



Fast-Track Approvals Act 2024 Substantive Application

Hinuera Solar Farm

Harmony Energy NZ #6 Limited

Prepared by:

SLR Consulting New Zealand

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Basis of Report

This report has been prepared by SLR Consulting New Zealand Limited (SLR) on the instructions of Harmony Energy NZ #6 Limited (the Client), in accordance with the agreed scope of work. It is intended to support the Client's application under the Fast Track Approvals Act 2024 and may be relied upon by the Expert Panel and relevant administering agencies for the purposes of assessing the application. While SLR has exercised due care in preparing this report, it does not accept liability for any use of the report beyond its intended purpose. Where information has been supplied by the Client or obtained from external sources, it has been assumed to be accurate unless otherwise stated.



Statement of Qualifications and Experience

The following is a statement of qualifications and experience of the personnel involved in preparing this Substantive Application.

Julieta Frers – Senior Consultant - Planning, SLR Consulting

I am a Senior Consultant – Planning at SLR. SLR is a global environmental and advisory consultancy specialising in sustainability and climate change strategy, planning, environmental management, impact assessment, and waste management and remediation. I have been employed at SLR since November 2021.

I hold the qualifications of Bachelor of Environmental Planning degree from the University of Waikato (2022). I have been a member of the New Zealand Planning Institute since 2021.

I confirm that, in my capacity as an author of this Substantive Application, I have read and abide by the Environment Court of New Zealand Practice Note 2023, and in particular section 9 of the Code of Conduct for Expert Witnesses.

Emily Buckingham – Principal Consultant - Planning, SLR Consulting

I am a Principal Consultant – Planning at SLR. I have been employed at SLR since July 2022.

I have a Bachelor of Planning degree from the University of Auckland (2007). I have been a full member of the New Zealand Planning Institute since 2015.

I have over 16 years of resource management experience, across both policy development and resource consent applications. My experience includes the preparation and processing of a broad range of resource consent applications, including district and regional consents, bulk earthworks, subdivisions, infrastructure and network utility projects.

I confirm that, in my capacity as an author and reviewer of this Substantive Application, I have read and abide by the Environment Court of New Zealand Practice Note 2023, and in particular section 9 of the Code of Conduct for Expert Witnesses.



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1.0 Executive Summary

Harmony Energy NZ #6 Limited (HENZ) seeks approval under the Fast-Track Approvals Act 2024 ('FTAA') for the Hinuera Solar Farm, a listed project in Schedule 2 of the FTAA. The Project comprises a utility scale solar farm with an installed capacity of approximately 70MW AC / 100MW DC and 400MWh Battery Energy Storage System ('BESS') on approximately 154ha of rural land at the corner of State Highway 27 and State Highway 29, Hinuera, Waikato. Electricity generated will be exported to the electricity network via the nearby Powerco Hinuera Substation.

This application seeks all resource consents that would otherwise be required under the Resource Management Act 1991 ('RMA') for the construction, operation, maintenance, and eventual decommissioning or repowering of the Project.

In considering whether to grant the approvals sought in this application, the Panel must have regard to the requirements of Sections 81-85 of the FTAA and apply clauses 17–22 of Schedule 5. These matters are set out and addressed in full in Section 10.0 of this report. In summary:

- **The Project has significant national and regional benefits.** It is expected to generate approximately 147GWh of renewable electricity annually, sufficient to power approximately 21,000 homes each year. It will represent a 25% increase in national solar output relative to the 2024 baseline and displace approximately 72,711 tonnes of CO₂-equivalent emissions per year. The Project will also improve competition in the wholesale electricity market and enhance system flexibility and resilience by complementing existing hydro generation (s81(4)).
- **The Project is entirely consistent with the purpose of the FTAA.** Granting the approvals would facilitate the delivery of this infrastructure project with significant national and regional benefits, through materially accelerating the delivery of the Project relative to the standard RMA process (schedule 5 cl 17(1)(a)).
- **The Project is consistent with the relevant provisions of Parts 2, 3, 6, and 8 to 10 of the RMA.** There is no other legislation that is particularly relevant to the decision (schedule 5 cl 17(1)(b) & (c)).
- **The Project is not an ineligible activity** (s85(1)(a)).
- **The Project does not offend any obligations arising under Treaty settlements** (s82, s85(1)(b)).
- **A comprehensive set of conditions have been proposed to address the adverse effects of the Project.** No specific conditions are required to uphold any obligations set out in Treaty Settlements or relevant to Customary Rights (s83, 84, 84A, schedule 5 cl 18 & 19).
- **The adverse impacts of the Project are not sufficiently significant to be out of proportion to its national and regional benefits.** As set out in Section 7.0 of this report, adverse effects are generally assessed as minor in nature, and the majority of these effects are avoided, remedied or mitigated through Project design, management measures and conditions. This is the only ground on which the Panel has discretion to decline the approval (s85(3)).



1.1 Authorised Person Details

Project Name:	Hinuera Solar Farm
Reference:	Schedule 2
Organisation Name:	Harmony Energy NZ #6 Limited
Authorised Person(s):	Harmony Energy NZ #6 Limited
Key Contact Name and Details:	Christina Walker, Planning Director Phone: [REDACTED] Email: [REDACTED]
Email address for service:	[REDACTED]
Agent for Authorised Person:	SLR Consulting New Zealand Limited
Agent Contact Name and Details:	Emily Buckingham, Principal Consultant – Planning Phone: [REDACTED] Email: [REDACTED]
Email address for service:	[REDACTED]

1.2 Project Site Details

Legal description:	Section 1 Block X Tapapa Survey District and Lot 1-2 Deposited Plan South Auckland 83767 (RT: SA69A/179) Part Lot 1 Deposited Plan 11891 (RT: SA292/111) Part Lot 2 Deposited Plan 11891 (RT: SA308/1) Part Lot 3 Deposited Plan 11891 and Lot 2 Deposited Plan 473263 (RT: 647047) Section 3 Block X Tapapa Survey District (RT: SA13B/333) Section 9 and Section 11 Block X Tapapa Survey District (RT: SA50B/243)
Owner(s):	C H Land Limited (RT: SA69A/179) Cornel Albert Schweizer and Hanna Schweizer (RT: SA292/111 and RT: SA308/1) Charles Vallis Anderson and Duncan Lochrie Anderson (RT: 647047 and RT: SA13B/333)
Owner(s) address for service:	[REDACTED] SA292/111 and SA308/1 8270 State Highway 27 RD 1 Tirau 3484 [REDACTED]



	[REDACTED]) 8302 State Highway 27 RD 1 Tirau 3483 [REDACTED]
Occupier(s):	[REDACTED] (RT: SA69A/179) [REDACTED] (RT: SA69A/179)
Occupier(s) address for service:	[REDACTED] 4475 State Highway 29 RD 3 Matamata [REDACTED] [REDACTED] 4739 State Highway 29 RD 3 Matamata [REDACTED]
Site area:	154.53 ha
Plan(s):	Matamata-Piako District Plan; Waikato Regional Plan
Zone(s):	Rural Zone; Waihou Piako Catchment Management Zone
Designation(s):	Nil
Overlay(s) or control(s):	Transpower sub-transmission OH line corridor

1.3 Information Requirements Reference Tables

As required by s43(1)(e)(ii) and (3)(a) of the FTAA, Table 1 below confirms that all applicable information requirements under Clauses 5 to 9 of Schedule 5 of the FTAA are included in this Application. As required by s43(2) of the FTAA, Table 2 below confirms that all information requirements for a listed project are included in this Application.

Table 1: Information Requirements for a Resource Consent Approval

Clause, Schedule 5	Information required	Location within the application documentation
5(1)(a)	A description of the proposed activity	A description of the proposal is included in Section 5.0 of this substantive application report (full section 5).



Clause, Schedule 5	Information required	Location within the application documentation
5(1)(b)	A description and map of the site at which the activity is to occur, including whether the site is within or adjacent to— (i) a statutory area (as defined in the relevant Treaty settlement Act); or (ii) ngā rohe moana o ngā hapū o Ngāti Porou (as defined in section 11 of the Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019); or (iii) a protected customary rights area under the Marine and Coastal Area (Takutai Moana) Act 2011	Site description and map: refer Section 4.1 of this substantive application report. In relation to (i), refer Section 4.4 of this substantive application report. In relation to (ii), N/A because the Site is not within the rohe of ngā hapū o Ngāti Porou. In relation to (iii), N/A as the site is not a protected customary rights area.
5(1)(c)	Confirmation that the consent application complies with section 46(2)(a), (b), and (d); being: • section 42; and • sections 43 and 44; and • relates solely to a listed project or a referred project; and • any fee, charge, or levy payable under regulations in respect of the application is paid.	The application complies with section 46(2)(a), (b), and (d): In relation to section 42, refer Section 3.2.1 of this substantive application report. In relation to section 43, refer Section 3.2.2 of this substantive application report. In relation to section 44, refer Section 3.2.2.7 of this substantive application report. The application relates solely to a listed project. Any fee, charge, or levy payable in respect of the application has been paid.
5(1)(d) and 5(6)	The full name and address of— (i) each owner of the site and of land adjacent to the site; and (ii) each occupier of the site and of land adjacent to the site whom the applicant is able to identify after reasonable inquiry;	For the names and addresses of owners / occupiers of the site, refer Section 1.2 of this substantive application report. For the names and addresses of owners and occupiers of land adjacent to the site, refer Section 6.3 (page 15) and Attachment 2 of Appendix B Engagement and Consultation Summary.



Clause, Schedule 5	Information required	Location within the application documentation
5(1)(e)	A description of any other activities that are part of the proposal to which the consent application relates	For a description of all proposed activities, refer Section 5.0 of this substantive application report. For a description of additional activities and/or approvals required to complete the project, refer Section 3.2.2.4 of this substantive application report. There are no other activities that are part of the proposal to which the application relates.
5(1)(f)	A description of any other resource consents, notices of requirement for designations, or alterations to designations required for the project to which the consent application relates	N/A as there are no resource consents, notices of requirement for designations, or alterations to designations required for the project.
5(1)(g)	An assessment of the activity against sections 5, 6 and 7 of the Resource Management Act 1991	Section 8.3 of this substantive application report.
5(1)(h) (and also clauses 5(2) and 5(3))	An assessment of the activity against any relevant provisions in any of the following documents: • a national environmental standard: • other regulations made under the Resource Management Act 1991: • a national policy statement: • a New Zealand coastal policy statement: • a regional policy statement or proposed regional policy statement: • a plan or proposed plan: • a planning document recognised by a relevant iwi authority and lodged with a local authority. This assessment must include an assessment of the activity against the requirements set out in clause 5(3) of Schedule 5 being: • any relevant objectives, policies or rules in the documents listed; and • any requirement, condition, or permission in any rules in any of those documents; and • any other requirements in any of those documents.	In relation to the relevant national environmental standards, refer Sections 8.2.1 & 8.2.2 of this substantive application report. In relation to other regulations, refer Section 8.2.3 of this substantive application report. In relation to national policy statements, refer Sections 8.2.4, 8.2.5 & 8.2.6 of this substantive application report. The New Zealand coastal policy statement is not relevant to this application. The site is not within a coastal environment. In relation to the regional policy statement, refer Section 8.2.7 of this substantive application report. In relation to the relevant regional and district plan rules, requirements, conditions or permissions, refer Sections 8.2.8 & 8.2.9 of this substantive application report and Appendix T (Pages 1-17 (Regional) and 32-43 (District)).



Clause, Schedule 5	Information required	Location within the application documentation
		In relation to iwi management plans and planning documents, refer Section 8.2.10 of this substantive application report. In relation to relevant objectives, policies in the above documents, refer Appendix FF, specifically: ▪ National Policy Statements: Pages 1-11 ▪ Regional Policy Statement: Pages 12-24 ▪ Regional Plan: Pages 25-50 ▪ District Plan: Pages 51-63 ▪ Iwi Planning Documents: Pages 64-75.
5(1)(i)	Information about any Treaty settlements that apply in the area covered by the consent application, including— (i) identification of the relevant provisions in those Treaty settlements; and (ii) a summary of any redress provided by those settlements that affects natural and physical resources relevant to the project or project area	For information on treaty settlements, including (i) and (ii), refer Section 4.4 of this substantive application report.
5(1)(j)	A list of any relevant customary marine title groups, protected customary rights groups, ngā hapū o Ngāti Porou (where an application is within, adjacent to or directly affecting ngā rohe moana o ngā hapū o Ngāti Porou), or applicants under the Marine and Coastal Area (Takutai Moana) Act 2011;	N/A – there are no customary marine title groups, protected customary rights groups, or applicants under the Marine and Coastal Area (Takutai Moana) Act 2011. The site is not within the rohe of Ngāti Porou.
5(1)(k)	The conditions that the applicant proposes for the resource consent.	Appendix V (all pages)
5(1)(l)	if a notice under section 30(3)(b) or (5) has been received,— (i) a copy of that notice showing that it was received within the time frame specified in section 30(6)(b); and (ii) if a notice has been received under section 30(5), any more up-to-date information that the applicant is aware of about the existing resource consent referred to in the notice.	The notice received from WRC under section 30(3)(b) dated 13 July 2026 is in Appendix C (all pages).



Clause, Schedule 5	Information required	Location within the application documentation
5(4)(a)	An assessment of the activity's effects on the environment that includes the information required by clause 6.	Section 7.0 of this substantive application report (whole section 7)
5(4)(b)	An assessment of the activity's effects on the environment that covers the matters specified in clause 7.	Section 7.0 of this substantive application report (whole section 7)
6 (1)	The assessment of an activity's effects on the environment must include the following information: (a) an assessment of the actual or potential effects on the environment: (b) if the activity includes the use of hazardous installations, an assessment of any risks to the environment that are likely to arise from such use: (c) if the activity includes the discharge of any contaminant, a description of— (i) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and (ii) any possible alternative methods of discharge, including discharge into any other receiving environment: (d) a description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect of the activity: (e) identification of persons who may be affected by the activity and any response to the views of any persons consulted, including the views of iwi or hapū that have been consulted in relation to the proposal: (f) if iwi or hapū elect not to respond when consulted on the proposal, any reasons that they have specified for that decision: (g) if the scale and significance of the activity's effects are such that monitoring is required, a description of how the effects will be monitored and by whom, if the activity is approved: (h) an assessment of any effects of the activity on the exercise of a protected customary right.	The assessment of effects (refer Section 7.0 of this substantive application report) includes the following information: In relation to (a), refer Section 7.0 of this substantive application report as a whole. In relation to (b), refer Section 7.10 of this substantive application report. In relation to (c)(i), the activity includes the discharge of cleanfill and sediment. Refer Sections 5.3.1 (earthworks), 5.4.3 (cable and trenching), 7.3.4 (earthworks effects) & 7.3.5 (dewatering effects) of this substantive application report for the nature of the discharge and Section 7.6.1 of this substantive application report for the sensitivity of the receiving environment. In relation to (c)(ii), refer Sections 5.3.1 & 5.4.3 of this substantive application report. In relation to (d), mitigation methods (including safeguards and contingency plans) have been built into the design of the Project and the construction methodology. Where there is a specific effect requiring mitigation, the mitigation methods have been discussed within Section 7.0 of this substantive application report and incorporated into Appendix V (conditions) Specifically, within the substantive application report: • Methods to mitigate construction effects – refer Section 7.3 and Conditions C4, D2-D10, D14-D15, D26-28, F1-F26, G1-G13, H1-H12, I1-I6 in Appendix V.



Clause, Schedule 5	Information required	Location within the application documentation
		• Methods to mitigate landscape effects – refer Section 7.4 and Conditions D20-D21, D29-D32 and E10-E14 in Appendix V. • Methods to mitigate reflected light effects – refer Section 7.5 and Condition C6 in Appendix V. • Methods to mitigate ecological effects – refer Section 7.6 and Conditions B13, C8, D11-D12, D25, E10-E18, F27-F30, H3, I7 in Appendix V and all conditions relating to construction effects listed above. • Methods to mitigate cultural effects – refer Section 7.7, consultation with mana whenua in Appendix B, and Conditions A7-A8, C2-C3, C5, E1 and E11-E13 in Appendix V. • Methods to mitigate heritage and archaeological effects – refer Section 7.8 and Conditions A7-A8 and C2 in Appendix V. • Methods to mitigate contaminated land effects – refer Section 7.9 and Conditions D23-D24 and F2 in Appendix V. • Methods to mitigate hazardous substance/fire risk effects – refer Section 7.10 and Conditions B12, D22 and E8-E9 in Appendix V. • Methods to mitigate natural hazard effects – refer Section 7.11 and Conditions C7, F14, H7 and I7 in Appendix V. • Methods to mitigate operational effects – refer Sections 7.12 and 7.13 and Conditions B12, D13 and E1-E7 in Appendix V. • Methods to mitigate effects of decommissioning/re-powering – refer Section 7.15 and Conditions E20-E23. In relation to (e), refer Section 7.16 of this substantive application report & Appendix B Engagement and Consultation Summary (section 6, page 10). In relation to (f), refer to section 6.2 (page 12) and Attachment 7 of



Clause, Schedule 5	Information required	Location within the application documentation
		Appendix B Engagement and Consultation Summary. In relation to (g), the scale and significance of effects is not considered to require monitoring, with the exception of the specific requirements set out in management plan conditions. Refer Appendix V (Pages 11-13, 16-20, 23, 26-31). The implementation of the management plans (including monitoring of the required effects / matters) will be the responsibility of the consent holder. In relation to (h) – N/A. There are no protected customary rights.
7	The assessment of an activity's effects on the environment must cover the following matters: (a) any effect on the people in the neighbourhood and, if relevant, the wider community, including any social, economic, or cultural effects: (b) any physical effect on the locality, including landscape and visual effects: (c) any effect on ecosystems, including effects on plants or animals and physical disturbance of habitats in the vicinity: (d) any effect on natural and physical resources that have aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations: (e) any discharge of contaminants into the environment and options for the treatment and disposal of contaminants: (f) any unreasonable emission of noise: (g) any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations.	The assessment of effects (refer Section 7.0 of this substantive application report) covers the following matters: In relation to (a), refer Sections 7.2, 7.3, 7.5, 7.7, 7.8, 7.12, 7.13, 7.15, 7.16 of this substantive application report. In relation to (b), refer Sections 7.3, 7.4, 7.5, 7.15 of this substantive application report. In relation to (c), refer Sections 7.3.4, 7.3.5 and 7.6 of this substantive application report. In relation to (d), refer Sections 7.8, 7.14 of this substantive application report. In relation to (e), refer Sections 7.3, 7.9, 7.15 of this substantive application report. In relation to (f), refer Sections 7.3, 7.12 of this substantive application report. In relation to (g), refer Sections 7.10, 7.11 of this substantive application report.
5(5)(a)	If a permitted activity is part of the proposal to which the consent application relates, a description that demonstrates that the activity complies with the requirements, conditions, and permissions for the permitted activity (so that a resource consent is not required for that activity	For associated permitted activities and their descriptions, refer Section 6.5 of this substantive application report & Appendix T (Pages 1-17 (Regional) and 32-43 (District)).



Clause, Schedule 5	Information required	Location within the application documentation
	under section 87A(1) of the Resource Management Act 1991)	
9(a)	In relation to the structure and any fish facility: (i) a description of the type of structure or fish facility: (ii) the dimensions of the structure or fish facility: (iii) the design of the structure or fish facility: (iv) the placement of the structure or fish facility: (v) the water flows: (vi) the operating regime	In relation to (i), refer Section 5.3.3 of this substantive application report. In relation to (ii) and (iii), refer Section 5.3.3 of this substantive application report, Appendix Q (pages 11-12) and Appendix V (conditions containing design and information provision requirements – pages 40-42). In relation to (iv), refer Appendix P (civil concept design plans – Drawing No. 3200-3, C200-4, C200-5, C200-6), Appendix Q (infrastructure report - pages 11-12). In relation to (v) and (vi), refer Appendix Q (infrastructure report - pages 11-12) and Appendix V (conditions containing design and information provision requirements – pages 40-42).
9(b)	the freshwater species and values present (with particular focus on threatened, data-deficient, and at-risk species as defined in the New Zealand Threat Classification System):	Appendix H (ecological impact assessment – Sections 3.4.4, 3.4.5 (p20-22), 4.1.6 (p27) and Table 11 (p41)).
9(c)	the water quality and quantity in the surrounding habitat (at the proposed structure location, upstream and downstream):	Appendix H (ecological impact assessment – Sections 3.3.2, 3.3.3 (p13-16))
9(d)	how the passage of fish will be provided for or impeded.	Section 7.6.3 of this substantive application report, Appendix Q (infrastructure report - pages 11-12) and Appendix V (conditions containing design and information provision requirements – pages 40-42)

Table 2: Information Requirements for a Listed Project

Section, FTAA	Information required for substantive application under Section 43(2) and Section 13(4)	Location within the application documentation
13(4)(a)	a description of the project and the activities it involves	Section 5.0 of this substantive application report.
13(4)(c)	information to demonstrate that the project does not involve any ineligible activities (other	The Project does not involve ineligible activities. Refer Section



Section, FTAA	Information required for substantive application under Section 43(2) and Section 13(4)	Location within the application documentation
	than activities that may be the subject of a determination under section 23 or 24)	3.2.2.1 of this substantive application report.
13(4)(d)	a description or map of the whole project area that identifies its boundaries in sufficient detail to enable consideration of the referral application	Section 4.1 of this substantive application report.
13(4)(e)	the anticipated commencement and completion dates for construction activities (where relevant)	Section 5.5 of this substantive application report.
13(4)(f)(i) / 43(2)(b)	a statement of whether the project is planned to proceed in stages and, if so an outline of the nature and timing of the stages	The Project will not be staged. Refer Section 5.5 of this substantive application report.
13(4)(h)	a description of the anticipated and known adverse effects of the project on the environment.	Section 7.0 of this substantive application report (whole section 7).
13(4)(i)	a statement of any activities involved in the project that are prohibited activities under the Resource Management Act 1991	The Project does not involve any activity that is prohibited under the RMA. Refer section 3.2.1 of this substantive application report.
13(4)(j)	a list of the persons and groups the applicant considers are likely to be affected by the project, including— (i) relevant local authorities: (ii) iwi authorities and groups that represent hapū that are parties to relevant Mana Whakahono ā Rohe or joint management agreements: (iii) other relevant iwi authorities: (iv) relevant Treaty settlement entities: (v) relevant protected customary rights groups and customary marine title groups: (vi) ngā hapū o Ngāti Porou, if the project area is within or adjacent to, or the project would directly affect, ngā rohe moana o ngā hapū o Ngāti Porou: (vii) relevant applicant groups under the Marine and Coastal Area (Takutai Moana) Act 2011: (viii) persons with a registered interest in land that may need to be acquired under the Public Works Act 1981:	Parties likely to be affected are discussed in Section 7.16 of this substantive application report. In relation to (i), consultation with local authorities is outlined in Section 3.2.2.3 of this substantive application report and Appendix B. In relation to (ii) and (iii), consultation with iwi is outlined in Section 3.2.2.3 of this substantive application report and Appendix B (section 6.2, page 12). In relation to (iv), refer Section 4.4 of this substantive application report and Appendix B (section 5.3, page 9-10). In relation to (v), there are no protected customary rights groups or customary marine title groups. In relation to (vi), the site is not within or adjacent to the rohe of Ngāti Porou. In relation to (vii), N/A - there are no relevant groups under the Marine and Coastal Area (Takutai Moana) Act.



Section, FTAA	Information required for substantive application under Section 43(2) and Section 13(4)	Location within the application documentation
		In relation to (viii), N/A - there is no land to be acquired under the Public Works Act.
13(4)(k)	a summary of— (i) the consultation undertaken for the purposes of section 29 and any other consultation undertaken on the project with the persons and groups referred to in paragraph (j); and (ii) how the consultation has informed the project:	In relation to (i), refer Section 3.1.1, 3.2.2.3 of this substantive application report and Appendix B (section 6, page 10). In relation to (ii), refer Section 3.2.2.3 of this substantive application report and Appendix B (section 6, page 10).
13(4)(ka)	a summary of how any responses provided to the notification under section 29 (1)(aa) have informed the project	Refer Section 3.2.2.3 of this substantive application report and Appendix B (section 6, page 10).
13(4)(l)	a list of any Treaty settlements that apply to the project area, and a summary of the relevant principles and provisions in those settlements	Section 4.4 of this substantive application report.
13(4)(m)	a description of any processes already undertaken under the Public Works Act 1981 in relation to the project	N/A – No processes have occurred, or are required under the Public Works Act 1981.
13(4)(n)	a statement of any relevant principles or provisions in the Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019	N/A – The site is not within or adjacent to the rohe of Ngāti Porou, and the Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019 is not relevant to the Application.
13(4)(o)	information identifying the parcels of Māori land, marae, and identified wāhi tapu within the project area	N/A - The Application site does not include Māori land, marae, or identified wāhi tapu.
13(4)(p)	a statement of whether the applicant is seeking a determination under section 23 and, if so, an assessment of the effects of the activity on the relevant land and on the rights and interests of Māori in that land	N/A – The land is not Māori land, and the Applicant does not require a determination under section 23.
13(4)(q)	a statement of whether the applicant is seeking a determination under section 24(2) and, if so, a description of— ...	N/A – the land is not Schedule 4 land or located in national reserve. The Applicant does not require a determination under section 24(2).
13(4)(r)	a statement of whether the applicant is seeking a determination under section 24(4) and, if so,— ...	N/A – the land is not Schedule 4 land or located in national reserve. The Applicant does not require a determination under section 24(4).
13(4)(s)	a description of the applicant's legal interest (if any), or if the application is lodged by more than 1 person, the legal interest of any of those persons) (if any), in the land on which the project will occur, including a statement of how	For a description of the Applicant's legal interest, and the Applicant's ability to complete the works, refer



Section, FTAA	Information required for substantive application under Section 43(2) and Section 13(4)	Location within the application documentation
	that affects the applicant's ability to undertake the work	Section 3.2.2.4 of this substantive application report.
13(4)(t)	an outline of the types of consents, certificates, designations, concessions, and other legal authorisations (other than contractual authorisations or the proposed approvals) that the applicant considers are needed to authorise the project, including any that the applicant considers may be needed by someone other than the applicant	For all consents required to authorise the project, refer Section 6.0 of this substantive application report and Appendix T (pages 1-17 (Regional) and 32-43 (District)). For other legal authorisations needed to complete the Project, refer Section 3.2.2.4 of this substantive application report.
13(4)(u)	whether any activities that are involved in the project, or are substantially the same as those involved in the project, have been the subject of an application or a decision under a specified Act and,— (i) if an application has been made, details of the application; (ii) if a decision has been made, the outcome of the decision and the reasons for it.	N/A – no activities in the project have been the subject of an application or a decision under a specified Act.
13(4)(v)	a description of whether and how the project would be affected by climate change and natural hazards	For a description of how the project is affected by climate change, refer 7.11.3 of this substantive application report. For a description of how the project is affected by natural hazards, refer Sections 4.1.6, 7.11.1 and 7.11.2 of this substantive application report.
13(4)(w)	if the application is lodged by more than 1 person, a statement of the proposed approval to be held by each of those persons	N/A – The Application is being lodged only by Harmony Energy NZ #6 Limited (HENZ).
13(4)(x)	a summary of compliance or enforcement actions (if any), and the outcome of those actions, taken against the applicant (or if the application is lodged by more than 1 person, any of those persons) under a specified Act	HENZ has not had any compliance or enforcement actions taken against it. Refer Section 3.2.2.5 of this substantive application report.
13(4)(y)	Please provide the information specified below for the relevant approval(s) sought. This is the information specified in the relevant schedule.	The relevant schedules are Schedule 5 clause 2 and Schedule 9 clause 2.
13(4)(y)(i), clause 2 of Sched 5	Resource consent or designation (a) an assessment of the project against— (i) any relevant national policy statement; and (ii) any relevant national environmental standards; and	In relation to (a)(i), refer Sections 8.2.4, 8.2.5 & 8.2.6 of this substantive application report. In relation to (a)(ii), refer Sections 8.2.1 & 8.2.2 of this substantive application report.



Section, FTAA	Information required for substantive application under Section 43(2) and Section 13(4)	Location within the application documentation
	(iii) if relevant, the New Zealand Coastal Policy Statement; and (b) in relation to any proposed approval that is a resource consent, whether, to the best of the applicant's knowledge, there are any existing resource consents of the kind referred to in section 30(3)(a).	In relation to (a)(iii), the New Zealand coastal policy statement is not relevant to this application. The Site is not within a coastal environment. In relation to (b), refer Section 3.1.2 of this substantive application report.
13(4)(y)(ii), clause 3 of Sched 5	Change or cancellation of resource consent condition	N/A – No change or cancellation of any resource consent condition is proposed.
13(4)(y)(iii), clause 4 of Sched 5	Certificate of compliance	N/A – A certificate of compliance is not sought as part of this application.
13(4)(y)(iv), clause 2 of Sched 6	Concession	N/A – A concession is not sought as part of this application.
13(4)(y)(v), clause 23 of Sched 6	Land exchange	N/A – A land exchange is not sought as part of this Application.
13(4)(y)(vi), clause 2 of Sched 9	Standard freshwater fisheries activity approval (4A) The information required to be provided under section 13(4)(y)(vi) is the following: (a) whether an in-stream structure is proposed (including formal notification of any dam or diversion structure) and the extent to which this may impede fish passage; and (b) whether any fish salvage activities are proposed.	A standard freshwater fisheries activity approval is sought. In relation to (a), details of proposed in-stream structures are in Section 5.3.3 of this substantive application report and an assessment of their effects on fish passage in Section 7.6.3 of this substantive application report. In relation to (b), proposed fish salvage activities are described in Section 7.6.3 of this substantive application report and Appendix V (Condition H3 page 38).
13(4)(y)(via), clause 2 of Sched 9	Complex freshwater fisheries activity approval	N/A – A complex freshwater fisheries approval is not sought as part of this Application.
13(4)(y)(vii), clause 2 of Sched 10	Marine consent	N/A – A marine consent is not sought as part of this Application.



Section, FTAA	Information required for substantive application under Section 43(2) and Section 13(4)	Location within the application documentation
13(4)(y)(viii), clause 2 of Sched 11	Access arrangement	N/A – the Application does not seek an access arrangement under the Crown Minerals Act 1991.
13(4)(y)(ix), clause 15 of Sched 11	Mining permit	N/A – A mining permit is not sought as part of this Application.
43(2)(c)	the information that the applicant provided to the Minister when applying to have the project listed as a listed project and an explanation of how the substantive application is within the scope of the listed project.	For Listing Application – refer Appendix A. For explanation of how the Application is within scope – refer Section 3.2.2.6 of this substantive application report.



2.0 Introduction

This report has been prepared in support of a Substantive Application by Harmony Energy NZ #6 Limited (HENZ or 'the Applicant') to the Environmental Protection Authority (EPA) for the development of the Hinuera Solar Farm ('the Project') in the Matamata-Piako District.

The Project involves developing an approximately 70 MW AC/100 MW DC solar farm and 400MWh Battery Energy Storage System ('BESS') at the corner of State Highway 29 and State Highway 27, Hinuera ('the Site'). The Project will export generated electricity via the Powerco substation at the corner of Lake Road and State Highway 27, Hinuera.

The Project is a Listed Project in Schedule 2 of the Fast-Track Approvals Act 2024 ('FTAA') and is an infrastructure project with significant regional or national benefits.

In accordance with Section 42(4)(a) of the FTAA, this Application seeks approval for all necessary resource consents that would otherwise be applied for under the Resource Management Act 1991 ('RMA').

2.1 The Applicant

Harmony Energy NZ #6 Limited is a wholly owned subsidiary of Harmony Energy NZ Holdings Limited ('Harmony'). Harmony is managed and run out of New Zealand by an experienced team. The ultimate owners of the business are Pete Grogan (a resident New Zealander) and Peter Kavanagh who is a British citizen and the CEO of UK based Harmony Energy.

The Harmony business was first established in NZ by Pete Grogan in 2019 and is an independent developer, owner and operator of renewable energy and energy storage projects. The business has successfully originated a portfolio of 11 construction and development-stage projects totalling 463 MWdc solar, 250 MW BESS, and 685 MWdc / 265 MW DC-coupled solar / BESS hybrid.

Harmony's first project, the Tauhei Solar Farm, a 202 MWdc solar project has recently been energised and construction is scheduled for completion ahead of schedule in Q4 2026. Harmony also holds consent for three other projects, being: the Carterton Solar Farm (hybrid 131 MWdc/BESS) which is set to reach financial close and commence construction in Q4 2026; Marton Solar Farm (hybrid 65 MWdc/BESS); and the Ōpunakē Solar Farm (hybrid 120 MWdc /BESS).

3.0 Requirements for a Substantive Application

The FTAA sets out the requirements for substantive applications.

The authorised person for this project is HENZ. A copy of the Listing Application is included in **Appendix A**.



3.1 Subpart 2 - Steps before lodging a Substantive Application

3.1.1 Section 29 - Pre-lodgement requirements for listed project

Before lodging a substantive application for a listed project, the authorised person for the project must consult the persons and groups referred to in Section 11(1)(a) of the FTAA. There are no relevant groups that require consultation under Section 11(1)(a), however HENZ has consulted with a number of parties, including the relevant local authorities, iwi authorities and tangata whenua of the area. A full summary of consultation is provided within **Appendix B** of this report. The Site is not within the rohe of ngā hapū o Ngāti Porou.

The Applicant must also notify in writing the groups listed under Section 11(1)(b). HENZ has notified Matamata-Piako District Council ('MPDC'), Waikato Regional Council ('WRC') and relevant iwi authorities / hapū / Treaty settlement entities more than 20 working days before lodging this application. A copy of this notice and WRC's response is included within **Appendix B**.

3.1.2 Section 30 – Identification of existing resource consent for same activity

Section 30 of the FTAA applies to this application for resource consent as HENZ does not hold an existing resource consent for the same activity using the same natural resource.

Section 30(2) requires that the authorised person notifies in writing each regional council that has jurisdiction over an area where the approval applies, before lodging the substantive application. The regional council must advise the authorised person in writing whether there are any existing resource consents to which Section 124C(1)(c) or 165ZI of the RMA would apply if the approval were to be applied for as a resource consent under that Act, or that there are no existing resource consents of that kind.

The written notice from WRC is attached in **Appendix C**. This confirms WRC has reviewed its records and does not hold any existing resource consents in accordance with Section 30(3). Therefore, to the best of HENZ's knowledge, there are no existing resource consents for the same activity using the same natural resource.

This application is made within three months of the date of the earliest notice provided by each relevant consent authority (Section 30(6)(b)).

3.2 Subpart 3 – Panel consideration of Substantive Application

3.2.1 Section 42 – Authorised person may lodge Substantive Application for approval

As a listed project in Schedule 2, this Application has been made by HENZ in accordance with Section 42 as follows:

- The authorised person has lodged one substantive application for the Project;
- The substantive application complies with Section 43 (detailed below); and



- The substantive application seeks approval for resource consents which would otherwise be applied for under the RMA and is not seeking approval for an activity that is prohibited under the RMA.

3.2.2 Section 43 – Requirements for a Substantive Application

The information provided in this Application satisfies the relevant requirements of Section 43:

- The Application has been lodged with the EPA in the prescribed form and manner;
- The Application relates solely to a listed project in Schedule 2 of the FTAA which has been identified as having significant regional or national benefits, therefore being consistent with the purpose of the FTAA (discussed further in Section 8.1 of this report);
- The Application does not involve any ineligible activities (detailed further below);
- The Project is not planned to proceed in stages; and
- All fees, charges or levies payable in respect of the Application have been paid.

The following subsections provide further commentary on these requirements.

Section 43(1)(h) requires the substantive application to state whether the Application relates to a priority project. This Application **does not** relate to a priority project.

3.2.2.1 Ineligible activities

Section 43(1)(c) of the FTAA states that a substantive application must demonstrate that the Project does not involve any ineligible activities.

With respect to ineligible activities, as set out in Section 5 of the FTAA, the following comments are made:

The activity is not occurring on or within:

- identified Māori Land;
- a customary marine title area;
- a protected customary rights area;
- Māori customary land; or
- Land set apart as a Māori reservation as defined in section 4 of Te Ture Whenua Māori Act 1993.

The activity is also not:

- an aquaculture activity or an activity that is incompatible with aquaculture activities;
- requiring an access arrangement under section 61 or 61B of the Crown Minerals Act 1991;
- an activity that would be prevented under section 165J, 165M, 165Q, 165ZC, or 165ZDB of the Resource Management Act 1991 as the proposal does not involve a coastal permit or relate to the common marine and coastal area;



- occurring on land that is listed in Schedule 4 and has not been subject to a determination under section 24;
- occurring on a national reserve held under the Reserves Act 1977 or a reserve held under the Reserves Act 1977 that is vested to someone other than the Crown or the local authority;
- occurring on a national reserve held under the Reserves Act 1977 or a reserve held under the Reserves Act 1977 that is managed by someone other than the Department of Conservation or a local authority;
- a prohibited activity under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 or regulations made under that Act;
- described in Section 15B of the RMA and is not a prohibited activity under the RMA or regulations made under it;
- prohibited by Section 15C of the RMA;
- involving a decommissioning-related activity (which is an activity described in section 38(3) of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012); or
- an offshore renewable energy project.

3.2.2.2 Schedule 5

In accordance with Section 40 and Section 43(1)(e)(ii) of the FTAA, this Application is for a resource consent that would otherwise be applied for under the RMA (s42(4)(a)).

For the purposes of Section 43(3)(a) of the FTAA, Schedule 5, clauses 5, 6, 7 and 9 set out the information required to be included in this Application.

This Application has been prepared in accordance with Schedule 5.

3.2.2.3 Consultation

Section 43(2)(a) of the FTAA, with reference to Section 13(4)(k) and (ka), requires this Application to contain a summary of consultation undertaken and parties given notice of the application for the purposes of Section 29; and how the consultation and any responses to a notice given have informed the Project.

HENZ has consulted with the relevant local authorities, iwi authorities and tangata whenua of the area. Pre-lodgement consultation has also occurred with surrounding landowners, the New Zealand Transport Authority ('NZTA') and Fire and Emergency New Zealand ('FENZ'). Under clause 6(1)(e) of Schedule 5 of the FTAA, persons who may be affected by the proposal must be identified, and any response to the views of any such person must be provided. A full summary of the consultation undertaken and the Applicant's response to the views received is included in **Appendix B** of this report.



3.2.2.4 What is Needed to Complete Project – 43(2)(a)

Section 43(2)(a) of the FTAA, with reference to Section 13(4)(s), requires a substantive application to provide a description of the Applicant's legal interest in the land on which the Project will occur, including a statement of how that affects the Applicant's ability to undertake the work, and an outline of the legal authorisations needed to authorise the Project.

Legal interest in the land

The Site is privately owned. HENZ has binding option agreements with the landowners in the form of caveats on the titles (see section 4.1.1), providing HENZ with the option to take a 34-year registered easement over the land for development, construction and operation of a solar farm. It is free to exercise that option and will do so when consents and Overseas Investment Office (OIO) consents are in place. The terms of the easement contain all the land rights needed to construct and operate the solar farm for 34 years.

Under the terms of the easement agreements, the landowners will retain the right to farm the land underneath the panels.

Overseas Investment Office

HENZ has already obtained an exemption from the OIO from the "farmland advertising" requirements of the Overseas Investment Act (OIA) in respect of the interests held by HENZ under its Easement Agreements with the landowners of the Site.

If resource consent approval is obtained, HENZ will promptly submit applications for OIO consent for the interests in "sensitive" land that will be held by HENZ and any key equity investors in the Project who are "overseas persons" for the purposes of the OIA.

HENZ will prepare the applications for OIO approval in parallel with the consent application and submit applications promptly to the OIO if resource consent approval is obtained. A staged approach is necessary because the benefits of the Project (such as generation output) cannot be accurately described to, or assessed by, the OIO until the scale and design of the Project is confirmed or refined through the substantive application process.

The OIO's guideline for maximum processing period for applications for OIO approval related to interests in sensitive land is 100 days, but the OIO has indicated that applications relating to renewable energy projects are prioritised and processing times have materially reduced below the maximum.

HENZ is confident that its standing as an experienced and reputable developer and the significant public benefits of the investment mean that it is highly likely that OIO approval will be given. As such, it is very unlikely that the OIO process would cause delays in the construction of the Project.

Network connection

To electrically connect the solar farm with the Powerco substation (in the South Waikato District), 33 kV cabling would be installed between the two points via public road reserves or private land easements. To enable this work HENZ will apply, under section 4A and 24 of the Electricity Act, for Electricity Operator Status in respect of this Project – following the grant of



all relevant resource consents. Electricity Operator Status has been granted to HENZ in respect of its other projects, accordingly, there are no concerns with the likely success of such an application. Electricity Operator Status affords rights for the construction, placement and maintenance of electrical infrastructure within the road reserve. The usual authorities (i.e. CAR approval, TTMP) are still required for all work within the road reserve.

HENZ's final application to Powerco for connection has been approved and grid studies are well advanced. The network connection will provide appropriate capacity for the dispatch of electricity from the Project.

Any requirements for resource consent to enable works within the Powerco substation falls outside of this application and will be managed separately via Powerco's standard process.

3.2.2.5 Compliance and Enforcement Actions – s43(2)(a)

Section 43(2)(a) of the FTAA, with reference to Section 13(4)(x), requires a substantive application to provide a summary of compliance or enforcement actions (if any) and the outcome of those actions taken against the Applicant under a specified Act.

HENZ has not had any compliance or enforcement actions taken against it.

3.2.2.6 Scope of the Listed Project - 43(2)(c)

In accordance with Section 43(2)(c) of the FTAA, the information provided to the Minister when applying to have the Project listed has been provided in **Appendix A**.

The Project description as listed in Schedule 2 of the FTAA is as follows:

“Construct, operate, and maintain a solar farm and battery energy storage facility with an installed capacity of approximately 100 MW DC, and connect and supply electricity to the national grid”

The approximate geographic location as listed is “152 hectares at Hinuera, Waikato.”

The scope of this Project is outlined in detail in Section 5.0 of this Application and aligns with the description in Schedule 2, including the approximate 100 MW DC capacity of the solar farm and the land area of 154 ha (which also matches the location plan provided at the time of applying to be listed). Electricity generated will be exported via the Powerco substation, which is connected to the grid via the adjacent Transpower substation. Around ~2-8 MW is expected to be utilised by the local distribution network served by the Powerco substation, while the majority of electricity generated will be exported to the national grid.

3.2.2.7 Section 44 – Information Specified in Sufficient Detail

Section 44 of the FTAA states that the information required by Section 43 must be specified in sufficient detail to satisfy the purpose for which it is required.

Sufficient detail has been provided through this report and associated appendices to enable the EPA to confirm that the Application is complete and within scope.

A completed Application Form has been completed and submitted to the EPA via the online portal.



3.3 Conclusion

In accordance with Section 46 of the FTAA, the Application complies with Section 42, Section 43 and Section 44. It relates solely to a listed project and does not seek approval for an ineligible activity. No staging of the Project is proposed.

The Project is considered within scope as there are no substantive differences between the application and the Project as described in Schedule 2. The Project is consistent with the purpose of the FTAA (discussed further in Section 8.1 of this report).

All fees, charges or levies payable in respect of the Application have been paid.

4.0 Site and Surrounding Environment

4.1 Site

The Project Site is located over six Records of Title (RTs) at the corner of State Highway 29 and State Highway 27, Hinuera and comprises approximately 154.53ha.

The Site details are listed in Table 3 and illustrated in Figure 1 as follows:

Table 3: Site Details

Record Title	of Address	Legal Description	Owner	Size (ha)
SA69A/179	4775 State Highway 29, Matamata	Section 1 Block X Tapapa Survey District and Lot 1-2 Deposited Plan South Auckland 83767	C H Land Limited	38.3939
SA292/111	State Highway 27, Matamata	Lot 1 Deposited Plan 11891	[REDACTED]	25.7507
SA308/1	8270 State Highway 27, Okoroire, Tirau	Lot 2 Deposited Plan 11891	[REDACTED]	25.7507
647047	8302 State Highway 27, Okoroire, Tirau	Part Lot 3 Deposited Plan 11891 and Lot 2 Deposited Plan 473263	[REDACTED]	63.4790
SA13B/333	-	Section 3 Block X Tapapa SD	[REDACTED]	1.1442
SA50B/243	-	Section 9 and Section 11 Block X Tapapa SD	C H Land Limited	0.0096
		Total Land Area		154.53



A list of the full names and addresses of owners and occupiers (where able to be identified) of adjacent land is included as part of the Engagement and Consultation Summary in **Appendix B**.



Figure 1: Locality plan of the Site (Source: Grip Maps)

4.1.1 Records of Title and Relevant Instruments

Copies of the Records of Title and relevant interests are attached as **Appendix D**.

Table 4 provides a summary of the existing Records of Title and relevant legal interests registered on the titles.

Table 4: Summary of Titles and Interests

RT	Interests	Comment
SA69A/179	- Subject to Section 36 (4) Counties Amendment Act 1961 - H237931 Gazette Notice declaring State Highway 29 (Tauranga to Piarere) a limited access road 12736163.3 Caveat by Harmony Energy NZ #6 Limited	- Section 36(4) Counties Amendment Act 1961 relates to the amalgamation of the allotments. The Project does not involve any changes to the RTs. - Consultation has occurred with NZTA in respect to access and setbacks from State Highway 29. Refer to Section 7.15 and Appendix B of this report.



RT	Interests	Comment
	9723735.3 Mortgage to ANZ Bank New Zealand Limited	The caveat by HENZ refers to the easement agreement discussed in Section 3.2.2.4 above.
SA292/111	- Subject to a water right over part created by Transfer 243649 - S520543 Gazette Notice declaring part herein (14p) to be taken for road - H092281 Gazette Notice declaring No 27 State Highway fronting within land to be a limited access road 12736163.2 Caveat by Harmony Energy NZ #6 Limited 9730524.3 Mortgage to ANZ Bank New Zealand Limited	- The water rights will not be altered or impacted as part of this Project. - Consultation has occurred with NZTA in respect to access and setbacks from State Highway 27. Refer to Section 7.15 and Appendix B of this report. - The caveat by HENZ refers to the easement agreement discussed in Section 3.2.2.4 above.
SA308/1	- Appurtenant hereto are water rights created by Transfer 243649 - S520543 Gazette Notice declaring part within land (1 acre 1 rood 37.9 perches) to be taken for road and taking part (1 rood 20.5 perches) for the use convenience or enjoyment of a road - H092281 Gazette Notice declaring No. 27 State Highway fronting the within land to be a limited access road 12736163.2 Caveat by Harmony Energy NZ #6 Limited 9730524.3 Mortgage to ANZ Bank New Zealand Limited	- The water rights will not be altered or impacted as part of this Project. - Consultation has occurred with NZTA in respect to access and setbacks from State Highway 27. Refer to Section 7.15 and Appendix B of this report. - The caveat by HENZ refers to the easement agreement discussed in Section 3.2.2.4 above.
647047	- H092281 Gazette Notice declaring No. 27 State Highway fronting the within land to be a limited access road - Subject to Section 241(2) and Sections 242(1) and (2) Resource Management Act 1991(affects DP 473263) 9751306.7 Consent Notice pursuant to Section 221 Resource Management Act 1991 12736163.1 Caveat by Harmony Energy NZ #6 Limited 13265518.1 Notice of Claim of Interest Pursuant to Section 42(2) Property	- Consultation has occurred with NZTA in respect to access and setbacks from State Highway 27. Refer to Section 7.15 and Appendix B of this report. - Sections 242(1) and (2) relate to the amalgamation of the allotments. The Project does not involve any changes to the RTs. - Consent Notice 9751306.7 has conditions relating to the future subdivision of Part Lot 3 DP 11891. These do not restrict the Project from proceeding.



RT	Interests	Comment
	(Relationships) Act 1976 By Glenda Michelle Anderson. - B662990.3 Mortgage to ASB Bank Limited. 7840094.1 Variation of Mortgage B662990.3	- The caveat by HENZ refers to the easement agreement discussed in Section 3.2.2.4 above. 13265518.1 refers to an interest in the land under the Property (Relationships) Act 1976. This claim was registered on the title after the caveat by HENZ was registered. The proposal does not involve the sale of land.
SA50B/243	- Subject to Part IV A Conservation Act 1987 - Subject to Section 11 Crown Minerals Act 1991 - Subject to Section 27B State-Owned Enterprises Act 1986 9723735.3 Mortgage to ANZ Bank New Zealand Limited	- Part IVA of the New Zealand Conservation Act 1987 governs Marginal Strips. It relates to Crown disposal of land. The Title is in private ownership. The interest is not considered to restrict the proposal - Section 11 Crown Minerals Act relates to minerals reserved to the Crown. The interest is not considered to restrict the proposal. - Section 27B State-Owned Enterprises Act provides for the resumption of land on the recommendation of the Waitangi Tribunal and which does not provide for third parties, such as the owner of the land, to be heard in relation to the making of any such recommendation). The interest is not considered to restrict the proposal and is considered low risk given the size and location of the parcel.
SA13B/333	- Subject to Section 8 Coal Mines Amendment Act 1950 12736163.1 Caveat by Harmony Energy NZ #6 Limited 13265518.1 Notice of Claim of Interest Pursuant to Section 42(2) Property (Relationships) Act 1976 By Glenda Michelle Anderson. - B662990.3 Mortgage to ASB Bank Limited 7840094.1 Variation of Mortgage	- Section 8 Coal Mines Amendment Act relates to coal underneath the surface and does not restrict the proposal. - The caveat by HENZ refers to the easement agreement discussed in Section 3.2.2.4 above. 13265518.1 refers to an interest in the land under the Property (Relationships) Act 1976. This claim was registered on the title after the caveat by HENZ was registered. The proposal does not involve the sale of land.

4.1.2 Existing Activities, Buildings and Infrastructure

The Site comprises two separately operating dairy farms.



The northern farm (comprising RTs SA69A/179, SA292/111 and SA308/1 and owned by C H Land Limited and CA & H Schweizer) contains three dwellings, two adjacent to State Highway 27 and one adjacent to State Highway 29. There is a dairy shed located adjacent to State Highway 27 and a number of implement/farm sheds, generally located in the southern portion of the farm. Of note is a woodlot comprising of exotic trees over an area of approximately 1.2 ha adjacent to the southern boundary of the property.

The southern farm, comprising RTs 647047 and SA13B/333 and owned by CV and DL Anderson, contains one dwelling and a dairy shed, both accessed via State Highway 27. Exotic trees line the first portion of the driveway/access and there are two implement sheds located adjacent to the main race.

The Site is subject to various district consents relating to subdivision activities (Council ref 100.2005.00001414.001 and 100.2008.00001836.001) and to establish a licensed homekill and game processing premises (Council ref 101.2025.13181). These are not considered relevant to this application.

The Property File from MPDC was provided to SLR on 7 March 2023 and contained numerous building consents for the Site including:

- 1975: Building consent given for the construction of a haybarn;
- 1976: Building permit application for an implement shed/storage shed;
- 1978: Construction of garage extension to residential dwelling;
- 1978: Building permit application for a 50 ha corrugated iron haybarn;
- 1979: Building permit application for a new concrete and corrugated iron cow shed;
- 1979: Building permit application for a concrete effluent storage tank;
- 1995: Building consent application for new milking shed;
- 1999: Building consent application for a new storage shed;
- 2005: Relocation of dwelling and double garage;
- 2006: Building consent accepted for storage and cow shed;
- 2010: Fibreglass swimming pool building consent accepted;
- 2019: Building consent application for skyline garage with extended ridgeline; and
- 2019: Building consent for an outbuilding.

The following regional consents are identified on WRC's LocalMaps GIS Consents and Permits layer as applying to the Site:

- AUTH952123.01.01 – Discharge Permit – Farm animal effluent onto land – Effluent Discharge – 8302 SH27 – Tirau (Fonterra 77637);
- AUTH124464.01.01 – Discharge Permit – Farm animal effluent onto land – Effluent Discharge – SH29 – Hinuera (Fonterra 77641);
- AUTH125407.01.01 – Water Permit – Ground Water Take; and
- AUTH134663.01.01 – Water Permit – Ground Water Take.



Dwellings/dwelling curtilage areas and most existing farm buildings on the Site are excluded from the solar development area. Where farm sheds are located within the solar development area, they will be retained for use by the landowner and appropriate setbacks to allow access applied.

4.1.3 Access

There are currently 5 vehicle crossings providing access to the Site. The location of these is illustrated in Figure 2 and includes:

1. 4775 State Highway 29 – dwelling access only
2. 4739 State Highway 29 – farm access (dairy shed) and dwelling access
3. 8270 State Highway 27 – farm and dwelling access
4. 8302 State Highway 27 – dwelling access
5. 8302 State Highway 27 – farm access and secondary dwelling access.

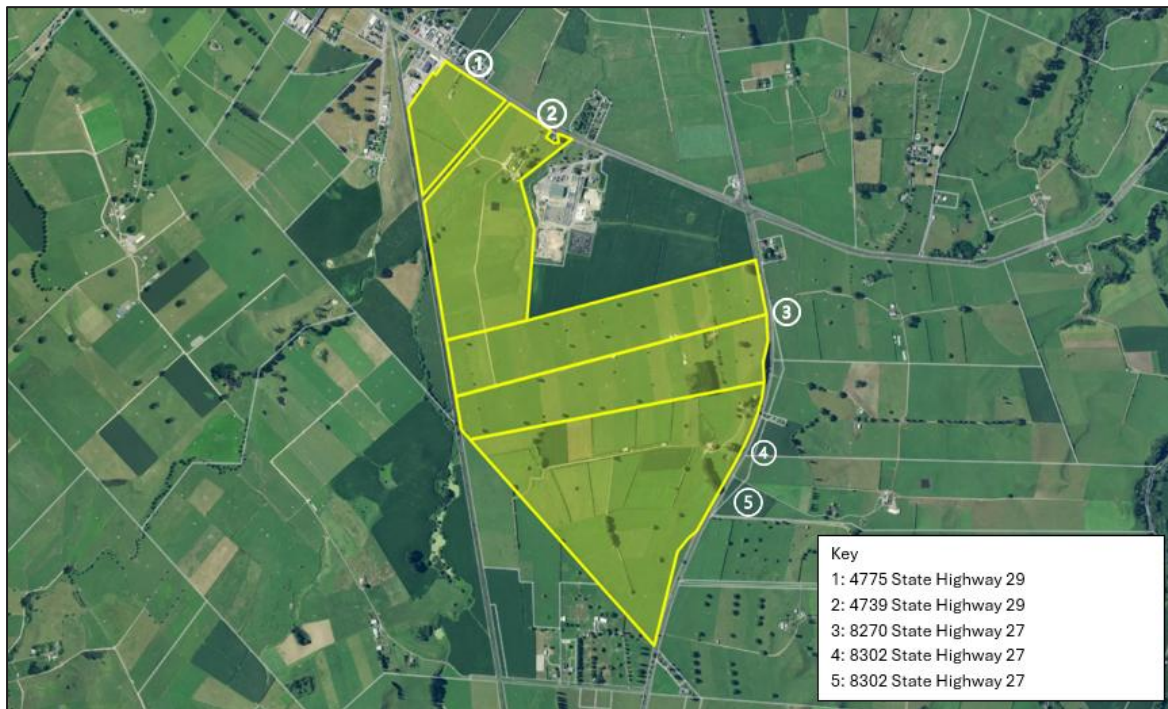


Figure 2: Vehicle Access Locations

A Transport Assessment has been undertaken by CKL (refer to **Appendix E**) which describes the existing roading environment as follows:

State Highway 27 is classified as a significant road under the District Plan and as a rural connector within the One Network Framework (ONF). As a rural connector, State Highway 27 functions as an arterial, collector and access road serving as an essential rural 'link' road for inter-regional travel and property access. State Highway 27 operates as a posted 100 km/hr speed environment.

State Highway 29 is classified as a significant road under the District Plan and as an inter-regional connector within the ONF. State Highway 29 has regional and national significance,



providing an essential goods and service travel route with limited residential property access. As such, State Highway 29 also experiences a higher percentage of heavy commercial vehicle (HCV) movements. State Highway 29 operates predominantly as a posted 100 km/hr speed environment. However, there is a 270 m section of State Highway 29 at the western end of the Site that operates as a 70 km/h speed environment.

The intersection of State Highway 27 and State Highway 29 is designed to operate within a high-speed rural highway environment, with visibility, priority control, and median treatments that support the safe and efficient operation of State Highway 29. The approach speeds towards the intersection on the State Highway 29 road corridor are reduced using a permanent variable speed limit of 60 km/h.

Public bus services are not located in close proximity to the Site. There are no pedestrian or cycling facilities provided along State Highway 27 or State Highway 29.

Existing traffic volumes are identified in Table 1 of the Transport Assessment as being in the order of 3,500 vehicles per day (vpd) on State Highway 27 and 9,000 vehicles per day on State Highway 29. A total of 39 crashes were identified in the vicinity of the Site during a search of the NZTA Crash Analysis System from 2016 – 2026. This is discussed further in the context of the Project in Section 7.3.3 of this report.

4.1.4 Geology and Topography

The Institute of Geological and Nuclear Sciences 1:250,000 online geological map shows that the Site is underlain by late Pleistocene River deposits from the Hinuera Formation, described as laharic breccia of andesite cobbles and boulders in a muddy matrix. Cross-bedded pumice sand, silt and gravel with interbedded peat. The eastern corner of the Site is underlain with poorly to moderately sorted gravel with minor sand and silt underlying terraces; includes minor fan deposits and loess.

A fault also runs through the western boundary of the Site in a north-northwest to south-southeast direction. Another fault, adjacent to the eastern boundary of the Site, runs in a northwest to southeast direction.

The topography of the Site is reasonably flat with a small number of hills and depressions along the eastern boundary.

A Geotechnical Assessment has been prepared by CMW Geosciences and is attached as **Appendix F**. The Site has been confirmed suitable for the proposed development.

WRC mapping identified the potential for Acid Sulfate Soils to be present on the Site. An investigation was carried out by SLR Consulting, involving sampling and analysis of identified high-risk areas. The results of the investigation confirmed that the investigated soil horizons do not contain sulfidic materials, classifying the soil as SHC1: No Risk / No Sulfur (see **Appendix G**).

4.1.5 Vegetation and Ecological Features

An Ecological Impact Assessment (EclA) has been prepared by SLR Consulting and is attached as **Appendix H**. A summary of the Site's ecological features is included below.



The Site is situated within the Hinuera Ecological District (ED). Vegetation cover within the ED is currently dominated by pasture used for dairy farming. Historically the area would have comprised ferns and swampland with intermittent forest patches. The ED experiences warm humid summers and cool winters with an annual rainfall of between 1000-1400 mm, which falls primarily in winter.

Three primary vegetation types were identified on site, namely, exotic pasture grass cover, exotic tree shelterbelts / plantations, and exotic hedgerows.

Two streams were identified on Site (refer Figure 3), namely, the Mangawhero Stream and an unnamed tributary of the Mangawhero Stream. The streams drain in a generally northern to north easterly direction towards the Waihou River.

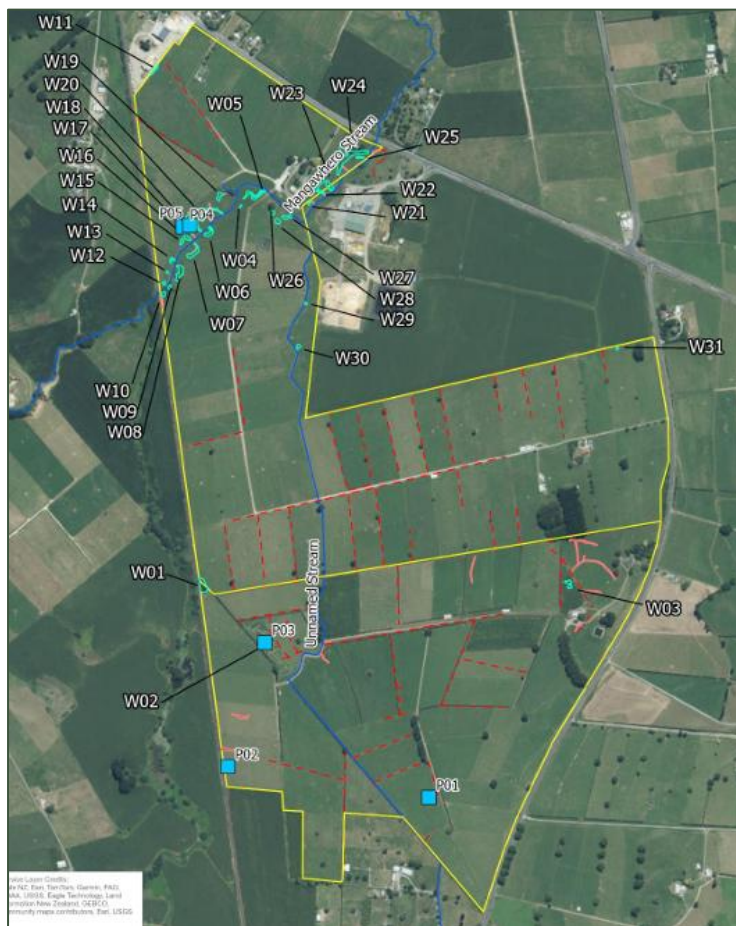


Figure 3: Wetland & Stream Areas

Wetland habitat comprising obligate wetland and facultative wetland herbaceous species were found sporadically within the low points in the landscape and adjacent to streams draining the Site. The majority of wetland habitat identified was confined to low lying areas adjacent to the Mangawhero Stream. A total of 31 discrete wetlands were identified during the Site survey, accounting for a total area of 0.7 ha.

A bat survey indicated presence of New Zealand long-tailed bats within the study area. Bat roosting habitat within the Site is limited to narrow shelterbelts and relatively small exotic tree



stands. It is possible that bats are roosting within nearby mature eucalyptus trees. Foraging also potentially occurs within the canopy of the shelterbelts, across pasture, and along waterways.

Of 22 bird species observed on the Site, 12 were 'Introduced: Naturalised' species, nine were 'Not Threatened' native species, and one was a single domestic species with no threat status.

4.1.6 Hydrology and Flooding

A Hydrogeology Assessment has been prepared by SLR Consulting and is attached as **Appendix I**. This describes the Site as being located over the South Hauraki Aquifer. Groundwater levels are variable across the Site, with the shallowest levels found in the southern part of the site, as shallow as 0.25 m below ground level.

As discussed above, the Mangawhero Stream and an unnamed tributary of the Mangawhero Stream run through the northern extent of the Site. The catchment boundary is bounded by State Highway 27 and the Ōraka Stream to the East and Mangawhero Stream (and tributaries) to the West. The catchment generally falls towards the Northeast. The total catchment area modelled is approximately 30 km².

A Stormwater Management and Flood Modelling Report has been prepared by Maven and is attached as **Appendix J**.

The Site is located outside of any designated scheme under the management of WRC. The level of service for the WRC-maintained stormwater infrastructure in the area is to drain water from the 10-year storm within three days. Flows through the Site discharge into the Mangawhero Stream and its tributary. Stormwater in smaller events will primarily be discharged through hydraulic structures, which connect to the channels adjacent to the site. Preliminary analysis showed that the volume of water flowing through the flow path marked by the Mangawhero Stream is around 29 m³/s in the 100-year event.

The flood modelling involved the development of hydrological and hydraulic models to assess flood risks under pre-development for 10-, 20-, 50-, 100-, and 250-year storm events, as well as post-development scenarios for the 100-year storm event.

The pre-development model results are shown in Table 3 of the report attached as **Appendix J**. Pre-development conditions showed minimal diffusion due to the absence of terrain storage within the site. Around the Mangawhero Stream crossing, upstream flooding occurs during larger storm events under pre-development scenarios due to the conservative size selected for the modelling of this culvert.

In the 100-year pre-development model, isolated ponding can be observed across the site. The larger areas of flooding can be seen around the Mangawhero Stream and un-named stream, as well as in the northern and western portions of the site. Except for the area along the Mangawhero Stream, the flooding is relatively shallow and low velocity. An excerpt from the Flood Modelling Report is included in Figure 4 below.

The findings of the flood modelling for post development scenarios are discussed further in Section 7.11 of this report.



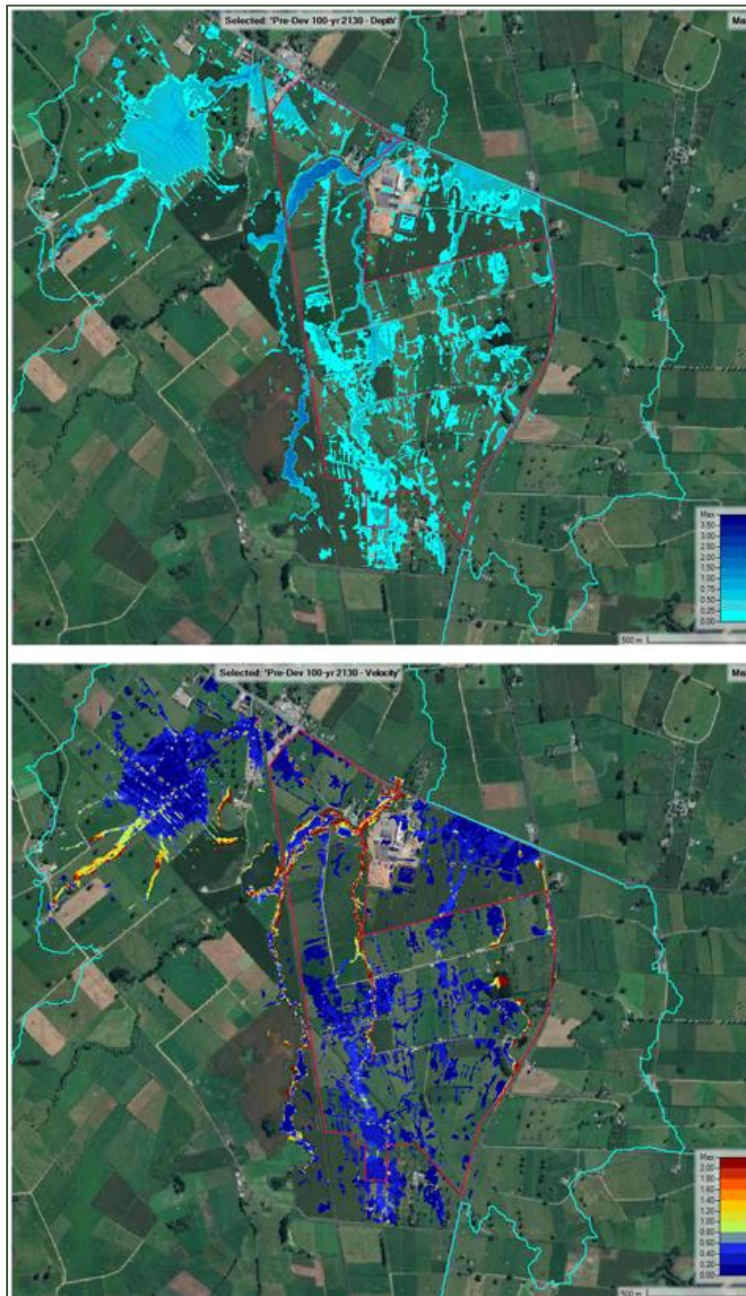


Figure 4: 100-year Pre-Development Flooding (Left = Velocity, Right = Depth)

4.1.7 Soils

The land is classified as being 20 ha of Land Use Capability (LUC) Class 1 (13%), 107 ha of LUC Class 2 (70%) and 26 ha of LUC Class 4 (17%) (see Figure 5; dark green indicates LUC 1, mid-green indicates LUC 2 and light green indicates LUC 4).

The total area of highly productive land as defined by the National Policy Statement for Highly Productive Land (NPS-HPL) is therefore 127 ha (83%), and is further discussed in Section 8.2.5 of this report.



The Site has fertile volcanic soils, being 38% Ōtorohanga loam and silt (well drained), 48% Matuku loam and silt (poorly drained), and 14% of mixed loam over sand and silt over sand soils (imperfectly drained).

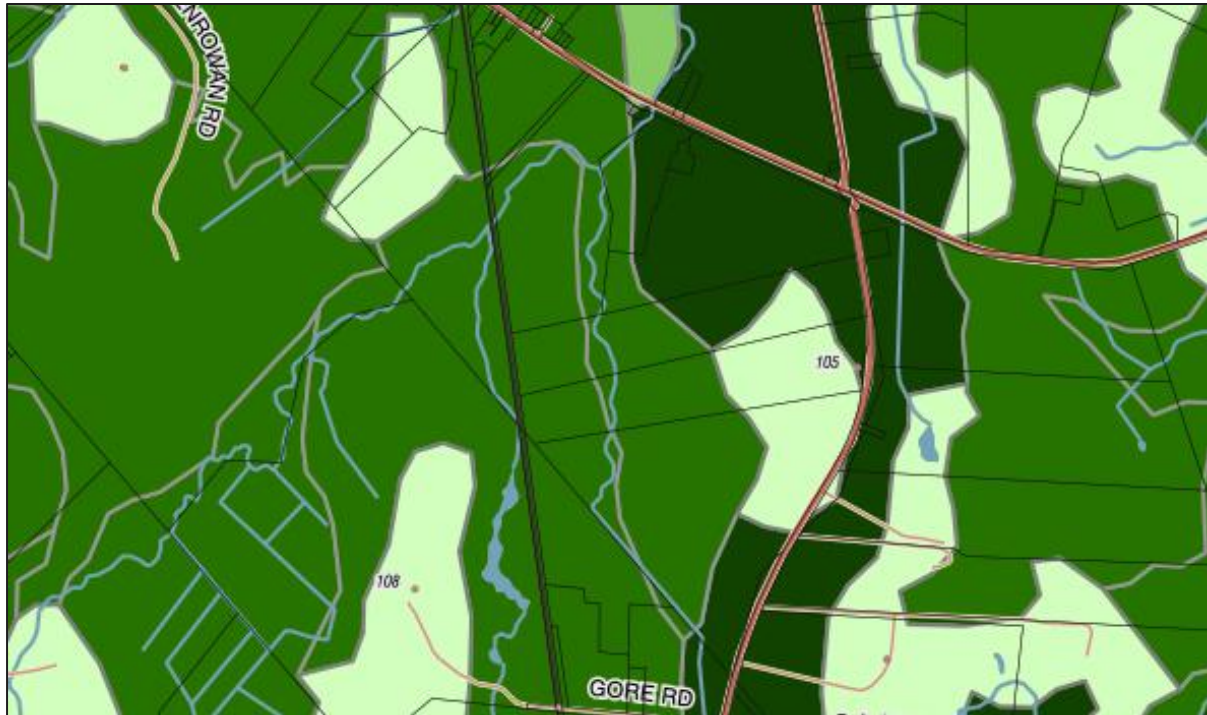


Figure 5: LUC Map (Source: Our Environment)

4.1.8 Contamination

A Preliminary Site Investigation (PSI) has been undertaken by SLR Consulting. This is attached as **Appendix K**.

A review of the WRC Land Use Information Register was undertaken on the 20 October 2025 which confirmed the Site is not listed on the WRC database as being subject to an activity or industry listed on the on the Ministry for the Environment's Hazardous Activities and Industries List (HAIL).

The PSI identified several HAIL activities mainly associated with the buildings on the Site and effluent ponds. This includes two historical and one present oxidation pond in the northern portion of the site, lead based paint having likely been utilised on the buildings, potential asbestos containing fibre cement cladding and a potential landfill. Based on the findings of the PSI, the area around the farm buildings, Oxidation Ponds, and the depression adjacent to the cowshed have been subject to HAIL activities. This is discussed further in Section 6.1 in respect to the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS).

4.1.9 Cultural Values

As set out in the Engagement and Consultation Summary (**Appendix B**), an onsite hui was held with Norm Hill (Ngāti Hauā), Andrea Julian (Raukawa), Cliff Kelly (Raukawa) and Leo



Whaiapu (Ūkaipō Marae and Raukawa Mana Whenua Representative on Te Manawhenua Forum mō Matamata Piako (MPDC Committee)) in February 2024. Representatives of Ngāti Hinerangi were invited to attend but were not in attendance. No sites of significance were identified or disclosed to HENZ. Mana whenua shared with the Project team the following key areas of interest:

- Wai (including streams and wetlands) and, in particular a desire to see restoration of the wetland area and riparian planting adjacent to the Mangawhero Stream; and
- Pekapeka, in particular that any removal of high value habitat was mitigated with the likes of: replacement planting; bat boxes; increased pest control.

A combined draft Cultural Values Assessment (CVA) has been provided by Ngāti Hauā Iwi Trust, Raukawa Charitable Trust and Ngāti Hinerangi. The CVA describes the importance and connection of Hinuera to the wider cultural landscape, and particularly to the Kaimai Range, highlighting that *“The relationship between iwi and Hinuera and the Kaimai extends beyond the physical landscape, encompassing the mauri and wairua that continue to define this part of the rohe”*. The CVA also sets out the cultural values and tikanga associated with the development; these are summarised as follows:

- Manaakitanga – ensuring relationships are built on respect, trust, openness, and shared responsibility. Considering the wellbeing of people, the environment, and future generations throughout the life of the Project.
- Mana – recognising and respecting the authority, dignity and importance of iwi, the whenua and the natural environment.
- Whanaungatanga – establishing a genuine partnership between the Applicant and mana whenua, where iwi knowledge, aspirations, and values are understood and incorporated into the Project.
- Wairuatanga – acknowledging the spiritual connections between iwi, their tupuna, atua, whenua and wai.
- Whenua – recognising the relationship iwi have with their ancestral lands and providing opportunities to protect, enhance, and restore the cultural and environmental values of the area.
- Tiakitanga – recognising the role of iwi in caring for and protecting the natural environment and including opportunities for ecological restoration, monitoring and environmental improvements to support the long-term wellbeing of the Site and wider area.
- Whakapapa – acknowledging the connections between iwi, the land, waterways and all living things and supporting outcomes that uphold the values and aspirations of mana whenua.

The final CVA will be provided after it has been endorsed by all three iwi.

4.1.10 Heritage/Archaeological Values

An archaeological appraisal has been undertaken by Sian Keith Archaeology Ltd (**Appendix L**), including a site survey. There are no recorded archaeological sites within the Site. The closest recorded site is T15/173, ~3km to the south-east. That site is a headland pā, reported



to be defended by almost vertical cliffs down to the Waihou River on three sides, with the northern approach defended by a transverse ditch. The majority of recorded sites are to the south-west where a pā and traditional garden sites are recorded. The appraisal also notes that the topography of Mangawhero Stream is relatively gentle, not lending itself to a favourable defensive position for a pā, and it is at some considerable distance from the Waikato River.

There is a possibility that a farm shed on Part Lot 2 DP 11891 ('building 5' in Figure 12 of the assessment), and the small cottage fronting State Highway 29, are pre-1900 buildings. These will not be demolished as part of the Project, therefore no determination of the construction dates by a built heritage specialist has been undertaken.

4.2 Surrounding Environment

The immediate surrounding area comprises farmland and watercourses. The Kinleith Branch railway line is located along the western boundary of the Site. To the north and north-west of the Site is a cluster of commercial businesses, residential dwellings and the Hinuera Hall. Hinuera School, Hinuera Rugby & Sports Club and a church are located to the north-west of the site. The town of Matamata is located approximately 8 km north of the Site, and the Hobbiton Movie Set is located approximately 9 km to the north-west of the Site.

A comprehensive assessment of the surrounding landscape character has been undertaken in the Landscape Effects Assessment ('LEA') prepared by Wayfinder (**Appendix M** of this Application). In summary, Hinuera is a small rural settlement characterised by gently rolling alluvial plains that support extensive pastoral farming. The area features small villages and towns that serve the surrounding large areas of pastoral farming and other rural activities. The Kaimai Mamaku Range provides a clear boundary with Bay of Plenty to the east. The Piako and Waihou Rivers and their catchments are significant features extending from the southern Waikato Region north to the Hauraki Plains and the Firth of Thames beyond.

4.2.1 Adjacent Sites

In accordance with clause 5(1)(d) of Schedule 5 of the FTAA, the names and addresses of owners and occupiers of the Site and land adjacent to the Site are provided within the Engagement and Consultation Summary included in **Appendix B**. Additionally, these adjacent sites are identified in Figure 6 and Figure 7 below.



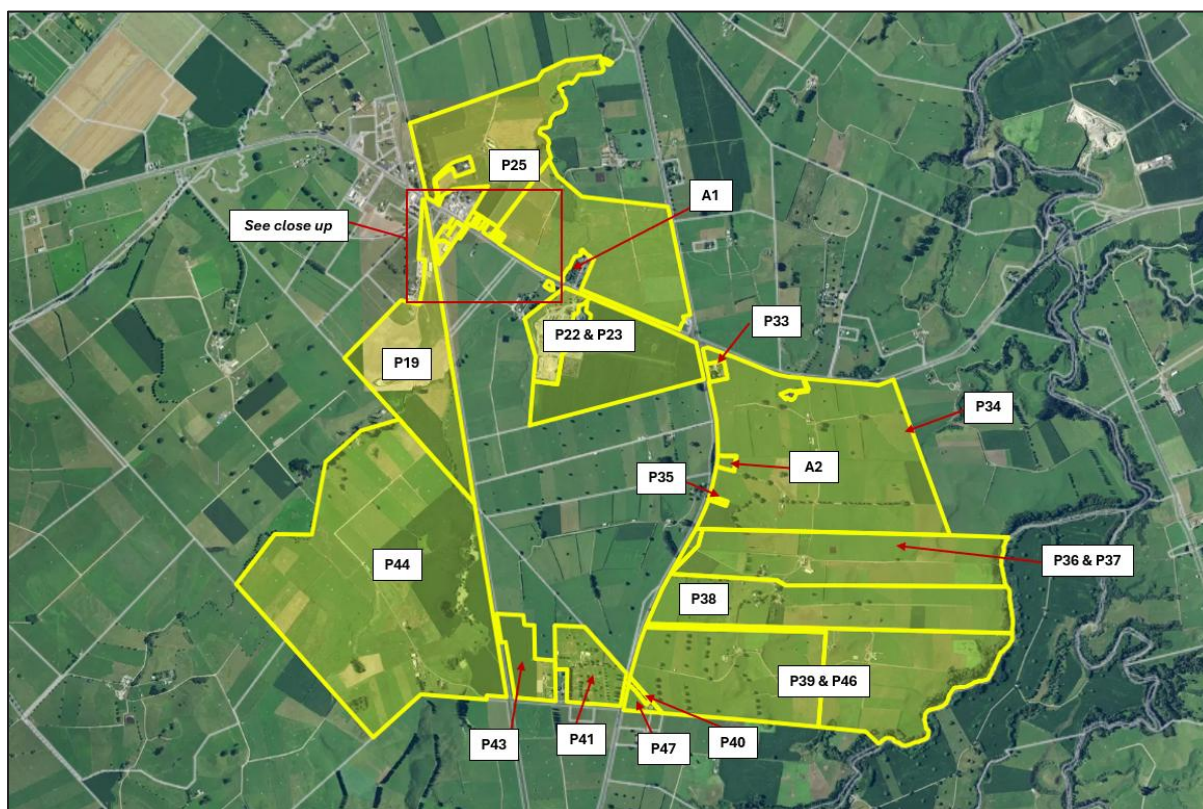


Figure 6: Adjacent Properties Map 1



Figure 7: Adjacent Properties Map 2



4.3 Statutory Planning Context

4.3.1 District Plan Zoning and Overlays

The Site is located within the Rural Zone of the Matamata-Piako District (shown in orange in Figure 8) and shares a boundary with the South Waikato District Council to the south (shown in green in Figure 8).

The Site is adjacent to the State Highway 29 designation to the north and the State Highway 27 designation to the east (listed as 89 in Figure 8). The western boundary of the Site is adjacent to the Kinleith Branch Railway Line designation (listed as 88 in Figure 8). There are no designations on the Site itself.

A Transpower sub-transmission OH line corridor runs along the eastern side of the railway and slightly overlaps with the western edge of the Site. A second Transpower sub-transmission OH line corridor runs along the eastern side of State Highway 27 (across the other side of the highway).

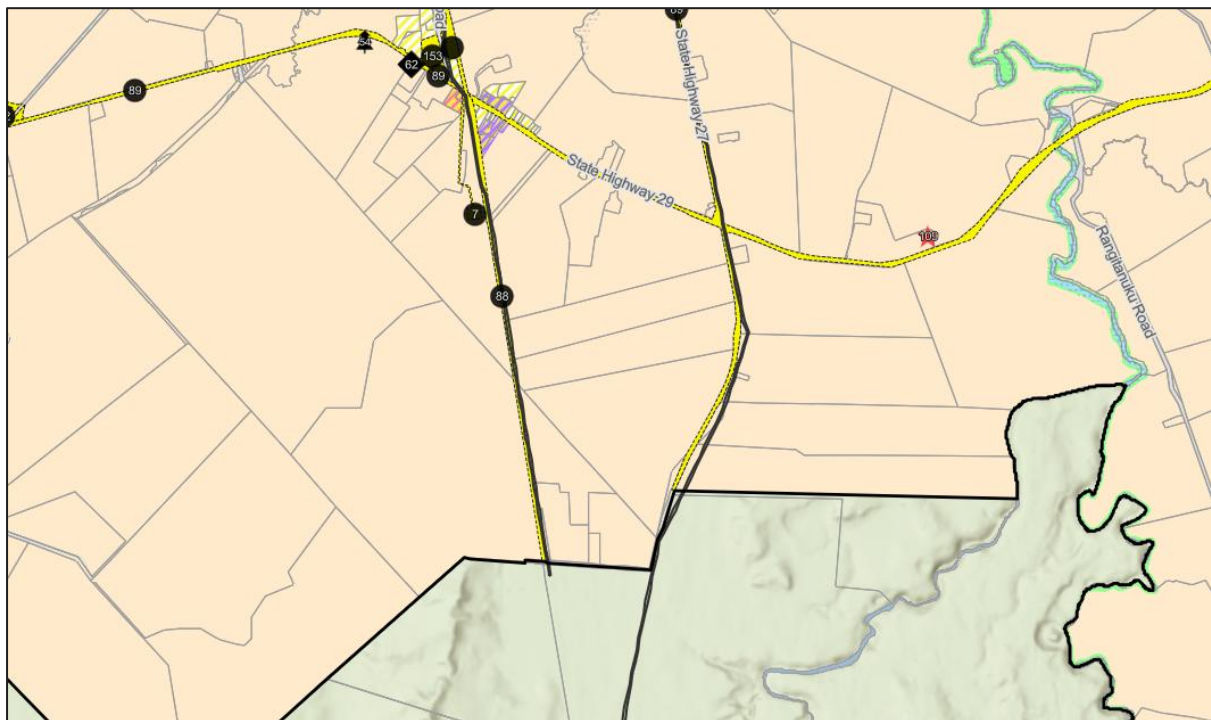


Figure 8: District Plan Zoning Map (Source: Matamata-Piako District Council)

4.3.2 Waikato Regional Plan Overlays

The Site is not subject to any significant biodiversity overlays or hazards identified on the WRC Mapping Portal.

The Site is within the Waihou Piako Catchment Management Zone. The waterbodies running through the Site are classified as surface water (unnamed river) and are not subject to any other classification overlay. There are no known water discharges or takes within close proximity to the Site associated with the Mangawhero Stream or the unnamed tributary.



4.4 Treaty Settlements

Section 43(2)(a) (with reference to section 13(4)(l)) and Schedule 5 of the FTAA require that consent applications must include a list of any Treaty settlements that apply to the project area, a summary of the relevant principles and provisions in those settlements, and a summary of any redress provided by those settlements that affects natural and physical resources relevant to the project or project area.

The Treaty Settlements relevant to the area are discussed below.

4.4.1 Raukawa Claims Settlement Act 2014

The Crown has settled the claims of the Raukawa Iwi with legislation to give effect to the Deed of Settlement signed on 2 June 2012 in which the Crown and Raukawa agreed to the final settlement of the historical claims of Raukawa.

The Raukawa Claims Settlement Act 2014 passed into law in March 2014. The purpose of the Raukawa Claims Settlement Act 2014 is to record the acknowledgements and apology given by the Crown to Raukawa in the Deed of Settlement; and to give effect to certain provisions of the Deed of Settlement that settles the historical claims of Raukawa.

Relevant principles and provisions of the Settlement include:

- The promotion of relationships between Raukawa Iwi and Crown agencies, local authorities, non-governmental organisations and specified entities;
- Deeds of recognition obliging the Crown to consult with Raukawa Iwi on specified matters and Ministers to have regard to Raukawa's views in decision-making;
- The protection and enhancement of the conservation values associated with the places and sites owned by the Crown within Raukawa's area of interest;
- The vesting of 11 sites in Raukawa;
- Statutory acknowledgements over 10 areas and 7 geothermal resources; and
- The implementation of an overlay classification over maunga Pureora o Kahu and maunga Wharepuhunga.

There are no vested sites relevant to the Site. Further, no private land is directly affected under the Raukawa Claims Settlement Act.

MPDC has incorporated the statutory acknowledgements, as they relate to the district in Appendix 10 of the Matamata-Piako Operative District Plan. The statutory acknowledgements for Raukawa in the Matamata-Piako District cover:

- Part of the Kaimai-Mamaku Conservation Park;
- The Okauia and Taihoa geothermal fields;
- Parts of the Waihou River and its tributaries; and
- Part of Lake Karāpiro.



For this Application, the statutory acknowledgement for the Waihou River is considered most relevant. Raukawa has an association with the Waihou Awa and its tributaries, and in particular, the source of the Waihou and the Waihou Springs. Map OTS-113-18 in the Raukawa Deed of Settlement identifies the Waihou River. Whilst the Waihou River does not intersect the Site, the Mangawhero Stream and an unnamed tributary of the Mangawhero Stream are located within the Site. These streams drain towards the Waihou and are therefore a tributary to the Waihou River. Effects on the streams (and subsequently the Waihou River) are discussed in sections 7.3.5 and 7.6.3 and in summary, water quality and flows will be protected. Cultural effects in relation to the Waihou and Mangawhero waterways are discussed in section 7.7.

As identified in the statement of association, the Waikato, Waihou and Pūniu Awa and tributaries are the veins carrying the lifeblood of Papatūānuku. If events or activities affect the awa, they in turn affect Papatūānuku. The awa hold mana in their own right (spiritual authority and power, or a right to exist in a pristine state for intrinsic reasons) and its life essence or life force is the mauri of the awa. Each awa carries the life force for the Raukawa people; that which affects the awa, affects the people.... The awa has provided a source of spiritual, cultural, social and physical sustenance for the Raukawa people and, in turn, the role of kaitiaki embraces respect and an inter-generational responsibility. Raukawa consider the Waihou Awa to be a boundary marker remembered in the pepeha 'Mai te Wairere ki Maungatautari'

Raukawa continues to exercise customary rights and responsibilities of kaitiakitanga in relation to the Waihou River. Raukawa has also released Te Rautaki Taiao a Raukawa (Raukawa Environmental Management Plan) 2015, discussed further below.

4.4.2 Ngāti Hauā Claims Settlement Act 2014

The Ngāti Hauā Claims Settlement Act 2014 was passed into law in December 2014. The Act gives effect to the Deed of Settlement signed on 18 July 2013 in which the Crown and Ngāti Hauā agreed to the final settlement of the non-raupatu historical Treaty of Waitangi claims.

The purpose of the Ngāti Hauā Claims Settlement Act 2014 is to record the acknowledgements and apology given by the Crown to Ngāti Hauā in the Deed of Settlement; and to give effect to certain provisions of the Deed of Settlement that settles the historical claims of Ngāti Hauā.

Relevant principles and provisions of the Settlement include:

- The promotion of relationships between Ngāti Hauā and Crown agencies, local authorities, non-governmental organisations and specified entities;
- Deeds of recognition obliging the Crown to consult with Ngāti Hauā on specified matters and Ministers to have regard to Ngāti Hauā's views in decision-making;
- The protection and enhancement of the conservation values associated with the places and sites owned by the Crown within Ngāti Hauā's area of interest;
- The vesting of 8 sites in Ngāti Hauā;
- Statutory acknowledgements over 7 areas; and



- The implementation of an overlay classification over Te Miro Scenic Reserve.

While the Site is located within the Treaty Settlement Area of Interest for Ngāti Hauā, there are no statutory acknowledgement areas under the Ngāti Hauā Claims Settlement Act 2014 which relate directly to this Site. There are no vested sites relevant to the Site. Further, no private land is directly affected under the Ngāti Hauā Claims Settlement Act 2014.

4.4.3 Ngāti Hinerangi Claims Settlement Act 2021

Ngāti Hinerangi has an area of interest extending from the eastern Waikato to Tauranga including part of the Kaimai Range. In 2014, the Crown recognised the mandate of the Ngāti Hinerangi Trust to represent Ngāti Hinerangi in negotiating a comprehensive historical Treaty settlement.

In December 2015, the Crown and Ngāti Hinerangi signed an agreement in principle which formed the basis for this settlement. On 4 May 2019, Ngāti Hinerangi and the Crown signed a Deed of Settlement. This Settlement was then codified by way of the Ngāti Hinerangi Claims Settlement Act 2021.

The purpose of the Ngāti Hinerangi Claims Settlement Act 2021 is to record the acknowledgements and apology given by the Crown to Ngāti Hinerangi in the Deed of Settlement; and to give effect to certain provisions of the Deed of Settlement that settles the historical claims of Ngāti Hinerangi.

Relevant principles and provisions of the Settlement include:

- The promotion of relationships between Ngāti Hinerangi and Crown agencies, local authorities, non-governmental organisations and specified entities;
- Deeds of recognition obliging the Crown to consult with Ngāti Hinerangi on specified matters and Ministers to have regard to Ngāti Hinerangi's views in decision-making;
- The protection and enhancement of the conservation values associated with the places and sites owned by the Crown within Ngāti Hinerangi area of interest;
- The vesting of 14 sites in Ngāti Hinerangi;
- Statutory acknowledgements over 7 areas and 3 geothermal resources; and
- The implementation of multiple overlay classifications. These overlays seek to acknowledge Ngāti Hinerangi's traditional, cultural, spiritual and historical association with specific sites of significance.

There are no vested sites or overlays relevant to the Site. The statutory acknowledgements for Ngāti Hinerangi in the Matamata-Piako District cover:

- Kaimai range ridgeline;
- Te Ara o Maurihero;
- Te Tapui Scenic Reserve within the area of interest;
- The Waihou River and its tributaries within the area of interest;



- Part Maurihero Scenic Reserve;
- Waianuanu; and
- Ōkaia, Taihoa, and Waiteariki Geothermal Resource.

For this Application, the statutory acknowledgement for the Waihou River is considered most relevant. Whilst the Waihou River does not intersect the Site, the Mangawhero Stream and an unnamed tributary of the Mangawhero Stream are located within the Site. These streams drain towards the Waihou and are therefore a tributary to the Waihou River. The statutory acknowledgement is shown to partially cover the Site in map OTS-135-24 in the Ngāti Hinerangi Deed of Settlement. Effects on the streams (and subsequently the Waihou River) are discussed in sections 7.3.5 and 7.6.3 and in summary, water quality and flows will be protected. Cultural effects in relation to the Waihou and Mangawhero waterways are discussed in section 7.7.

The Waihou River is the ancestral river of Ngāti Hinerangi. The Waihou River and its tributaries within Te Rohe o Kōperu, the traditional tribal boundaries of Ngāti Hinerangi, are sacred to Ngāti Hinerangi who have occupied the lands in the Matamata region adjacent to the Waihou River for more than 500 years.

As stated in the statement of association the Waihou River is of great spiritual, cultural, ancestral, traditional, and historical importance to Ngāti Hinerangi. The evidence of this can be seen by the great number of Ngāti Hinerangi pā sites, papakāinga settlements, urupā, and wāhi tapu located nearby or on the banks of the river. The Waihou River is home to sacred waiariki (geothermal springs) and tīpua mokomoko (reptilian deities). The Waihou River has been a provider of life sustaining fresh water, food resources in the form of birdlife, tuna, freshwater crayfish, and other fish species, and it has provided a plentiful supply of harakeke for clothing and building materials.

Ngāti Hinerangi has exercised rangatiratanga and kaitiakitanga over the Waihou River and its tributaries and waterways, from time immemorial and it plays a central role in the cultural and spiritual identity of Ngāti Hinerangi.

4.4.4 Waikato Raupatu Claims Settlement Act 1995

Waikato-Tainui Raupatu and the Crown signed a Deed of Settlement on 22 May 1995. The collective assets of the iwi are now managed by Te Whakakitenga o Waikato Incorporated (formerly known as Te Kauhanganui).

The Waikato Raupatu Claims Settlement Act 1995 received royal assent on 3 November 1995. The outcome of this Settlement was the establishment of the Waikato Land Acquisition Trust. This Trust assumed responsibility for the acquisition and mass-transfer of land as listed within Attachment 2 of the Act ("Settlement Land"). The Site is not 'Settlement Land' under the Waikato Raupatu Claims Settlement Act 1995.

Negotiations regarding the remainder of Waikato River Treaty claims by Waikato-Tainui commenced in 2020 and are still ongoing. It is acknowledged there is a possibility that part of the eventual Deed of Settlement might be relevant to the Site. However, it is unlikely when looking at the geographical scope of remaining claims and the fact that the Site does not



include any Crown land or sit within the Waikato River Catchment. At the time of this application, no agreement has been reached between Waikato-Tainui and the Crown regarding its remaining claims.

5.0 Proposal

This section provides a description of the key elements of the proposed activity in accordance with Clause 5(1)(a) of Schedule 5 of the FTAA.

5.1 Proposal Overview

5.1.1 Application Scope

In accordance with Section 43(2)(c) of the FTAA, this section confirms that the substantive application is within the scope of the project as it was accepted for listing. Schedule 2 of the FTAA provides a description of the project which states the following:

Construct, operate, and maintain a solar farm and battery energy storage facility with an installed capacity of approximately 100 MW DC, and connect and supply electricity to the national grid - 152 hectares at Hinuera, Waikato.

5.1.2 Overview of Primary Activities

HENZ is proposing to construct and operate a solar farm with a peak output to the grid of approximately 70 MW AC/100 MW DC at the Site. The solar farm (fenced area) will occupy approximately 134 hectares of the 154 ha Site. The Project will export generated electricity via the Powerco substation at the corner of Lake Road and State Highway 27, Hinuera (South Waikato District).

An overall layout plan is included as Figure 9 below and is attached as **Appendix O**.

The following are the key elements of the Hinuera Solar Farm:

- The installation of a maximum 170,000 photovoltaic (PV) modules (panels);
- Ancillary infrastructure including:
 - Connections and cabling;
 - BESS;
 - Central Inverter or String Transformer Stations;
 - Switching Station/Switchroom;
 - Operations, maintenance and storage buildings;
- Connection to the Hinuera Substation located at the corner of State Highway 27 and Lake Road;
- Earthworks to create level platforms for the PV arrays, ancillary infrastructure and internal access roads;



- Stormwater management including culverts;
- Temporary works and construction facilities including laydown areas, temporary access, worker amenities, and utility services;
- Security fencing, lighting and CCTV;
- Internal access roads;
- Fire access and firefighting infrastructure;
- Storage of hazardous substances;
- Meteorological Stations;
- Ecological restoration surrounding wetlands, the Mangawhero Stream, and the unnamed Stream within the Site extent;
- Provision for ongoing farming of the land under and around the solar panels; and
- Ongoing operation of the solar farm.

A detailed description of these key elements is provided in Sections 5.2 - 5.7 below.



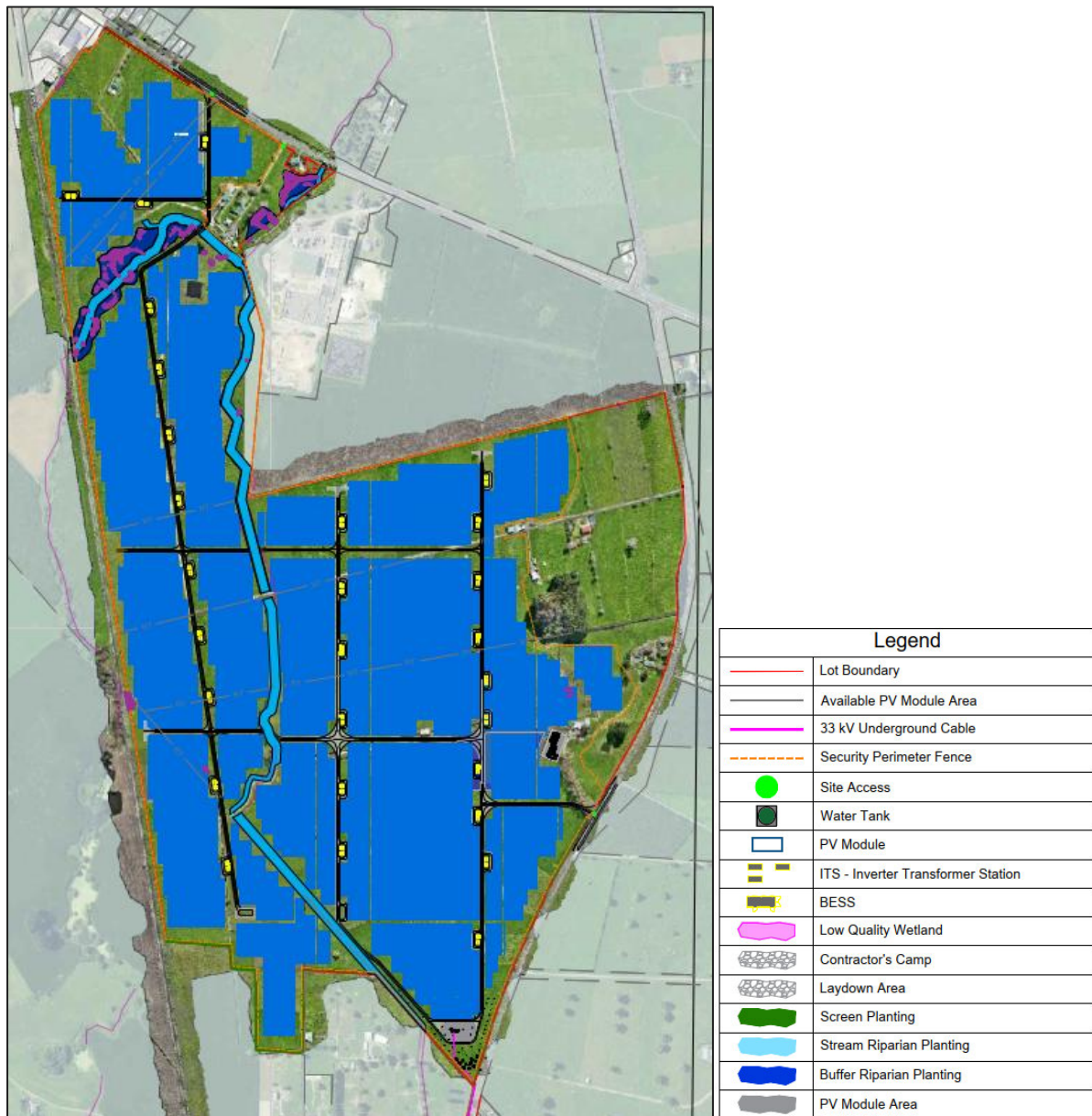


Figure 9: Overall Layout Plan

(note: at this scale the solar panel areas are indicated by the blue shading)

It is noted that the panel and roading layout demonstrated on the above plan is indicative only. Accordingly, reference should also be had to the plan provided in Figure 10 below, which indicates the total PV available area.



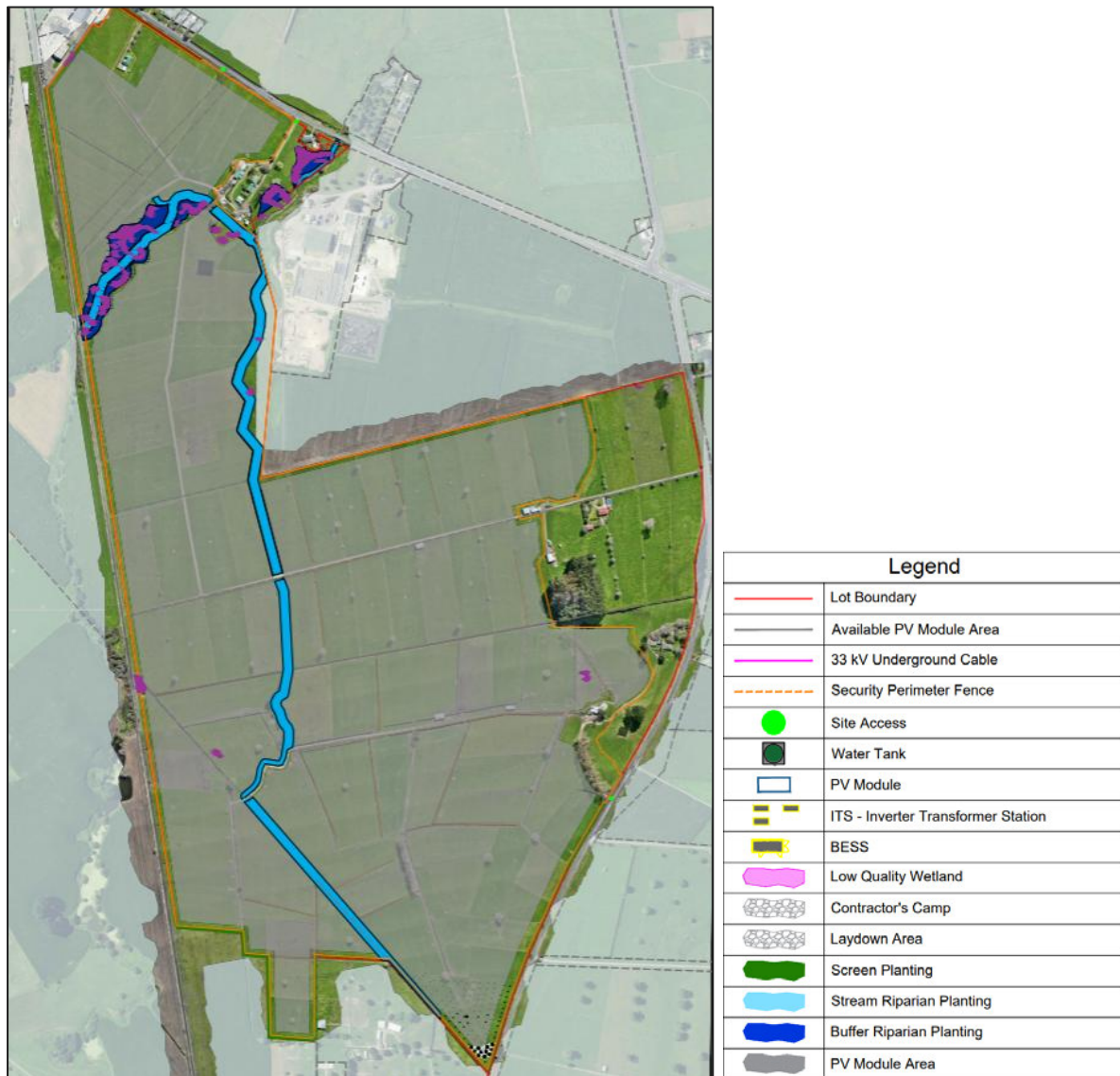


Figure 10: PV Available Area

5.1.3 Design Approach

HENZ's design approach is set out in its Concept Design Statement attached in **Appendix N**. The Project has and will progress through a defined sequence of design phases, with each stage delivering increased refinement and optimisation across all engineering, environmental, and constructability aspects. As the Project advances through its lifecycle, design assumptions are progressively validated, reducing uncertainty and enabling more precise specifications.

Phase 1 of the design process involved developing a concept design that takes into account Site constraints and opportunities. The purpose of the concept design is to present a well-justified, and realistic project specification scope that demonstrates to the consenting authority what will likely be built, where it will be located, and how it will be constructed and operated. The approach focuses on defining an outer design envelope, setting the maximum extents for



dimensions, footprints, and environmental effects. This concept design is utilised at the consenting stage.

Due to the level of refinement expected during the design process, an 'envelope' approach to concept design has been taken, meaning that the maximum design envelope and number of components have been utilised. This ensures the effects assessments are based on a 'worst case scenario', with real world implementation resulting in the same or lesser effects.

5.2 Proposal Details

A Concept Design Statement has been prepared by HENZ as part of the proposal which provides an outline of the engineering detail, civil design, network connection, construction detail and operational detail. This is attached as **Appendix N**. The following sections provide a summary of that detail.

5.2.1 Solar Modules

PV modules are the primary energy-generating component of the solar farm. Each module consists of multiple small photovoltaic cells electrically connected in series and encapsulated between layers of tempered glass which protect against moisture ingress, UV degradation, and mechanical impact.

Subject to final design, including selection of make/model and voltage of panels, it is anticipated that the Hinuera Solar Farm will have a maximum of 170,000 PV modules. The panels may vary in size but will be approximately 2.8 m².

5.2.2 Panel Tables

The PV modules will be mounted on a single-axis tracking system. Single-axis trackers mount PV modules in north-south rows and rotate them east-west using actuator systems, maintaining a near-perpendicular angle to the sun to maximise generation. Each group of panels mounted on a mechanical structure is called a 'table'. An elevation of the proposed single axis tracking system is included in Figure 11 below.

The panels will be mounted on full table arrays being between 32 m and 130 m long. Rows of arrays will be between 4.5 m and 7 m apart when measured from point-to-point (i.e. centres) to allow sheep to graze between them and to limit shadowing on the array behind.

The panels will generally have a clearance of 500 – 1250 mm above relative ground level at the lower end, however, the minimum ground clearance will be 300 mm to allow for some undulation in ground contour. The height of the panels will be approximately 2.5 m - 3.25 m above relative ground level at the higher end, with a racking range of approximately 60 degrees. A maximum height of 3.25 m is being applied for; this is to allow for a worst-case scenario (i.e. the largest possible panels and greatest degree of tilt) but it is highly likely that panels will sit at a lower height.



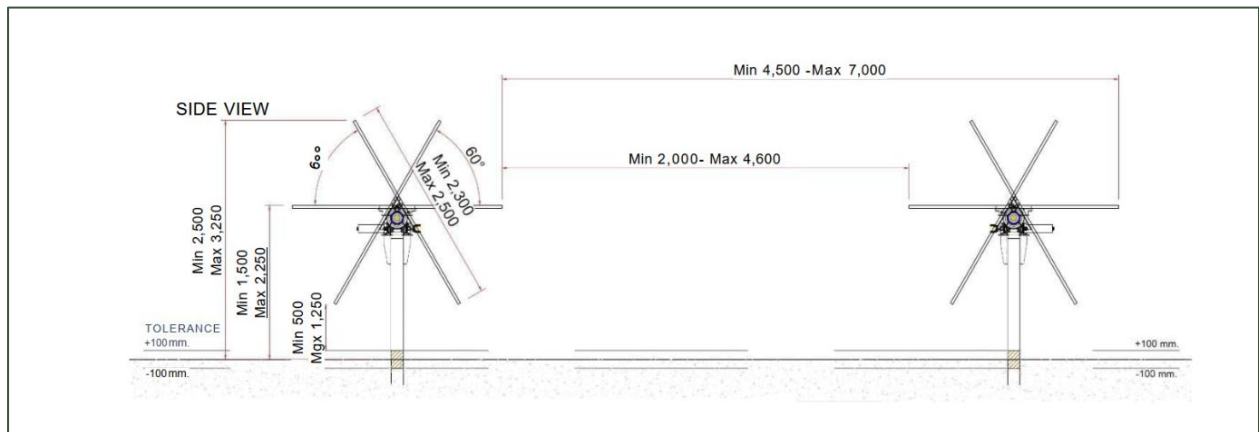


Figure 11: Single-axis tracking elevation (Source: Appendix N)

Mounting structure components typically include:

1. Piles or posts – Steel piles, often hot-dip galvanised for corrosion protection, anchor the mounting system. The piles are typically driven 2.4 – 4.5 m into the soil, depending on geotechnical conditions, although alternative foundation methods (e.g. micropiles, concrete collars, screw piles) are used if ground conditions are unsuitable for direct driving. Roughly 600 piles are installed per MWp of solar modules.
2. Top structure consists of rails or beams mounted to piles to support the PV modules. Made from galvanised steel or aluminium alloys, these form the table structure.
3. Tracker-specific components – Motors, gears, bearings, dampers, and sensors enable rotation. Power to the motor can be provided from a centralised auxiliary supply, often provided from the Power Conversion Unit (PCU) station, or alternatively via a self-power solution with a small solar module and battery connected to an actuator. Mechanical dampers are installed between the post and top structures to help limit wind-induced oscillations. Every tracker table has a dedicated motor and control module. Depending on the tracker system, multiple communication and meteorological towers might be installed throughout the Site to communicate with all the individual tracker motors. These towers are often installed at a maximum height of 10 m and located towards the middle of the solar farm.

5.2.3 Connections and Cabling

5.2.3.1 DC String Cables

Modules are connected in series to form a string, with each string's voltage kept within the inverter's maximum input voltage rating (often 1,500 volts DC for utility-scale plants). Each module string is interconnected by PV-rated DC cables. Cables are routed along the mounting structure using UV-resistant cable clips or ties, avoiding mechanical stress points and sharp bends to minimise wear.



5.2.3.2 String Combiner Boxes

String combiner boxes aggregate the outputs of multiple module strings into a single DC main cable for delivery to the inverter station. String Combiner Boxes are only used in a Central Inverter Configuration.

If a central inverter configuration is utilised, an estimated 350 string combiner boxes will be installed. These will be installed on galvanised steel posts or directly onto mounting structures. Sizing will vary depending on the selected make and model, however typical dimensions are approximately 650 mm in height and 900 mm length and 300 mm in width.

An example string combiner box is shown in Figure 12 below.



Figure 12: Example String Combiner Box

5.2.3.3 String Inverters

As an alternative to String Combiner Boxes, string inverters are smaller types of inverters, often 350 kVA in capacity and below 1 kV connection voltage. The inverter converts the DC power generated by the solar modules directly into AC power for connection to the low-voltage AC collection system. Unlike central inverters, string inverters incorporate built-in string-level aggregation and protection, thereby eliminating the need for external string combiner boxes. They are distributed across the solar array and mounted close to the PV modules, reducing DC cable length. String inverters have the benefit of higher granular monitoring and controlling capability but require more detailed communication networks.

If a string inverter configuration is utilised, an estimated 350 string inverters will be installed. The string inverters will be installed on module mounting structures, dedicated inverter racks, or ground-mounted pedestals. String inverter sizing will vary depending on the selected make and model, however typical dimensions are approximately 900 mm in height, 1200 mm long and 350 mm wide and they are similar in appearance to string combiner boxes.



5.2.4 Ancillary Infrastructure

The following ancillary infrastructure will be part of the solar farm.

5.2.4.1 Power Conversion

Two different power conversion approaches can be used, namely, Central and String. Regardless of which approach is utilised there will be a maximum of 30 container-like structures installed throughout the Site. Further details of each approach are outlined below:

Central Inverter Station/Power Conversion Unit

The Central Inverter Station (ITS) also referred to as a Power Conversion Unit (PCU) is a key conversion point in the solar farm's electrical system, transforming a large amount of DC electricity from the PV arrays into grid-compatible AC power and stepping the voltage up to the medium-voltage (MV) collection system.

If a central inverter configuration is utilised, a maximum of 30 central inverters will be installed. Each ITS is the approximate size of a 20 foot (ft) container, but two ITS may also be combined into one unit, approximately the size of a 40 ft container. Typical details are shown in **Appendix P**.

String Transformer Stations

With string inverters, a separate transformer station is required to collect all the low voltage (LV) AC connections from the string inverters and step-up the voltage from generally 0.6 kV to 33 kV. This is done via a String Transformer Station (STS) and looks very similar to an ITS with similar breaker control points, protection equipment, transformer, and switchgear. The main difference being that an STS has multiple LV AC inputs with no active power conversion units, whereas an ITS has multiple DC inputs with a power conversion unit.

If a string inverter configuration is utilised a maximum of 30 STSs will be installed. Each STS is the approximate size of a 20 ft container, but two STSs may also be combined into one unit, approximately the size of a 40 ft container.

Switching Station

A 33 kV switching station will be constructed to electrically connect the solar farm to the network at Hinuera Substation.

The switching station will be prefabricated and have a maximum size of 80 m² and height of 3-4 m. An additional 10 m x 10 m yard may also be required for harmonic filters following the commissioning and testing of the Site. The switching station will be located in the southern portion of the Site.

5.2.4.2 Operations & Maintenance (O&M) and Storage Buildings

An O&M Building and associated storage facilities form the central hub for managing, maintaining, and supporting the solar farm's long-term operation.



The O&M Building serves as the primary operational base for site staff and contractors, housing all necessary facilities for day-to-day plant monitoring, administration, and maintenance activities.

A dedicated enclosed storage building is required for storing critical spare parts, which must be stored in secure, environmentally controlled conditions to ensure readiness for use. Adjacent to the storage building, there may be a small number of 40 ft shipping containers to store non-sensitive spares. These are items that do not require climate control or immediate availability but are still valuable for minimising replacement lead times.

The Project will include the following:

- 1x O&M Building of approximately 180 m²;
- 1x Storage Building of approximately 180 m²; and
- Up to five containers of approximately 28 m² each.

In order to retain flexibility in final design, and consistent with the 'envelope' approach to consenting, consent is being sought for up to 500 m² of storage and operational buildings, including no more than five containers. These will be located near the State Highway 27 entrance to the Site.

5.2.4.3 Meteorological Stations

Meteorological stations or weather stations provide real-time monitoring of environmental and meteorological conditions across the solar farm. The data is used for performance monitoring, energy forecasting, asset protection, and tracker control.

The Project will include a maximum of three full meteorological stations with a maximum height of 4 m and an additional three wind meteorological stations with a maximum height of 10 m.

5.2.5 Battery Energy Storage Systems (BESS)

BESS are deployed to store excess solar energy and discharge it when required, improving plant flexibility, reliability, and grid compliance. BESS units can be integrated either at the DC side (DC-coupled with PV inverters) or at the AC side (AC-coupled with the plant's MV/LV network). In this instance, a DC-coupled BESS system is proposed. Every BESS unit will require its own set of converters.

BESS Construction

- BESS systems are typically housed in prefabricated containerised enclosures (20 ft or 40 ft ISO containers) or modular components up to 15 m, outdoor-rated (IP54–IP65), thermally insulated, and equipped with HVAC and fire detection and suppression systems. Refer to Figure 13 below for typical layout.
- Lithium-ion batteries are the most common, arranged into racks and modules. Other technologies (LFP, NMC, flow batteries) may be considered depending on application.
- Containerised enclosures are installed on reinforced concrete pads with underground cable ducting.



- BESS is a well-developed but still evolving technology and is constantly being improved in terms of size, capacity, and safety features. Typically, a 20 ft container could provide between 3 and 7 MWh of storage.

The capacity of this system will be based on available technology, grid code requirements, and commercial agreements, however, to allow for a worst-case scenario, the following is proposed:

- 4h-hour battery at maximum grid capacity (i.e. 400 MWh);
- Three BESS units per inverter (being a total of 90);
- One Power Conversion Unit for every 3 BESS units (being 30); and
- Four DC-to-DC converters per central inverter station, each unit approximately 1.5 m wide by 2 m long (being a total of 120 units).

Typical details are shown in **Appendix P** and Figure 13 below.

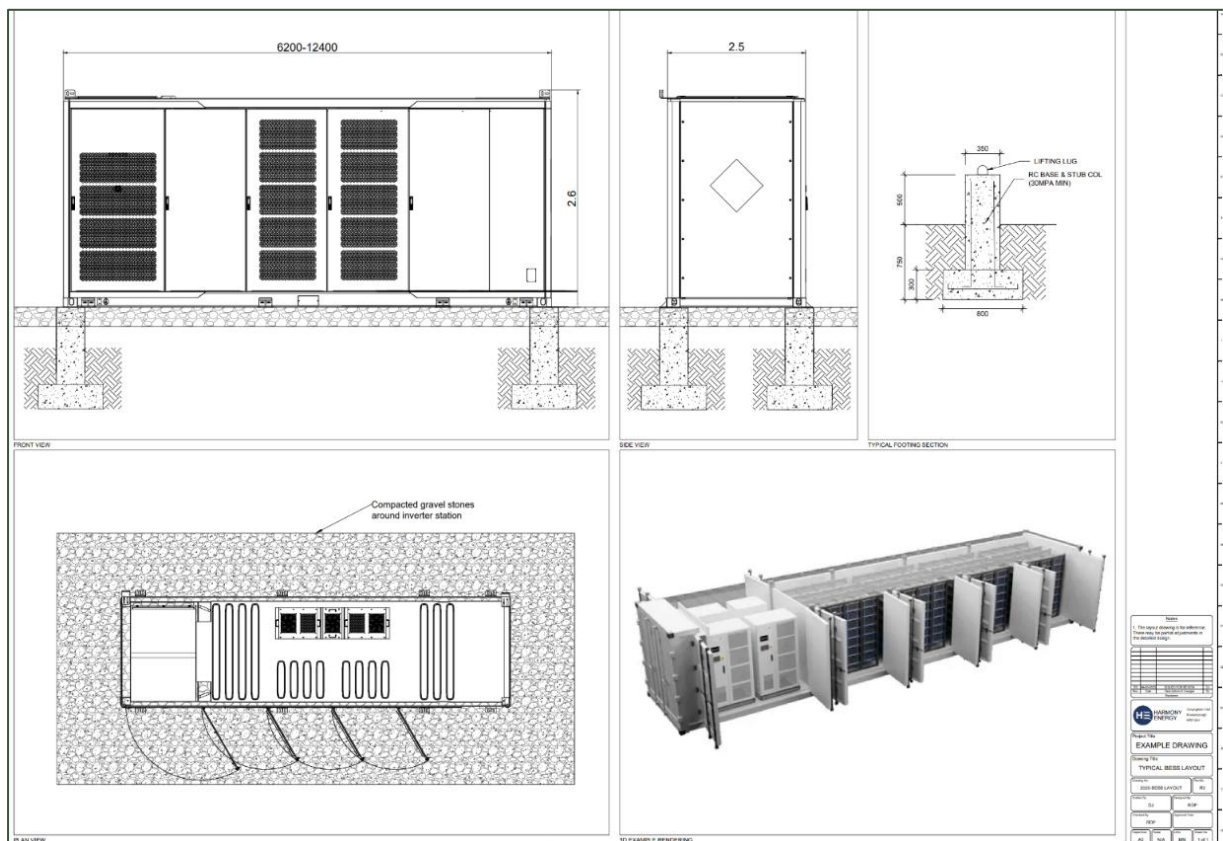


Figure 13: Typical BESS Container Layout

5.2.6 Hazardous Substances

During both construction and operation of a solar farm, a range of hazardous substances may be present on-site. These are required for construction activities, equipment operation, maintenance, and vegetation management. The Project includes the following hazardous substances:



- The central inverter units and transformers will contain transformer oil (often mineral or ester-based) for cooling and dielectric insulation;
- Battery banks comprising lithium-ion batteries, which are not in themselves considered a hazardous substance when used according to the recommendations of the manufacturer. Their cells contain a wide range of hazardous substances;
- Each of the battery banks will utilise ethylene glycol as a coolant;
- A self-bunded above ground storage tank and refuelling station containing diesel for construction plant, vehicles, and backup generators will be stored outside of the warehouse;
- Small volumes of ancillary substances will also be stored at the site, such as;
 - Lubricants, oils, and grease for moving parts, machinery, and rotating equipment;
 - Cleaning solutions for equipment;
 - Herbicides or pesticides for Site management to maintain clear solar array zones; and
 - Small quantities of paints, adhesives, welding gases, or similar consumables may also be present during construction.

5.2.7 Fencing, CCTV and Lighting

A security fence, to a maximum height of 2.4 m, will be constructed around the perimeter of the area to be occupied by the operational solar farm (approximately 134 ha) with access gates at designated entry points. Typical details are shown in **Appendix P**. Where planting is proposed, the fence will be located internal to the planting. The fence will be constructed from galvanised steel posts and rails, heavy-duty chain-link mesh or welded mesh panels. Internal fencing may also be installed around high-voltage equipment and BESS unit compounds for an additional layer of protection.

Temporary fencing will be used during construction to protect exclusion zones and maintain site safety.

CCTV cameras to a maximum height of 10 m will be erected around the site, in a manner that provides coverage of the entire perimeter. Typical details are shown in **Appendix P**. Where planting is proposed, CCTV cameras will be located internal to planting. All CCTV cameras will be erected to comply with permitted standards for height in relation to boundary.

Lighting, for the purposes of both security and health and safety will be required during construction. Such lighting is likely to include:

- Lighting in carpark area(s) and contractors' compound to allow for security and safe navigation around the site;
- Security lighting in laydown areas and at access points; and
- Access control points and security gates.



Temporary/movable lighting towers will be required to provide the required lighting during construction. Such lights will be set at no more than 3.5 m above ground level and will be directed downwards and into the Site to minimise any light spill beyond the immediate area.

Permanent operational and security lighting will be installed as needed. All permanent lighting will comply with the permitted lighting standards for the zone.

5.3 Civil Design

A set of Civil Concept Design Plans is attached in **Appendix P**.

5.3.1 Earthworks

Earthworks are required to establish the engineered ground conditions needed for a utility-scale solar farm, creating level platforms for PV arrays, BESS, inverters, transformers, control buildings, switching stations, cable management, auxiliary infrastructure, and roading. This will primarily involve topsoil removal and replacement with subgrade. A limited amount of fill may also occur for the purpose of raising land to provide flood clearance for infrastructure, in particular in the northern corner of the Site.

A summary of the estimated (preliminary) earthworks volumes, between the existing, topsoil-stripped ground and proposed subgrade, is set out in Table 5 below and illustrated in Figure 14 and Figure 15. Refer to the Infrastructure Report prepared by Maven (**Appendix Q**) and the proposed Cut/Fill plans in **Appendix P** for further details. It is noted that these earthworks volumes are based on the current concept design and are likely to be refined during detailed design, they should therefore be noted as estimated rather than final volumes.

Table 5: Estimated Earthworks

Activity	Disturbed Area (m ²)	250 mm Topsoil Removal (m ³)	Cut/Fill (m ³)
Roading Network (excl. entrances)	58,442	14,611	30,122 (Fill)
Construction Laydown	22,405	5,602	10,082 (Fill)
Contractors' Camp	11,515	2,879	5,182 (Fill)
O&M Compound	559	140	252 (Fill)
Warehouse Compound	921	231	414 (Fill)
Switching Station	282	71	127 (Fill)
Inverter Loop & Pads	19,247	4,812	8,370 (Fill)
Northern Fill Area	2,296	574	745 (Fill)
Trenches	18,861	4,715	15,842 (Cut)
Total	134,528 m²	33,635 m³	71,136 m³



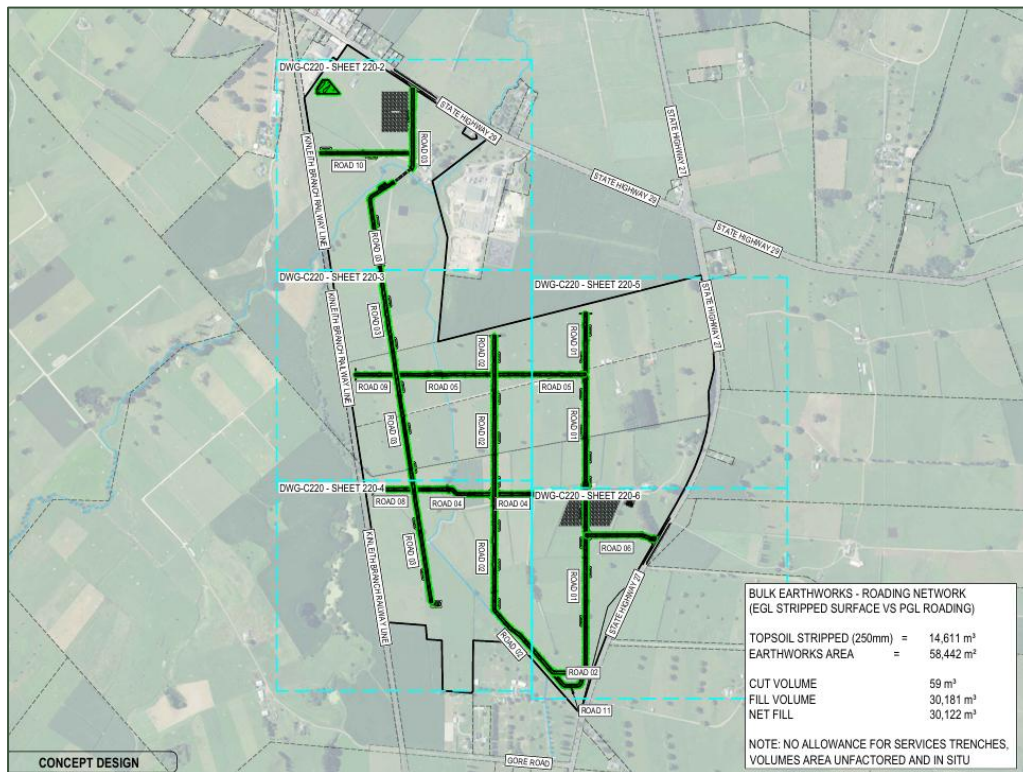


Figure 14: Cut/Fill Plan (Overview)

(Note: Black lines indicate internal roads, green shading indicates areas of cut/fill)

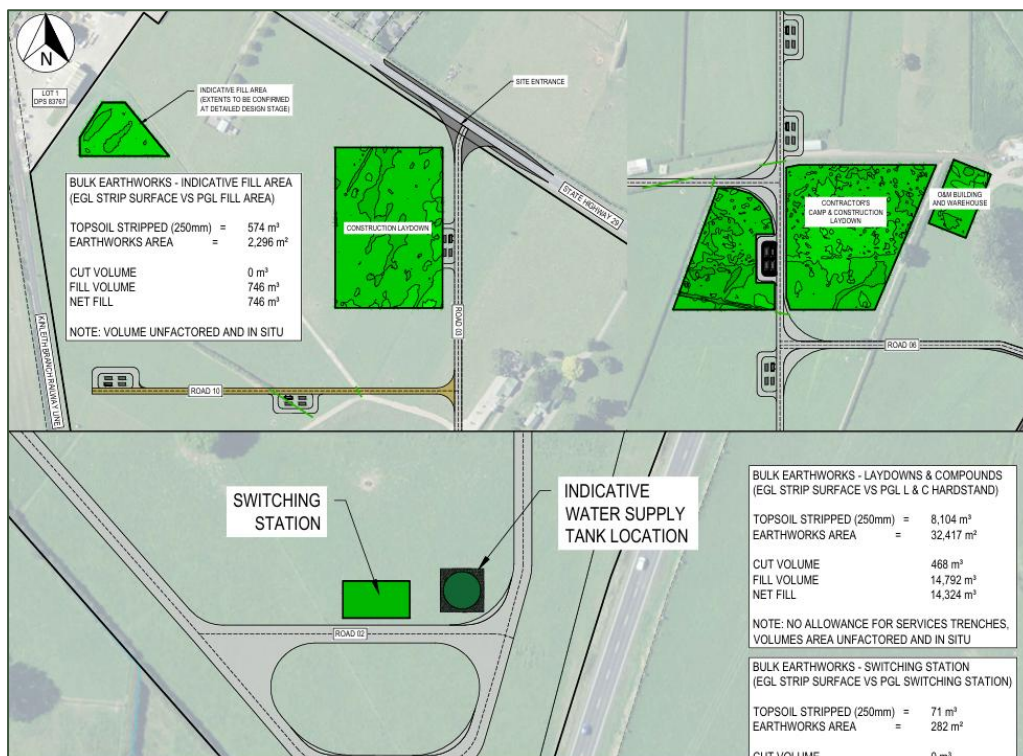


Figure 15: Cut/Fill Plan (Buildings)



The extent of the topsoil strip for the permanent works (roads, inverter pads, switching station, O&M and warehouse compounds) will be approximately 7.9 ha or around 5% of the total Site area. The extent of topsoil strip for the temporary works (laydowns, contractors' camp, trenches) will be approximately 5.3 ha or around 3.5% of the Site area.

Earthworks near waterbodies (in the High Risk Erosion Area defined by WRC) are anticipated to be limited to three stream crossings associated with the internal roading network and a small section of an internal road near the stream and are estimated to be 230 m³ in volume and 921 m² in area.

Earthworks will be undertaken in accordance with NZS4431:2022, and the recommendations of CMW's Geotechnical Investigation Report, attached as **Appendix F**. An Erosion and Sediment Control Plan (ESCP) has been prepared by Maven in accordance with WRC's Erosion and Sediment Control Guidelines for Land Disturbing Activities and is attached as **Appendix R**. The following controls are proposed:

- Prior to earthworks beginning, stabilised entrances will be installed at the proposed access locations to mitigate sediment being tracked onto the public roading network.
- A staged approach to earthworks is proposed. Earthworks areas will be progressively stabilised with topsoil, grass seed, and straw mulch, where appropriate. It is anticipated that a maximum 1 ha area of open, untreated surfaces will be exposed at any time.
- Clean water diversion channels are proposed to divert upstream runoff away from the site, preventing clean water from entering the area of work.
- Silt fences (at least 400 mm above ground level) are proposed on downstream Site boundaries. Silt fences will also be used around the contractor's camps and laydown near existing drains.
- Hay bale check / filter dams will be installed within farm drains downstream of any road crossing and any works near farm drains.
- Any stockpiling will be confined to a nominated area/s and will be treated as a temporary measure, located away from any watercourse or runoff flow path.
- When trench dewatering is required, discharge shall be directed to stable vegetated land where practicable. Where discharge to an existing farm drain is necessary, the discharge point shall include suitable erosion and sediment controls such as filter socks, sediment bags and geotextiles to minimise sediment discharge.
- Earthworks within the High-Risk Erosion Area will be undertaken during the drier/summer period unless winter works approval is obtained from WRC. Earthworks across the remainder of the Site are considered appropriate to continue under standard erosion and sediment controls year round.
- Works within watercourses (installation of culverts) will involve diversion around the active works area, ensuring that sediment-laden water does not enter the downstream watercourse. The temporary diversion will remain in place until the works area is adequately stabilised.



The controls will be regularly monitored and maintained to ensure they are performing as intended. The ESCP also contains management measures for potential dust effects, primarily using water for dust suppression, as well as progressive stabilisation as mentioned above.

Given the nature of the necessary earthworks and the receiving environment, the proposed earthworks methodology is considered to be the most appropriate alternative.

5.3.2 Access and Internal Roads

Access and internal roads form the backbone of construction and operational logistics at a utility-scale solar farm. There are currently 5 vehicle crossings providing access to the Site as described in Section 4.1.2 above.

Four of the existing access points (1-4) (refer Figure 16) will be retained for the Site to provide residential dwelling and farming access locations.

Access for the solar farm construction, operation and maintenance is proposed in two scenarios / options. These options are summarised below and discussed in detail in **Appendix E**:

- Option 1
 - State Highway 29 – provide a new vehicle crossing between existing access 1 and existing access 2.
 - State Highway 27 – upgrade existing access 5.
- Option 2
 - State Highway 29 - utilise existing access 2.
 - State Highway 27 – upgrade existing access 5.

Under either option, existing access 5 will be upgraded to provide construction and operational access for the southern part of the Site, including the O&M building, warehouse, switching station, construction contractors' camp and southern construction laydown area from State Highway 27.

The accessways will be designed to provide for a 26.0 m B-Double track in accordance with NZTA's Planning Policy Manual Access Guide Type E.

The proposed internal roading network is shown on the plans in **Appendix P** and comprises 5.0 m or 6.0 m wide unsealed carriageways with shoulders and roadside table drains, elevated approximately 200 mm above the existing ground level. The internal roading network has been designed to provide appropriate turning curves for a 26.0 m B-Double truck, with turning heads at the end of dead-end roads that accommodate an aerial fire appliance (8.5 m rigid truck).



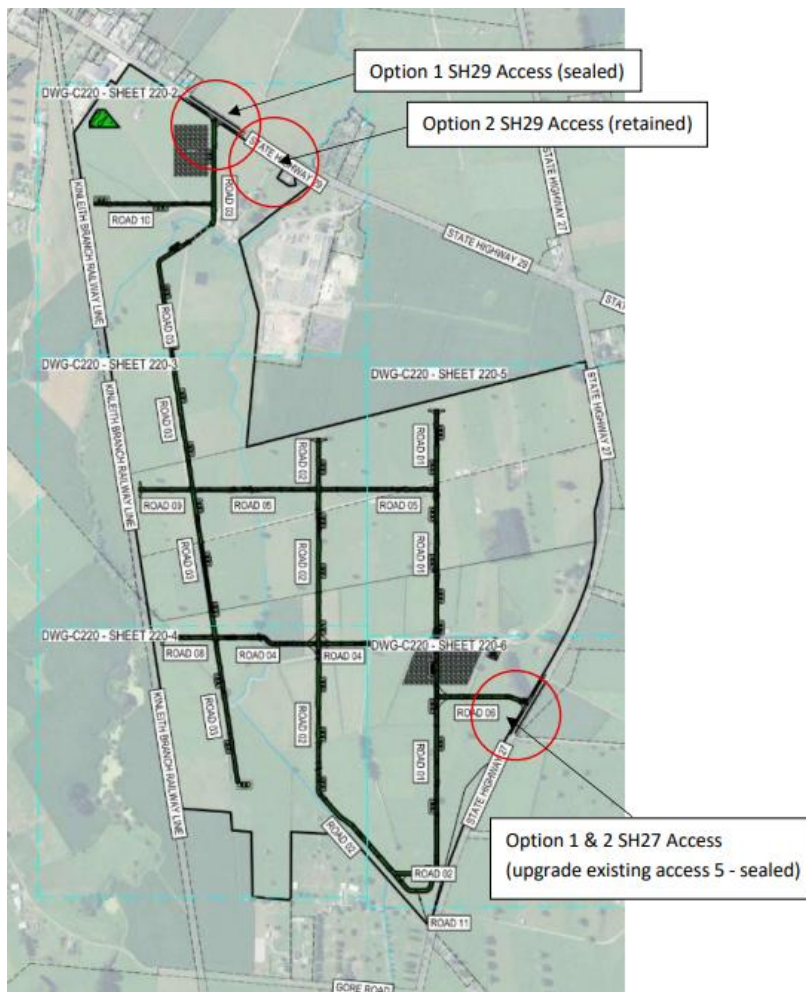


Figure 16: Proposed Access Options

5.3.3 Stormwater and Hydrology

The proposed PV arrays, internal roads and hardstands will alter natural hydrology. Stormwater management will ensure that rainfall is safely conveyed, infiltrated, or detained without creating erosion, flooding, or downstream impacts.

All buildings including the switching station, O&M and warehouse buildings, solar PV modules, transformers and inverter stations will have a minimum of 300 mm freeboard above 100-year flood levels. Permanent access roads, pavements and hardstand surfaces will be designed to be at or above the 20-year (with climate change) flood level, while temporary construction access roads, pavements and hardstand surfaces will be at or above the 10-year flood level.

Culverts and swales will be used to manage stormwater and minimise the ponding levels on-site. Three major culverts (two proposed and one existing) are anticipated to be required in-stream to provide internal road crossings (see concept plans in **Appendix P** for anticipated locations). These will be designed to comply with relevant fish passage regulations. A further approximately 26 culverts of varying sizes will be required within farm drains to be crossed by internal roads (to be confirmed at detailed design stage). The additional culverts will allow for



increased flow and to minimise additional ponding created by the addition of new internal roads. All culverts will be sized to consider the 50-year flood event.

5.3.4 Foundations and Structural Platforms

Foundations and structural platforms provide engineered support systems for all major infrastructure at a solar farm. These include PV module mounting structures, inverters, transformers, control buildings, switching stations, site auxiliaries, and BESS. Foundations will be designed in accordance with the recommendations of the geotechnical report and certified by a geotechnical engineer. The Civil Concept Design Plans (**Appendix P**) provide a typical section for an inverter station base.

5.3.5 Temporary Works and Construction Facilities

Temporary works and construction facilities provide the infrastructure needed to support safe and efficient delivery of the solar farm. These facilities include Site compounds, laydown areas, temporary access, worker amenities, and utility services.

Indicative locations of the contractors' camps and laydown areas are illustrated on the concept plans included in **Appendix P**. The contractors camp and parking area will comprise an area of approximately 11,500 m². The laydown areas will comprise an area of approximately 22,000 m².

Following commissioning, compounds and laydown areas will be deconstructed, with hardstands removed and reinstated with salvaged topsoil, or topsoil spread across the hardstands, while ensuring sufficient topsoil to ensure growth of vegetation and water drainage seepage.

5.3.6 Fire Access and Firefighting Infrastructure

Fire access and firefighting infrastructure are essential for ensuring site safety and compliance with regulatory requirements. The Project will provide internal access roads to the key infrastructure. As set out above, internal roads will be designed to accommodate firefighting appliances. Emergency access gates will be installed around the boundary and clearly marked for FENZ entry.

Firefighting water supply will be provided in accordance with SNZPAS 4509:2008 (NZ Fire Service Fire Fighting Water Supply Code of Practice) and/or be determined by a Site Specific Fire Risk Assessment and Protection Philosophy. Tanks will include stabilised access for firefighting connections to the water storage tanks. The size of the tanks will be confirmed at detailed design stage.

5.3.7 Water Supply and Wastewater Disposal

At the operational stage, potable water supply is required for the Site compound and control building and non-potable water supply is required for vegetation management and dust control. Details of the water supply, including source, number and position of tanks, will be determined at the detailed design stage, likely through a site-specific risk assessment



completed as part of a building consent process. Water supply will be constructed in accordance with the RITS Water Supply Design Standard.

It is likely that, in practice, water tanks will be filled through a combination of roof water (from the O&M Building and shed) and a trucked in supply, with a minimum volume required to be maintained at all times. Typical details are shown in **Appendix P**. There is a water line passing the site, so the option to connect to Council mains can also be investigated if this is deemed necessary.

Wastewater infrastructure is required to manage sanitary needs of Site personnel and safe disposal of human waste. Wastewater from the control building and operational compound will be disposed of onsite and will comply with WRC permitted activity standards.

5.4 Electrical and Grid Connection

5.4.1 Network Connection

Electricity will be collected from various internal 33 kV power cables at the switching station. From the switching station, 33 kV main cables will connect the solar farm with the substation owned and operated by Powerco. The Powerco substation, also referred to as *Hinuera Substation*, or *Lake Road Substation*, is located at the corner of State Highway 27 and Lake Road.

To electrically connect the Hinuera Solar Farm with the Powerco substation, 33 kV cabling would be installed between the two points via public road reserves or private land easements. To enable this work HENZ will apply, under section 4A and 24 of the Electricity Act, for Electricity Operator Status in respect of this Project – following the grant of all relevant resource consents. Electricity Operator Status has been granted to HENZ in respect of its other projects, accordingly, there are no concerns with the likely success of such an application. Electricity Operator Status affords rights for the construction, placement and maintenance of electrical infrastructure within the road reserve. The usual authorities (i.e. Corridor Access Request approval, Temporary Traffic Management Plan) are still required for all work within the road reserve. These works can be done separately from but in conjunction with the main solar farm construction.

5.4.2 Works within the Powerco Substation and Grid Connection

The Project will connect directly to the Powerco 33 kV network. Although the design is still be finalised, it is expected that the minimum of one additional 33 kV breaker would be required at the Powerco substation to connect the solar farm.

The Powerco substation is already connected to the national grid via the adjacent Transpower substation. The majority of the electricity generated from the Project will be exported to the national grid via this connection.

Any requirements for resource consent to enable works within the Powerco substation falls outside of this application and therefore will be managed separately.



5.4.3 Cable and Trenching Details

Utilities and cable routing form the critical connections between the various elements of a solar farm, enabling the safe and efficient transfer of power, communications, and control signals. The main cable types within the Site will be:

- DC string cables – connecting the modules or Arrays to the string combiner boxes or string inverter. These cables are located above ground and do not require trenching.
- DC main cables – connecting the string combiner boxes to the PCUs or alternatively, LV main cables – connecting the string inverter to the STSs.
- 33 kV cabling (medium voltage cabling) – connecting the PCUs or STSs to the on-site switching station and then with the Powerco substation.
- Earthing, Fibre and Communications Cables – Earthing cables connect every mechanical structure to each other for the purpose of establishing equipotential bonding. Fibre and communications cables providing connections between and for the inverters, BESS, O&M building, weather stations, CCTV and SCADA.

With the exception of DC string cables, all of the above cables require different trenching specifications and specifications will vary depending on the number of cables within each trench. Additionally, where possible earthing, fibre and communications cabled will be co-located with other cables to reduce the requirement for trenching. Typical details are shown in **Appendix P**.

Approximate trenching parameters are shown in Table 6.

Table 6: Approximate Trenching Parameters

Excavation	Width (m)	Length (m)		Depth (m bgl)
		Total	Max Open at Any Time	
Earthing Cables	0.3	2,450	702	0.3
DC String Cables	0.3 – 0.5	3,901	270	0.65 – 0.75
DC Main Cables	1.0	7,573	1,746	0.75
MV Cables	0.5 – 1.6	8,166	800	1.0
Total		22,090 m	3,518 m	

To allow for efficient construction, dewatering of trenches and foundations will be required in the event of either rainwater or ground water intrusion. Dewatering extraction techniques are likely to involve direct extraction using a sump pump.

Retention/discharge methods are likely to comprise a mix of the following:

- Temporary storage and reuse for non-potable purposes such as within a water cart for dust control (up to 40 m³/40,000 L per day);
- Controlled discharge to land; and



- Controlled discharge to water (i.e. into farm drains).

It is anticipated that underground cabling will be utilised both within the site, and between the switchyard and the Powerco substation. In the event that underground cabling is found to be unsuitable, above ground cabling may be required. If that occurs, any associated structures (poles/pylons) will comply with the relevant permitted standards.

Given the nature of the necessary trenching and the receiving environment, the proposed trenching and dewatering methodology is considered to be the most appropriate alternative.

5.5 Construction

A Draft Construction Management Plan has been prepared and is attached as **Appendix S**. It sets out a framework for how construction activities will be managed to avoid, remedy and/or mitigate adverse impacts and will be finalised before construction commences to incorporate requirements of the final consent conditions and details of the contractors. It also provides a full summary of the type of construction plant and machinery that will be required during the construction period.

5.5.1 Timing and Sequencing

It is anticipated that construction will commence on the Project in early 2028. The Project will be completed in one stage. Construction will occur over a period of 18 - 24 months and will generally follow the below sequence:

1. Site establishment
 - a. Establishment of main on-site access roads and establishment of contractor compound;
 - b. Establishment of laydown areas and commencement of on-site roading;
 - c. Perimeter/security fencing;
 - d. Installation of health and safety signage;
 - e. Mitigation screen planting as required;
 - f. Implementation of management plans, in particular construction noise and erosion control.
2. Civil works
 - a. Roadworks;
 - b. Flood model and drainage system;
 - c. Foundation;
 - d. Building and warehouse construction.
3. Mechanical works
 - a. Piling;
 - b. Mechanical construction (installation of table array structures/frames);
 - c. Fixing of panels to tables;
 - d. Installation of all ancillary electrical infrastructure (PCUs, string combiner boxes, etc).



4. Electrical works
 - a. Installation of the switching station;
 - b. Cabling and trenching;
 - c. Cable terminations and interconnections;
 - d. Weather station, SCADA, CCTV, and other ancillary services.
5. Network connection
 - a. Cabling works between the solar farm and the network connection;
 - b. Any upgrade or interconnection works required at the point of connection;
 - c. Testing and handover to the network owner.
6. Testing and commissioning
 - a. Cold commissioning, including testing of all components;
 - b. Hot commissioning;
 - c. Energisation;
 - d. System compliance and performance testing.
7. Removal of contractors' camp/transition to operational activities.
8. Commencement of maintenance period.

It is noted that while the above activities are listed sequentially, in practice they will have some overlap.

5.5.2 Construction Hours

Construction activities will generally occur over a six-day week (i.e. Monday – Saturday), between 7am and 6pm. However, staff arrivals and departures, deliveries and quiet work may occur outside of these hours.

There will also be a security staff and CCTV monitoring presence on site 24 hours a day, seven days a week, during the construction phase of the project. CCTV monitoring will continue through the operational phase.

5.5.3 Trip Generation

Staff numbers and deliveries will fluctuate throughout the construction phase and are likely to be variable dependent on the timing of international deliveries. Estimated staff numbers and HCV movements for each month of the construction period are set out in the Transport Assessment (refer to **Appendix E**). For both heavy and light vehicles, estimates are based on the indicative construction programme, estimated volumes of clean fill requirements and estimated infrastructure numbers. While these numbers are considered to be a reasonable representation of anticipated traffic volumes, they are provided as estimates only.

In summary, the Site is expected to experience a peak of up to 360 vpd staff movements during month 12 of construction. This is the point in the construction staging where the mechanical and electrical works stages overlap. The HCV requirements are estimated to be



highest during the first six months of the construction period where the import fill truck movements are highest (660 movements per month, equating to a maximum of 30 HCV movements per day to the surrounding network or one HCV movement every 20 minutes).

5.6 Operational Details

5.6.1 On-site Resourcing

The solar farm requires ongoing operational staff to undertake daily supervision, preventative maintenance, corrective maintenance, and emergency response.

The operational team would generally consist of:

- Operations staff: 1x site manager, 1x site receptionist and administrator, 2 - 3 operators, and 2 – 3 full-time technicians, 1 - 2 security guards on Site during business hours (Mon–Fri, 40 hours/week each). On-call staff would respond to any urgent matters outside of standard business hours;
- Corrective maintenance personnel as required to remediate the specific issue;
- Seasonal contractors as required for vegetation, module cleaning, civil works as drain cleaning, or specialist testing; and
- Security monitoring: monitored on-site by the security guard and 24/7 via remote SCADA/CCTV platforms.

5.6.2 Maintenance

Both preventative and corrective maintenance will be required as part of the ongoing operation of the solar farm to both maintain the plant in good, safe working conditions and to address faults or failures. This will include the following activities:

- Routine inspections and cleaning of the PV Modules and Arrays;
- Preventative maintenance of PCUs/STs and switchgear;
- Regular monitoring and specialist inspections of the BESS;
- Maintenance of SCADA and control systems;
- Periodic testing of cabling, protection systems, and earthing safeguard equipment;
- Maintenance of access roads and tracks;
- Regular inspections and maintenance of stormwater and drainage systems;
- Vegetation management and groundskeeping, including sheep grazing;
- Inspections and maintenance of security fencing;
- Regular maintenance of fire safety measures and emergency preparedness; and
- Waste and recycling management.

5.6.3 Farming Activities

The Site is currently utilised for dairy farming activities. Under the easement agreements the landowners retain the right to farm the land underneath and between the panels.



Sheep farming and solar farming are complementary activities, in that the solar panels provide shade for sheep, do not disrupt pasture growth and are set high enough above the ground to avoid interference by stock. Sheep also provide control of pasture and avoid the need for mowing/spraying around and between solar panels. The same is not true of cattle, which can damage panels by rubbing on them, or of goats, which tend to jump on and chew at the panels.

It is anticipated that the landowners will convert to sheep farming once the solar farm is established, however this activity is at the discretion of the landowner.

5.6.4 Educational Visits

It is anticipated that there may be interest in undertaking educational tours of the solar farm and therefore the Project includes provision for an occasional bus load of school children or a iwi/community group to visit the site and undertake a tour of the facility. A limit of ten such visits per year is proposed.

5.7 Decommissioning/Re-Powering

At the completion of the useful life of the solar farm equipment/panels, one of two options are available: decommissioning or re-powering. These are described below.

5.7.1 Decommissioning

If the solar farm is decommissioned, all infrastructure can be removed and the site returned to pasture. If this occurs all components will be recycled to the extent possible. Specifically:

- In respect to the modules, 100% of the metal is re-used, 95% of glass is re-used and 85% of silicon is reused;
- The mounting structure is made of steel which can be 100% recycled;
- The more complex electrical infrastructure is designed to be recycled because it is made of valuable materials such as aluminium, copper and stainless steel; and
- Components such as lithium, cobalt, nickel, copper and graphite incorporated in BESS are recyclable but specialised facilities are required to extract and recycle these components.

New Zealand does not yet have any large-scale recycling program for either panels or utility scale electrical components; however, it is anticipated that the establishment of such services will be driven by increasing demand over the life of the solar farm. Recycling, upgrading and disposal requirements will be guided by government requirements at the time of decommissioning; whether this be to a New Zealand based recycling facility, overseas based recycling facility, or to a licensed landfill. HENZ will dispose of the panels in accordance with regulatory requirements at the time of decommissioning.

Decommissioning will be managed through the provision of a Decommissioning or Re-powering Plan (DORP). This is discussed further in Section 7.15.



5.7.2 Re-Powering

As an alternative to decommissioning, the solar farm could be repowered by replacing key equipment as needed. Re-powering will also be managed via the DORP. If a re-energising option is implemented, this is likely to include wholesale replacement of key infrastructure within the site. Any consent(s) required under this approach would be obtained at the time.

6.0 Approvals Required

In accordance with Section 42(4)(a) of the FTAA, this Application is seeking approval for all necessary resource consents which would otherwise be applied for under the RMA under the provisions of relevant National Environmental Standards, the Regional Plan and District Plan.

A high-level summary of the approvals/consents considered to be required under the National Environmental Standards for Freshwater 2020 (NES-F), Waikato Regional Plan (WRP) and Matamata-Piako Operative District Plan (MPDP / “District Plan”) is set out in Table 7 below. A full rules assessment is provided within **Appendix T**.

Table 7: Consents/Approvals Required

Plan/NES	Consent Requirements
NES-F	Regulation 45 – Discretionary Activity for Construction of Specified Infrastructure (Alternatively, Regulations 52 and 54 – see discussion in Section 6.2 and 8.2.2)
Waikato Regional Plan	Water Take – Non-Complying Activity (Rule 3.3.4.26) Diversions – Discretionary Activity (Rules 3.6.4.13 and 3.6.4.14) River Bed Structures – Controlled Activity (Rules 4.2.5.2 and 4.2.9.3) Soil Disturbance – Controlled Activity (Rule 5.1.4.14) Cleanfill Discharge – - Controlled Activity (Rule 5.2.5.5) - Discretionary Activity (Rule 5.2.5.6).
Matamata Piako District Plan	Land Use Consent Part B 2.2 – Activity Table 1.5 – Discretionary Activity 2.2 – Discretionary Activity 9.2 – Discretionary Activity Part B 5.7 (Hazardous Substances)



Plan/NES	Consent Requirements
	- Rule 5.7.2 – Discretionary Activity Part B 5.9 (Infrastructure and Servicing) - Rule 5.9.4 – Restricted Discretionary Activity Part B 8.2 9 (Electricity Transmission and Distribution Activities) 8.2.1(8) Activity Table – Discretionary Activity 8.3.5 – Discretionary Activity Part B 9.1 (Transportation) - Rule 9.1.2 – Discretionary Activity.

6.1 National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

These regulations came into force on 1 January 2012 and apply when a person wants to undertake an activity described in Regulations 5(2) to 5(6) on a piece of land described in Regulations 5(7) or 5(8).

The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS) is a relevant consideration to this application as the Site has been subject to HAIL activities and is therefore considered a piece of land in accordance with Regulation 5(7) of the NES-CS.

As previously mentioned, a PSI has been prepared by SLR Consulting and is included as **Appendix K** of this Application. The areas identified as a piece of land under the NES-CS have been identified in the PSI as Features 1, 2 and 4 to 12. These areas will not be disturbed by the Project.

The Site is 'production land' as defined in Section 2 of the RMA and will remain in use as production land following the development of the solar farm. Under Regulation 5(8) of the NES-CS, the NES-CS does not apply to production land which remains as production land. All other remaining areas of the Site are considered to have not, or more likely than not, to have been subject to HAIL activities and are therefore not subject to the provisions of the NES-CS.

6.2 National Environmental Standards for Freshwater (NES-F)

These regulations came into force on 3 September 2020 and apply when a person wants to undertake any works within or adjacent to a wetland.

In this instance, the Project involves vegetation clearance, earthworks and the diversion of water within and adjacent to natural inland wetlands for the purpose of constructing specified infrastructure under Regulation 45 of the NES-F.

Specified infrastructure is defined in the National Policy Statement for Freshwater Management (NPS-FM) as being:



“... (a) infrastructure that delivers a service operated by a lifeline utility (as defined in the Civil Defence Emergency Management Act 2002) ...”

Schedule 1 Lifeline utilities, Part B of the Civil Defence Emergency Management Act, includes *“... An entity that generates electricity for distribution through a network.”*

Accordingly, the Project is considered to be specified infrastructure.

A full assessment of the relevant provisions of the NES-F is included in **Appendix T**. A summary of the key consent triggers is included in Table 8 below.

Table 8: NES-F consents required

Clause	Description	Activity Status
45(1)	Vegetation clearance within, or within a 10 m setback from, a natural inland wetland is a discretionary activity if it is for the purpose of constructing specified infrastructure.	Discretionary
45(2)	Earthworks or land disturbance within, or within a 10 m setback from, a natural inland wetland is a discretionary activity if it is for the purpose of constructing specified infrastructure.	Discretionary
45(3)	Earthworks or land disturbance outside a 10 m, but within a 100 m, setback from a natural inland wetland is a discretionary activity if it— a) is for the purpose of constructing specified infrastructure; and b) results, or is likely to result, in the complete or partial drainage of all or part of the natural inland wetland.	Discretionary
45(4)	The taking, use, damming, or diversion of water within, or within a 100 m setback from, a natural inland wetland is a discretionary activity if— a) the activity is for the purpose of constructing or upgrading specified infrastructure; and b) there is a hydrological connection between the taking, use, damming, or diversion and the wetland; and c) the taking, use, damming, or diversion will change, or is likely to change, the water level range or hydrological function of the wetland.	Discretionary
45(5)	The discharge of water into water within a 100 m setback from, a natural inland wetland is a discretionary activity if – (a) The discharge is for the purpose of constructing or upgrading specified infrastructure; and (b) There is a hydrological connection between the discharge and the wetland; and (c) The discharge will enter the wetland; and (d) The discharge will change, or is likely to change, the water level range or hydrological function of the wetland.	Discretionary

The Project is a **Discretionary Activity** under the NES-F.



6.3 Waikato Regional Plan

The Project requires resource consent under the WRP for the following reasons:

Chapter 3.3 – Water Takes

- Surface water takes associated with dewatering will remove 100% of the water from trench and excavation areas and will exceed the combined primary and secondary allocable flows in Table 3-5. **Non-Complying Activity** under Rule 3.3.4.26.

Chapter 3.6 – Damming and Diversion

- Groundwater diversion from trenches/excavations will be a **Discretionary Activity** under Rule 3.6.4.13. This rule also encompasses any subsequent discharge to land in the direct vicinity during dewatering of trenches/excavations, which is one of the dewatering options being applied for.
- The proposal will require the temporary diversion of water to allow for the construction of the culverts where the proposed roads and tracks cross the stream. **Discretionary Activity** under Rule 3.6.4.14.

Chapter 4.2 – River and Lake Bed Structures

- The existing culvert (to be upgraded) has a catchment size exceeding 500ha and is therefore a **Controlled Activity** under Rule 4.2.5.2 (cannot comply with Rule 4.2.9.3). It is assumed that the culvert was lawfully established, however the specific requirements for any upgrade will be determined at detailed design stage and may result in an increase in size, which would not meet Rule 4.2.5.1.
- The two proposed culverts in the tributary stream both have catchments of greater than 100ha, but less than 500ha. The culverts will meet all standards identified in a) – j) and are a **Controlled Activity** under Rule 4.2.9.3.

Chapter 5.1 – Accelerated Erosion

- Earthworks within High-Risk Erosion Areas are limited to the installation of three stream crossings and one area of road in proximity to a stream and are estimated to be 230m³ and 921m² in area. 250m³ is the threshold requiring consent under Rule 5.1.4.14. As these estimates are indicative, application is being made for a **Controlled Activity** under Rule 5.1.4.14.

Chapter 5.2 – Discharges Onto or Into Land

- Large scale discharge of cleanfill for roads and foundations onto or into land outside of High-Risk Erosion Areas is a **Controlled Activity** under Rule 5.2.5.5. Fill exceeds 2,500 m² and therefore cannot comply with the permitted activity standards under Rule 5.2.5.4.
- Discharge of cleanfill onto or into land outside within High-Risk Erosion Areas along the unnamed stream / in proximity to the wetland areas – **Discretionary Activity** under Rule 5.2.5.6.



6.4 Matamata-Piako District Plan

The Project requires resource consent under the MPDP for the following reasons:

Part B Section 2 – Activity Table

- Activities being undertaken on known contaminated sites – **Discretionary Activity** under Activity Table 2.2.
- Educational facility for greater than 10 pupils (occasional educational visits) – **Discretionary Activity** under Activity Table 2.2.
- Cleanfill will be deposited for internal road formation and foundations exceeding 1,000 m³ – **Discretionary Activity** under Activity Table 2.2.

Part B Section 5 – Performance Standards – all activities

- Storage of hazardous substances exceeds permitted standards under Rule 5.7.2 and is a **Discretionary Activity** (see detailed Hazardous Substances Regulatory Assessment memo in **Appendix U**).
- The development will generate more than 250 car equivalent movements per day during the construction period – **Restricted Discretionary** under Rule 5.9.4.

Part B Section 8 – Works and Network Utilities

- Structures associated with the activity exceeding a gross floor area of 4 m² (i.e. transformers, switching stations) trigger consent for a **Discretionary Activity** under Rule 8.2.1.
- Additionally, while the proposal technically meets the definition of ‘community-scale energy generation’ which is a permitted activity in the Rural zone, all relevant effects of the proposal have been addressed in Section 7.0 as if it was a full Discretionary Activity.

Part B Section 9 – Transportation

- Access to the Site via either an existing or new vehicle crossing is a **Discretionary Activity** under Rule 9.1.2, as it cannot meet the relevant performance standards for significant roads, as there will be more than 100 car equivalent movements on average per day using the crossings during the construction period.

6.5 Associated Permitted Activities

In accordance with clause 5(5)(a) of Schedule 5 of the FTAA, the following permitted activities are part of the Project to which the Application relates such that a resource consent is not required under section 87A of the RMA.

Matamata-Piako District Plan

- The proposal meets the definition of ‘community-scale energy generation’ as it will connect to a distributed energy network. This is a permitted activity under Activity Table 8.3.1(2);
- Temporary activities under Rule 2.2 (1.6) – including the offices, storage sheds, yards, workshops, ablution facilities and other similar buildings and activities incidental to a building or construction project for the duration of the construction project are permitted;



- Any structure meeting the definition of a building will meet the relevant performance standards of the Zone under Rule 3.2.1, including maximum height (10 m), height relative to site boundary, and yards;
- Buildings that comply with NZECP 34 and are located within 20 m of the centreline of a sub-transmission line (Rule 3.6) are permitted;
- Signage associated with health and safety information, traffic/transportation matters, emergency access, and temporary construction signage is permitted under Rule 3.9.1 and any external signs will comply with Rule 3.9.5;
- The proposed riparian planting is permitted under Rule 5.1.1;
- Construction and operational noise has been assessed as being able to comply with Rules 5.2.1 and 5.2.6;
- Lighting associated with security, access and health and safety will meet the relevant standards and is permitted under Rule 5.4;
- Dust will not exceed permitted levels under Rule 5.5;
- Farming activities, including ongoing use of the existing farm buildings is permitted under Rule 2.2(9.7);
- Underground electrical cables and ancillary electrical equipment are permitted under Rule 8.2.1;
- Temporary overhead electrical lines to construction sites are permitted under Rule 8.2.1;
- Overhead electrical lines up to and including 110 kV and associated support structures are permitted under Rule 8.2.1;
- Pole mounted transformers and switching gear are permitted under Rule 8.2.1; and
- Transformers, substations, and switching stations conveying electricity at a voltage up to and including 66 kV and ancillary buildings are permitted under Rule 8.2.1.

Waikato Regional Plan

- Discharge of dewatered water to farm drains is permitted under Rule 3.5.4.4 as it will be treated if required prior to discharge (refer to ESCP) and will not have adverse effects on quality or water levels (refer to Hydrogeology Assessment);
- Discharge of stormwater runoff to water (farm drains) or onto land is permitted under Rule 3.5.11.4 / Rule 3.5.11.5. Any discharge of stormwater runoff will comply with the relevant conditions. In particular, the proposal does not include any high risk facilities listed in section 3.5.12 of the WRP, and where hazardous substances are stored/used, appropriate containment will be in place;
- Temporary damming in farm drains around the areas of construction for culverts/crossings for the internal roading network will comply with all standards and is permitted under Rule 3.6.4.4;
- Temporary diversion and any consequent discharge of water required in farm drains around the areas of construction for culverts/crossings for the internal roading network will comply with all standards and is permitted under Rule 3.6.4.8;
- Installation of cables under the bed of a river via directional drilling will comply with all conditions and is permitted under Rule 4.2.14.1;



- Erosion control structures (i.e. short wing walls) associated with the proposed culverts are permitted under Rule 4.2.15.1;
- Streambank revegetation will be undertaken in accordance with the conditions in Rule 4.3.8 and will be permitted;
- All proposed earthworks (soil disturbance, roading and tracking, and vegetation clearance) outside of the High Risk Erosion Area, which is the vast majority of proposed earthworks, are permitted in accordance with Rule 5.1.4.11. Earthworks within and outside of High Risk Erosion Areas will be undertaken in accordance with the conditions in Rule 5.1.5; and
- Air discharges during building and construction activities will comply with the permitted standards in Rule 6.1.8.

NES-F

- Removal of vegetation to allow for the proposed wetland / stream restoration is permitted under Regulation 38(1);
- Minor land disturbance for the wetland restoration/to facilitate planting is permitted under Regulation 38(2);
- The wetland restoration will meet the general conditions on natural wetland activities in accordance with Regulation 55, and the required information will be provided to WRC; and
- The placement and alteration of culverts in the bed of rivers will be designed to comply with Regulation 70 and provide for the same fish passage as existed prior. The required information will be provided to WRC, and the required monitoring and maintenance will be undertaken in accordance with Regulations 62, 63 and 69.

6.6 Overall Activity Status

Overall, resource consent is required for a **non-complying activity**.

7.0 Assessment of Environmental Effects

7.1 Introduction

This section of the Application is provided in accordance with Clauses 6 and 7 of Schedule 5 of the FTAA. These provisions require an assessment of the actual or potential effects on the environment. Clause 6 of Schedule 5 sets out information required to assess environmental effects. Clause 7 of Schedule 5 sets out the matters to be covered in the assessment of the environmental effects. The actual and potential effects of these matters on people in the neighbourhood and, where relevant, the wider community, as well as on the environment more generally, are assessed below and in the supporting technical reports submitted with this application. Having regard to the above, the scope of the application and consents required, it is considered that effects on the environment in relation to the following matters are relevant:

The following environmental effects have been considered as part of this Application:

- Economic and Social Effects (Clause 7(a) of Schedule 5);



- Construction Effects (including Dust, Noise, Vibration, Traffic, Earthworks, Dewatering) (Clauses 7(a), 7(b), 7(c), 7(e) and 7(f) of Schedule 5);
- Landscape, Natural Character and Visual Effects (Clause 7(b) of Schedule 5);
- Glint and Glare (Reflected Light) Effects (Clause 7(a) and 7(b) of Schedule 5);
- Ecological Effects (including Effects on Wetlands) (Clause 7(c) of Schedule 5);
- Cultural Effects (Clause 7(a) of Schedule 5);
- Effects on Heritage and Archaeological Values (Clause 7(a) and 7(d) of Schedule 5);
- Contaminated Land Effects (Clause 7(e) of Schedule 5);
- Fire Risk and Hazardous Substances Effects (Clause 7(g) of Schedule 5);
- Natural Hazards Effects (including Flooding, Geotechnical, Climate Change) (Clause 7(g) of Schedule 5);
- Operational Noise (Clause 7(a) and 7(f) of Schedule 5);
- Operational Traffic (Clause 7(a) of Schedule 5);
- Effects on Rural Productivity (Clause 7(d) of Schedule 5); and
- Effects of Decommissioning and Re-Powering (Clauses 7(a), 7(b), 7(e) of Schedule 5).

7.2 Economic & Social Effects

New Zealand's electricity system faces a substantial capacity challenge. The Ministry of Business, Innovation and Employment's latest projections (July 2024) forecast that total electricity demand will increase by 57 percent by 2050, driven by population growth, electrification of transport and industrial processes, and new demand from datacentres.

Total solar generation in New Zealand was approximately 595 GWh in 2024. The Hinuera Solar Farm, with an indicative yield of approximately 147 GWh per year, would represent a 25% increase in national solar output relative to the 2024 baseline. The Project will result in a range of positive economic and social effects, including generating sufficient electricity to meet the annual needs of approximately 21,050 New Zealand households, or to power approximately 94,510 electric vehicles per year.

An Economic Assessment has been prepared by Insight Economics Ltd (attached as **Appendix W**). The assessment sets out the following positive social and economic effects (in summary):

- Total capital investment in the Project is estimated at approximately \$150 million. Construction over approximately 18 to 24 months is estimated to support approximately 267 Full Time Equivalent (FTE)-years of employment, generate approximately \$42.6 million in GDP, and contribute approximately \$21 million in wages and salaries;
- The jobs enabled by the Project will sustain a diverse and stable local workforce. Once operational, approximately 7-10 permanent on-site FTEs, equating to approximately 350 FTE-years of employment and approximately \$33 million in GDP over the balance of a 34-year analysis period. This will result in broader economic benefits through skills development, supply chain linkages, and workforce participation. This will enhance the



region's employment diversity and resilience, generating tangible and long-lasting social and economic benefits;

- In comparison to the continued dairy farming of the site, the Project delivers an increase of approximately 210 FTE-years of ongoing employment and approximately \$20 million in additional GDP over the 34-year period;
- The Project strengthens the resilience and efficiency of New Zealand's electricity system by adding large-scale solar generation that is complementary to existing renewable assets. Solar has a distinct production profile, with output concentrated during daylight hours and typically strongest in summer months. The strengthening, diversification and security of electricity supply will contribute to downward pressure on wholesale electricity prices and, in turn, to moderating the rate of retail electricity price growth over time;
- The Project will increase resilience to climate effects. The Hinuera Solar Farm is estimated to displace approximately 72,711 tonnes of CO₂-equivalent emissions per year. The net annual displacement represents approximately 3.3% of New Zealand's total electricity generation emissions in 2023; and
- The Project represents a significant infrastructure investment within the Matamata-Piako District and supports the broader economic development objectives of MPDC. The development will provide a clear signal of confidence in the region's medium- to long-term economic outlook.

The economic and social effects of the Project are described further in Section 8.1 of this report in relation to the purpose of the FTAA.

7.3 Construction Effects

7.3.1 Dust

During construction there is the potential for dust to be generated by the exposure and/or stockpiling of soil, with possible effects on the surrounding environment. In particular, the exposure of soil surfaces and movement of construction machinery across these surfaces creates the potential for mobilisation of dust particles and subsequent air quality effects, especially during dry and windy conditions.

Methods will be employed to reduce this risk, such as:

- staging of works (to reduce the extent of soil exposed);
- use of a water tanker to dampen exposed surfaces during dry periods;
- covering of exposed soils and stockpiles;
- avoidance of work during adverse weather conditions; and
- progressive stabilisation and reinstatement of exposed soil.

These measures have been incorporated into the draft CMP and ESCP (**Appendix S** and **Appendix R**).

In addition, conditions of consent proposed by the Applicant include:

- Certification and implementation of a finalised CMP and ESCP, which will include details of the proposed staging of works and measures to control dust; and



- Dust being managed so as not to cause a nuisance at or beyond the boundary of the site.

It is anticipated that these conditions, and the methods outlined above, will ensure that dust effects are appropriately managed. In addition, a condition requiring the consent holder to maintain a complaints register will ensure that, in the unlikely event of dust effects arising, these will be noted and addressed. As such, any potential adverse effects in relation to dust will be less than minor and acceptable.

7.3.2 Noise and Vibration

An Acoustic Assessment for the Project has been prepared by SLR Consulting and attached as **Appendix X**. In summary, the assessment found that:

- Construction activities associated with the Project include creating internal roads and the site laydown area, trenching for cables, and forming foundations for new structures to mount the PV arrays and ancillary equipment. Delivery of equipment and assembly of the BESS will occur after earthworks are completed. The loudest construction activity for solar farm projects is typically piling of the structural supports for the solar panel arrays;
- Construction works are expected to occur between 7:00 am and 6:00 pm, Monday to Saturday. No high noise generating motorised equipment is proposed to operate on the Site outside of these hours, including Sundays and public holidays;
- The nearest dwelling is 4735 State Highway 29 (Lot 3 DPS 2475) located approximately 80 metres from potential construction work;
- The upper limits for construction noise are in accordance with NZS 6803, for long-term projects. Given the distance from works to the nearest receivers, noise from the proposed works is expected to comply with the relevant NZS 6803 construction noise limits without the need for mitigation such as intervening screening. However, the number of piling rigs operating within 135 m of a dwelling needs to be limited in order for the cumulative noise to remain compliant; and
- Vibration generated by construction would be well below typical perception thresholds at residential receivers.

A condition of consent requiring compliance with the construction noise standards is recommended; this has been included in the condition set in **Appendix V**.

A Construction Noise and Vibration Management Plan (CNVMP) was also recommended, and a draft has been prepared, attached as **Appendix Y**. This provides a framework for noise and vibration management to ensure compliance. Prior to construction, it is proposed that this will be finalised with details of final construction methodology and implemented during construction to ensure compliance with conditions of consent.

Overall, with implementation of the CNVMP, the construction noise will comply with permitted standards and effects will be acceptable.

7.3.3 Construction Traffic

A Transport Assessment has been undertaken by CKL (refer to **Appendix E**). The report provides an assessment of the existing roading environment (see Section 4.1.3 of this report),



an estimate of construction traffic volumes, an assessment against District Plan performance standards and NZTA requirements, and recommended conditions.

Access

The Site requires a northern access from State Highway 29 and a southern access from State Highway 27. Consultation with NZTA was undertaken to discuss access options, as well as consultation with neighbouring property owners prior to establishing the access locations. In summary:

- Access to State Highway 27 via existing access 5 was confirmed to be suitable and supported by NZTA. This access is able to achieve compliance across all separation and sight distance requirements outlined in the NZTA Access Guide based on the measured operational speed;
- Option 1 for access to State Highway 29 (utilise existing access 2) was confirmed to be suitable. Provision of an access in this location is not able to achieve compliance with the recommended separation distance of 316 m between accesses to a State Highway, however is able to achieve compliance with the minimum acceptable separation distance of 186 m in both directions. It is concluded that the effect of the non-compliant separation distance to the two existing vehicle crossings is negligible and that a suitable construction and operational access can be achieved due to the straight, flat road and ample visibility;
- Option 2 for access to State Highway 29 (a new crossing between existing accesses 1 and 2) is also able to achieve compliance with the recommended separation distance to existing access 1 and is able to achieve compliance with the minimum separation distance between accesses to the existing access to 4713 State Highway 29. Access in this location is also able to achieve compliant separation to an intersection. To achieve the required vehicle tracking paths required for entry and exit movements, widening of the accessway on the nearside of State Highway 29 and for approximately 20 m internally to allow two vehicles to pass may be required. This can be confirmed during detailed design and within the final CTMP;
- NZTA preferred Option 1 for access to State Highway 29, with a preference for the access to be located within the 70 km/h speed environment;
- Construction of any new permanent access will be completed in accordance with NZTA's Access Guide Type E, which will cater for the numbers and types of construction vehicles anticipated; and
- If Option 2 is selected for access to State Highway 29, it will not be constructed to Type E specifications, but vehicle movements will be restricted to up to 10 HCV movements per day which is generally in keeping with an agricultural level of use.

CKL noted that there were no discernible patterns in the crash history linking to either road geometry or environmental factors along the road frontage of the Site. CKL concludes that all options for the proposed access locations and designs are capable of accommodating site construction traffic with negligible capacity and safety effects to the surrounding road network.

Parking

No formal parking spaces are proposed within the site. However, the Project includes the provision of temporary construction 'laydown' areas and a contractors' camp, which will be



sized to accommodate all construction traffic. Once construction works are complete, maintenance and operational vehicles will move along the internal maintenance tracks as required and formal parking spaces are not considered to be required given the nature of the project. Nonetheless, there is sufficient space for operational staff parking requirements, if required.

Traffic Movements

As described in Section 5.5.3, the Site is anticipated to experience up to 360 vpd staff movements during month 12 of construction. In practice, it is likely that staff would car-pool, or the contractors would have vans set up to transport workers from accommodation sites, which would notably reduce overall traffic movements.

Anticipated monthly HCV movements associated with the construction works / deliveries will be highest during the first six months of the construction period. Months 2 to 6 of the construction schedule are expected to generate between 618 and 660 movements per month. This level of activity equates to a maximum of 30 HCV movements per day to the surrounding network over a 22-working day month.

Once the foundations and internal infrastructure is established and delivery of components (e.g. PV modules) is complete, this reduces significantly, with relative demand from months 15 to 24 estimated to be a maximum of 9 HCVs per day.

Total anticipated construction movements associated with the solar farm construction is outlined in Table 6 of the assessment. Peak movements involve 375 vpd during month 12 of construction, inclusive of staff and heavy vehicles. The carrying capacity of a two-way, two-lane road is approximately 1,400 vehicles per hour (vph) in each lane providing a two-way capacity of up to 2,800 vph. The existing peak hour traffic volumes of State Highway 29 and State Highway 27 therefore indicate existing operational demand of 26% and 10% of the available capacity respectively.

Even with the addition of these vehicle movements during peak construction total traffic volumes remain significantly less than the capacity of a single lane. As such, the additional traffic volumes are expected to have no discernible adverse impact on the efficient operation of the road corridors. Further, as anticipated construction hours are approximately 7am to 6pm, it is considered likely that staff movements will primarily occur outside the typical network peak hours of 7am to 9am and 3pm to 6pm thereby having a reduced effect to the roading network. Consultation has been undertaken with NZTA (refer Section 3.2.2.3 and **Appendix B**). No concerns have been raised regarding the ability of the State Highways to accommodate construction traffic.

Conclusions & Management of Construction Traffic

Overall, the effects associated with construction traffic are temporary in nature and are considered to be able to be appropriately managed via a Construction Traffic Management Plan (CTMP). A Framework CTMP has been prepared by CKL and is attached as **Appendix Z**. As per proposed conditions, a detailed CTMP will be required before construction commences. This will include:



- Confirmation of access location and design including dimensions and positioning;
- Other key details associated with construction such as management, scheduling of HCV deliveries, potential impacts to the road network and temporary traffic management requirements;
- In the event that 'Option 2' is chosen for the State Highway 29 access, movement limitations on the use of this access to a maximum of 2 HCV deliveries per hour and 10 HCV deliveries per day;
- In the event that over-dimension vehicles are required, guidance pertaining to suitable routes, scheduling, movement restrictions and traffic management including use of pilot vehicles; and
- Identification of any additional temporary and permanent works that may be required to the State Highway 29 and State Highway 27 road corridors to facilitate turning movements.

Conditions of consent have also been included requiring pre- and post-construction road surveys and for the consent holder to repair any damage to roads caused by construction vehicles.

7.3.4 Effects from Earthworks and Cleanfilling

Earthworks

As described in Section 5.3.1, the proposed earthworks consist mainly of topsoil stripping and replacement with subgrade, and covers less than 10% of the total Site area (approximately 13.2ha), on a generally flat site. Earthworks near waterbodies (within the High Risk Erosion Areas) are limited to the installation of three stream crossings and one area of road in proximity to a stream.

The earthworks within the High Risk Erosion Area and the proposed cleanfill deposition both require consent under both the WRP and the MPDP. However, the majority of the earthworks (topsoil stripping and trenching) outside of the High Risk Erosion Area do not require regional consent.

As described in Section 5.3.1, the draft ESCP in **Appendix R** contains various measures to control sediment and avoid sediment run off to drains or waterways, including:

- Staging of works to limit exposed areas along with progressive rehabilitation;
- Undertaking works during favourable weather conditions;
- Stabilisation of entrance ways;
- Use of silt fences and diversion channels;
- Controlled stockpiling; and
- Methods for dewatering of trenches and foundations.

The controls will be regularly monitored and maintained to ensure they are performing as intended. The ESCP also contains management measures for potential dust effects, primarily using water for dust suppression, as well as progressive stabilisation as mentioned above. With the implementation and maintenance of the above measures, including regular



inspections of any control measures, it is considered that adverse effects associated with erosion and sediment will be less than minor in nature.

As mentioned in Section 4.1.4, WRC mapping identified the potential for Acid Sulfate Soils to be present on the site. An investigation was carried out and confirmed that the investigated soil horizons do not contain sulfidic materials (see **Appendix G**). WRC has been provided with the assessment and agreed that no further assessment is needed in this respect unless unexpected soil conditions are encountered during construction. The draft CMP includes the recommendations provided by WRC, as follows (summarised):

- If during future excavation works the ground conditions are found to be significantly different to those encountered during the initial acid sulfate soil investigation by SLR, or if strong sulfur smells are observed then no further excavation in that location will occur until an acid sulfate soil investigation is undertaken to confirm the presence of acid sulfate soils; and
- If acid sulfate soils are confirmed to be present and have been identified to trigger the action criteria for an Acid Sulfate Soil Management Plan, then excavation shall only commence after the plan has been approved by WRC.

Overall, effects of earthworks are considered to be less than minor and acceptable.

Cleanfill deposition

All erosion and sediment control measures described above will apply to the deposited cleanfill; additionally:

- Cleanfill imported for use as subgrade or fill will comply with the WRP definition of cleanfill and will therefore not adversely affect the environment through leaching; and
- Conditions require that cleanfill is placed so as to not result in land instability, and that records are kept regarding imported cleanfill.

Rule 4.12 of the MPDP requires a cleanfill management plan for cleanfilling activities. The cleanfill deposition associated with this Project is for roads and foundations, rather than bulk disposal. Relevant aspects of the cleanfill management plan have been incorporated into the application documents/plans and the CMP, including:

- Plans showing the area to be filled;
- The approximate quantity of material to be deposited and the timing and progress of the operation;
- Stability of the underlying land – as set out in the Geotech report;
- Measures to prevent surface erosion and control silt;
- Details of traffic generation, size of trucks, movements per day, position of access points, possible effect on public roads (addressed in the CTMP);
- Proposals to deal with noise and dust; and
- Drainage proposals.

Overall, effects of cleanfilling are considered to be less than minor and acceptable.



7.3.5 Effects of Dewatering

A Hydrogeology Assessment has been prepared by SLR Consulting to assess the effects of the dewatering described in Section 5.4.3 (**Appendix I**).

All of the cable trenches may encounter groundwater, as the groundwater onsite is shallow (conservatively assumed at 0.2m below ground level) and the trenches are to be 0.3-1 m deep depending on the cable type.

An assessment of groundwater drawdown has shown that the maximum drawdown from the various excavations is 0.68 m at a distance of 10 m from the excavations, reducing to zero at a distance of 105 m. The total groundwater inflow rate after 30 days is calculated to be up to 1.73 L/s (149 m³/day). These assessments are based on 'worst case scenario' and therefore considered to be conservative. In addition, groundwater discharged to land will allow the water to infiltrate back into the ground.

No groundwater bores outside the Site will be affected by the dewatering.

The effects on the closest waterbodies, Mangawhero Stream and its tributary, were conservatively calculated and would result in a maximum stream depletion of 0.2 L/s in the tributary after 30 days of dewatering. It is considered that this low level of depletion would have a less than minor effect on the tributary considering the dewatering is temporary and, in most cases, the groundwater will be discharged back to land or potentially directly to the tributary if water quality allows. Based on the stream depletion assessment, the dewatering will also have a less than minor effect on the low value wetlands on the site.

It is proposed to retain multiple options for discharging the dewatered groundwater, including discharge direct to land; temporary storage and reuse onsite for non-potable purposes; or temporary containment and controlled discharge following treatment. All required consents have been applied for to enable this flexibility. All of these options are considered to have acceptable effects, given that a limitation on the daily take volume to 149 m³ / day has been included as a proposed condition of consent. Any consumptive take (for use in dust suppression etc) has also been limited to 40 m³ / day and the remaining water taken will be synchronously discharged back to the environment, recharging the water table.

Effects on the water quality from the proposed discharge are considered to be less than minor given the small volume of water calculated to be discharged during the dewatering process. The activity does not involve the discharge of any contaminants. Water quality treatment will occur as required prior to the discharge, and any potential effects of erosion due to the discharge will be managed through the ESCP.

Overall, the dewatering will not adversely affect the water quality or quantity of waterbodies or groundwater.

7.4 Landscape, Natural Character and Visual Effects

A Landscape Effects Assessment (LEA) for the Project has been undertaken by Wayfinder and is attached as **Appendix M**.



The assessment describes Hinuera as a small rural settlement characterised by gently rolling alluvial plains that support extensive pastoral farming. It is framed to the east by the steep, forested slopes of the Kaimai Mamaku Ranges that are recognised for their outstanding natural character. The landscape surrounding the Site has high levels of rural character defined by large mostly flat areas of exotic pasture, very low density of built structures, fencing and hedgerows defining paddocks and some larger exotic shade trees.

The Site is not particularly significant in the context of the rural landscape at Hinuera and its surrounds. It is typical of dairy farms in the area and not distinctive within the local context.

A summary of landscape and visual effects of the Project, as identified in the LEA is included below.

Landscape Effects

- The removal of existing vegetation on the Site is likely to have 'low' effect on the rural character values of the Site. Sheep farming will likely continue underneath the panels and so pastoral farming of the Site is not completely displaced but will be reduced in intensity.
- The design of the solar farm means that legibility of the landforms, waterways and distinction between the productive activity on the plains and the vegetated ranges is maintained.
- The Project is anticipated to contribute to, and not detract from, the rural character of the area, with the physical structures reflecting the productive nature of the landscape. Effects on rural character are likely to be low.
- The scale of the Project is unlikely to have any impact on the landscape quality and amenity of any waterways. It is considered that the Project is likely to have a beneficial effect on surface water as natural character of the waterways is enhanced.
- The use of screening and the restoration planting contained in the Restoration and Planting Plan is likely to reduce the potential effects by screening dominant views of the solar farm.
- Amenity and natural character effects resulting from the design of the proposal are 'low' to 'very low'.

Overall, it is considered that the landscape effects are likely to be 'low' to 'very low' and overall visual effects of the Project are likely to be 'low' (less than minor).

Visual Effects

- From 32 and 34 Gore Road, the visual effects are assessed as High. With boundary planting along the southern boundary of the Site, combined with a degree of setback from the boundary the effects would be reduced to Low.
- From 70A and 70B Gore Road, the visual effects are assessed as High. Due to the elevation of this site, use of mitigation within the Site is unlikely to reduce this level of effect, and mitigation would likely need to be located near to the dwelling to achieve any reduction in effects. Proposed mitigation is discussed below.
- For westbound travellers on State Highway 29 there will be a distant view to the solar farm including through the State Highway 27/29 intersection. Screening vegetation along State Highway 29 will then generally obscure the view until travellers are past the solar



farm and into Hinuera. Eastbound travellers on State Highway 29 will be afforded intermittent views when approaching Hinuera.

- For northbound travellers on State Highway 27 there will be brief and intermittent views of the Site due to rolling topography.
- For southbound travellers on State Highway 27 the solar farm is unlikely to be visible until travellers reach the intersection of State Highway 27/29 where views will be afforded across the existing fields.
- On Hinuera Road, travellers heading south are unlikely to view the Project due to distance, intervening vegetation and structures.
- For travellers on Gore Road, screening vegetation is likely to obscure any view of the Project.
- Overall, it is considered that the visual effects of the Project on travellers and views from public roads in the area is 'low'.
- The Site is bordered to the west by the Kinleith branch rail line. While views of the Project will be possible from the train operators, the visual effect (including potential reflected light effects) is likely to be 'very low' to 'none'.
- Earthworks will not result in any skyline modification. It is considered that visual effects as a result of earthworks is likely to be 'very low' to 'no effect'.
- Transient qualities (i.e. interest from reflection and play of light as a result of panel reflectivity) are considered to have 'low' visual effect.
- There are considered to be no cumulative visual effects of the solar farm on the existing rural character.

Overall, the visual effects of the Project are likely to be low (less than minor).

As a result of community consultation (refer Section 3.2.2.3 and **Appendix B**), requests were made to extend screening along State Highway 27 and this has been implemented. Screening vegetation has been proposed on the northern, southern and southeastern boundaries of the Site (refer Figure 17). Screening vegetation has not been proposed on all external boundaries because of the need to balance screening of affected views with maintaining the openness of the rural landscape character. The proposed planting is considered to effectively screen the most dominant views of the solar farm for both travellers along State Highway 27 and State Highway 29, as well as 8379A State Highway 27, and properties south of the Site. Views along travel routes are largely intermittent/limited and partially screened via the proposed restoration and boundary planting.

The LEA concludes that the Project does not dominate the rural character, and the design maintains the rural productive landscape and will be consistent with the area's productive character. The Project is considered appropriate in the receiving landscape.

There will be a higher level of localised effects for a limited number of dwellings (particularly 70A and 70B Gore Road). Given the extent of the Project it is considered that screen planting within the Site would provide limited visual mitigation, and that screen planting would be better placed within close proximity to the dwellings themselves. HENZ has proffered a condition of consent requiring an offer of mitigation planting be made to the owners of 70A and 70B Gore Road in order to address these effects, however as mitigation planting would be outside the



Site and therefore at the discretion of landowners, this is not relied on for the purposes of consenting.

Conditions of consent proposed by the Applicant include approval and implementation of a finalised Restoration and Planting Plan, which will include boundary screen planting in accordance with Wayfinder's recommendations/planting plan.

Based on the conclusions within the LEA and subject to conditions relating to screen planting and ecological restoration, it is considered that any adverse effects relating to landscape and visual amenity will be acceptable, however for the purpose of consenting, a high level of localised visual effects remain for the owners/occupiers of 70A and 70B Gore Road.





Figure 17: Proposed Screen Planting – North (top) and South (bottom)



7.5 Glint and Glare (Reflected Light) Effects

A Reflected Light Effects Assessment has been undertaken as part of the abovementioned LEA attached as **Appendix M**. Reflected Light describes the sunlight that bounces off reflective surfaces, resulting in a brightness that is greater than the surrounding illumination and visible on the reflective surface. The visual effect of reflected light can be perceived as either glint or glare. The definition of 'glint' and 'glare' can vary, however, for the purpose of the assessment, glare refers to a continuous source of bright light. Glint refers to a momentary flash of bright light. Additionally:

- "Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
- "Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

There is no existing guidance within New Zealand for the assessment of reflections from solar panels towards road users, residential dwellings or aviation activities. However, there are two references to glare that occur in AS/NZ 1158.2:2020 & AS/NZ 4282:2019 in regard to Lighting for roads and outdoor lighting.

In order to create an accurate model of the Project, parameters such as elevation, tilt and angle of the solar panels, the overall layout of the array, and the height of the solar panels were inputted into Reflected Light analysis software.

Effects on route receptors (i.e. section of State Highways 27 and 29 and the railway) were analysed alongside surrounding residents and sensitive receptors. No airfields are nearby and therefore no analysis has been undertaken for potential glare effects on aviation activities.

In preparing the assessment, multiple options of fixed and tracking were tested through the software, including mapping the effects of proposed vegetation and mapping various tracking and resting angles. The final iteration uses a 10° overnight resting angle to avoid any reflected light effects when measured from receptors.

Modelling found that there are no predicted reflected light ('glare') effects as a result of the Project as received by road users or sensitive receptors.

Although vegetation mitigation is to be planted along the road boundary, the assessment confirmed that this is not specifically necessary to mitigate any reflected light effects.

Following the detailed design of the solar farm and prior to it being constructed, further reflected light analysis is recommended to assess the final layout and ensure that no 'yellow glare' will be generated beyond the boundaries of the site. A condition is included to this effect.

Overall, taking into account the design and location of the solar farm, the existing topography and the proposed mitigation, any effects associated with glint and glare will be acceptable.

Outdoor infrared security lighting will be operated during nighttime hours and will be directed 'downward' to avoid upward light spill. Light spill from the Project onto the facades of the surrounding residential dwellings will be kept below 10 lux as required by the MPDP. This is expected to be easily achieved given the distances to the nearest residential and other



receivers from the project's infrastructure. Accordingly, the potential for any future nuisance glare is considered to be very low.

7.6 Ecological Effects

An Ecological Impact Assessment (EclA) by SLR Consulting is included in **Appendix H**. This assessment is informed by the Ecological Impact Assessment guidelines of the Environment Institute of Australia and New Zealand (Roper-Lindsay et al. 2018) to determine ecological values, magnitude of effects, and overall level of effect associated with the proposed works at the site. A summary of the key matters is included in the following subsections.

7.6.1 Ecological values

The majority of ecological values (ecosystems and habitats) present within the proposed solar farm on Site have been assessed as 'negligible' to 'low' based on the highly modified nature of the Site comprising predominantly grazed pasture dominated by exotic vegetative cover. However, an exotic tree stand ('Area 1') was determined to be of moderate ecological value attributable to its value as bat habitat. For this reason, this area meets a significance criterion under the Waikato Regional Policy Statement (WRPS). This area is avoided by the Project and a minimum 20 m setback applied.

Wetlands identified on the Site are dominated by exotic grass, grazed, pugged and surrounded by pasture areas. They provide limited habitat for fauna and flora and have low ecological value.

The ecological value of species ranged from 'low' to 'very high', which is primarily based on the detection and threat status of respective faunal species. New Zealand long-tailed bats (a Threatened: Nationally Critical species) were confirmed to be regularly present on the Site. Fish habitats are degraded, however migratory species were detected through eDNA, including longfin eel (At Risk: Declining).

7.6.2 Terrestrial Vegetation

Vegetation disturbance associated with the Project is expected to be limited to the clearance of pasture and exotic trees to allow for the construction of internal roads, structures and trenching, and wetland restoration. The overall level of effect on terrestrial vegetation is expected to be very low. Effects on terrestrial vegetation relating to potential decommissioning of the solar farm are also anticipated to be very low.

7.6.3 Stream Habitat and Aquatic Fauna

Two new culverts and an upgrade to an existing culvert are expected to be required in the Mangawhero Stream and its tributary. This will result in a small loss of day-lighted streambed, however, culvert length will be kept to the minimum required and culverts will be designed and installed to avoid barriers to fish passage. The culverts are to be sized and installed in line with the rules of the WRP and design considerations listed in the NES-F and the New Zealand Fish Passage Guidelines. Fish salvage and relocation will be undertaken prior to the culvert work to minimise potential adverse effects on native fish and any large invertebrates. The level



of effect from installation of culverts on the receiving environment (stream habitat) is expected to be very low with the level of effects on aquatic fauna low.

There is potential for sediment to discharge into the nearby receiving streams during the construction period, in particular during general Site preparation works and installation of new culverts. Installation of the culverts will be undertaken 'in the dry' where practicable, to avoid sediment discharges during works to downstream receiving environments. With the installation and maintenance of the mitigation measures discussed, adverse effects of construction activities on stream habitat will be very low and adverse effects on aquatic fauna are expected to be low.

In the longer term, the proposed riparian planting will contribute to an improvement in water quality and result in increased shading and habitat to the benefit of aquatic fauna, resulting in an overall net-gain for both stream habitat and aquatic fauna.

7.6.4 Wetland Habitat

The Site contains a total of 31 highly degraded wetland areas with low ecological value, over a total area of 0.71 hectares. All wetlands are dominated by exotic grass and provide limited habitat for fauna and flora; consequently, they have been assessed as having 'Low' ecological value.

Of the 31 wetlands on site, 27 are located adjacent to the Mangawhero Stream or the unnamed tributary and are proposed to be restored in conjunction with riparian margins. Two smaller wetlands are located entirely outside the area of development.

The remaining two wetlands (W02 and W03), with a total area of 273 m², are located within the development area and are subject to consent for development. As is common within rural areas, particularly where topography is largely flat, these wetlands are located in small depressions within paddocks, are maintained in pasture grass and are routinely grazed as part of standard farming activities. Development within these two wetlands includes the placement of piles, panels and cable trenching. These activities are not anticipated to result in any changes to the extent of values of the wetlands. Specifically, the spacing of panels will continue to allow for infiltration and the installation of piles will not present a barrier to movement of water into the wetlands or result in drainage of the wetlands.

While unlikely, it is possible that some loss of extent of these wetlands will occur as an indirect result of topographical changes from earthworks within 100 m of the wetland. For the purposes of consent, effects have been assessed on the 'worst case scenario', being that the entire extent of W02 and W03 is lost as a result of earthworks within 100 m of the wetlands.

The planned restoration planting will include 2.43 ha of restoration planting occurring within wetland and microchannel areas, with a further 2.38 ha of restoration planting occurring within the riparian and marginal areas of the two streams. Assuming the entire extent of W02 and W03 are lost (which is unlikely to occur), the increase in the extent of natural inland wetland habitat within the Site over time is expected to be, at least, greater in area than the potential loss. Accordingly, no overall loss of wetland extent or value is anticipated as a result of the proposal.



Overall, the planned restoration of wetland and connected areas is anticipated to result in an increase in biodiversity values as well as an increase in wetland extent, resulting in a net gain.

7.6.5 Birds

A total of 22 bird species were observed on Site, 12 being introduced species, and nine 'Not Threatened'.

The 'lake effect' theory asserts that large fields of solar panels may appear to be water and birds (particularly water birds) may try to land on it or drink from it, resulting in injury. There is contrasting data on the level of impact of solar panels on birds and none in the New Zealand context, however, bird fatality detections from three solar farms in California showed rates of between 0.02 birds/ha/year to 0.6 birds/ha/year. None of these studies showed high rates of water birds being adversely affected by solar panels and raptors made up only 0% to 4% of all birds impacted.

Photovoltaic panels causing polarisation of light has also been thought to be an issue for wildlife, however a study in South Africa found no evidence that birds were responding to polarised light. The placement of the panels proposed for this Site means that there are, at a minimum, 2 m gaps between the rows, and it is likely that this will provide enough of a visual cue for birds to be able to perceive the panels themselves and not mistake them for water or be disoriented by reflections.

The bird species observed on Site are either exotic or common native species, and the Site is not in proximity to large water or wading bird populations, therefore the overall risk to water birds from the panels is assessed as low. Nonetheless, an incidental bird carcass discovery strategy has been incorporated in the consent conditions.

Individual exotic trees across the site will be cleared as a component of the site works. In order to avoid any adverse effects on resident native birds during felling, a pre-felling survey will be required if trees are to be cleared during September to January.

The level of effect of the Project on birds is expected to be very low.

7.6.6 Bats

Areas of high risk bat roost trees such as 'Area 1' are avoided by the Project extent. However, some other exotic vegetation within the Project extent that is assessed as moderate and low value potential bat roost habitat will not be avoided by the project. This includes a poplar shelterbelt alongside the tanker track from State Highway 27 (referred to as 'Area 7') which is not within the proposed solar array area but next to the proposed southern site access. A tree risk assessment has been undertaken by independent arborist Nathan Hughes, which recommends that these trees be removed before the solar farm construction commences, due to the risk presented to people, vehicles and infrastructure beneath from structural failures in the trunks and limbs (attached as **Appendix AA**).

Vegetation clearance associated with the development will result in bat habitat loss (loss of moderate – low functional foraging, roosting and commuting habitat) and fragmentation. The moderate value exotic dominated areas to be lost total ~0.93 ha, while ~0.46 ha of scattered trees and ~111 ha of low value foraging habitat (pasture) will also be lost.



The effects of solar panels on long-tailed bats are not currently known. Data from overseas suggests bats avoid solar farms to some extent, possibly due to the presence of solar arrays impairing bats' orientation. There is also evidence that there is the potential for collision from bats mistaking smooth, horizontal panel surfaces for water. Other studies found that while there are species-specific differences as to how bats interact with solar farms, they overall appear to negatively affect bat activity in the area.

Panels may also attract insects that bats forage on. However, it is currently unknown whether insect attraction around solar panels would be a beneficial outcome for long-tailed bats with respect to insect diversity and species, or if there may be the potential for an increased predation risk around lights or collision risk with panels.

Overall, on a conservative basis, there is assessed to be a high level of effect on bats, with the requirement for mitigation. A Bat Management Plan (BMP) has been prepared (attached as **Appendix BB**) which contains best practice bat roost protocols to be implemented before clearance of trees with roost potential and subsequent actions to ensure no harm to bats, including in the event that a confirmed roost is found. Accidental bat discovery protocols are set out in the event that an injured or dead bat is found during any vegetation clearance.

The BMP also addresses the effects of habitat loss through the inclusion of compensation calculations and a compensation package to achieve no net loss in bat habitat values. The compensation package entails:

- To account for the loss of moderate-value potential roost habitat, a one hectare area will be enhanced. The enhancement will be of an area identified as having potential for roost trees close to the site, and includes infill planting of faster growing exotic trees, as well as suitable native species for longer term gains. Species selection will consider ecological compatibility and suitability for bat roosting. In addition to planting, roost features will be installed in the enhancement area, by using bat roost boxes and/or feature creation in existing trees.
- To account for the loss of low-moderate pasture foraging areas, 4.81 ha of riparian and wetland planting (as per the Restoration and Planting Plan – **Appendix CC**) will provide improved foraging habitat in the medium to long term. Planting native vegetation increases vegetation productivity, which supports higher insect abundance and biodiversity. This, in turn, improves food availability for bats, enhancing the landscape's value as a foraging habitat.
- Targeted pest control is to be undertaken across the 4.81 ha riparian and wetland planting areas while pest control will also be implemented within the entire fenced area of the solar farm (~134 ha). Predator suppression is expected to improve bat foraging habitat by increasing nocturnal invertebrate abundance and enhancing vegetation structure along riparian corridors, which are recognised as key movement and feeding habitats for bats.
- Should a confirmed roost be discovered, within the same construction phase there will be (in addition) a minimum replacement ratio of 1:5 for any lost roost habitat. This replacement explicitly accounts for time lags associated with tree establishment and development.

With the recommended mitigation measures including the BMP and compensation in place, an overall low level of effect on bats is anticipated.



7.6.7 Lizards

The likelihood of native lizard presence is low within the Site given the lack of suitable habitat. With relatively small vegetation disturbance associated with the Project, it will result in an overall very low level of effect on lizards. In the event that a native lizard is discovered during construction, HENZ is aware that a wildlife permit will be required from the Department of Conservation to handle, move or disturb the lizard. This permit does not form part of the current Application and will be addressed separately if required.

7.6.8 Positive Effects

As part of the Project HENZ is taking the opportunity to implement restoration planting and ecological enhancement in proximity to the Mangawhero Stream, including nearby wetlands, and unnamed stream. This has been included in a draft Restoration and Planting Plan (RPP) (attached as **Appendix CC**). The proposed enhancements include:

- Indigenous planting of the riparian and marginal zones of the streams on Site (~2.38 ha);
- Indigenous planting of the wetlands and macro channel area associated with the Mangawhero Stream (~2.43 ha);
- Stock-proof fencing of planted areas and ongoing maintenance and monitoring; and
- Weed and animal pest control measures as described in the Draft Weed and Animal Pest Control Management Plan which forms part of the RPP.

Enhancement and restoration planting proposed for the Site will have a positive impact on local biodiversity and water quality. The proposed riparian planting will result in increased shading of the watercourse to the benefit of aquatic life. An additional positive ecological effect of the Project is that the replacement of dairy cattle with sheep farming (should the landowner choose to farm sheep), and exclusion of livestock from the riparian zone, is expected to reduce environmental pressure on the land and impacts on downstream aquatic ecosystems and water quality through a reduced runoff of nutrients.

7.6.9 Conclusion – Ecological Effects

Overall, after mitigation measures proposed, the level of effects was assessed as ‘Low / Very Low’ for the ecological features affected. A number of positive effects are expected to occur as a result of proposed enhancement and restoration measures, which would result in a ‘Net Gain’ for the site.

On the basis of the technical advice provided, and the implementation of the proposed consent conditions including the BMP and RPP, the ecological effects of the Project are considered to be acceptable.

7.7 Cultural Effects

A combined draft CVA was prepared by Norman Hill on behalf of Ngāti Haua Iwi Trust, Raukawa Charitable Trust and Ngāti Hinerangi Trust. The actual or potential cultural effects associated with the Project are outlined in the draft CVA and are summarised as follows:



- Visual and character changes to the site can impact the way in which iwi experience and connect to the ancestral environment and the presence of solar panels and associated infrastructure has the potential to affect cultural values associated with openness, natural character, and the visual relationship with Hinuera and the Kaimai Ranges. Likewise, the potential for glare must be managed so as not to result in adverse effects.
- The Site provides habitat for taonga species, including pekapeka which are recognised as nationally significant and culturally important. Accordingly, iwi consider it important that the Project retains and enhances habitat for taonga species; protects existing areas of native vegetation and strengthens ecological connections; and restores degraded areas through indigenous planting, with a focus on riparian margins, wetlands, and biodiversity corridors.
- Construction of the solar farm will involve earthworks and ground disturbing activities that have the potential to affect the whenua and wai and to unearth previously unknown taonga.
- The health and wellbeing of the Mangawhero and Waihou River and its tributaries are of particular importance to iwi (also see statutory acknowledgments discussion in section 4.4). Careful stormwater management, effective erosion and sediment controls and procedures to prevent contaminants from entering the stream are required to protect the quality and health of these waterways.

In order to address the above effects, the draft CVA helpfully provides the following (summarised) mitigation recommendations:

- The reaffirming of whakapapa through:
 - Iwi naming of the project
 - Landscape design that incorporates cultural perspective, ideas and materials
 - Installation of a contemporary Māori cultural pou at a suitable location
 - Eco-sourcing plants
 - The incorporation of relevant karakia and cultural induction
 - Adoption of accidental discovery protocols.
- Protecting and enhancing waterways, namely the Mangawhero and Waihou, to help ensure that cultural values continue to be recognised alongside the renewable energy benefits of the development. This includes through:
 - The implementation of appropriate erosion and sediment control measures and careful stormwater management
 - The prevention of fuel, chemicals and other contaminants from entering water
 - Riparian planting
 - Enhancement of existing waterways, wetlands, and aquatic habitats
 - Creation of new wetland and ecological features to offset any unavoidable loss
 - Creation of wider biodiversity gains through the establishment of native habitats that support taonga species
 - Appropriate dust management measures
 - Iwi collaboration on ecological restoration initiatives.



- Taking a balanced approach to cut and fill on site to reduce the need to import or remove soils.
- The development of a partnership and a signing of a Partnership Memorandum of Understanding between Ngāti Hauā, Ngāti Hinerangi, Raukawa Charitable Trust and HENZ with the purpose of formally recognising the intention and commitment of all parties to establish a collaborative, respectful, and enduring relationship.

The draft CVA concludes that Ngāti Hauā, Ngāti Hinerangi and Raukawa have no objection in principle to the project, provided that decision-makers give appropriate weight to the matters identified within the CVA.

The Project was informed by early consultation with iwi. It is considered that the Project appropriately addresses the cultural matters listed above, including through:

- Avoiding the largest area of pekapeka habitat and mitigating / compensating for the remaining effects on pekapeka habitat.
- The inclusion of riparian planting, wetland restoration and landscape planting.
- The implementation of conditions in relation to:
 - Accidental Discovery Protocols (Conditions A7-A8)
 - Requirements to invite mana whenua to name the project, provide karakia and cultural induction (Condition C5)
 - Erosion and Sediment Control (Conditions F1-F3) and environmental protections during construction and earthworks (Conditions F5-F14)
 - Dust management (Condition D6 – CMP and F4)
 - Confirmation of glare following final design and prior to construction (Condition C6)
 - Flood modelling requirements (Condition C7)
 - Tree felling requirements (Condition C8)
 - Bat Management Plan (D11-D12)
 - Incidental Discovery Protocol – Native Birds and Lizards (Condition D25)
 - Inclusion of cultural perspective and design as part of the Restoration and Landscape Management Plan (Conditions E11-E13).
- HENZ has, as set out in the Engagement and Consultation Summary (Appendix B), reaffirmed their commitment to a long-term relationship agreement/memorandum of understanding.

With the inclusion of the above mitigation and with reference to the draft CVA (final to be provided once endorsed by all three iwi) it is considered that any adverse cultural effects associated with the Project will be acceptable.

7.8 Effects on Heritage and Archaeological Values

As described in Section 4.1.10 of this report, an archaeological appraisal has been undertaken (**Appendix L**) confirming there are no recorded archaeological sites within the subject site,



and no evidence of archaeological sites during the site survey. Two possible pre-1900s buildings will be avoided by the Project footprint.

As there are no archaeological sites within the Site, heritage and archaeological effects are considered to be less than minor and acceptable. Accidental discovery protocols will be included as a condition of consent to ensure any unexpected archaeological features that may be discovered during the proposed works are suitably protected and managed.

7.9 Contaminated Land Effects

A Preliminary Site Investigation (PSI) has been undertaken by SLR Consulting to support the project. This is attached as **Appendix K**.

Based on the findings of the PSI, the area around the farm buildings, oxidation ponds, and the depression adjacent to the cowshed have been subject to the following HAIL activities:

- ***I:** Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health of the environment*
- ***E1:** Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be to be in a deteriorated condition*
- ***G3:** Landfill sites.*

These areas are therefore a Piece of Land in accordance with Regulation 5(7) of the NES-CS. The panels and associated infrastructure will be constructed around the identified pieces of land and will not encroach on the pieces of land themselves. A condition is included preventing any soil disturbance within 10 m of the identified HAIL activities. All other remaining areas of the Site are considered to have not, or more likely than not, been subject to HAIL activities and are therefore not subject to the provisions of the NES-CS.

As set out in Section 6.1 no consenting requirements are triggered under the NES-CS as the land will remain production land, and no soil disturbance will occur within the pieces of land themselves. If potential contamination is identified during works (accidental discovery or visual or olfactory indicators of contamination), it is recommended that the Site Manager contact a Suitably Qualified and Experienced Practitioner to assess the nature of the material. A condition is included to this effect. Overall, the effects of land contamination are considered to be to be less than minor and acceptable.

7.10 Fire Risk and Hazardous Substances Effects

7.10.1 Hazardous Substances

As set out in the Hazardous Substances Regulatory Assessment in **Appendix U**, the proposed volume of transformer oil and ethylene glycol coolant exceeds the maximum volume limits for storage of hazardous substances in the Rural Zone in the District Plan.

No activities on the Site fall under the list of high risk facilities in the WRP. Specifically, it is noted that transformer oil contained within in the PCUs/BESS units is banded as part of the unit design. Further, oil generally remains in-situ there for the life of the unit. It is tested each



year through a valve intended for testing purposes, however the oil itself cannot be exposed to moisture without damaging the unit. Accordingly, if oil ever needed to be changed, the whole unit would be transported to a climate controlled facility. No oil will be changed on site meaning there is no risk of spillage within the site.

To manage the potential hazards presented by the storage, handling and use of hazardous substances at the site, a draft Hazardous Substance and Site Safety Management Plan (HSSSMP) has been prepared and is attached as **Appendix DD**. This contains measures to meet the minimum conditions for hazardous facilities listed in section 5.7.4 of the District Plan.

Specifically, the draft HSSSMP sets out requirements for matters such as storage, risk management, purchasing and supply chain controls, labelling and signage, and safety data sheets. The following key points are noted:

- Storage will be in accordance with the *Health and Safety at Work (Hazardous Substances) Regulations 2017* and the *Hazardous Substances and New Organisms Act 1996 (HSNO Act)*. This includes ensuring proper containment, ventilation, and physical separation of incompatible substances.
- All personnel handling hazardous substances will receive appropriate training to ensure they understand the risks and know how to respond safely.
- A system for ongoing compliance monitoring, including internal audits and regular inspections of hazardous substance handling and storage will be implemented.

The HSSSMP also includes a draft emergency response plan containing emergency response procedures, including evacuation protocols, spill containment, first aid, and reporting mechanisms.

Hazardous waste will be segregated, stored, and disposed of in accordance with New Zealand's environmental regulations, including the *Waste Minimisation Act 2008* and local council guidelines. Only licensed contractors will be used for hazardous waste disposal, and disposal methods will be selected based on the type of substance (e.g., chemical, biological, or general waste). Records of waste disposal activities will be maintained, including details on the quantity, type, and method of disposal.

A finalised HSSSMP will be prepared before commencement and implemented in order to ensure compliance with the applicable regulations. On this basis, it is considered that the hazard posed to human health and the environment will be adequately managed and effects of hazardous substances onsite are less than minor and acceptable.

7.10.2 Fire Risk

Fire risk associated with BESS can, and will, be significantly reduced and adequately managed through a range of methods that are now standard within modern BESS units. These include:

- Battery Management Systems (BMS), which continuously monitor cell voltage, temperature, state of charge, and battery health. In addition, hydrogen and off-gas sensors are installed to detect the earliest signs of thermal runaway before visible smoke or fire occurs. Once abnormal conditions are detected, the BMS can alarm, reduce



power output, isolate affected battery strings, or shut down the system to prevent fault propagation.

- Battery temperatures will be maintained within the recommended operating range (typically 10–30 °C) using HVAC or liquid-cooling systems helps prevent overheating and uneven cell temperatures, which are major contributors to cell degradation and thermal runaway.
- Modern BESS designs also incorporate fire detection systems such as VESDA (Very Early Smoke Detection Apparatus), automatic ventilation systems to remove explosive gases, and fire suppression systems. Gas detection combined with automatic venting can prevent dangerous gas accumulation and reduce the risk of explosions, as incidents have shown that gas build-up inside containers can pose a significant hazard to emergency responders.
- From a design and installation perspective, fire risk is further reduced through the use of fast-acting fuses, battery string isolation devices, arc flash protection, proper cable management, and physical separation between battery modules to limit the spread of thermal events. Industry best practice therefore includes layered protection, rigorous commissioning and maintenance procedures, thermal runaway testing to standards such as UL 9540A, and designing systems to safely contain, isolate, and manage failures should they occur.
- All BESS containers will be fitted with integrated fire detection and suppression systems and monitored via Supervisory Control and Data Acquisition (SCADA). In the unlikely event the batteries were to catch fire, the containers are designed to self-contain and essentially smother the fire. No water would be put on a battery fire, however surrounding areas would be wet down to avoid any spread of fire.

Accordingly, the fire risk associated with BESS is very low. Additionally, all habitable buildings on site will be subject to standard Building Act requirements regarding fire detection and suppression.

Fire access and firefighting infrastructure proposed as part of the Project is set out in Section 5.3.6 of this report, which includes design of roads and access to accommodate firefighting appliances, and the provision of adequate firefighting water supply.

The HSSSMP attaches a draft emergency response plan, including battery safety storage management plan which has been provided to FENZ for review. Emergency response equipment, such as spill kits, fire extinguishers, and first aid supplies, will be readily available at key locations. Prior to operations commencing, a final emergency response plan will be prepared as part of the HSSSMP.

FENZ's flammability ratings have been taken into consideration in the selection of species for the Restoration and Planting Plan. Consultation with FENZ and the changes made in response to this consultation are also detailed in **Appendix B**.

Overall, it is considered that fire risk will be appropriately addressed by the proposed management measures.



7.11 Natural Hazards Effects

7.11.1 Flooding

A Stormwater Management and Flood Modelling Report has been prepared by Maven and is attached as **Appendix J**. The report involved the development of hydrological and hydraulic models to assess flood risks pre-development compared to post-development scenarios, focusing on the 100-year storm event and incorporating a 2.1 °C climate change adjustment (as per regional standards). Pre-development conditions on the Site are discussed in Section 4.1.6 above and in summary, excluding the area along the Mangawhero Stream, flooding on Site is relatively shallow and low velocity.

Post-development modelling was designed to reflect the proposed site layout and associated earthworks required. The two proposed culverts were incorporated within the existing north-south stream that feeds the Mangawhero Stream. A culvert was also incorporated beneath the existing farm track at the Mangawhero Stream crossing to represent conveyance.

Post-development modelling indicated that:

- There is a minor increase in flood levels (approximately 30 mm) in localised areas of the Site, with localised changes due to terrain modifications.
- Floodwater hazards are typically confined to existing watercourses, namely the Mangawhero Stream, to the northwest of the Site.
- Upstream flooding occurs during larger storm events under both pre- and post-development scenarios due to the conservative culvert size selected for the modelling. However, the post-development model shows only minor changes relative to existing conditions, with peak flows reducing slightly by 0.08 m³/s during the 100-year event and upstream flood levels increasing by a maximum of 0.02 m. These changes are considered negligible.
- In some areas, the elevated ground levels of internal roading obstructs minor overland flows/sheet flow, resulting in small increases in ponding and flood depths. This will be reviewed during detailed design and, if required, addressed through the inclusion of minor culverts, level crossings and/or drainage provisions.
- The installation of inverter station pads, as well as the site warehouse, switching station, and O&M building platforms, displaces minor ponding, causing water to shift to adjacent ponding areas.
- Flow velocities beneath the PV panels are generally below 0.40 m/s in the 100-year event, increasing to 0.45 m/s in the 250-year event.

Various recommendations for detailed design have been made. Critical infrastructure, including the switching station, O&M building and PCUs, are expected to be elevated to meet 100-year flood level freeboard requirements. Where areas of the Site exceed the 300 mm flood depth in the 10-year storm, it is recommended that these areas are filled with up to 300 mm of topsoil to ensure flood depth remains below 300 mm for construction of PV panels. Alternatively, flood sensors may be used to ensure the modules are placed in a stow position in order to be kept above the water level in a flood event. Roadside swales (or alternative solutions) alongside all proposed roads will also reduce standing water and improve drainage, reducing the need for filling



In the northwest corner of the Site, raised ground levels were modelled with the intention of mitigating ponding. This was effective in reducing flood depths within the modified area but has led to a marginal increase in flood depths of surrounding areas (without mitigation). This includes up to approximately 120 mm just beyond the northwestern boundary of the Site. This area is mapped in Figure 24 of the Stormwater Management and Flood Modelling Report and comprises open pasture / farmland that is free of any buildings.

An increase of less than 120 mm also occurs in small areas to the south and southwest of the Site (without mitigation). The area southwest of the Site that is subject to this increase is farmland located adjacent to the Mangawhero Stream that does not comprise any buildings. The area south of the Site comprises scattered farm buildings and no dwellings. The assessment confirms that any effects beyond the boundary of the Site can be addressed at detailed design stage and mitigated via a mix of swales and culverts to allow water egress away from these areas.

Exact sizing and placement of culverts within the Site will be confirmed at the detailed design stage. These culverts will convey additional flow and reduce ponding. The culverts will be designed in accordance with the provisions of the NES-F and will be designed to convey floodwaters in a 50-year flood event.

Conditions of consent have been included in the draft condition set to ensure that any off-site flooding effects are avoided at the time of detailed design; this includes the provision of updated modelling to be provided to MPDC prior to construction.

Based on the results of the flood assessment and proposed mitigation methods, the Site is considered appropriate for the proposed development, and the Project will not result in any unacceptable flooding effects on the Site or surrounding areas.

7.11.2 Geotechnical

A Geotechnical Assessment has been prepared by CMW Geosciences (**Appendix F**). The following matters have been considered as part of this assessment:

- Seismicity and Faulting;
- Liquefaction Potential;
- Lateral Spread;
- Roding; and
- Foundation Design.

The assessment confirms that liquefaction may occur in some soil layers during an Ultimate Limit State (ULS) earthquake event. While liquefaction induced settlement is not a significant risk for the solar panels, settlement could damage the foundations of other infrastructure. The assessment confirms that this can be adequately addressed via foundation design. Arrays and other infrastructure will be designed to tolerate the anticipated liquefaction induced settlement.

Settlement due to building loads and possible fill has been estimated and may exceed building code limits, and will require further analysis by a geotechnical engineer to determine appropriate foundation design at the time of Building Consent.



Due to the flat to gently sloping nature of the Site, the risk of deep-seated land instability occurring is assessed to be low. Lateral spread within the drains was considered during a ULS seismic event. The results show that any potential lateral spread is within building code limits and does not require further consideration. The cohesive nature of the soil, which may be used as fill, presents a low risk of erosion. Appropriate erosion measures will be implemented.

The soils encountered in the boreholes are suitable for driven piles to support the proposed panels. It is recommended that test piling is carried out to assess driveability. Should driven piles be unable to achieve the target depth, potential alternatives have been recommended.

During winter conditions topsoil saturation is typical due to poorly drained subgrade soils. The design of the Site will mitigate the risk of pavement saturation. Where firm silts/sands are present, subgrade improvement and/or specific pavement design may be required to form roads suitable for heavy construction traffic and future maintenance vehicle access.

Additional geotechnical inputs to support the design and construction of the proposed development at the Site will be undertaken at detailed design / building consent stage. Based on the results of the geotechnical investigation and assessment, the Site is considered appropriate for the proposed development, and the Project will not give rise to any adverse geotechnical effects.

7.11.3 Climate Change

As set out in Sections 7.2 and 8.1, the Project will result in a reduction of greenhouse gas emissions and respond to the risks of climate change. While actively contributing to a reduction in greenhouse gases and climate change, the Project is also resilient to the risks of climate change itself. Solar farms contribute to the overall resilience of the national electricity generation system. Solar, wind and hydro are each reliant on different natural variations such as day/night/cloud (solar); calm/gale (wind); and rainfall (hydro). This variability occurs across different time periods from hours to years and also varies by different geographic location. Increased variety (technology and location) in the national system inherently contributes to an overall lessening and distribution of risk. Solar farms can be located away from high-risk areas for natural hazards (such as the coast), allow for the diversification of land uses, and can be dismantled easily with very little impact on the land.

7.12 Operational Noise

Operational noise associated with the Project will primarily come from the cooling systems of the BESS and inverter units. These vary depending on power load (charging/discharging), ambient temperature, and heat output, which influence fan speed. Solar tracker motors also generate some noise but operate intermittently, no more than 15 seconds per movement, with total daily operation estimated at less than five minutes. The system would also run the motors in sequential or staggered blocks ensuring not all motors operate at the same time.

The Acoustic Assessment attached as **Appendix X** has modelled a 'worst-case and unlikely scenario' for operational noise whereby it is assumed that all noise sources are operating at peak generation. This model confirms that compliance can be achieved with the relevant daytime and night-time noise limits at the notional boundaries of adjoining properties even



when an additional 5 dB special audible characteristic adjustment is applied. This is based on BESS with sound power levels of up to 80 dB LWA/unit being set back at least 150 m from the nearest notional boundaries.

Predicted cumulative operational noise levels readily comply with the applicable daytime limit of 50 dB LAeq and night-time limit of 40 dB LAeq at all receivers. Further, predicted operational noise levels are below or equal to existing ambient levels at the nearest sensitive receiver and are therefore unlikely to have any discernible or material effects on amenity.

As the final equipment selection and internal site layout is not yet known, alternate design options have also been identified that would result in noise levels and effects no greater than those identified above (increased sound power levels for BESS requiring increased setbacks or acoustic screening). It has been recommended that once the site layout is finalised, an acoustic review by a suitably qualified specialist is undertaken. The review would confirm compliance with the nominated limits prior to installation of the BESS and inverters, via a Design Noise Compliance Report submitted to MPDC. A condition has been included accordingly.

Overall, on the basis of the technical report provided and recommended conditions, it is considered that operational noise from the Project will be reasonable and consistent with Rural Zone expectations and will not generate any material adverse acoustic effects in the surrounding environment.

7.13 Operational Traffic

Operational traffic will largely involve a small number of onsite operations staff and small vehicles, vans, and trailers visiting the Site to check equipment, undertake weed and pest control and other vegetation management. Existing vehicle crossings (refer Figure 2) are to be retained to continue providing residential dwelling and farming access locations. The two construction accesses referred to in Section 5.3.2 will be retained for operational access.

The Transport Assessment undertaken by CKL (**Appendix E**) confirms that operational traffic will be less than minor for the reasons detailed in Section 7.3.3, and below.

Operational trip generation is anticipated to involve 30 vpd and up to 10 vph during typical network peak hours of 7am to 9am and 3pm to 6pm. Operationally, the effect of the anticipated additional 10 vph is expected to have a negligible effect on the capacity of the network.

Additionally, the proposed limit on educational visits to ten per year will mean that these will also have a negligible effect on the road network.

Overall, effects of operational traffic are able to be accommodated within the roading network and are considered acceptable.

7.14 Effects on Rural Productivity

As described in Section 4.1.7, the Site contains highly productive land / high class soils and the Project involves the cessation of dairy farming. The easement agreement allows for the landowners to make use of the pasture under panels in any manner that does not interfere



with the operation of the solar farm. Such uses could include certain crops, beekeeping or sheep farming. Of these, the most likely use is sheep farming (a practice that falls under the umbrella of 'agrivoltaics'). To analyse the difference in stocking rates and productivity between the current farming system and agrivoltaics, a Productivity Analysis has been prepared by Pastoral Consultancy (attached as **Appendix EE**). This concluded that:

- The Site at present has an effective dairy grazing area of 146 ha, milking 440 cows, with a three-year production average of 148,100 kg of milksolids, or 1,014 kg per hectare. In addition, 20 tonnes of manufacturing meat is produced each year. This dairy system equates to an average stocking rate of 24.2 stock units per hectare.
- The agrivoltaics sheep grazing system has an effective grazing area of 136 ha, finishing 4,290 lambs and 1,560 ewes to produce 23.7 tonnes of lamb meat, 26.3 tonnes of mutton, and 76.2 tonnes of wool. This is a total of 454 kg of meat and wool per hectare and is the equivalent to an average stocking rate of 14.9 stock units per hectare.
- The reduction in the average stocking rates represents a 38% decrease in stock carrying capacity.

The design of the panels is not expected to impact the ability of livestock (sheep) to graze beneath panels or restrict livestock movement within the solar panel areas. Annual pasture growth rates within the solar array are expected to be reduced by 28%.

Noting there is no requirement that the land currently remain as dairy farming, and that the Site is able to be used for productive purposes alongside the solar farm, it is considered that effects on rural productivity are acceptable. Further, there are no reverse sensitivity effects arising from solar farming within the rural zone. Sheep and solar farming are complementary, and the solar farm will not impact on existing productive rural activities on surrounding properties. The NPS-HPL is discussed further in Section 8.2.5.

There are positive effects resulting from the proposed change in land use, which are discussed in Section 7.2 above.

7.15 Effects of Decommissioning & Re-Powering

If the Site is decommissioned, all infrastructure will be removed, and where necessary the Site will be rehabilitated to ensure it is suitable for a variety of subsequent land uses (primarily productive use). If this occurs recycling, upgrading and disposal requirements will be guided by government requirements at the time of decommissioning.

Alternatively, the Site may be re-powered at the end of life. This could include the replacement of PV modules and other electrical infrastructure as required.

Given the details of either option are not yet known, a condition of consent requiring a Decommissioning or Re-powering Plan (DORP) is proposed. This condition requires the Consent Holder to advise MPDC on the proposed option at that time, including methodologies and controls as necessary to avoid, remedy or mitigate potential effects on the environment.

In the event of decommissioning, the DORP will detail the end-state of the Site. If the Site is intended to be re-powered, the DORP will outline any changes proposed and any additional consents required.



It is considered that any future effects of decommissioning or re-powering can be adequately addressed via this condition of consent. Effects are considered acceptable.

7.16 Parties Likely to be Affected

In accordance with Clauses 5(1)(d) and 6(1)(e) of Schedule 5 of the FTAA, adjacent properties and relevant iwi authorities have been identified in Section 4.2.1 and Section 4.4 (respectively) of this report. HENZ has undertaken consultation with these parties as part of this Application, as well as NZTA and FENZ who were identified as potentially affected parties.

The assessment undertaken in Sections 7.2 - 7.15 above also addresses effects on potentially affected parties, particularly in relation to:

- Construction Noise;
- Construction Traffic;
- Cultural Effects;
- Glint and Glare; and
- Landscape, Natural Character and Visual Effects.

Unless otherwise discussed below, adverse effects of the Project on adjoining properties, the wider community, and all other stakeholders are considered to be less than minor when taking the proposed mitigation measures and conditions into account. Where potential effects on particular stakeholders have been identified, these are discussed below.

70A and 70B Gore Road, and adjoining properties on State Highway 27 (visual effects)

As detailed in Section 7.4 of this report, the Project has the potential to generate a high level of localised visual effects on the parties occupying 70A and 70B Gore Road.

Given the extent of the Project and the elevated nature of this property, it is considered that screen planting within the Site would provide limited visual mitigation, and that screen planting would be better placed in close proximity to the dwellings themselves. HENZ has proffered a condition of consent that requires an offer of mitigation planting be made to the owners of 70A and 70B Gore Road. However, as mitigation planting would be outside the Site, and therefore at the discretion of landowners, this is not relied on for the purposes of consenting. Therefore, a high level of localised visual effects remain and these landowners are considered likely to be affected.

Overall, the LEA concludes that the Project does not dominate the rural character, maintains the rural productive landscape and will be consistent with the area's productive character. Consultation between HENZ and other adjoining properties resulted in the extension of landscaping along State Highway 27, in the form of a reasonably fast growing hedge to provide further visual screening from the development. Consultation also informed the design and location of the O&M building, warehouse and storage containers to minimise visibility from adjoining properties on State Highway 27.



4811C SH29, 22 Gore Road & 70A Gore Road (flooding effects)

In the northwest corner of the Site, post development flood modelling indicates that raised ground levels will result in a marginal increase in flood depths of surrounding areas (if unmitigated). This includes up to approximately 120 mm just beyond the northwestern boundary of the Site (4811C State Highway 29). This area is mapped in Figure 24 of the Stormwater Management and Flood Modelling Report and comprises open pasture / farmland that is free of any buildings.

An increase of less than 120 mm (unmitigated) also occurs to the south and southwest of the Site (22 and 70A Gore Road, respectively). The area subject to flooding southwest of the Site (70A Gore Road) is farmland located adjacent to the Mangawhero Stream that does not include any buildings. The area south of the Site (22 Gore Road) includes scattered farm buildings but no dwellings.

The Stormwater Management and Flood Modelling Report confirms that any increased flooding effects beyond the boundary of the Site can be addressed at detailed design stage and mitigated via a mix of swales and culverts to allow water egress away from these areas. With appropriate design it is considered that effects on these properties will be acceptable. A condition has been included requiring updated modelling to be undertaken after detailed design to confirm that offsite flooding is not increased. Hence, no parties are considered likely to be affected by increased water levels.

New Zealand Transport Agency (NZTA)

Consultation with NZTA was undertaken to discuss access feasibility prior to establishing access options for the Site (refer **Appendix B**). NZTA has indicated a preference for Option 1 for northern access to the Site. NZTA does not support the existing State Highway 29 entrance (i.e. "Option 2") being utilised for additional heavy traffic without prior upgrade, given it is already used by the milk tanker. This appears to overlook that a milk tanker would not be accessing the site during any construction activities. The Transport Assessment (**Appendix E**) has confirmed that either option is suitable in terms of the wider roading network and will not have any adverse effects on the efficiency or safety of the State Highways as assessed in Section 7.3.3 of this report. Effects on NZTA assets are therefore considered to be acceptable.

KiwiRail

Given the location of the Site adjacent to a railway line, KiwiRail was contacted by HENZ (refer **Appendix B**). No response has been received from KiwiRail following various consultation attempts. The Reflected Light Assessment has not identified any reflected light effects on the railway as a result of the Project. There will be no other adverse effects on KiwiRail assets as a result of the Project. Effects are considered less than minor and acceptable.

Department of Conservation

Consultation has not been undertaken with the Department of Conservation, given a wildlife permit does not form part of the proposal.



Fire and Emergency New Zealand (FENZ)

Consultation was undertaken with FENZ. FENZ was interested in water tank size and locations, and stable, clear access to the tanks for firefighting appliances. These parameters will be determined at detailed design stage in compliance with relevant standards, as allowed for by consent conditions. Internal access will be designed to FENZ's requests to accommodate an 8.5 m long, 25 tonne vehicle with turning circles at dead end roads.

FENZ was also interested in containment of contaminants after a fire has been extinguished. As set out in Sections 5.3.6 and 7.10 of this report, battery fires are highly unlikely and will be suppressed by the BESS containers. No additional bunding / interceptors are proposed.

Grass management and low / moderate flammability species were recommended by FENZ. Grass will be kept low by mowing during construction, and by grazing following construction. Flammability of species has been considered in species selection for the proposed planting alongside other requirements for this planting (e.g. fast growing, indigenous, locally sourced).

7.17 Proposed Conditions

This section of the Application is provided in accordance with clause 5(1)(k) and clause 18 of Schedule 5 of the FTAA, that an application provides conditions for the consent. The conditions of consent that form part of this Application are included in **Appendix V** and are referred to within the preceding effects assessments where relevant. The mitigations that have been identified in the technical assessments as being necessary are included within these consent conditions.

The conditions will appropriately manage adverse effects, including providing mitigation to prevent or reduce adverse effects during and after construction in accordance with Clause 6(1)(d) of Schedule 5. The proposed conditions are consistent with Section 83 of the FTAA and Part 6 of the RMA.

7.18 Conclusion

Overall, based on the preceding assessment, the effects of the proposed activity on the environment have been carefully considered and responded to appropriately. Adverse effects are generally assessed as minor in nature, with a number of significant positive social, economic, cultural and environmental effects identified. Additionally, adverse effects primarily relate to the construction stage and these are inherently temporary in nature. Residual (unmitigated) effects primarily comprise visual effects on two elevated properties.

A robust framework of management plans and requirements are proposed to manage the effects of the Project. The scale and significance of these effects is not considered to require monitoring, with the exception of the specific requirements set out in management plan conditions.



8.0 Statutory Assessment

8.1 Purpose of the FTAA

As outlined in Section 3.2 of this report, Section 43(1)(b)(i) of the FTAA requires the Substantive Application to explain how the project to which the application relates is consistent with the purpose of the FTAA.

The purpose of the FTAA is *“to facilitate the delivery of infrastructure and development projects with significant regional or national benefits”*.

“Significant regional or national benefits” is not specifically defined in the FTAA. However, Section 22(2)(a) of the FTAA provides guidance on the matter and provides the following criteria:

Whether the project —

- (i) has been identified as a priority project in a central government, local government, or sector plan or strategy (for example, in a general policy statement or spatial strategy)...*
- (ii) will deliver new regionally or nationally significant infrastructure or enable the continued functioning of existing regionally or nationally significant infrastructure:*
- (iv) will deliver significant economic benefits:*
- (vii) will support climate change mitigation, including the reduction or removal of greenhouse gas emissions:*

As a Listed Project in Schedule 2 the Project has already been identified as having significant regional or national benefits. However, for completeness the following comments are made in respect to how the Project is consistent with the purpose of the FTAA, with reference to the Economic Assessment in **Appendix W**.

8.1.1 National-Scale Qualitative Benefits

The Project’s most consequential effects are national in scope and arise from its contribution to New Zealand’s renewable generation system. The 147 GWh of annual generation would lift national utility-scale solar output by approximately 25 percent from its 2024 base, displace approximately 72,711 tonnes of CO₂-equivalent emissions per year, improve competition in the wholesale electricity market through the addition of significant low-marginal-cost generation, and enhance system flexibility and resilience by complementing existing hydro generation. These benefits persist for the full operational life of the facility and are, as expressed in the Economic Assessment, the most material economic effects of the Project.

8.1.2 Quantified Net Economic Benefit

A monetised Total Economic Value (TEV) analysis has been undertaken. Under the baseline scenario, the Project returns a net benefit of approximately \$52 million in NPV terms, with quantified benefits (\$75.5 million) exceeding quantified costs (\$23.0 million) by a ratio of more than three to one. These figures are conservative, in that they exclude the value of agrivoltaic



sheep grazing, the contracted and seasonal workforce supporting operations, the construction of on-site O&M buildings, and the monetary value of displaced greenhouse gas emissions.

8.1.3 Employment and Regional Activity

The construction of Hinuera Solar Farm is estimated to support a total of approximately 267 FTE-years of employment, generate around \$42.6 million in GDP, and contribute approximately \$21 million in wages and salaries over the construction period.

Once operational, the solar farm will sustain approximately 7-10 full-time equivalent roles comprising a site manager, administrator, operators, technicians, and security personnel. Additional seasonal and specialist contractors for activities such as vegetation management, panel cleaning, and electrical testing will also be required – delivering a net increase of approximately 212 FTE-years of ongoing employment and \$20 million in additional GDP relative to the dairy counterfactual over the 34-year easement period.

8.1.4 Wider Benefits and Strategic Alignment

The Project aligns with the Government's *Going for Growth* agenda, launched in early 2025. The strategy sets out a long-term strategy to lift national productivity and living standards by developing talent; building competitive business settings; promoting trade and investment; driving innovation, science and technology; and investing in infrastructure for growth.

The Project also strongly aligns with the *Emissions Reduction Plan 2026-2030*, which identifies electricity generation as a priority area for emissions reduction to achieve New Zealand's climate target of net zero by 2050.

An assessment against the relevant Statutory Documents has been undertaken in Section 8.2. Of particular relevance is the Project's consistency with the National Policy Statement for Renewable Electricity Generation (NPS-REG). In addition to providing the national benefits referred to above, it is noted that the Project involves the generation of electricity that will be fed into the national grid, therefore it also meets the definition of Infrastructure as defined in the WRPS and is considered to be Regionally Significant Infrastructure under the WRPS.

The Project represents a \$150 million private-sector commitment in nationally significant renewable infrastructure, with associated investment signal effects in the Waikato region. HENZ's established pipeline strengthens confidence that the enabled generation capacity will be realised in practice. The FTAA pathway materially accelerates delivery of these outcomes relative to the standard RMA process.

8.1.5 Conclusion in relation to Purpose of the FTAA

The Economic Assessment has concluded that:

The proposal delivers benefits that are both significant and national in scope. Its contribution to renewable generation, emissions displacement, wholesale market competition, and system flexibility goes directly to the priorities identified in the Emissions Reduction Plan and the directive requirements of the NPS-REG. These benefits are reinforced, not exhausted, by a positive quantified net economic benefit of



approximately \$52 million in NPV terms, meaningful construction-phase employment and GDP, stable long-term operational employment in a rural labour market, and a \$150 million private-sector capital commitment with associated investment-signalling effects.

The identified adverse economic effects, such as foregone dairy production, loss of ecosystem services, and loss of option and bequest value, are limited in scale, localised, and, in the case of the productive land, reversible at the conclusion of the 34-year easement term. They are, in our view, not out of proportion to the benefits delivered.

The FTAA pathway materially accelerates the realisation of these benefits relative to standard RMA processes, bringing forward construction, generation, and emissions displacement by a period likely measured in years.

On balance and having regard to the purpose of the Act and the matters the Panel must consider under sections 81 to 85 and Schedule 5, the proposal delivers significant regional and national economic benefits that substantially outweigh its adverse economic effects. It is strongly supported on economic grounds.

Accordingly, the Project provides for significant renewable electricity generation, it provides both significant national and regional benefits and is consistent with the purpose of the FTAA.

8.2 Assessment of Relevant Statutory Documents

Clause 5(1)(h) of Schedule 5 of the FTAA requires that applications must include an assessment of the activity against the relevant provisions and requirements of those documents listed in clause 2(2) being:

- a national environmental standard;
- other regulations made under the RMA 1991;
- a national policy statement;
- a New Zealand coastal policy statement;
- a regional policy statement or proposed regional policy statement;
- a plan or proposed plan; and
- a planning document recognised by a relevant iwi authority and lodged with a local authority.

An assessment of the relevant statutory documents that corresponds with the scale and significance of the effects that the Project may have on the environment is set out below.

8.2.1 National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

An assessment of the NES-CS has been undertaken in Section 6.1 of this Application and will not be repeated here. In summary, consent is not required under the NES-CS as the Site will not cease to be production land and isolated areas of potential contamination (primarily located around buildings) will be avoided.



8.2.2 National Environmental Standard for Freshwater

An assessment of the consents required under the NES-F has been undertaken in Section 6.2 of this report and will not be repeated here. In summary, consent is required as a Discretionary Activity under the NES-F.

Clause 45(6) of the NES-F states that a resource consent for a discretionary activity under this regulation must not be granted unless the consent authority has first -

- a) *satisfied itself that the specified infrastructure will provide significant national or regional benefits; and*
- b) *satisfied itself that there is a functional need for the specified infrastructure in that location; and*
- c) *applied the effects management hierarchy.*

These matters are assessed below:

Specified infrastructure

Specified infrastructure is defined under the NPS-FM as being:

- (a) *infrastructure that delivers a service operated by a lifeline utility (as defined in the Civil Defence Emergency Management Act 2002)*

Schedule 1, Part B of the Civil Defence Emergency Management Act, includes "... An entity that generates electricity for distribution through a network."

Accordingly, the Project is considered to be the construction of specified infrastructure.

Significant national or regional benefits

The Application relates solely to a listed Project in Schedule 2 of the FTAA which has been identified as having significant regional or national benefits, therefore being consistent with Clause 45(6)(a) of the NES-F and 3.22(b)(ii) of the NPS-FM. Additionally, the national and regional benefits of the Project are discussed in Section 8.1 of this report and it is concluded that the Project has both significant national and regional benefits.

Functional Need

Functional need is defined in the NPS-FM as follows:

Functional need means the need for a proposal or activity to traverse, locate or operate in a particular environment because the activity can only occur in that environment.

The High Court, in *Poutama Kaitiaki Charitable Trust and D&T Pascoe v Taranaki Regional Council* [2022] NZHC 629 held that, when determining functional need (in the context of the NPS-FM), the focus is not on a particular location (despite this word being utilised), but the need for an activity to locate in a "particular environment" in accordance with the definition of 'functional need'. This is a broader concept than a 'location' which is a contextual and fact specific enquiry.



In considering whether there is a need for the proposed activity to traverse, locate or operate *in a particular environment*, the RMA's definition of environment includes:

- (a) ecosystems and their constituent parts, including people and communities; and*
- (b) all natural and physical resources; and*
- (c) amenity values; and*
- (d) the social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) or which are affected by those matters*

With this broader definition of environment in mind, it is noted that solar farms can only feasibly be constructed in environments where:

- There is existing infrastructure (substations and/or high voltage lines) in close proximity, where a connection to the national grid is able to be provided;
- There is a suitably sized land parcel(s) to accommodate the extent of infrastructure required, noting this is most likely to be in the rural environment;
- There is an appropriate amount of irradiation in an average year;
- The topography is flat to gently sloping; and
- Ground conditions are appropriate for the driving of piles/natural hazards are not incompatible with the activity.

A Project-specific discussion in respect to these factors follows.

The need for renewable energy generation to locate in proximity to existing infrastructure and connect to the grid is recognised by the NPS-REG (Policy C) as a constraint that decision makers must recognise and provide for. It is also useful to note that not all Points of Connection (PoC) (i.e. substations or lines) have the appropriate capacity or physical infrastructure to accept or dispatch additional generation. In this instance, the Site is in close proximity to the Hinuera substation, which provides an appropriate PoC from the perspective of both physical infrastructure and dispatch capacity.

The Site also:

- encompasses an area of land that is large enough to accommodate an appropriately sized solar farm, relative to capacity at the PoC;
- as discussed in section 4.4 of the Economics Assessment attached at **Appendix W**, receives high levels of irradiation, relative to other areas of New Zealand, with an average annual global horizontal irradiation of approximately 1,430 kWh/m²/year; and
- has appropriate topography and ground conditions for the construction of a solar farm.

Therefore, it is concluded that the Project has a functional need to locate within the proposed environment (including within all its constituent parts, values and resources).

In terms of the consideration of alternative sites within the general proximity, reference is had to *Te Rūnanga o Ngāti Whātua v Auckland Council* [2024] NZHC 3794, where the High Court noted that the consideration of functional need and alternative sites and methods must be applied using a realistic appraisal of need and the available alternatives. Specifically, the Court noted (in paragraph 286) that:



...the effect of the NPS-FM policies and exceptions standards are prohibitive insofar as it requires an assessment of functional need and alternative sites and methods, these requirements must be applied in a common-sense way. That requires a realistic appraisal of need and the available alternatives having regard to in this case the proposed scale of the activity and the corresponding function performed by it. Plainly scale is relevant to the assessment of whether the activity is contrary to the NPS-FM “avoid” policies, and the scale of its effects may mean it is unable to satisfy the second step in the exceptions pathway. But need and availability of alternative sites must be assessed in terms of the proposed activity, not based on theoretical need and availability of site for that type of activity generally. A landfill provides a useful illustration. Given that even a small landfill will in most if not all cases need to be located in an environment where the presence of small streams are highly likely, it would accord with common sense to construe ‘functional’ need in a way that would accord with this reality.

While it is acknowledged that this portion of the decision relates to a landfill and stream extent/values rather than wetlands it is considered that the same rationale can be applied to wetlands in the context of this Project. That is, there may be other properties located in proximity to the PoC, where there is an appropriate amount of land and a flat to gently sloping topography. However, land that is flat to generally sloping and relatively undeveloped (i.e. retained in pasture, as opposed to more built environments), is highly likely to contain small depressions or low-lying areas that would meet the definition of a wetland under the NPS-FM. Accordingly, it is a fair and reasonable conclusion that there is a functional need for utility scale solar farms to locate in areas where small areas of degraded wetlands are likely to be present.

It is noted that desktop assessments of potential sites carried out by HENZ include screening for any wetlands, particularly where they are noted in District or Regional Plans or are readily recognisable from aerial photographs and topographical maps. However, wetlands that are retained in pasture and located in small low-lying depressions are generally not able to be ascertained from desktop assessments or even site walkovers. Rather, they are only able to be determined by a suitably qualified ecologist carrying out plot tests. In the case of Hinuera, the low benches adjacent to the Mangawhero streams were identified as likely wetlands at the time of desktop screening. However, due to their location immediately adjacent to the stream, these presented an opportunity for biodiversity enhancement rather than a barrier to development and have subsequently been included within the Project’s restoration area.

It is also important to note that, in the unlikely event that the Applicant was able to identify an alternative, appropriately sized site in the environment (i.e. in proximity to the PoC) that did not contain any wetlands, there is no guarantee that no other land feature would exist that would render the site unsuitable. Such features could include (but not be limited to), archaeological or cultural sites, habitat or biodiversity features, sensitive landscapes or geotechnical properties.

This difficulty was noted by the High Court, in *Poutama Kaitiaki Charitable Trust and D&T Pascoe v Taranaki Regional Council* [2022] NZHC 629 at paragraph 57 (reproduced below):

In theory, there could be an infinite number of route possibilities, or locations, connecting the relevant points of the highway. But these potential routes are



constrained by practicalities, including distance, cost, terrain, and constructability, as well as environmental considerations. With any linear infrastructure, alternative locations or routes will always exist. And the existence of any conceivable alternative would make the specified infrastructure exception in cl 3.22(1)(b) otiose. Such redundancy could not have been intended.

Lastly, insofar as a discussion regarding alternative sites, reference is had to the above quote, where the High Court acknowledged that the consideration of every conceivable alternative is an undertaking disproportionate and unnecessary to the consideration of functional need. While acknowledging that this judgement relates to a roading project, as opposed to a solar farm, it is considered that the same fundamental reasoning can be applied. Furthermore, the NPS-REG (drafted after the NPS-FM) now explicitly addresses this issue, in Policy C(3), which states that “an assessment of alternative sites is not required to demonstrate that an operational or functional need exists” for renewable electricity generation assets and activities.

It is considered that a holistic assessment of the ‘environment’ in which the project is to be located is appropriate when considering functional need. That is, the Site (including the wetlands within the Site) should be considered as a whole, rather than a narrower focus on the small areas of wetland and the functional need to locate over those wetlands.

Nonetheless, the following context is provided in respect of construction within and within close proximity to the specific areas of wetlands W02 and W03.

It is noted that these wetlands are located within the bulk of the development area and avoiding them would result in an inefficient ‘swiss cheese’ panel layout. It is also important to note that it is not possible to simply carve out the extent of wetland, leaving all other panels in place, as panel arrays come in set lengths. This means that the area avoided would be significantly larger than the area of the wetland itself. Additionally, to avoid indirect effects, a buffer area would need to be applied around each of the wetlands, particularly in respect to hard infrastructure, such as roads or foundation platforms, but also in respect of any drainage or stormwater devices (e.g. culverts).

To provide some quantification of these effects the concept design was reviewed with a conservative assumption of a 20 m buffer zone around W02 and W03. This resulted in the loss of 1,428 panels, being approximately 940 kW of panels and equating to 1.57 million kW hours per year, or enough to power approximately 200 homes per year. From a Project viability perspective, this equates to approximately \$170,000 of revenue lost per year or \$5.1 million lost over a 30 year term.

In addition, the avoidance of the wetlands and associated 20 m buffer zones would result in:

- The need to realign Road 3 (as shown on the civil concept design plans);
- The need to relocate the PCU and BESS located in proximity to the wetland;
- Irregular cabling runs to avoid the wetland and buffer (resulting in additional cable and trench lengths); and
- A more complex construction approach.

Evidently, if a 100 m buffer was applied to all earthworks (to align with provisions of the NES-F) much greater losses would be realised. On the basis of the above, it is concluded that there



is a functional need for the Project to locate in this environment (both at a wider scale and over the areas of wetland specified).

Effects Management Hierarchy

The effects management hierarchy requires that:

- (a) Adverse effects are avoided where practicable; then*
- (b) Where adverse effects cannot be avoided, they are minimised where practicable; then*
- (c) Where adverse effects can not be minimised, they are remedied where practicable; then*
- (d) Where more than minor residual adverse effects cannot be avoided, minimised or remedied, aquatic offsetting is provided where possible; then*
- (e) If aquatic offsetting of more than minor residual effects is not possible, aquatic compensation is provided; then*
- (f) If aquatic compensation is not appropriate, the activity itself is avoided.*

In accordance with the effects management hierarchy, the proposed design of the Project has avoided the majority of wetlands present on the Site, including those located adjacent to the Mangawhero Stream. These areas will be enhanced.

It is not practicable to avoid development and adverse effects on wetlands W02 and W03 (with a combined area of 273 m²), due to their positioning within the site and the reasons set out in the discussion regarding functional need above.

For the same reasons, it is not practical to minimise or remedy effects on these wetlands without entirely avoiding development within the immediate vicinity of the wetland. However, within wetlands, the driving of support posts, cable trenching, and the redistribution of water from the placement of panels above them, is not anticipated to have any notable impact on the values or extent of these wetlands. Accordingly, the residual effect on these wetlands is most likely to arise as a result of site re-contouring for the installation of roads and the creation of infrastructure platforms.

Any loss of extent and values in respect of these two areas of wetlands is assessed to result in a low level of effect (equating to no more than minor) and be readily offset by the proposed 2.43 ha of restoration planting proposed within wetlands and microchannel areas adjacent to the Mangawhero Stream. As is set out in the Ecological Impact Assessment, this restoration will result in a 'net-gain' for the Site wetlands.

In conclusion, there is a functional need for the Project to locate in this environment (both at a wider scale and over the areas of wetland specified) and the effects management hierarchy has been appropriately applied. The Project meets the requirements for granting consent under Clause 45(6) of the NES-F.



8.2.3 Other regulations

The Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 do not apply to this Project as any consumptive water take will be at a rate of less than 5 litres per second. The Resource Management (Stock Exclusion) Regulations 2020 do not apply as they do not cover sheep. Regardless, sheep will be excluded from the planted riparian and wetland areas.

8.2.4 National Policy Statement for Renewable Electricity Generation

The National Policy Statement for Renewable Electricity Generation 2011 (NPS-REG) sets out the objective and policies for renewable electricity generation under the Resource Management Act 1991. The NPS-REG came into effect on 13 May 2011 and was amended in December 2025.

The NPS-REG seeks to recognise and provide for the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities.

A full assessment of the Project against the objective and policies of the NPS-REG is included in **Appendix FF**. The key matters are set out below:

- The Project provides for the construction and operation of a new solar farm which will increase renewable electricity generation capacity whilst reducing greenhouse gas emissions. The Project will result in various national, regional and local benefits, including the displacement of 72,711 tonnes of CO₂-equivalent emissions per year, competition in the wholesale electricity market, enhancing system flexibility and resilience, and the creation of various employment and wider social benefits discussed in Section 8.1 (Objective 2.1, Policy A).
- The Project utilises renewable natural resources and will increase the security of supply at a local and regional level. The Project provides for a significant electricity generation activity. The level of anticipated generation is sufficient to power the annual requirements of over 21,050 New Zealand households, or approximately 94,510 electric vehicles per year, representing a significant contribution to New Zealand's national target for renewable energy (Policy A and Policy B).
- There is a functional and operational need for the Project to be located in this particular environment. The Site was selected due to: the accessibility of an appropriately sized grid connection via Hinuera Substation; sufficient land with flat topography, geotechnical properties and access; and an appropriate amount of irradiance received at the Site to sustain the renewable electricity generation activity – all of which are matters that must be recognised in establishing an operational or functional need for renewable electricity generation projects as per Policy C. Policy C further states that an assessment of alternative sites is not required to demonstrate that an operational or functional need exists. Functional need is discussed in detail in Section 8.2.2 above.
- HENZ has undertaken iwi consultation and the Project will recognise and provide for iwi interests (Policy E).
- Policy F seeks to enable and manage the effects of renewable electricity generation, including contemplation of the need to consider adverse effects on any of the values in section 6 of the RMA alongside relevant national policy statements and regional policy



documents. Of relevance to this Project are wetlands and rivers, long tail bat habitats and the relationship of tangata whenua with their ancestral lands, water, sites, waahi tapu, and other taonga.

- An extensive discussion regarding wetlands is included in Section 8.2.2, above, whereby it is noted that the Project will result in a net gain for the site wetlands. It is also noted that 2.38 ha of riparian planting is proposed, resulting in a biodiversity net-gain. The Project is also consistent with the NPS-FM (discussed in Section 8.2.6). Effects on long-tail bat habitat have been addressed in Section 7.6.6 whereby it is concluded that any effects on bats will be low. Lastly, the relationship of tangata whenua with the Site has been provided for.

In summary, all effects on section 6 values have been appropriately considered and managed so as to ensure any residual effects are no more than minor and the proposal is considered to be consistent with Policy F. Overall, the Project provides for renewable energy generation in a manner that is both consistent with, and enabled by, the NPS-REG.

8.2.5 National Policy Statement for Highly Productive Land

The NPS-HPL aims to protect and manage highly productive land in New Zealand for future generations, ensuring its availability for land-based primary production. The Site contains LUC 1 and 2 land and therefore the NPS-HPL is a relevant consideration for the Project.

The NPS-HPL requires Regional Councils to identify and map highly productive land within their regions. At the time of writing, WRC has yet to publish any such mapping. As such, the transitional provisions for identifying highly productive land set out in clause 3.5(7) of the NPS-HPL are relevant. As noted below, in relation to assessment under the NPS-HPL, the proposed solar farm meets the definition of 'specified infrastructure'.

A full assessment of the Project against the provisions of the NPS-HPL is included in **Appendix FF**. Overall, the Project is consistent with the direction of the NPS-HPL as summarised below:

- The highly productive land is maintained for land-based primary production (with an estimated 38% decrease in stock carrying capacity during the life of the solar farm). The Project minimises any loss of the availability and productive capacity of highly productive land in the district and will provide for the ongoing use of the Site for sheep farming in conjunction with the solar farm (agrivoltaics). Should the solar farm be decommissioned at the end of the lifespan of the solar panels, the Site could be returned solely to productive use (Objective 2.1, Policy 4).
- There are no reverse sensitivity effects arising from solar farming within the rural zone. Sheep and solar farming are complementary, and the solar farm will not impact on existing productive rural activities on surrounding properties (Policy 9).
- The Project is not an inappropriate use or development of highly productive land (Policy 8). Clause 3.9(2)(j)(i) sets out that the development, operation, or decommissioning of specified infrastructure on highly productive land, including its construction, maintenance, upgrade, expansion, replacement, or removal, is not 'inappropriate' and therefore the activity need not be 'avoided' when there is a functional or operational need for the use or development to be on the highly productive land. In this respect:



- The proposed solar farm meets the definition of ‘specified infrastructure’ being “infrastructure that delivers a service operated by a lifeline utility”.
- There is both a functional and operational need for the Project to be located on highly productive land. The functional and operational need for the Project is discussed in Section 8.2.2 and 8.2.4 above, most of that discussion is also relevant to the NPS-HPL and therefore won't be repeated. However, it is particularly noted that solar farming needs to be located on land that is flat to gently sloping. Such land is highly likely to be ‘highly productive land’ under the NPS-HPL, particularly in both the immediately surrounding area and the wider Waikato region.

In summary, the Project provides for the development of specified infrastructure in a manner that is consistent with the direction provided by the NPS-HPL.

8.2.6 National Policy Statement for Freshwater Management

The National Policy Statement for Freshwater Management 2020 (NPS-FM) (amended December 2025) sets out the objectives and policies for freshwater management under the RMA. The NPS-FM has a single overarching objective which seeks to ensure natural and physical resources are managed in a way that prioritises the health and wellbeing of water bodies and freshwater ecosystems, the health needs of people and the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

The overarching objective of the NPS-FM is upheld by the Project. Specifically, natural and physical resources are managed so that:

- The proposed restoration of wetlands and riparian margins will result in a net gain for freshwater ecosystems within the Site; and
- The Project will not adversely impact on the quality or quantity of surface and ground water, including any drinking water sources.

The Project provides for the social, economic and cultural well-being of the community via the provision of significant renewable energy. It does so without compromising the long-term productive value of the soil and while delivering net gains for freshwater environments and fauna.

Te Mana o te Wai is a concept fundamental to the NPS-FM; it is explained in Section 1.3 of the NPS-FM as:

the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It protects the mauri of the wai. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community.

In consultation with mana whenua, the Project has taken a proactive approach to the betterment of all facets of freshwater management. Specifically, to the extent practicable, wetlands have been avoided and the vast majority included in restoration areas adjacent to the Mangawhero Stream. Riparian planting along the Mangawhero Stream and the unnamed tributary on the site will also result in a positive outcome for freshwater environments on site.



As is set out in the EclA, a net gain is expected in respect of all freshwater attributes as a result of this restoration.

Further, as has been noted, with the appropriate controls during construction (which have been incorporated into conditions), no notable adverse effects are expected to occur in respect of freshwater environments, including groundwater quantity or quality.

Accordingly, the Project is considered to advance the concept of Te Mana o te Wai.

The NPS-FM includes fifteen policies to achieve the overarching objective. A full assessment against these policies is included in **Appendix FF**. A summary of that assessment is included below:

- HENZ is currently undertaking consultation with iwi groups regarding the Project. The proposed enhancement and restoration planting and the construction methodology (including works in watercourses and erosion and sediment control measures) will ensure the health and wellbeing of the waterbodies within the Site is enhanced overall as part of the Project (Objective 2.1, Policies 1 and 2).
- Policy 6 requires no further loss of extent of natural inland wetlands and the protection of their values. The values of natural inland wetlands are protected by the Project, with an overall net gain in value assessed as a result of the restoration proposed. Loss of extent may occur for two small wetlands (W02 and W03), however, there is no overall loss of wetland extent given the restoration proposed. This is discussed further in the effects hierarchy assessment in Section 8.2.2 above.
- In terms of Policies 6 and 9, being the protection of habitats of indigenous freshwater species, the Project includes ecological enhancement and restoration planting, including 2.43 ha of restoration of wetland areas and microchannel areas and 2.38 ha of riparian areas. The proposed restoration results in an overall net gain for the site.
- Policy 7 requires that the loss of river extent and values is avoided to the extent practicable. The Project is expected to require two new culverts in streams, which are necessary to provide for internal road crossings. The culverts will provide for fish passage, and all other existing stream extent is retained. The installation of the culverts, with appropriate fish passage, is not considered to result in any material effect on river extent. Further, the ecological values of streams will be enhanced via the proposed riparian planting.
- The Project enables communities to provide for their social, economic and cultural wellbeing as discussed in Section 8.3 of this report (Policy 15).

Overall, the Project provides for development in a manner that is consistent with the direction provided by the NPS-FM.

8.2.7 Waikato Regional Policy Statement

A detailed assessment of the WRPS has been undertaken in **Appendix FF** of this Application. A summary of that assessment is included below:

- Chapter IM (Integrated Management) of the WRPS relates to the integrated management, and sustainable use of natural and physical resources. The objectives and policies of this chapter relate to values of water body catchments, riparian areas, wetlands, the life supporting capacity of soils, water and ecosystems, climate change, and relationships between environmental, social, economic and cultural wellbeing. The



Project will provide a regional source of renewable energy which will have significant benefits in enabling communities to provide for their economic, social and cultural wellbeing as well as reducing reliance on fossil fuels and contributing to the reduction of greenhouse gas emissions. The Project will maintain and enhance the life supporting capacity of soils, water and ecosystems through the management of adverse effects and the extent of proposed restoration on the site. The development has been designed to withstand the effects of climate change induced weather (i.e. flooding). HENZ has undertaken consultation with key stakeholders, including mana whenua, in preparation of the Application. The Project is considered consistent with the IM Chapter of the WRPS.

- Chapter EIT (Energy, Infrastructure and Transport) relates to electricity generation, transmission, and significant infrastructure. The objectives and policies in this chapter seek to ensure that energy is managed to increase energy efficiency, address energy demand, recognise national, regional and local benefits and provide for renewable electricity generation while reducing reliance and use of fossil fuels. The Project will respond to the increasing demand for energy at a regional and national level and will provide local and regional benefits with respect to renewable electricity generation. This will also contribute to a reduced reliance on fossil fuels to support the energy sector. The Project is consistent with the objectives and policies of the EIT Chapter.
- Chapter UFD (Urban Form and Development) relates to the development of the built environment. The objectives and policies in this chapter seek to ensure that development occurs in a sustainable manner, resulting in positive environmental, social, cultural and economic outcomes. The Project is considered regionally significant infrastructure and will provide a regional source of renewable energy which will have significant benefits in enabling communities to provide for their economic, social and cultural wellbeing. Effects on biodiversity matters such as wetlands and indigenous fauna (bats) have been appropriately addressed via planned restoration, compensation habitat planting and appropriate management protocols. The Project results in a positive indigenous biodiversity outcome. The Project reduces greenhouse gas emissions and reliance on fossil fuels for electricity production, as well as contributing significantly to national GDP and employment opportunities. The Project is consistent with the objectives and policies of the UFD Chapter.
- Chapter LF (Land and Freshwater) relates to the management of freshwater bodies (such as streams and wetlands) as well as sustainable use of land. The objectives and policies in this chapter seek to ensure that water quality and ecological values are protected, water is appropriately allocated, and the soil resource is managed to safeguard its life supporting capacity. Riparian planting is proposed along the extent of the streams and within the wetland areas on the site. This will enhance water quality, ecosystems, and the life supporting capacity of freshwater bodies on the site and will result in a net gain for biodiversity values. Regarding the value of soil, the Site will continue to be used for productive purposes alongside the solar farm. Should the solar farm be decommissioned, the Site could be returned solely to productive use, and the life supporting capacity of soil will be safeguarded. The Project is consistent with the objectives and policies in the LF Chapter.
- Chapter HCV (Historical and Cultural Values) seeks to ensure that the relationship of tangata whenua and their culture and traditions with their ancestral lands, water, sites, wāhi tapu and other taonga is recognised and provided for. A draft CVA has been provided and is discussed in sections 4.1.9 and 7.7 of this report. Cultural values and relationships have been provided for as part of the Project. The Project is consistent with the objectives and policies in the HCV Chapter.



- Chapter ECO (Ecosystems and Indigenous Biodiversity) seeks to ensure that ecosystem types, spatial extent, indigenous biodiversity values, and indigenous habitats are maintained and enhanced. There will be no loss of indigenous vegetation as a result of the Project. Vegetation clearance (pasture and exotic trees) however, will result in some foraging and roosting habitat loss for indigenous long tailed bats. A BMP has been prepared which addresses the effects of habitat loss through a compensation package to achieve no net loss in bat habitat values (ECO-P1 and P2). This includes the enhancement of potential roost habitat and foraging areas, targeted pest control, and additional offsetting should roosts be discovered. The abovementioned restoration of riparian and wetland habitats will have further benefits, increasing vegetation productivity, food availability, foraging value, and biodiversity. It is considered that significant habitats of indigenous fauna have been recognised and provided for as part of the proposal. The Project will maintain the full range of ecosystem types and enhance their spatial extent as necessary to achieve healthy ecological functioning of ecosystems. The Project is consistent with the objectives and policies of the ECO Chapter.
- Chapter NATC (Natural Character) seeks to protect natural character, including by ensuring that wetlands, rivers and their margins are protected where natural character is pristine or outstanding. The Site is not within an outstanding landscape and is not particularly significant in the context of the rural landscape. Likewise, the wetlands and streams on site are not of pristine or significant natural character value due to the modified nature of the Site. Nonetheless, the proposed restoration on site will result in additions to natural character. Accordingly, it is considered that the Project is consistent with the NATC Chapter.
- Chapter HAZ (Hazards and Risks) relates to the effects of natural hazards on people, property and the environment. The effects of climate change have been considered in the design of the Project, with the development being designed to withstand any adverse effects of hazards such as flooding. Solar panel arrays and other infrastructure will be designed to tolerate the anticipated liquefaction induced settlement. Conditions of consent have been included to ensure that any off-site flooding effects are avoided at the time of detailed design. The areas subject to HAIL activities on the site will be avoided to ensure that there are no effects on human health. The risks of hazards are therefore considered tolerable and acceptable. The proposal is consistent with the HAZ Chapter.

8.2.8 Waikato Regional Plan

The WRP gives effect to the direction set by the WRPS, including the identification of issues and associated objectives, policies and implementation methods. A detailed assessment of the WRP has been undertaken in **Appendix FF** of this Application. A summary of that assessment is included below:

Section 2 of the WRP addresses matters of significance to Māori and identifies the need for Tangata Whenua to be able to give effect to kaitiakitanga. As has been discussed throughout preceding sections of this report, consultation with iwi has been undertaken as part of the design process and a draft CVA has been provided. The Project appropriately provides for cultural values associated with the Site and is consistent with Section 2 of the WRP.

Section 3 of the WRP relates to the management of water resources in the Region.

Effects on water quality and habitat have been assessed as acceptable. Appropriate sediment and erosion control measures will be implemented during construction to ensure that there



are no unacceptable effects on water quality or riparian habitat. With regard to the natural character of the riparian habitat, restoration planting and ecological enhancement is proposed in proximity to the Mangawhero Stream, an unnamed stream, and nearby wetland habitats. This will enhance the value and extent of these waterbodies, improve water quality and habitat over time, and enhance aquatic ecosystems.

There may be a loss of extent or values in wetlands W02 and W03. Policy 3.A.2 of the WRP requires that:

“The loss of extent of natural inland wetlands is avoided, their values are protected, and their restoration is promoted, except where:

... (b) the regional council is satisfied that:

- i. the activity is necessary for the purpose of the construction or upgrade of specified infrastructure; and*
- ii. the specified infrastructure will provide significant national or regional benefits; and*
- iii. there is a functional need for the specified infrastructure in that location; and*
- iv. the effects of the activity are managed through applying the effects management hierarchy.*

These matters mirror the assessment provided in Section 8.2.2 in respect of the criteria required to satisfy Clause 45(6) of the NES-F and the assessment in Section 8.2.6 in respect of Policy 6 of the NPS-FM. The full assessment will not be repeated here, however, in summary it is noted that the Project:

- Does not result in any loss of extent of wetlands and their values are protected by the Project;
- Is necessary for the purpose of construction of specified infrastructure;
- Will provide significant national and regional benefits;
- Has a functional need to be in this location; and
- Has applied the effects hierarchy.

Accordingly, the Project is considered to give effect to Policy 3.A.2.

Dewatering takes from trenches and excavations during construction are proposed. The effects of dewatering have been assessed and will not result in unacceptable effects on the catchment or the life supporting capacity of freshwater. Any consumptive take (for use in dust suppression) has also been restricted and the remaining water will be discharged back to the environment, recharging the water table. The proposed water take will not affect the availability of water to meet other needs of individuals and communities. In accordance with Policy 3.3.3(14) and Policy 3.4.3(1) while the take is not a net zero take, degradation of water quality, riparian habitats or ecological values is not anticipated as a result of the take, nor will there be any effects on downstream properties. Degradation of water quality will be avoided.

Discharges of dewatered water will be appropriately managed to ensure that there will be no adverse effect on water quality, ecological values or the life-supporting capacity of fresh water



and ecosystems. Appropriate erosion and sediment controls such as filter socks, sediment bags and geotextiles will be implemented. No discharge of contaminants is proposed. Any discharges will not increase flooding or erosion on adjoining properties.

Damming and diversion, as interpreted by WRC, will occur in relation to groundwater flow into trenches/excavations (groundwater diversion). There will also be temporary diversion and/or damming of water along the stream to allow for the construction of the three proposed culverts. Effects on water quality, habitat, and fish passage effects have been assessed as acceptable. The works will be temporary, appropriate erosion and sediment controls will be established, fish passage will not be obstructed, and riparian areas will be restored and enhanced following the works. Fish relocation will be undertaken for dammed areas, and fish screens will be used on pump inlets.

For the reasons set out above the Project is considered to be consistent with the direction provided by Chapter 3.

Chapter 4 of the WRP relates to structures in the beds of rivers and is relevant to the proposed culverts. The culverts will not have adverse effects on water quality, flow, increased erosion or destabilisation, or waahi tapu. The culverts will be designed to allow for passage of fish as required, and for the conveyance of a 50-year ARI (with climate change) event to ensure that the effects of flooding are appropriately managed. There are no known waahi tapu areas within proximity of the culvert locations. The streams and their margins will be protected and enhanced via the proposed restoration planting. There will be no adverse effects on downstream water users as a result of the proposed culverts. Accordingly, the Project is consistent with objectives and policies set out in Chapter 4.

Chapter 5 of the WRP relates to erosion and discharges to land. The Project triggers consent for fill exceeding 2,500 m² and earthworks within high-risk erosion areas (within 10 m of the bank of a stream or wetland). The earthworks and fill deposition will be managed to ensure that works do not result in the degradation of soil productivity or versatility, water quality or aquatic ecosystems, waahi tapu, or result in accelerated erosion. The proposed riparian planting will ensure that any long-term water quality and potential erosion effects are managed around high-risk erosion areas. There will be no discharge of contaminants or hazardous substances during the earthworks. The Project is therefore consistent with the direction provided by Chapter 5.

Overall, the Project is considered consistent with the objectives and policies of the WRP.

8.2.9 Matamata-Piako District Plan

A detailed assessment of the MPDP has been undertaken in **Appendix FF** of this Application. A summary of that assessment is included below:

- Objectives and Policies in Chapter 2.4.2 of the MPDP relate to managing effects of activities on surrounding environments and ensuring the rural zone is appropriately utilised, including for both productive activities and significant infrastructure. The Project provides for the development of large scale renewable energy generation and is appropriately located within the rural environment, in close proximity to an appropriate point of connection. Further, the project provides for agrivoltaics (grazing sheep under solar panels) and will not result in any loss of productive potential. Effects of



the Project on indigenous biodiversity, ecological values, landscape values and heritage values have been assessed and are considered acceptable. Of note, the Project will appropriately manage effects on wetlands and bats. This includes the establishment of wetland and riparian restoration planting, as well as compensatory planting for loss of bat habitat. The Project will result in a net gain for biodiversity values on the site.

- Chapter 2.4.7 and 2.4.8 of the MPDP relate to Regionally Significant Infrastructure and electricity generation and seek to ensure that the development of significant infrastructure is enabled, while associated effects are appropriately avoided, remedied or mitigated to the extent practicable. The Project involves the provision of regionally significant infrastructure that will serve electricity needs and provide associated social and economic benefits to surrounding communities while minimising adverse effects on the natural and physical environment. These significant benefits, and the operational requirement for the Project to be in the proposed location, are recognised and provided for within these objectives and policies.
- The Project has been specifically designed to protect natural character, amenity and landscape values whilst also providing for regionally significant infrastructure. The Project is appropriate in the rural context, and the life supporting capacity of the soil is not compromised. The Project is considered consistent with Chapter 3.1.2.1, 3.1.2.2, 3.3.2.1, 3.5.2.1 and 3.5.2.2 of the MPDP.
- Risks of natural hazards, including flooding and geotechnical hazards have been considered, and the Project has been designed to appropriately manage risk to an acceptable level. The Project is considered consistent with Chapters 3.2.2.1 and 3.2.2.4 of the MPDP. The storage, handling and use of hazardous substances at the site will be appropriately managed and will be consistent with Chapter 3.3.2.2 of the MPDP.
- The Project will not compromise the safety and efficiency of the transportation network. Traffic volumes are expected to have no discernible adverse impact on the efficient and safe operation of the road corridors, and suitable access points have been identified in consultation with NZTA. The Project is consistent with Chapter 3.8.2 of the MPDP.

8.2.10 Iwi Management Plans and Planning Documents

The following iwi management plans are relevant to this Application:

8.2.10.1 Waikato Tainui Environmental Management Plan

In regard to environmental effects, the Waikato Tainui Environmental Management Plan (WTEMP) strives for environmental enhancement and the provision of net benefits when considering social, economic, environmental, spiritual and cultural impacts. It also seeks to address effects in a hierarchical manner with avoidance sitting at the top of the hierarchy and mitigation and balancing of effects respectively at the bottom. It is noted that only Waikato-Tainui can determine whether effects are suitably balanced for Waikato-Tainui.

A full assessment of the WTEMP has been undertaken in **Appendix FF** of this Application.

Section 19 sets the objectives for freshwater, including an objective to return freshwater within the rohe to a drinkable, swimmable and fishable state. While the Project will not single-handedly achieve this objective, the proposed riparian planting and wetland restoration will contribute to it, through improving water quality and enhancing habitat for freshwater species. In addition, erosion and sediment control measures will be appropriately implemented during



construction to avoid any adverse effects on water quality. Any potential discharges will be adequately managed so they have no adverse effect on the streams running through the site.

Section 20 of the WTEMP addresses wetlands and recognises that they are some of the most biologically diverse ecosystems. The objectives within this section seek to protect and enhance wetlands and encourage restoration. The solar farm layout was designed with general consideration of wetland features and accordingly these areas have been largely avoided. The construction area includes two small wetland areas, which may be impacted by the proposal. However the EclA confirms that there will not be any overall loss of extent of wetlands and that the planned restoration planting will lead to a small biodiversity and functional 'net gain' for the site.

Section 21 of the WTEMP addresses issues such as erosion, removal of vegetation, water quality, and land contamination. The activity will include appropriate erosion and sediment control measures to ensure that potential effects on the streams are managed. The riparian planting will result in positive effects on the streams and wetland habitats. The life supporting capacity of the soil is not adversely affected by the Project and potentially contaminated land on the Site identified by the PSI will not be disturbed.

Section 27 of the WTEMP addresses electricity generation; in doing so, it recognises that power generation from fossil fuels has contributed to pollution and the deterioration of health of the Waikato River. As such, the WTEMP notes that "*Waikato Tainui is supportive of, and would like an increased focus on renewable energy generation providing the social, cultural, spiritual, environmental and economic effects of the activity are managed...*"¹⁵ The Project is considered to be consistent with these aspirations.

The Project is not considered to conflict with the objectives and policies set out in the WTEMP.

8.2.10.2 Raukawa Environmental Management Plan

Te Rautaki Taiao a Raukawa – Raukawa Environmental Management Plan (REMP) is a statement of Raukawa issues, aspirations, and priorities in relation to the environment. A full assessment of the REMP has been undertaken in **Appendix FF** of this Application.

The values and principles of Raukawa have been set out in Section 1.6 of the REMP, including Mātauranga, whenua, mana whenua and tangata whenua, tikanga, whakapapa, whanaungatanga, rangatiratanga, kaitiakitanga, manaakitanga, te reo me ōna tikanga Ūkaipō, Pūkenga, and Kotahitanga.

Section 2.1 of the REMP discusses objectives for the management of water, including:

- The mana and mauri of water is safeguarded for present and future generations;
- The Raukawa kaitiaki relationship with our waters is respected, enhanced, and supported; and
- The health and wellbeing of the Waikato, Te Waihou, and the Upper Waipā River and their catchments are restored and protected.

Section 2.2 of the REMP discusses objectives for the management of land, including:

- The whenua across our takiwā is healthy and resilient;



- Our relationship with Papa-tū-ā-nuku is reflected both in her health and ours;
- Land use activities align with land use capability to protect long term soil health; and
- Sustainable farming reduces environmental footprint whilst optimising profit

Section 2.4 of the REMP relates to the management of wetlands and involves the restoration, enhancement and protection of wetlands across the rohe. The restoration, enhancement, and protection of indigenous plants, animals, and their habitats is discussed in Section 2.6 of the REMP.

As is set out in the EclA, the Project will result in net gain in regard to riparian planting, which will directly influence the quality of water and habitat for aquatic life. Further, it is noted that solar farming has a very low water usage and will not result in the discharge of any contaminants to land or wai.

Section 2.5 of the REMP relates to Cultural Landscapes and Taonga, including the recognition, protection, and enhancement of cultural landscapes, knowledge, tikanga, and whakapapa of Raukawa.

Section 2.8 of the REMP discusses sustainable living, with an ongoing reliance on non-renewable energy sources being identified as a key issue. Using renewable energy technologies and promoting the uptake of clean, green, and renewable energy technologies has been identified as a method to achieve the objectives of this section.

Section 2.9 of the REMP discusses objectives to address the challenges of climate change. While renewable energy isn't specifically discussed, it is considered that the Project aligns with the outcomes sought in the REMP. Renewable energy is identified in Section 2.11 of the REMP, which outlines the following objectives in relation to infrastructure and networks:

- Providers of infrastructure networks, developments, and operations within the Raukawa takiwā understand Raukawa values and interests.
- The Raukawa cultural landscape and Raukawa cultural values and associations are protected and provided for in infrastructure planning and developments.
- Resilient and efficient infrastructure networks and renewable technologies are promoted within the Raukawa takiwā.

The Project is considered to be consistent with the vision and strategy outlined in the REMP.

8.2.10.3 Ngāti Hauā Environmental Management Plan – Te Rautaki Tāmata Ao Turoa o Hauā

Te Rautaki Tāmata Ao Turoa o Hauā – the Ngāti Hauā Environmental Management Plan (NHMP) identifies values, frustrations, aspirations, and position statements relating to the environment. The NHMP covers topics relating to:

- The health and wellbeing of land, air, wetlands, waters, and fisheries;
- Urban development;
- Cultural heritage; and



- Use and development of Māori Land.

A full assessment of the NHEMP has been undertaken in **Appendix FF** of this Application. The vision and mission for Ngāti Hauā is set out in Chapter 4.2 of the NHEMP, with aspirations being set out in Chapter 6.1. These aspirations (summarised) include the protection of urupā, the health and wellbeing of awa, enhancement of marae, environmental restoration and kaitiakitanga (te taiao) the use of renewable energy, access to water and land, management of infrastructure, employment & education, and connecting with whenua.

Chapter 7 sets out objectives and policies for the NHEMP, including (summarised):

- Restore the mauri of the water;
- Swim, drink, gather food from rivers and streams;
- Provide for the cultural, social, and economic wellbeing of the people;
- Revitalise traditional knowledge; and
- Build capacity of future kaitiaki.

Chapter 10 of the NHEMP addresses matters relating to land use and sets objectives for the development of land. This includes the recognition of values, interests and relationships with land, and providing for the cultural, social and economic wellbeing of Ngāti Hauā. Ngāti Hauā have provided a draft CVA. The Project appropriately responds to the values, interests and relationships of Ngāti Hauā and nothing in the Project is considered to offend these objectives and policies.

Chapter 11 of the NHEMP addresses matters relating to freshwater and sets objectives relating to the restoration of freshwater. This includes restoring and protecting the mauri of freshwater. The Project is considered to have no unacceptable effects on freshwater for the reasons discussed in Sections 7.6 and 8.2.2 of this report. The proposed riparian planting around the streams and wetlands on the property contributes to the realisation of these objectives.

Chapter 12 of the NHEMP addresses matters relating to wetlands and notes both the adverse effects land uses have historically had on wetlands and the importance of restoring wetlands for a range of reasons. The proposed wetland restoration positively aligns with the outcomes sought in this chapter. This will involve planting of 2.43 ha of wetlands and microchannel areas on the site. The proposed restoration will result in a net gain for ecological values on the site.

The Project is considered to be consistent with the aspirations outlined in the NHEMP.

8.2.11 Conclusion

The above assessments demonstrate that the proposal is consistent with the relevant provisions of the relevant statutory documents, subject to fair and reasonable conditions being imposed as recommended in **Appendix V** of this report.

8.3 Assessment of Sections 5, 6 and 7 of the RMA

This section of the provides an overall assessment of the activity against Sections 5, 6 and 7 of the RMA, as required by clause 5(1)(g) of Schedule 5 of the FTAA.



The Project is considered consistent with Part 2 of the RMA for the following reasons:

8.3.1 Section 5 – Purpose of the RMA

The purpose of the RMA is to “*promote the sustainable management of natural and physical resources*”.

Sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while

-

- (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
- (b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
- (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

As discussed throughout this report, and in particular, within Section 8.1, the Project has been designed to promote and achieve sustainable management. The Project will directly contribute to the diversification of New Zealand's energy mix and assist with reducing the reliance on fossil fuels. As such, the Project will contribute to sustaining the potential of natural and physical resources to meet the reasonably foreseeable needs of future generations. As discussed within Section 7.0, the Project will result in an acceptable level of adverse effects, which are primarily temporary effects during the construction phase, with any longer term adverse effects being outweighed by positive effects arising from ecological enhancement and the generation of renewable energy.

8.3.2 Section 6 – Matters of National Importance

Section 6 of the RMA identifies a number of matters of national importance that shall be recognised and provided for in achieving the purpose of the RMA.

In respect to this Project the following matters are considered to be of particular relevance:

- (c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:*
- (d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:*
- (e) the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:*
- (f) the protection of historic heritage from inappropriate subdivision, use, and development:*
- (g) the protection of protected customary rights: and*
- (h) the management of significant risks from natural hazards.*



As discussed within Section 7.6, the Project will provide for ecological enhancement of the site, particularly along the margins of the Mangawhero Stream. The Site contains potential habitat for indigenous fauna (long tailed bats). Significant habitat has been avoided while other potential habitat loss has been addressed through the compensation package set out in the BMP that has been prepared. With the recommended mitigation measures it is anticipated that there will be an overall low level of effect on bats. It is considered that significant habitats of indigenous fauna have been recognised and provided for as part of the Project.

The relationship of Māori with the Site has been recognised, consultation has been undertaken and a draft CVA prepared to align the Project with the aspirations of iwi. The Project will not affect historic heritage. Consideration has been given to risks from natural hazards (refer Section 7.11) and these can be appropriately managed to ensure risks are acceptable.

8.3.3 Section 7 – Other Matters

Section 7 of the RMA refers to a number of other matters that all persons exercising functions and powers under the RMA shall have particular regard to. Those matters which are considered most relevant to the Project are outlined below:

- (a) kaitiakitanga:*
- (aa) the ethic of stewardship:*
- (b) the efficient use and development of natural and physical resources:*
- (c) the maintenance and enhancement of amenity values:*
- (d) intrinsic values of ecosystems:*
- (f) maintenance and enhancement of the quality of the environment:*
- (g) any finite characteristics of natural and physical resources:*
- (i) the effects of climate change: and*
- (j) the benefits to be derived from the use and development of renewable energy.*

As discussed above, consultation has been undertaken to align the Project with the aspirations of iwi.

Subclause (j) specifically acknowledges the benefits of renewable energy whilst subclause (i) acknowledges the effects of climate change. The benefits of the Project, and thus, the benefits of developing a new solar farm and reducing reliance on fossil fuels have been discussed throughout this report and are a significant factor in the consideration of this Application. The need to diversify New Zealand's energy security given the effects of climate change is also a key consideration. The development of this Project will assist with creating a more stable and resilient power supply. In addition, the Project provides for ecological enhancement and the ongoing ability to carry out sheep farming activities on the land throughout the life of the solar farm, ensuring the efficient use and development of natural resources and maintenance and enhancement of the quality of the environment.

Overall, it is considered the Project positively aligns with the relevant matters within Section 7 of the RMA.



8.4 Assessment against Parts 3, 6 and 8 to 10 of the RMA

This section of the Application provides an overall assessment of the activity against Parts 3, 6, 8 – 10 of the RMA, as required by clause 17(1)(b) of Schedule 5 of the FTAA.

Overall, the Project is considered consistent with Parts 3, 6 and 8 – 10 of the RMA.

8.4.1 Part 3 – Duties and Restrictions under the RMA

Part 3 of the RMA relates to the duties and restrictions under the RMA. Under Part 3 no person may use land or undertake any activity that contravenes a national environmental standard, regional rule, or direct rule unless the standards in Part 3 are met (i.e. unless lawfully established or otherwise expressly allowed).

It is considered that the Project meets Part 3 of the RMA as the Project seeks resource consent to provide for land use activities that have been identified as contravening a standard or rule. These rules have been identified, and the relevant consents are sought through this Application. The Project will adopt the best practicable option to avoid unreasonable noise.

8.4.2 Part 6 – Resource Consents

Part 6 of the RMA establishes the statutory framework for resource consents. The Project is considered to be consistent with and assessed against the resource consent framework identified within Part 6 of the RMA, except where such assessment is not required as directed by the FTAA legislation (such as assessing environmental effects under clause 6 of Schedule 5 of the FTAA, or the exclusion of Section 104D under clause 17 Schedule 5 of the FTAA). As such, the Project will not offend Part 6 of the RMA.

8.4.3 Part 8 – Designations and Heritage Orders

Part 8 of the RMA relates to designations and heritage orders. No designations nor heritage orders apply to the Site or are proposed. Part 8 of the RMA is not relevant to this Project.

8.4.4 Part 9 – Water Conservation Orders, Freshwater Farm Plans, and Freshwater Ecosystems.

Part 9 of the RMA relates to water conservation orders, freshwater farm plans and use of nitrogenous fertiliser. Part 9 of the RMA is not relevant to this Project.

8.4.5 Part 10 – Subdivisions and Reclamations

Part 10 of the RMA relates to subdivision and reclamations. No subdivision or reclamation of land is proposed. Part 10 of the RMA is not relevant to this Project.

9.0 Other Relevant Matters

Climate Change Response Act 2002 and Emissions Reduction Plan

The Climate Change Response Act 2002 provides a framework for the development and implementation of policies to prepare for climate change in New Zealand and contribute to the



global effort under the Paris Agreement to limit the global average temperature increase to 1.5 °C above pre-industrial levels. Part 1B (Emission reduction) sets a target of reducing net emissions of all greenhouse gases other than biogenic methane to zero by 2050.

New Zealand's second Emissions Reduction Plan 2026-2030 guides how New Zealand will meet the 2050 target and outlines the government's commitment to doubling renewable energy by 2050. It acknowledges the need for significant investment to meet the expected demand for energy. The Project will assist in achieving the emissions reduction target.

Wildlife Act 1953

The Wildlife Act 1953 is New Zealand's primary legislation protecting native species and their habitats.

A wildlife permit is required from the Department of Conservation to catch, handle, disturb or kill native birds, bats, frogs and reptiles. Such a permit does not form part of this Application as no such activities are proposed. However, in the event of a discovery of wildlife within the construction footprint, conditions of consent and accompanying advice notes are proposed which ensure awareness of and compliance with the requirements of the Wildlife Act.

Heritage New Zealand Pouhere Taonga Act 2014

The Heritage New Zealand Pouhere Taonga Act 2014 promotes the identification, protection, preservation and conservation of New Zealand's historical and cultural heritage. Archaeological authority is required to disturb or destroy an archaeological site.

Archaeological authority does not form part of this Application as no archaeological sites have been identified. However, in the event of an accidental discovery of an archaeological site within the construction footprint, conditions of consent and accompanying advice notes are proposed which ensure awareness of and compliance with the requirements of the Heritage New Zealand Pouhere Taonga Act.

Freshwater Fisheries Regulations 1983

Under the FTAA, approvals can be sought for freshwater fisheries activities for which application would otherwise be made to the Department of Conservation under the Freshwater Fisheries Regulations 1983. The Project does not require approval under Part 6 of the Freshwater Fisheries Regulations 1983 because the proposed culverts will be designed in accordance with the NZ Fish Passage Guidelines and the NES-F requirements (as required by the proposed consent conditions), so will not impede fish passage.

The Project does not involve any 'complex freshwater fisheries activity' under the FTAA. The installation of the proposed culverts is a 'standard freshwater fisheries activity', which is to be considered as part of the resource consent application. Information regarding the culvert works has been included in this application as required by clause 9 of Schedule 5 of the FTAA, including the freshwater species and values present, and stream habitat details. Additionally, the proposed conditions of consent require the final dimensions and design details of the culverts and the flow conditions and operating regime to be provided to WRC.



Government Policy Statements

The relevant National Policy Statements have been assessed in Section 8.2. There are no other relevant Government policy statements to this Project.

10.0 Decision on Whether to Grant Approvals

In considering whether to grant the approvals sought in this application, the Panel must have regard to the requirements of Sections 81-85 of the FTAA and apply clauses 17-22 of Schedule 5. These matters are set out and addressed in the following subsections.

Section 81 and Clause 17 of Schedule 5

Section 81(2) sets out that for the purpose of making the decision, the Panel –

- Must consider a relevant Government policy statement (subclause aab)
- Must consider the substantive application and any advice, report, comment, or other information received by the panel under section 51-53, 55, 58, 67-70, 72 or 90 (subclause a)
- Must apply the clauses set out in subsection (3) and see those clauses in relation to the weight to be given to the purpose of the Act when making a decision.

This report has provided a comprehensive assessment of the Project, including consideration of relevant government policy statements, concluding that the Project is consistent with all relevant government policy statements.

Section 81(3) sets out that for approval of a resource consent, clauses 17 to 22 of Schedule 5 are relevant.

Clause 17 of Schedule 5 of the FTAA sets out the criteria and other matters for assessment of consent applications. Clause 17 states the Panel must take into account the following, giving the greatest weight to (a), being the purpose of the FTAA:

(a) the purpose of this Act; and

(b) the provisions of Parts 2, 3, 6, and 8 to 10 of the Resource Management Act 1991 that direct decision making on an application for a resource consent (but excluding section 104D of that Act); and

(c) the relevant provisions of any other legislation that directs decision making under the Resource Management Act 1991.

The purpose of the FTAA is set out in Section 3 and is reproduced below:

The purpose of this Act is to facilitate the delivery of infrastructure and development projects with significant regional or national benefits.

Section 81(4) states that when taking the purpose of the FTAA into account, the Panel must consider the extent of the Project's regional or national benefits.

The Hinuera Solar Farm is a listed renewable energy generation project which provides several benefits of national and regional significance. An assessment of regional and national



benefits of this Project has been set out in full in the Economics Report attached in **Appendix W**. Additionally, an assessment of the project against the purpose of the FTAA is set out in Section 8.1 of this report, whereby it is concluded that the Project will deliver benefits that are both significant in nature and both regional and national in scope. Accordingly, granting consent is consistent with the purpose of the FTAA.

The preceding report has provided a comprehensive assessment of the Project, including the matters listed in (b) and (c) above. In summary:

- The relevant provisions of the RMA have been addressed in the proceeding sections of this report, and the proposal is consistent / in alignment with these matters; and
- There is no other legislation that is particularly relevant to this decision.

Clause 18 of Schedule 5 relates to conditions of consent and is discussed in conjunction with Section 83 of the FTAA below.

Clauses 19-22 of Schedule 5 relate to aquacultural and coastal permits and are not relevant to this Project.

Section 82

Section 82 applies if a Treaty settlement, the Marine and Coastal Area (Takutai Moana) Act 2011, or the Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019 is relevant to an approval.

Treaty Settlements relevant to the proposal have been set out in Section 4.4 of this report and associated iwi management plans have been assessed in Section 8.2.10. The Project does not offend any obligations arising under Treaty Settlements.

Sections 83 – 84A and Clause 18 of Schedule 5

Sections 83-84A relate to conditions of consent.

Section 83 sets out that:

“When exercising a discretion to set a condition under the Act, the panel must not set a condition that is more onerous than necessary to address the reason for which is set in accordance with the provision of this Act that confers the discretion”

Section 84 states that:

“For the purposes of Section 7, the panel may set conditions to recognise or protect a relevant Treaty settlement and any obligations arising under the Marine and Coastal Area (Takutai Moana) Act 2011 or the Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019”

Section 84A addresses conditions relating to the provision of infrastructure.

As noted above, Clause 18 of Schedule 5 is also relevant in respect of conditions of consent and states that the provisions of Parts 6, 9 and 10 of the RMA that are relevant to setting conditions on resource consents apply to the Panel.

In respect of the matters set out above it is noted that a set of proposed conditions has been appended in **Appendix V**. These conditions have been developed with input from technical specialists, WRC and MPDC and are considered to provide a comprehensive suite of controls



to ensure adverse effects are avoided, minimised or remedied. They include conditions consistent with Section 83 of the FTAA and Part 6 of the RMA. No specific conditions are required to uphold any obligations set out in Treaty Settlements or relevant to Customary Rights.

Section 85

Section 85(1) requires that the panel declines any consent that is for an ineligible activity or where granting the consent would breach section 7. As discussed in Sections 3.2.2.1 and 4.4 respectively, the Project is not an ineligible activity and does not offend a Treaty Settlement.

Section 85(2) relates to coastal permits and aquaculture and is therefore not relevant to this proposal.

Section 85(3), states that the Panel may decline an approval if, in complying with Section 81(2), it considers that the adverse impacts of the approval sought are sufficiently significant to be out of proportion to the project's regional or national benefits, even after taking into account any conditions in relation to those adverse impacts, and any conditions or modifications that the Applicant may agree to or propose to avoid, remedy, mitigate, offset, or compensate for those adverse impacts.

As outlined in Section 7.0 of this report, the effects of the proposed activity on the environment have been carefully considered and responded to appropriately. Adverse effects are generally assessed as minor or less than minor in nature, and the majority of these effects are to be avoided, remedied or mitigated. Additionally, adverse effects primarily relate to the construction stage and these are inherently temporary in nature. Residual (unmitigated) effects primarily comprise visual effects on two elevated dwellings. These are not considered to be of such significance that they outweigh the Project's benefits.

Conclusion

It is considered that the Panel may grant the resource consents subject to the conditions in **Appendix V** in accordance with Section 81(1)(a) of the FTAA.

Lapse Period

Under section 87(b) and Clause 26(1) of Schedule 5 of the FTAA, a 10 year lapse period is sought. This lapse date is consistent with the default lapse period for renewable energy activities under section 125(1)(c) of the RMA.

11.0 Conclusion

Under the FTAA, HENZ seeks resource consent approval for the Hinuera Solar Farm, an approximately 70 MW AC/100 MW DC solar farm and 400 MWh BESS at the corner of State Highway 29 and State Highway 27, Hinuera. The Project is a Listed Project in Schedule 2 of the FTAA, and this Application is within the scope of the listed project. The Project triggers a Discretionary Activity status under the NES-F and District Plan, and Non-Complying Activity status under the WRP.



The Project delivers benefits that are both significant in nature and regional and national in scope. The Project's most consequential effects arise from its contribution to New Zealand's renewable generation system, lifting national utility-scale solar output and displacing approximately 72,711 tonnes of CO₂-equivalent emissions per year, improving competition in the wholesale electricity market and enhancing system flexibility and resilience by complementing existing hydro generation. A TEV analysis has shown that the proposal returns a net benefit of approximately \$52 million in NPV terms, with quantified benefits (\$75.5 million) exceeding quantified costs (\$23.0 million) by a ratio of more than three to one. The construction of Hinuera Solar Farm is estimated to support a total of approximately 267 FTE-years of employment, generate around \$42.6 million in GDP, and contribute approximately \$21 million in wages and salaries over the construction period. The operation of the solar farm is estimated to support a net increase of approximately 212 FTE-years of ongoing employment and \$20 million in additional GDP relative to the dairy counterfactual over the 34-year easement period.

The Project is entirely consistent with the purpose of the FTAA, as granting the consents would facilitate the delivery of this infrastructure project that has demonstrated significant regional and national benefits, through materially accelerating the delivery of the Project relative to the standard RMA process. Further, the Project is consistent with the provisions of the relevant statutory documents and relevant parts of the RMA.

The Project has been designed with consideration for the existing environmental values and characteristics of the site, in the first instance avoiding areas with significant values and constraints. In part as a result of this approach, the adverse effects of the Project (as assessed in this document) are limited, and are not out of proportion to the above benefits. Proposed conditions of consent are included in **Appendix V** and will appropriately manage adverse effects during and after construction.

It is considered that the Panel may grant the resource consents subject to the conditions in **Appendix V**. A 10 year lapse period is sought.





Appendix A Listing Application

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Appendix B Engagement and Consultation Summary

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Appendix C Section 30 Notice

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Appendix D Records of Title and Interests

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Appendix E Transport Assessment

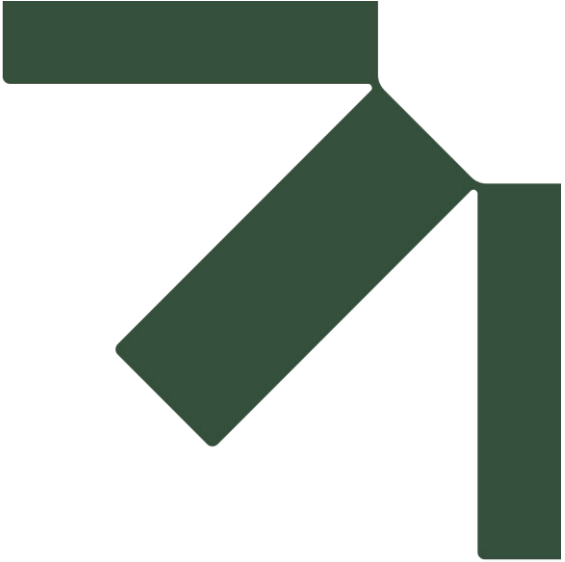
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Appendix F Geotechnical Assessment

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Appendix G Acid Sulfate Soils Investigation

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Appendix H Ecological Impact Assessment

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Appendix I Hydrogeology Assessment

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Appendix J Stormwater Management and Flood Modelling Report

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Appendix K Preliminary Site Investigation

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Appendix L Archaeological Appraisal

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Appendix M Landscape Effects Assessment

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Appendix N Concept Design Statement

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Appendix O Overall Layout Plan

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Appendix P Civil Concept Design Plans

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Appendix Q Infrastructure Report

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Appendix R Erosion and Sediment Control Plan

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Appendix S Draft Construction Management Plan

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Appendix T Rules, Standards and Other Requirements Assessment

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Appendix U Hazardous Substances Regulatory Assessment

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Appendix V Proposed Consent Conditions

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Appendix W Economic Assessment

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Appendix X Acoustic Assessment

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Appendix Y Construction Noise and Vibration Management Plan

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Appendix Z Framework Construction Traffic Management Plan

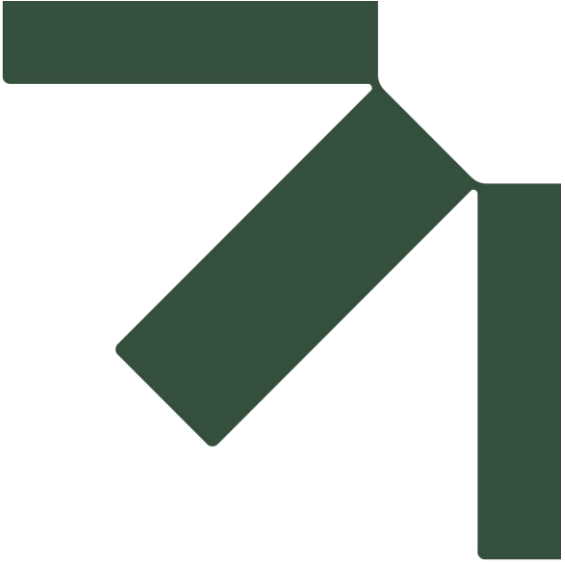
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Appendix AA Tree Risk Assessment

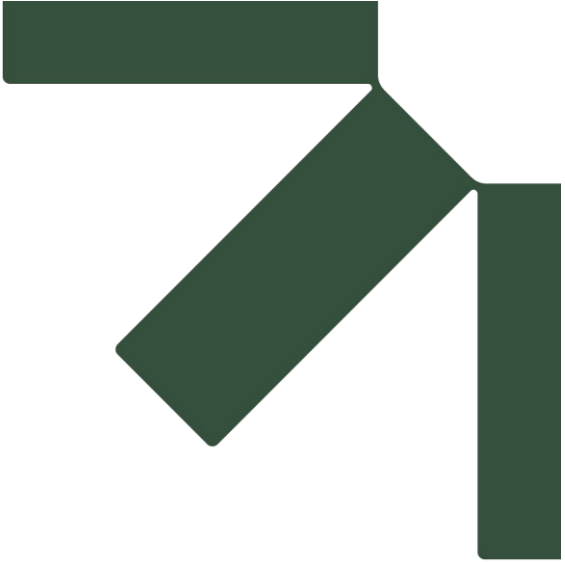
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Appendix BB Bat Management Plan

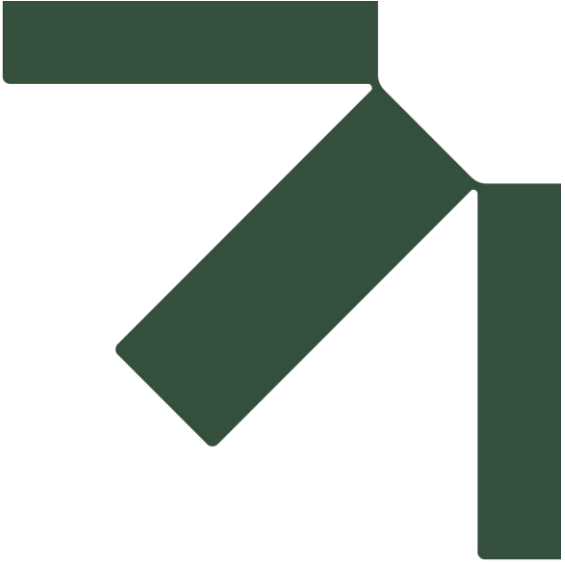
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Appendix CC Draft Restoration and Planting Plan

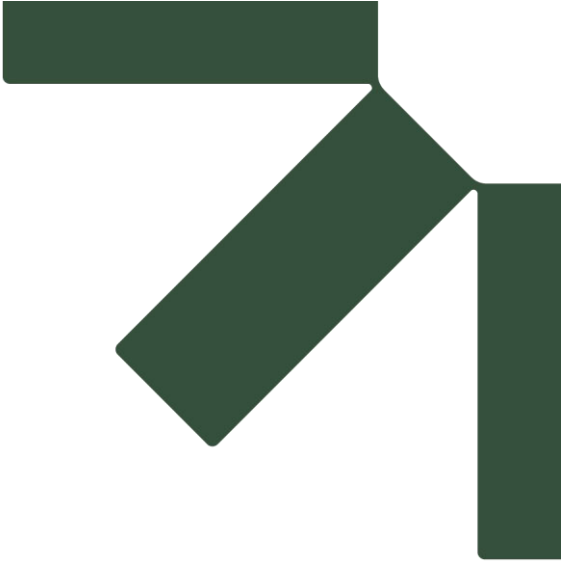
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Appendix DD Draft Hazardous Substances and Site Safety Management Plan

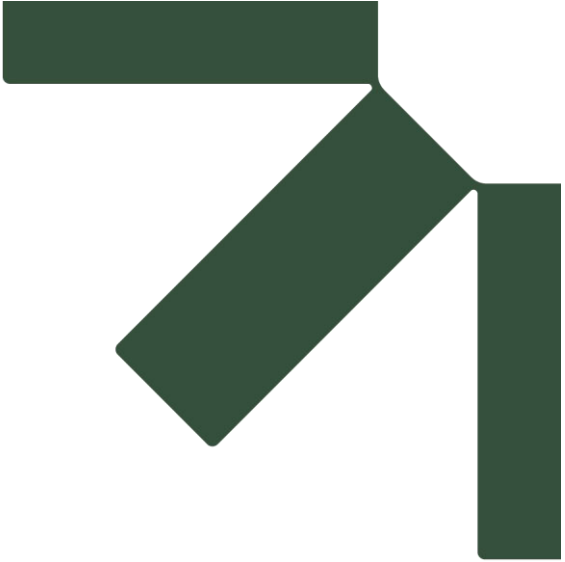
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Appendix EE Productivity Report

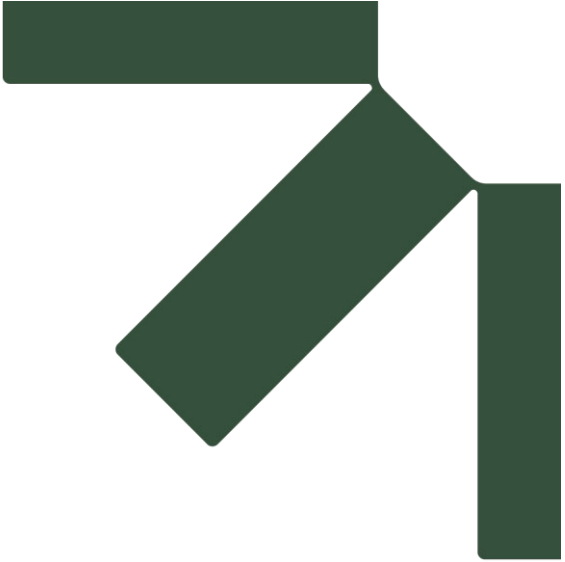
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Appendix FF Assessment of Relevant Statutory Documents

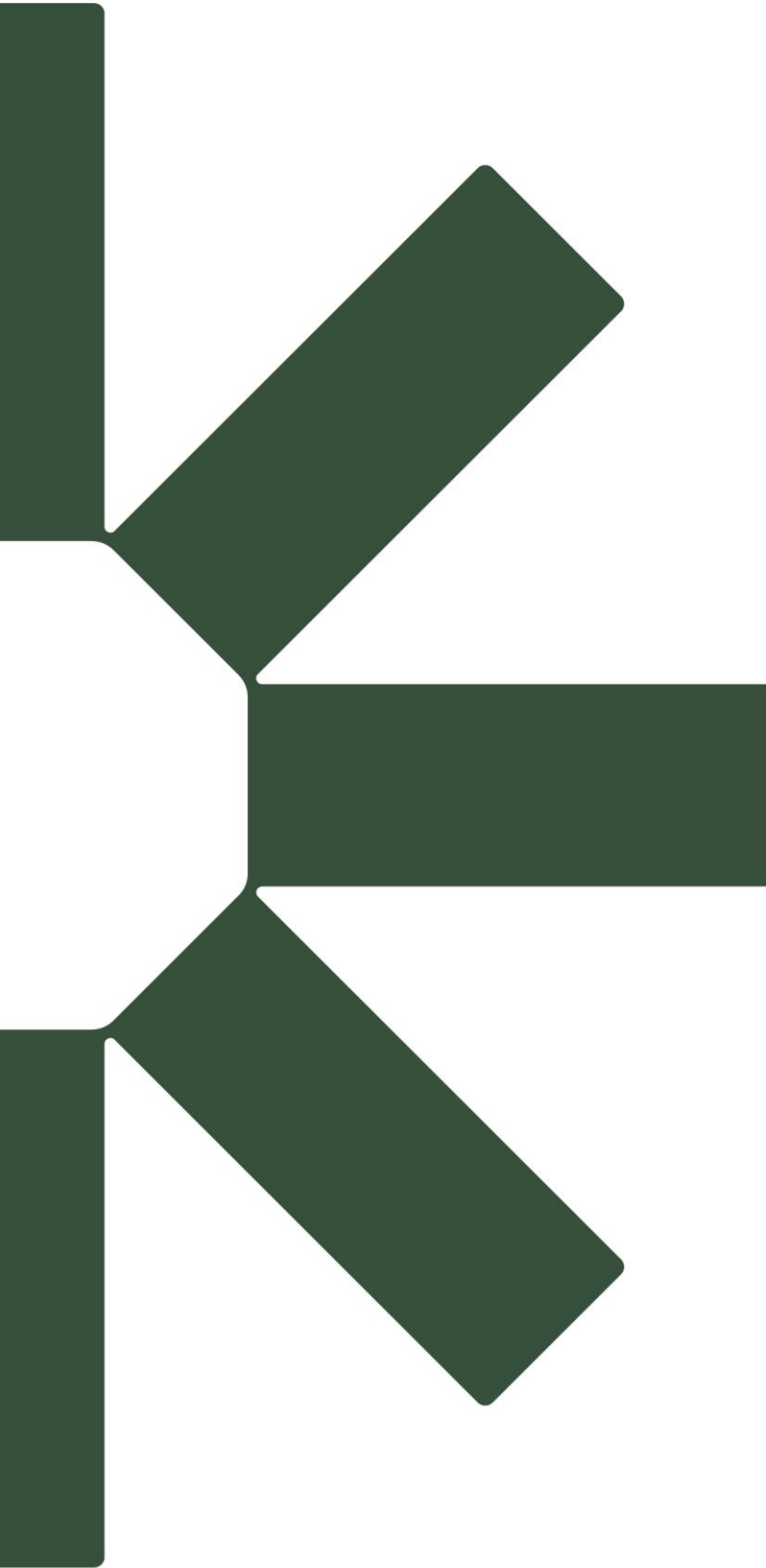
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