granting the permit to excavate.

Summary of artefacts recovered under permit 1985/38

- LEVEL 3 : Broken and re-worked greenstone chisel;
piece worked greenstone; greenstone flakes.
Perforated human incisor.
Worn and broken cloak pin - partially burnt -
whale tooth ivory.
Small dentalium shells.
Sandstone grinder.
Flakes of quartzite, chalcedony, chert, jasperoid,
obsidian, flint, porcellanite.
Pieces of kokowai, and stone used for crushing.
- LEVEL 5 : Barbed composite hook points - bird bone.
Bird spear point portion - bird bone.
Adze flakes - polished flakes of greywacke(?);
waste flakes of green Waitati phonolite.
Hammer-chopper (?) of basalt.
Sandstone grinder.
Flakes of quartzite, chalcedony, chert, jasperoid,
obsidian, Waitati phonolite (brown).
- LEVEL 7 : Barracouta lure point - moa bone.
Sandstone grinder.
Flakes of yellowish obsidian (?), quartzite.

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of human settlement in New Zealand. At the same time, a picture of the natural sand spit structure up to about 1,000 years ago is emerging. Indications so far suggest the surface topography of the now stabilised dunes comprising the site roughly reflects the setting of the underlying cultural stratigraphy. Cultural material was found under permit 1985/38 to be deposited amongst a beach deposit of naturally pulverised shells, samples of which were taken for dating by Assoc. Prof. J.D. Campbell (Geology Department, University of Otago), who, incidentally, has found a single grooved sinker beside his crib sited in Area A, 20 metres from the excavated areas.

Excavation under permit 1985/38 shows the lower seaward part of the site was first occupied when moa were available in the district, which dates level 7 deposition at about 900 to 700 years before present. Following a break in occupation and a period of natural dune build up (layer 6), level 5 (layers 5 to 5b) was deposited at a time when the moa was either scarce or locally extinct, roughly 400 to 500 years ago. A further break in occupation in this part of the site is indicated by the clean wind deposited sand forming layer 4, on which people with a material culture typically Classic Maori settled about 300 to 350 years ago. These age estimates are based on data obtained from limited excavations and are quite open to future amendment. It is intended to obtain dates from samples submitted to the D.S.I.R. for C14 analysis, and hopefully these will provide useful guidelines. The complex cultural stratigraphy of the economically strategic Warrington site (I44/177) spans the roughly 1,000 year period people have occupied the area, and has the potential to show the nature of prehistoric cultural change, while possibly providing an insight into the dynamics of that change. Given the amount of disturbance from postholes and scoops dug during prehistory, care is necessary in determining whether material recovered during excavation is in fact in primary association. Cultural levels 3 and 5 were found closely set in places during the latest excavation, and both levels meet to the north of square A.14 (Fig.2), excavated in December 1984. The close siting of both Area A excavations to date have provided a 22 metre long stratigraphically linked section, running north-south transversely through the lower part of the site.

Given the necessity for the excavation combining with the difficult time of year (under circumstances similar to the excavation carried out on the same property in December 1984), work was carried out by the holder of permit 1985/38 only, in order to maintain a low profile while the tenants could celebrate the season in relative privacy. My sincere thanks go to Messrs Matt Ellison and Tom Duff of the Huirapa Maori Committee for approval of the excavation and support throughout the project, to Dr Athol Anderson for consultation and backing before his departure overseas on leave, to property owners Diane and Chris James, tenant John Mitchell, and to Steve Farrant, plumber. I am also

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- 2 -

so far include nothing obviously Classic Maori, such as excessive notching of fish hook points (evident on a barbed composite point from layer 3, square A.10 (Fig.2) excavated December 1984), although the level 5 material could easily be slotted into Classic Maori or late Moa-hunter assemblages. Limited excavation has indicated a predominance of greenstone flakes and chips in the Classic Maori level 3, corresponding with an absence of phonolite so far. Midden from level 5 was mainly fish, sea mammal, dog, small bird and shellfish. Post holes, scoops, oven remains and evidence of kokowai preparation in level 5 indicates settlement was reasonably established at that time, estimated at around 400 to 500 years ago. Level 5 was split by clean wind deposited sand in places (layer 5a - Fig. 3), and at the south end of the excavation, the darkened layers 5 and 5b merged with clean dune sand to become indistinguishable.

Sealed from level 5 by an average 15 cm thick cover of clean wind deposited sand, the level 7 cultural horizon contained moa bones and artefacts in a series of thin layers deposited in clean dune sand overlying naturally deposited shells. Fish bones, charcoal and heat broken stones at the base of level 7 were recovered from amongst a layer of naturally pulverised shells (layer 8 - Fig.3), at 1.6 metres below the surface. The depth and lie of level 7 in Area A suggests the site continues south into part of the Warrington domain (Area E - Fig.1).

Occupational material in mid level 7 was lightly deposited around a series of charcoal spreads containing heat broken stones and midden, in squares T/11 to T/13 (Figs 2,3). No remains of structures were found in level 7 apart from post holes originating from upper cultural levels, and areas surrounding the level 7 charcoal spreads in squares T/11 to T/13 had little or no sand discolouration. Artefacts, fish bones and scales, shells, and small pieces of charcoal were recovered from clean white dune sand at the same levels as the adjoining charcoal spreads. This light deposition in parts of level 7 compares with that evident in layer 7, squares A.12 to A.20 (Fig.2), excavated December 1984. Midden material recovered from level 7 under permit 1985/38 included remains of moa (sternum and skull portions), small bird, fish (ling, cod, barracouta), sea mammal, dog, rat, and shell fish. Barnacle clusters appear to have been a food source. Few artefacts were obtained from level 7, and most typical of the early period is a barracouta lure point manufactured from moa bone. Manufacture of barracouta lure points from dog bone is also indicated in level 7 by a distal end portion of mandible that has been adzed off and discarded. Similar adze marks on the distal portion of a sea-mammal mandible in layer 3 indicates the late survival of fish hook point manufacture from suitable mandible portions.

Since recent awareness of the location of the estimated 2 hectare Warrington site (N.Z.A.A. Newsletter, Vol.26, No.4 1983:228), salvage archaeology in the central part (Area B, Fig.1) and on lower ground towards the eastern edge (Area A) has confirmed the presence of a complex stratigraphy dating from an early period

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CC. Filekeeper, Otago. W. C. Hamel.
Spine copy/Tony

144/177



SALVAGE EXCAVATION AT THE WARRINGTON
PREHISTORIC SITE 144/177 UNDER PERMIT 1985/38

PRELIMINARY REPORT TO THE
NEW ZEALAND HISTORIC PLACES TRUST

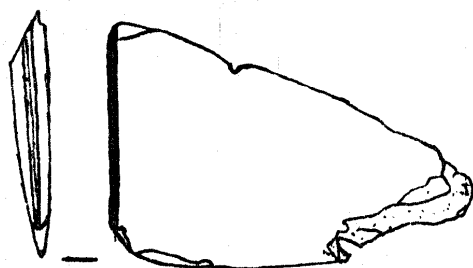
B.J. Allingham

Further salvage excavation at the Warrington prehistoric site 144/177 from 16/12/85 to 9/1/86 has confirmed the presence of three main prehistoric cultural horizons, dating from the Moa-hunter period to the Classic Maori phase. The area excavated under N.Z.H.P.T. permit 1985/38 comprised a 2.5 metre x 1.2 m septic tank, with 3 metre x 0.5 m overflow drain and 6 metre x 0.8 m sump in Area A (Figs 1 and 2), adjacent to a trench excavated during December 1984. Excavated spoil was passed through a 4 mm mesh, and the material retained in the sieve bagged for drying and sorting under laboratory conditions. The midden material will be analysed in the University of Otago Anthropology Department lab., where the artefacts will be studied before housing in the Otago Museum. Plans, stratigraphical sections and colour photographs are presently stored with the excavated material.

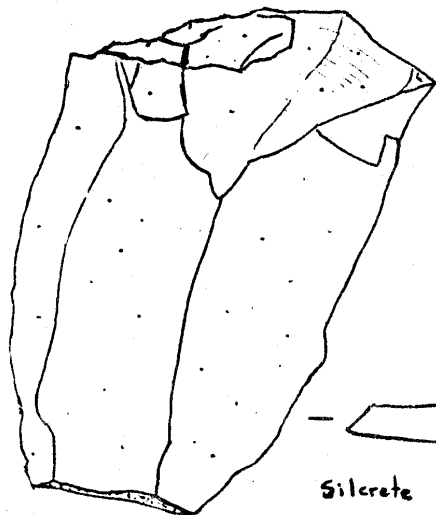
The three main prehistoric cultural horizons in Area A (Fig. 1) are set in clean dune sand underlying an upper soil-sand mix containing modern material. Layer 3 (Fig. 3) contained typical Classic Maori artefacts and was sealed in places from the modern Layer 1 by a cover of clean sand (Layer 2) with glassware and crockery typical of the late 19th - early 20th century. The most diagnostic layer 3 artefacts were a perforated human incisor and pieces of worked greenstone. No European material has been recorded from layer 3 so far other than intrusions from layers 1 and 2. Layer 3 midden was predominantly dog, sea mammal, small bird, rat, fish and shellfish. Several scoops were plotted, and postholes indicate structural remains that can not be interpreted from excavations so far. Numerous kokowai pieces were recovered from areas of reddened sand.

Level 5 (Fig. 3) was deposited during an intermediate period of occupation, probably following local extinction of the moa, and preceeding the Classic Maori phase. The level 5 artefacts include broken bone composite fish hook points, flakes of Waitati phonolite resulting from adze manufacture, and flake tools of quartzite (silcrete), chalcedony and obsidian. Solid moa bone pieces appear sub-fossil, and a small piece of barbed bird bone is probably part of a broken bird spear point. Artefacts from Level 5

June - July 1983
Scale 1/1



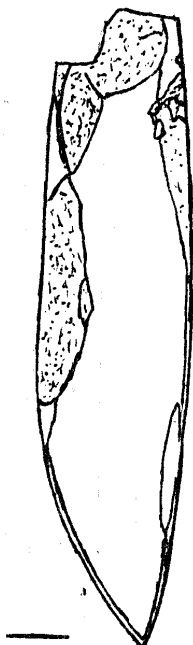
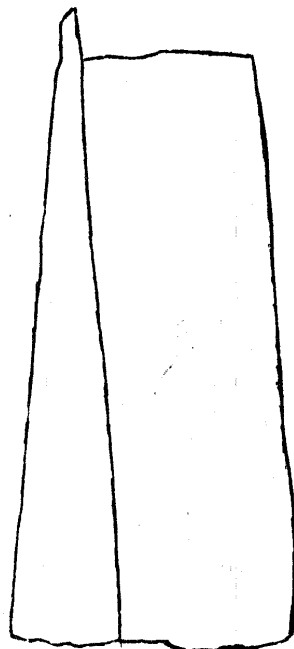
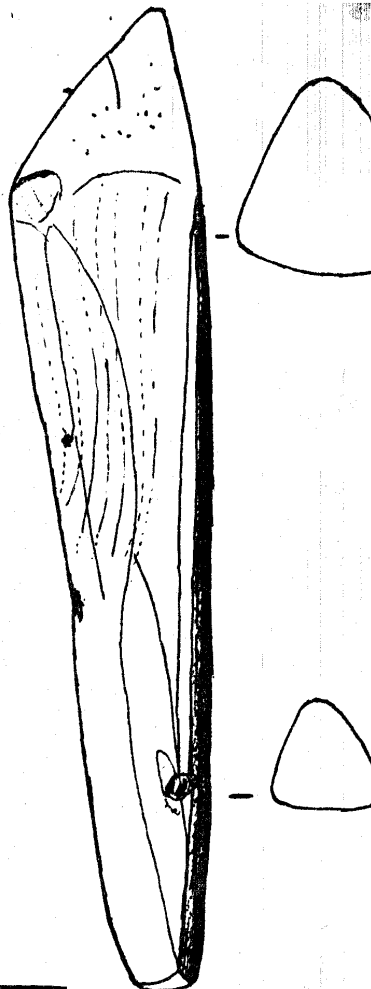
Black Slate



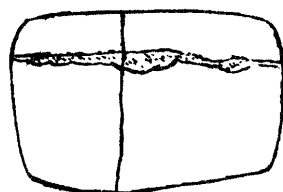
Silcrete



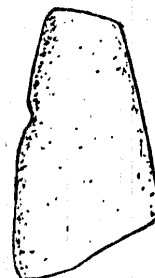
Petrified Wood



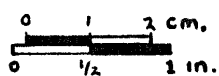
Basalt



Schist



Siltstone



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Warrington 144/177 Material discovered 11.6.83-3.7.83.

ilcrete: Blade portions - 7 (2 used, 1 with cortex).

Used flakes (edge damage) - 12.

Flakes - 18

Flakes with cortex - 6 (4 with edge damage).

Basalt: 1 Adze (broken, poll missing). Rectangular section, blade chipped.

1 Adze preform (sub-triangular sec.).

2 Adze preform portions

Flakes - 9.

Flakes with cortex - 1.

Green Basaltic (?): Adze preform portion-(blade)?

Flakes-11. (1 may have edge damage).

Flakes with cortex - 2.

Malcedony: Water-rolled 'pebble' core

Flakes with cortex - 2 (1 with edge damage).

Malcedony/chert: Flake with cortex - 1.

Brown 'Chert': Flaked piece.

Grey/black 'Chert': Blade, with edge damage

Black argillite: Bruised or hammer-dressed adze flake - 2.

Grey Argillite: Polished adze flake.

Greywacke: Polished adze flake.

Slate: Portion of 'Ulu', or knife.

Petrified wood: Unfinished 'minnow lure' shank.

Schist: File core

Schist/sandstone: Cutter-polisher.

Siltstone: File-polisher

Cutter-polisher.

Moa bone: Numerous limb-shaft fragments, portions of tarso-metatarsus and

toe bones of a medium sized Moa species.

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WARRINGTON I44/177. June-July 1983
Preliminary Report to the N.Z.H.P.T.

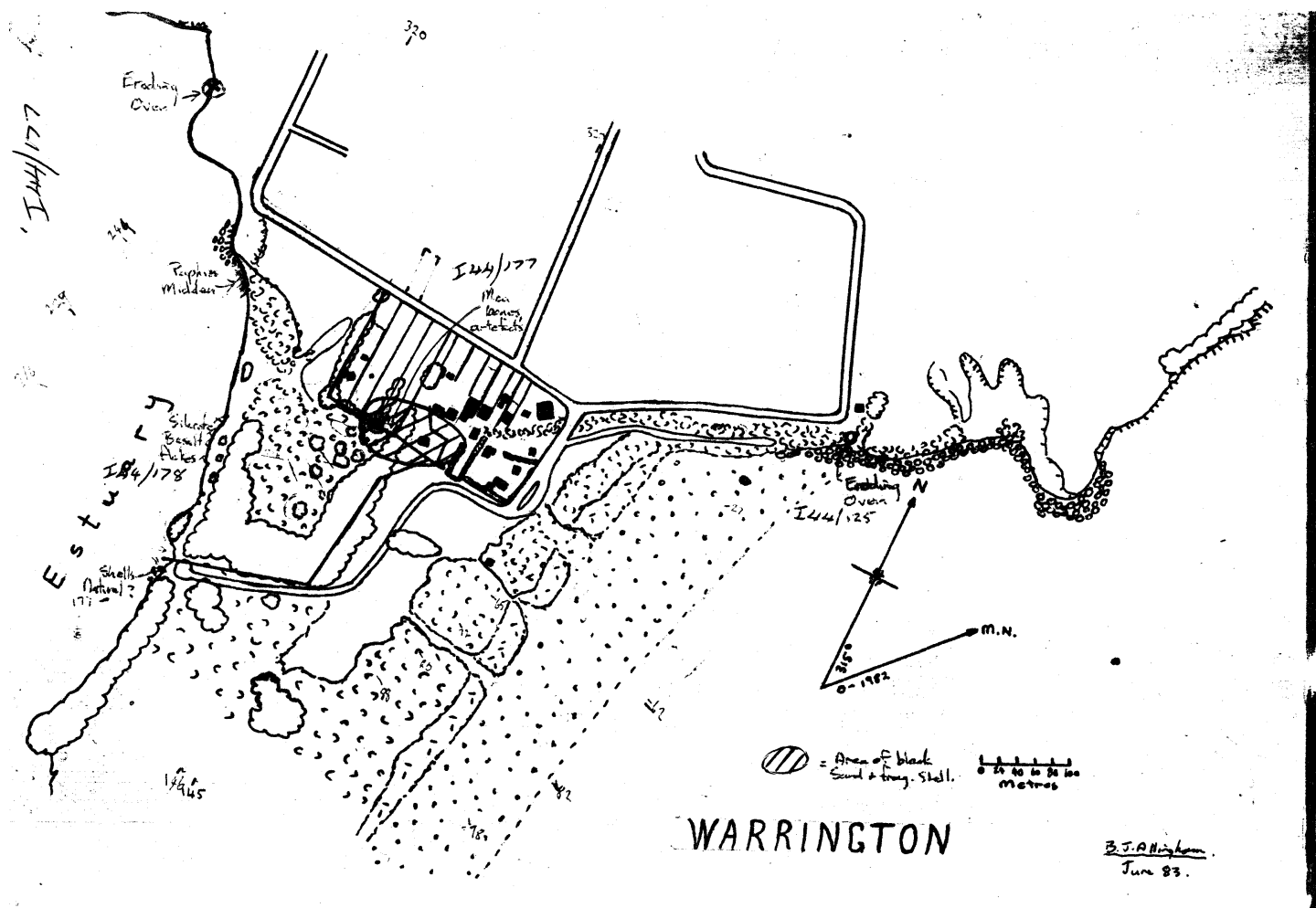
B.J. Allingham.

On 11.6.83. a brief check of the Warrington Moahunter site (I44/177) revealed fresh disturbance of a European rubbish dump formed over sand dunes containing prehistoric cultural material. A basalt adze portion, silcrete and green basaltic(?) flakes were picked up from the spoil of a bottle-collector's disturbance. An unfinished minnow lure shank in petrified wood was found exposed on the surface of the adjacent eroding bank comprising part of the dump. Dr. Jill Hamel was notified and visited the site with the writer on 12.6.83. Consequently a N.Z.H.P.T. permit (1983/11) was obtained to recover prehistoric cultural material thought to occur within the disturbed spoil.

From 25.6.83. to 2.7.83. the spoil was trowelled, prehistoric artefacts and obvious midden (mainly moa bones) recovered, stratigraphy recorded and the spoil replaced. The extent of the disturbance was plotted on a map of the site. Prehistoric material (mainly heat shattered stones, cockle and paphies sp. shell, moa bones and artefacts) was fairly evenly distributed amongst the disturbed spoil - apparently unrecognised by the fossicker. Stratigraphy of the European dump was clearly defined. Intermittent lensing of prehistoric material amongst the European refuse was noted to a max. recorded depth of 1.7 metres from the surface of the 3 m. high bank. The presence of prehistoric material amongst modern rubbish probably results from the shovelling of sand (containing the prehistoric material) from the adjoining dune to cover offensive garbage when the dump was in use. A Waikouaiti County dog collar reg. tag was dated 1927. Initial disturbance of the area, however, may have occurred last century (Renolds, "Otago Witness" Jan. 11 th. 1894). No undisturbed prehistoric deposit was noted during the current investigation.

The Silver Peaks County (John McLaughlan) willingly co-operated in dumping a cover of clean sand over the affected area of the site, for further protection.

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141/122

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION SITE RECORD FORM (NZMS1) NZMS 1 map number NZMS 1 map name <i>PTD</i> NZMS 1 map edition		NZAA NZMS 1 SITE NUMBER DATE VISITED <i>28/6/82</i> SITE TYPE <i>Midden/Artefacts</i> SITE NAME: MAORI <i>Warrington</i> OTHER													
Grid Reference		Easting <table border="1"><tr><td></td><td></td><td></td><td></td></tr></table> Northing <table border="1"><tr><td></td><td></td><td></td><td></td></tr></table>													
1. Aids to relocation of site (attach a sketch map) Located at north end of large sandspit, midway between estuary & sea. Site lies at N.W. end of Warrington domain, in area of stabilised dunes (forested in part) adjacent to a clay/loess rise to the north. Site is partially covered with European structures. Occupation areas obvious where black sand, heat shattered stones, fragmentary shell & moa bone are exposed on surface. Area approx 120 x 80 metres. See map attached.															
2. State of site and possible future damage Site obviously damaged in area of European structures. Area presently grazed - prob. at least 2 occupied houses in site area. Old European dumps have attracted foraging in 2 separate locations where previous disturbance has occurred. Site in high risk area - fairly open to public access - possibility of re-development of area in housing. Undisturbed areas may exist where dunes are unlevelled - or where covered during European development.															
3. Description of site (Supply full details, history, local environment, references, sketches, etc. If extra sheets are attached, include a summary here) Local site environments include the sea, rocky & sandy shores, a tidal estuary & originally wooded hills. This site is probably that described by Reynolds (1896) & Hamilton 1904, 1905. Adzes (1A, 2A, 4A), harpoon points, minnow lures, slate knives & silcrete (Orthoquartzite) blades in Otago Museum prob. originate from this site. Development & fencing of the area probably restricted public access since c. 1900. Apparently no investigations of area since turn of century. Exact site location remained unrecorded until area was surveyed by reporter on 28.6.82 when moa bones & artefacts were collected from the surface, area mapped, photographed, reported to N.Z.H. P.T. Scattered European rubbish in the area has probably disguised the site to a certain extent protected it from further damage to that already evident. Prehistoric midden & artefacts obtained by the reporter are deposited in Otago Museum.															
4. Owner <i>Catholic Church</i> Address <i>2 others at least</i>		Tenant/Manager Address													
5. Nature of information (hearsay, brief or extended visit, etc.) Area visited regularly by B. Allingham since 28.6.82 Photographs (reference numbers, and where they are held) Negs presently held by above. To be given to Otago Museum Aerial photographs (reference numbers, and clarity of site) Survey No. 8040, Run E/1 9.3.82. - Scale 1:5000 Site area visible, esp. where uncovered by trees.															
6. Reported by <i>B. Allingham</i> Address <i>c/o P.O. Seacliff.</i>		Filekeeper <i>G. Marnet</i> Date <i>30/1/83</i>													
7. Key words															
8. New Zealand Register of Archaeological Sites (for office use) NZHPT Site Field Code															
<table border="1"> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table> Type of site Local environment today Land classification								<table border="1"> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table> Present condition and future danger of destruction Security code Local body							

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION SITE RECORD FORM (NZMS260) NZMS 260 map number <u>I44</u> NZMS 260 map name <u>Dunedin</u> NZMS 260 map edition <u>1st</u>		NZAA METRIC SITE NUMBER <u>I44/177</u> DATE VISITED <u>28/6/82</u> SITE TYPE <u>Midden/Artefacts</u> SITE NAME: MAORI <u>Warrington</u> OTHER													
Grid References Easting <u>2322600</u>		Northing <u>5496500</u>													
1. Aids to relocation of site (attach a sketch map)															
2. State of site and possible future damage															
3. Description of site (Supply full details, history, local environment, references, sketches, etc. If extra sheets are attached, include a summary here)															
4. Owner Address		Tenant/Manager Address													
5. Nature of information (hearsay, brief or extended visit, etc.) Photographs (reference numbers, and where they are held) Aerial photographs (reference numbers, and clarity of site)															
6. Reported by Address		Filekeeper Date													
7. Key words															
8. New Zealand Register of Archaeological Sites (for office use) NZHPT Site Field Code															
Latitude S		Longitude E													
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<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr><td>A</td><td>E</td></tr> </table>	A	E	Land classification	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr><td>G</td><td>S</td></tr> </table>	G	S	Local body								
A	E														
G	S														

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Site Record Form

NZAA SITE NUMBER: I44/178

SITE TYPE: Midden/Oven

SITE NAME(s):

DATE RECORDED:

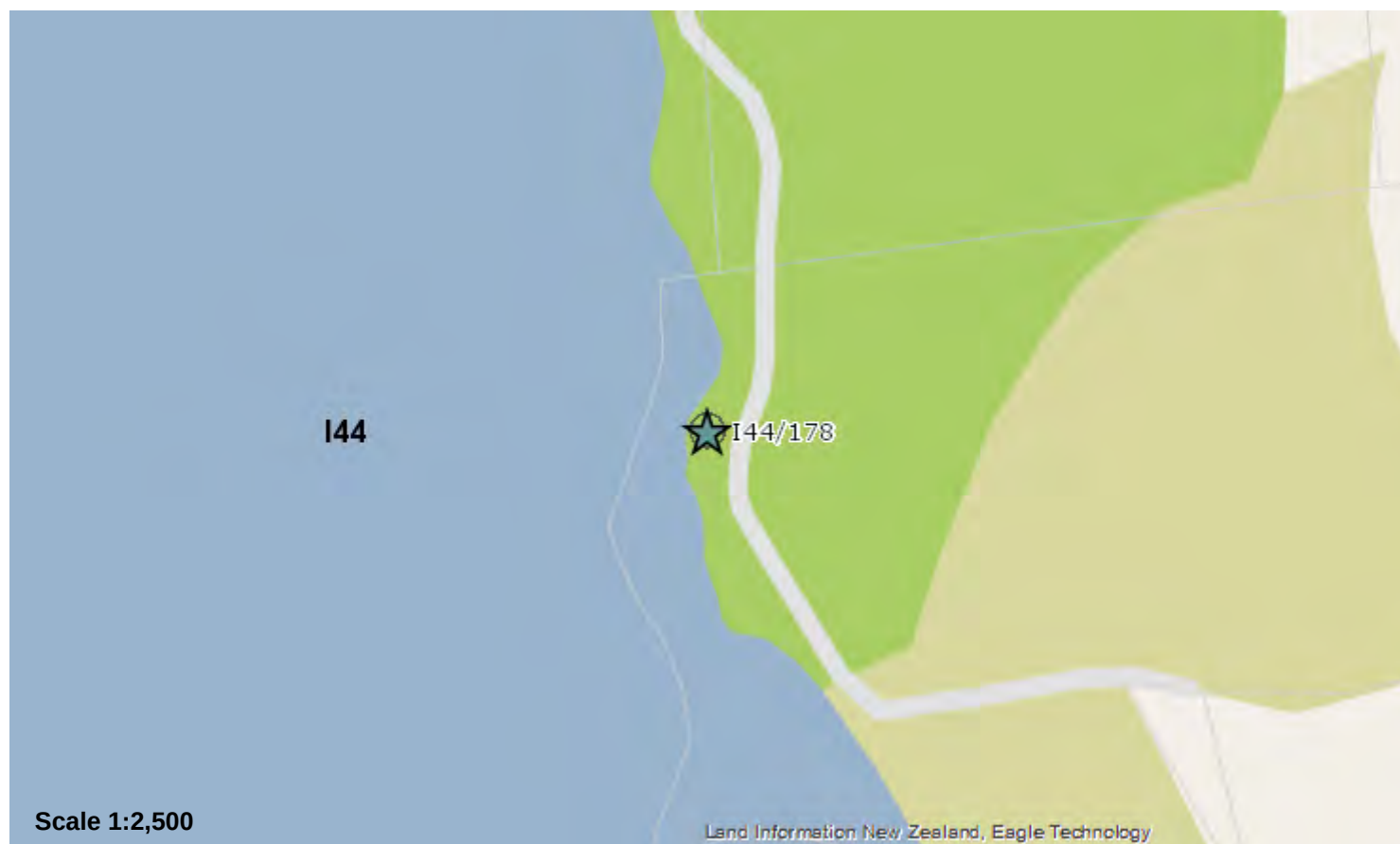
SITE COORDINATES (NZTM) Easting: 1412797

Northing: 4934480

Source: Handheld GPS

IMPERIAL SITE NUMBER:

METRIC SITE NUMBER: I44/178



Finding aids to the location of the site

The site lies along the estuary bank from where the road ends at the pine trees. From this part of the shore to 150 m north there is the likelihood of midden eroding out.

Brief description

A midden/occupation layer with artefacts. In some areas prehistoric and European deposits have mixed. A layer of dark sand with some occasional midden deposits (some burnt). Midden heaps are eroding under pines but these may be natural deposits.

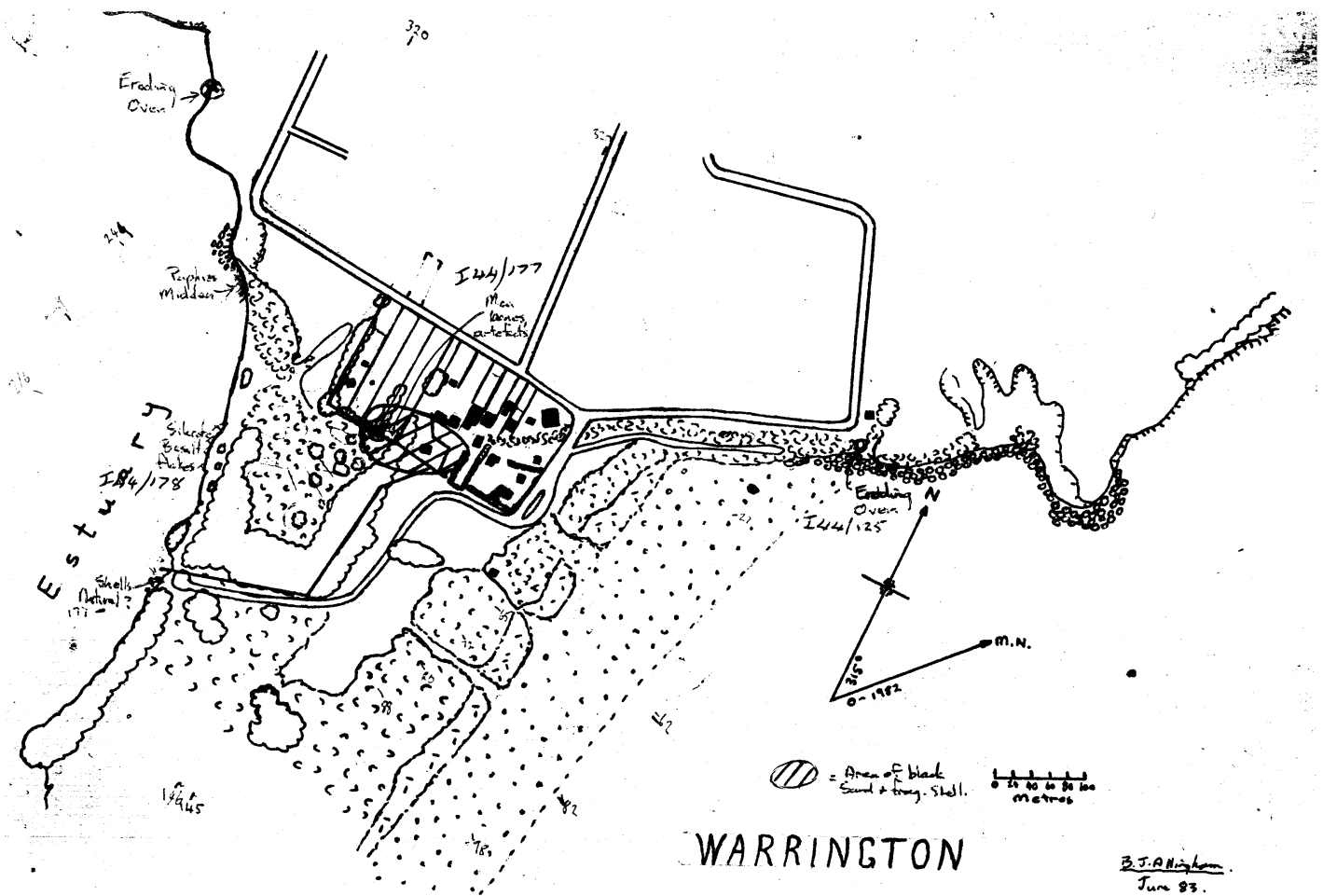
Recorded features

Artefact - stone flakes, Midden, Artefact

Other sites associated with this site

SITE RECORD HISTORY	NZAA SITE NUMBER: 144/178
Site description Condition of the site The site was located. The above grid location is at the main eroding shell heap under the pines -these heaps are possibly cultural deposits. Some definite burnt fragmented midden north along eroding edge at 2327474 5496503. Statement of condition Current land use: Threats:	

Supporting documentation held in ArchSite



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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION SITE RECORD FORM (NZMS 260) NZMS 260 map number <u>I/544</u> NZMS 260 map name <u>Dunedin</u> NZMS 260 map edition <u>1st</u>		NZAA METRIC SITE NUMBER <u>I44/178</u> DATE VISITED <u>June 1983</u> SITE TYPE <u>M. dolen/artefacts</u> SITE NAME: MAORI OTHER <u>Warrington</u>													
Grid References Easting <u>232260.0</u> Northing <u>549610.0</u>															
1. Aids to relocation of site (attach a sketch map) Site lies along estuary bank from where road ends at pine trees on shore to approx. 150 metres north. Prob. prehistoric + European deposits in same area. Shells concentrated at south end, - may be natural - (Flakes [Silcrete, basalt] at North end, located on estuary edge).															
2. State of site and possible future damage Site area eroded - some dumping of fill to slow erosion evident. Erosion major threat.															
3. Description of site (Supply full details, history, local environment, references, sketches, etc. If extra sheets are attached, include a summary here) Black sand layer evident in bank - occn. material very sparse - old European fence posts exposed in bank (one is clearly adzed - steel) Shells exposed under pines where road ends may be natural - layer contains waterworn boulders - no charcoal - may be flood deposit. Site of sandstone grinder find [L. Lockerbie]. Flakes recovered by reporter from tide washed sand 150 metres north of shell deposits at road end.															
4. Owner Address <u>Crown?</u>		Tenant/Manager Address													
5. Nature of information (hearsay, brief or extended visit, etc.) Site visited by B. Allingham 1982-83. Photographs (reference numbers, and where they are held) Lockerbie finds - pers comm. with reporter. Aerial photographs (reference numbers, and clarity of site) No. 8040, Run E/1, 9.3.82 Site partially covered - th. trees - shell area shows at road end.															
6. Reported by <u>B. S. Allingham</u> Address <u>c/o P.O. Seaciff</u>		Filekeeper <u>B. Murrell</u> Date <u>30/11/83</u>													
7. Key words															
8. New Zealand Register of Archaeological Sites (for office use) NZHPT Site Field Code															
Latitude S <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>A</td><td>A</td></tr> <tr><td>A</td><td>C</td></tr> <tr><td>-</td><td>-</td></tr> </table> Type of site Local environment today Land classification		A	A	A	C	-	-	Longitude E <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>B</td><td>B</td></tr> <tr><td>A</td><td>A</td></tr> <tr><td>G</td><td>S</td></tr> </table> Present condition and future danger of destruction Security code Local body		B	B	A	A	G	S
A	A														
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G	S														