

NORTHLAND REGIONAL COUNCIL – CONSENT CONDITIONS

To undertake the following activities on Lots 1-3 DP 419151 and Lots 1-3 DP 59354 (SH15 and Rama Road), Lot 1 DP 386730, Lot 1 DP 348043 and Lot 2 DP 325771, Lot 2 DP 348043, and Section 13 SO 32254 (Marsden Point Road and McCathie Road), and Lot 1 DP 406479, Pt Lot 1 DP 36288, Part Lot 1 Block VII Ruakaka SD, Part Section 11 Block VII Ruakaka SD, and Part Section 54, Sections 55-57 and Section 60 Block VII Ruakaka SD (SH15 and McCathie Road), Ruakākā.

- AUT.045014.01.01** **Earthworks for site development including within a ‘flood hazard area’, within a ‘high-risk flood hazard area’, within and within 10m of a ‘natural inland wetland’, and within a ‘significant wetland’.**
- AUT.045014.02.01** **Vegetation clearance within, and within 10 metres of a ‘natural inland wetland’, and within a ‘significant wetland’.**
- AUT.045014.03.01** **Divert stormwater during earthworks activities.**
- AUT.045014.04.01** **Discharge of stormwater to land during earthworks activities**
- AUT.045014.05.01** **Divert stormwater in a river (redirection of Unnamed Drain through wetland)**

Relevant permitted activities

- Rule C.2.2.1 Natural wetland maintenance and enhancement.
- Rule C.2.1.3 Maintenance of the free flow of water in rivers and mitigating bank erosion.

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL CONDITIONS

General accordence condition

- 1 The project shall be undertaken in general accordence with the plans and information submitted with the application or as modified through the decision process. In the event of any inconsistency between this information and these conditions, the conditions of consent must prevail.

The plans and information include:

- (a) Assessment of Environmental Effects report dated September 2023 including all appended technical reports, except Appendix 10 – Proposed Conditions of Consent.
- (b) Section 92 RFI responses:
 - (i) RFI Response No #2 dated 9 October 2023.
 - (ii) RFI response No #2 dated 31 October 2023.
 - (iii) RFI response No #3 dated 3 November 2023.
 - (iv) RFI response No #4 dated 15 November 2023.
 - (v) RFI response No #5 dated 17 November 2023.
- (c) Plan sets (**Annexure 1**):
 - (i) Littoralis Landscape Architecture 'Indicative Wetland Concept' South East Site 3 'dated 30.10.23 (Ref. 1338_PlantingConcept_20231030).
 - (ii) Boffa Miskell Limited 'Site 1 Wetland Restoration' (Figure 9) dated 18.07.24 (Revision 0).
 - (iii) Beca Civil Drawings dated 02.08.23.
 - (iv) Beca Consent drawings dated August 2023.

Notice of intention to commence works

- 2 At least ten (10) working days prior to the commencement of any works authorised by this consent, the Consent Holder must notify the Council's assigned monitoring officer in writing of the date that the works are intended to commence. The Consent Holder must arrange for a site meeting between the Consent Holder's principal earthworks contractor and the council's assigned monitoring officer prior to any earthworks commencing.

The purpose of the meeting is to establish a working relationship between the Consent Holder's principal earthworks contractor and the Council's assigned monitoring officer to achieve compliance with the consent conditions.

Advice Note: Notification to the Council may be made by email to info@nrc.govt.nz.

Consent to be provided

- 3 A copy of this consent must be provided to every person who is to carry out the works authorised by this consent, prior to any work commencing.

Management plan certification and compliance

- 4 The management plans and reports required by the conditions of this consent must be:

- (a) Prepared by a Suitably Qualified and Experienced person(s);
- (b) For Conditions 8-24 and 31-40 respectively, prepared in consultation with Te Patuharakeke Hapū and Te Parawhau Hapū; and
- (c) Certified in writing by the Council's Compliance Monitoring Manager prior to construction works authorised by this consent first commencing.

- 5 The certification process is as follows:

- (a) The certification process for plans and reports required by conditions of this consent must be confined to confirming that the plans or reports give effect to their purposes, consent condition requirements, and contain the required information.
- (b) If the Council's response is that it is not able to certify the management plan or report, it must provide the Consent Holder with reasons and recommendations for changes to the plan or report in writing. The Consent Holder must consider any reasons and recommendations of the Council and resubmit an amended management plan/report for certification.
- (c) The review or amendment of a plan or report must follow the process above.
- (d) Subject to compliance with (a)-(c) above, the Council must certify a management plan within twenty (20) working days of receipt.

- 6 The Consent Holder must implement and comply with the certified management plan. A copy of the latest version of the certified management plan must be always kept at the on-site construction office and relevant personnel must be kept informed of their responsibilities under each management plan or report.

PRE-CONSTRUCTION APPROVALS

Works commencement

- 7 Construction works must not commence until the following requirements are met:
- (a) The CEMP and related management plans required by Conditions 8-24 of this consent have been certified.
 - (b) The engineering plans and details addressing the extent of earthworks (including any required buffers), installation of culverts, and flood control bund along the south-western side of the Rama Road on Site 1 have been certified.

Construction Environmental Management Plan (CEMP)

- 8 No less than twenty (20) working days prior to the scheduled commencement of any construction works, including earthworks, on Sites 1-3 the Consent Holder must submit a Construction Environmental Management Plan (CEMP) to the Council for certification.
- 9 The objectives of the CEMP are to ensure that:
- (a) appropriate environmental management practices are followed;
 - (b) the construction effects of the project are in accordance with the assessments accompanying the resource consent application; and
 - (c) adverse construction effects are minimised to the extent practicable.
- 10 The CEMP shall detail the environmental monitoring and management procedures to be implemented during the construction phase.
- 11 The CEMP shall include the following plans:
- (a) Erosion and Sediment Control Plan (ESCP)
 - (b) Native Avifauna Management Plan (NAMMP)
 - (c) Native Fish Capture and Relocation Plan (NFCRP)
 - (d) Lizard Management Plan (LMP)
 - (e) Bat Management Plan (BMP)

Advice Note: *The Consent Holder will need to ensure that it has all the necessary permits from other Government Agencies for the transfer of native species if they are required.*

- 12 The Consent Holder may amend the CEMP at any time and submit the amended plan to the Council's Compliance Monitoring Manager for certification. The most recent certified version of the CEMP must be used for compliance purposes.

Erosion and Sediment Control Plan (ESCP)

- 13 The ESCP required under condition 11(a) must be in general accordance with the draft erosion and sediment control plan prepared by Beca Limited dated 28 August 2023 (Appendix 9 of the application AEE).
- 14 The ESCP shall cover all earthworks on Sites 1-3, including earthworks associated with wetland restoration and development, and must include, but is not limited to, the following information:
- (a) The expected duration of the major cut and fill operations, drainage works, disposal sites for unsuitable materials/overburden, and clean water diversions;
 - (b) The expected staging and sequencing of earthworks;
 - (c) Diagrams and/or plans, of a scale suitable for on-site reference, showing the locations of the major cut and fill operations, disposal sites for unsuitable materials, erosion and silt control structures/measures, and water quality sampling sites;
 - (d) Details of erosion and sediment controls including specific pond design and calculations as required;
 - (e) Supporting calculations and catchment boundaries for the erosion and sediment controls;
 - (f) The commencement and completion dates for the implementation of the proposed erosion and sediment controls;
 - (g) Methods to be used to stabilise batter faces;
 - (h) Details of surface re-vegetation of disturbed sites and other surface covering measures to minimise erosion and sediment runoff following construction;

- (i) Measures to minimise sediment being deposited on public roads, beyond the works area; and
- (j) Measures to avoid a dust nuisance occurring on neighbouring properties and roads during dam construction.

Native Avifauna Management Plan (NAMP)

15 The objective of the NAMP is:

- (a) To avoid and minimise the adverse effects of construction works and solar farm operations on native birds, including but not limited to matuku-hūrepo, tūturiwhatu and weweia.

16 As a minimum, the NAMP must include the following:

- (a) Management measures for avoiding adverse effects of construction works on nesting native birds, including but not limited to nesting bird checks required if vegetation clearance is undertaken during the main bird breeding season (August to March inclusive) and appropriate set back measures if active nests are located.
- (b) Management measures for minimising adverse effects of construction works on threatened and at risk native birds foraging within the Sites, including but not limited to matuku-hūrepo, tūturiwhatu and weweia.
- (c) Avifauna collision risk monitoring including two years of surveillance following the installation of solar panels on each of the Sites 1-3 to detect and assess the impact (if any) on at risk and threatened avifauna due to panel collision.
- (d) A method for documenting at risk and threatened bird collision with vehicles on roads adjacent to the Site 3 wetland.

Advice Note: *The surveillance required under Condition 16(c) may need to be staged depending on solar panel installation sequencing on each of the Sites 1-3.*

Native Fish Capture and Relocation Plan (NFCRP)

17 The objective of the NFCRP is to avoid and minimise the adverse effects of construction works on native fish.

- 18 The NFCRP shall detail how native fish will be captured and relocated from wetlands, drains and river habitats prior to works.
- 19 As a minimum, the NFCRP must include the following:
- (a) Methodologies to capture fish;
 - (b) Specification that the fish capture and relocation will be undertaken by a suitably qualified and experienced ecologist;
 - (c) Details of the relocation site; and
 - (d) Storage and transport measures.
 - (e) Fish passage requirements during works (if required)
- 20 If native fish are relocated in accordance with the requirements of the approved NFCRP, the Consent Holder must provide information regarding the species and number of fish relocated to the Council within 10 working days of completion of the fish relocation.

Lizard Management Plan (LMP)

- 21 The objectives of the LMP are:
- (a) To minimise the risk of injury or mortality to native lizards during construction.
 - (b) To ensure that the habitat(s) that any lizards are transferred to (either on site or at an alternative site, as the case may be) are able to support viable native lizard populations for all species present predevelopment.
- 22 As a minimum, the LMP must include the following:
- (a) Timing of the implementation of the LMP.
 - (b) A description of methodology for survey, salvage and relocation of salvaged native lizards.
 - (c) A description of the relocation site; including discussion of:
 - (i) Provision for additional refugia, if required e.g. depositing salvaged logs, wood or debris for newly released lizards that have been rescued.
 - (ii) Any protection mechanisms (if required) to ensure the relocation site is maintained (e.g.) covenants, consent notices etc.

- (iii) Any mammalian pest management to ensure the relocation site is maintained as appropriate habitat.

Bat Management Plan (BMP)

- 23 The objective of the BMP is to avoid, remedy or mitigate impacts on native long-tailed bats (*Chalinolobus tuberculatus*) that may be adversely affected by construction works.
- 24 As a minimum, the BMP must include the following:
 - (a) Management actions, including bat roost protocols (Bat Recovery Group - Department of Conservation, 2021) to be implemented prior to vegetation clearance.
 - (b) Monitoring procedures to be implemented for the removal of any trees that are identified as potential bat roost.
 - (c) Proposals for minimising disturbance from construction activities near any discovery of active roosts until those roosts are vacated/removed.
 - (d) Methods for the replacement of any actual bat roost trees that are removed as part of the proposal.

NES-F Information Requirements (culverts and fish passage)

- 25 The Consent Holder must submit the information required by regulations 62(3) and 63(3) of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (as at the date of the grant of this consent, see **Annexure 2**) to the Council no later than twenty (20) working days following the commissioning of the project, where 'commissioning' is the first day on which the solar panels become operational on any one of the three Sites 1 – 3.

Kaitiaki Monitoring Programme

- 26 Prior to the start of bulk earthworks, a Kaitiaki Monitoring Programme must be developed in cooperation with Te Patuharakeke Hapū and Te Parawhau Hapū. This programme must be developed to include provisions for cultural monitoring of effects associated with:
 - (a) Indigenous species habitat disturbance, including lizard, bird, and fish habitat;

- (b) Accidental discovery of kōiwi and/or cultural artefacts during works; and
- (c) Wetland regeneration and ongoing maintenance of ecological restoration areas within the site.

27 Prior to the start of works authorised by this consent, the Consent Holder must advise the Council that either:

- (1) The programme in Condition 26 has been agreed between the parties; or
- (2) Agreement has not been reached despite the Consent Holder's best endeavours, with the Consent Holder providing reasons for this.

Hydraulic modelling and attenuation

28 The Consent Holder must not increase flood levels on any land outside of the project Sites 1-3 in the 100 year, 5 year and 2 year ARI rainfall events, with the ARI rainfall events being those current at the time of the modelling. This must be demonstrated using a hydraulic model that takes into account the proposed earthworks, bunds, culverts, ground roughness and soil infiltration changes. Soil infiltration changes must be calculated using the PV-SMaRT Solar Farm Runoff Calculator Version 3.0 tool from the University of Minnesota. A report on the hydraulic model and the outputs, and the final design details for flood mitigation measures must be provided to the Council's Compliance Monitoring Manager for certification at least twenty (20) working days prior to the commencement of earthworks on each of the Sites 1-3.

Advice Note: *Separate modelling and reporting may be required for each site depending on the staging/sequencing of earthworks.*

29 Peak flows discharged from each of the three Sites 1-3 must be attenuated on site such that the 100- year, 5-year and 2-year ARI rainfall event post-development peak flows (with climate change) do not exceed 80% of the pre-development peak flowrate (with climate change). A report providing design details of the on-site detention systems and comparison of peak flows must be provided to Council's Compliance Monitoring Manager for certification at least twenty (20) working days prior to the commencement of earthworks on Sites 1-3. The climate change parameter used for this condition is Climate Change Scenario RCP4.5 (Representative Concentration Pathway scenario RCP4.5 as defined by the United Nations Intergovernmental Panel on Climate Change) projected to the end of 2065.

Advice Note: This condition relates to the runoff generated from within each site and does not include flows entering these sites from other catchments.

ENVIRONMENTAL OFFSET AND ENHANCEMENT

Implementation timing

30 The wetland creation and restoration works must commence in accordance with the following timing:

Wetland creation and restoration works	Implementation timing
Buffer planting and pest weed removal in and around the existing open water on Site 1.	Commence prior to the commencement of earthworks on Site 1.
All other wetland creation works on Site 1:	Commence within 12 months of the commencement of earthworks on Site 1.
Wetland creation works on Site 3:	Commence within 12 months of the commencement of earthworks on Site 1.
Objectives set out in Condition 33.	Achieved within 5 years of commencement of project earthworks.

Wetland Restoration and Management Plan (WRMP)

31 No less than twenty (20) working days prior to the scheduled commencement of any wetland construction works, including earthworks the Consent Holder must submit a WRMP to the Council for certification. The WRMP must be supported by a statement from a suitably qualified and experienced ecologist, hydrogeologist and civil engineer, each identifying and addressing their respective inputs, within their fields of expertise, to the WRMP.

32 To offset the loss of natural inland wetlands on Site 1, the proposed wetland creation and restoration must include a minimum 9.1 ha wetland on Site 1 (encompassing 2.05 ha of existing wetland) and a minimum 11.73 ha wetland on Site 3 (excluding the

foundations of the four Transpower transmission towers and access tracks) located in general accordance with the following plans:

- (a) Site 1: Boffa Miskell Limited 'Site 1 Wetland Restoration' (Figure 9) dated 18.07.24 (Revision 0).
- (b) Site 3: Littoralis Landscape Architecture 'Indicative Wetland Concept' South East Site 3 'dated 30.10.23 (Ref. 1338_PlantingConcept_20231030).

33 The wetlands must be designed to meet the following objectives:

- (a) To ensure that the recreated wetlands are of better habitat quality and ecological function than those that are to be removed.
- (b) To provide foraging, roosting/resting, breeding, and nesting habitat, with a particular focus on matuku-hūrepo and weweia.

34 As a minimum, the WRMP must include the following:

- (a) A record of consultation with Te Patuharakeke Hapū and Te Parawhau Hapū.
- (b) A healing garden (Mara rongoā) developed in consultation with Te Patuharakeke Hapū and Te Parawhau Hapū.
- (c) The role that Te Patuharakeke Hapū and Te Parawhau Hapū will play in monitoring the construction works and post completion in accordance with the Kaitiaki Monitoring Programme outlined in Conditions 26 and 27.
- (d) A record of consultation with Transpower.
- (e) A record of consultation with Northland Fish and Game Council regarding faunal matters in the wetland design.
- (f) The continuous monitoring of groundwater levels on Sites 1 and 3 at appropriate locations to characterise groundwater levels at the location of the offset wetlands. The monitoring shall include one summer season and ideally one year of hydrogeological monitoring data to inform detailed wetland design. The monitoring data collected shall be reported in accordance with Condition 35 below.
- (g) Detailed wetland design to:
 - (i) Create the wetland typologies set out in Table 1 below, including water depth, size, layout, catchment area, staging, and construction completion timeframe; and

- (ii) Achieve a mosaic of habitats, including dense, tall reed-rush vegetation, lower-growing rushes and sedges, shallows, and deeper areas of open water.
- (h) Consideration of saline influence and fish passage in the wetland design for the proposed wetland on Site 3.
- (i) Wetland and riparian plant species to be planted, including density, size and layout, and including connections to adjacent habitat.
- (j) A bund along the frontages of Marsden Point Road and McCathie Road adjacent to the wetland on Site 3, constructed to a height of 2.0m above the road level for avifauna/vehicle collision avoidance. The bund must be vegetated with low growing vegetation.
- (k) The information required by Schedule 2 of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (as at the date of the grant of this consent, see see **Annexure 3**).
- (l) Measures to minimise construction effects on fish and fish habitats during earthworks, including adherence to the approved Native Fish Capture and Relocation plan.
- (m) Measures to avoid disturbance of nationally threatened or at-risk during breeding periods, including adherence to the approved Avifauna Management Plan.
- (n) Measures to protect the wetland in perpetuity (such as covenants).
- (o) Maintenance and monitoring requirements, including but not limited to:
 - (i) Monitoring in accordance with Condition 55;
 - (ii) A programme for establishment and post establishment plant pest control to minimise exotic plant cover in the wetland for the duration of the consent; and
 - (iii) Ongoing pest animal control in accordance with the approved APMP.

Table 1: Wetland typologies for recreated and restored wetlands

Typology	Approximate water depth (m)	Habitat/plant assemblages	Avifauna values	Estimated area (ha)
Open water	> 1	Unvegetated	Foraging for dabblers and divers	3
Permanent shallow water	0.5 to 1	Tall reeds and rushes, e.g., raupō, Macart, Elesph	Roosting, nesting and foraging on vegetated margins for cryptic wetland birds and dabchicks	4
Period shallow water or saturated soil	0 to 0.5	Rushes, sedges, flax, cabbage tree	Roosting, nesting and foraging on vegetated margins for cryptic wetland birds	7
Seasonally saturated/ summer dry	0 to - 0.3	Sedges, rushes and wet-tolerant shrubs	Roosting and foraging for banded rail and crake	5
Dry to occasionally saturated	(0) to -0.3 to -0.6	Shrubland and fernland	Roosting for water fowl and foraging and roosting for	Buffer and refugia

Typology	Approximate water depth (m)	Habitat/plant assemblages	Avifauna values	Estimated area (ha)
			non-wetland species	

35 At the same time as providing the WRMP to Council the Consent Holder must provide to the Council for certification a detailed report prepared by a suitably qualified and experienced hydrogeologist that presents the groundwater levels collected as per Condition 34(f). The report is to detail the methodology used for collecting the data, including location of piezometers in relation to Sites 1 and 3, and to determine appropriate design groundwater levels for the restored and constructed wetlands.

36 Within one (1) month of the completion of the wetland creation works on Site 1 and 3, the Consent Holder must provide written evidence from a suitably qualified and experienced ecologist to the Council confirming that all works identified in the certified WRMP have been completed in accordance with the specified timeframe. This evidence must confirm all measures required to maintain the planting to allow for establishment are in place.

Advice Note: *Separate completion reports may be required for the various wetlands in accordance with the different timing/sequencing in Condition 30.*

Animal Pest Management Plan (APMP)

37 No less than twenty (20) working days prior to the scheduled commencement of any construction works authorised under this consent and the WDC consent LU2300093, including earthworks, the Consent Holder must submit an APMP to the Council for certification.

38 The objective of the APMP is to improve the ecological integrity of forest, wetland and riparian habitats by managing pests across Sites 1 - 3.

39 As a minimum, the APMP must include the following:

- (a) Target pest species to achieve the objectives of the APMP, with a particular focus on mustelids, feral cats and rats; and

- (b) Methods to achieve target species outcomes, with a preference for physical controls over chemical wherever practicable. Methods may include descriptions of spatial configuration of bait lines and baiting and/or trapping details including types of baits/traps and frequency of baiting; and
- (c) A description of monitoring/auditing proposed to determine success of the APMP implementation. This should include intended annual targets for pest eradication/removal for a minimum of 5 years from implementation of the APMP.

40 The Consent Holder must implement the certified APMP for the duration of the consent and carry out a review of the APMP annually for a minimum period of 5 years from initial implementation, and then every five (5) years thereafter. The review must include the results of monitoring in accordance with condition 39(c) and any remediation measures required. The annual and 5 yearly reviews must be provided to the Council for certification, including confirmation of any remediation measures proposed.

COMPLIANCE DURING CONSTRUCTION WORKS

- 41 Prior to the commencement of earthworks on-site, a stabilised construction entrance to the site must be installed to minimise the tracking of spoil or debris onto off-site public road surfaces. All material tracked onto off-site surfaces as a result of the exercise of this consent must be removed as soon as possible, but at least daily. The stabilised construction entrance must be maintained throughout the duration of earthworks operations.
- 42 Erosion and sediment controls approved as part of the CEMP must be installed prior to the commencement of earthworks.
- 43 No earthworks (other than earthworks associated with wetland construction) may be carried out between 1 May and 30 September in any year unless the prior written agreement of the Council's Compliance Monitoring Manager has been obtained.
- 44 Any request to undertake works between 1 May and 30 September in any year must be in writing and must be made at least two weeks prior to the proposed date that the works are required to be undertaken. This written request must include an amended CEMP for the works that has been prepared in accordance with Conditions 7-10.

- 45 All offsite stormwater must be directed away from earthworks areas and no drainage pathways must be constructed, or permitted to flow, over fill areas in a manner that creates erosion of the fill material.
- 46 Slash, soil, debris and detritus associated with the exercise of this consent must not be placed in a position where it may be washed into any water body.
- 47 All bare areas of land and fill must be covered with aggregate or topsoiled and established with a suitable grass/legume mixture to achieve an 80% groundcover within one month of the completion of earthworks. Temporary mulching or other suitable groundcover material must be applied to achieve total groundcover of any areas unable to achieve the above requirements.
- 48 The exercise of this consent must not give rise to any discharge of contaminants, including dust, which in the opinion of a monitoring officer of the council is noxious, dangerous, offensive or objectionable at or beyond the property boundary.
- 49 The exercise of this consent must not cause any of the following effects on the water quality of the Ruakākā River, as measured approximately 10 metres downstream of a discharge point into the River, when compared to a site measured approximately 10m upstream of all earthworks activities during the same sampling event:
- (a) The production of any conspicuous oil or grease films, scums or foams, floatable or suspended materials;
 - (b) A conspicuous change in colour or visual clarity;
 - (c) An emission of objectionable odour;
 - (d) An increase in suspended solids concentration greater than 100 grams per cubic metre.
- 50 The Consent Holder must, on becoming aware of any discharge associated with the Consent Holder's operations that is not authorised by this consent:
- (a) Immediately take such action, or execute such work as may be necessary, to stop and/or contain the discharge; and
 - (b) Immediately notify the Council by telephone of the discharge; and
 - (c) Take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the discharge; and

- (d) Report to the Council's Compliance Monitoring Manager in writing within one week on the cause of the discharge and the steps taken, or being taken, to effectively control or prevent the discharge.

For telephone notification during the Council's opening hours, the Council's assigned monitoring officer for this consent must be contacted. If that person cannot be spoken to directly, or it is outside of the Council's opening hours, then the Environmental Hotline must be contacted.

Advice Note: *The Environmental Hotline is a 24 hour, seven day a week, service that is free to call on 0800 504 639.*

- 51 The design, installation and maintenance of culverts must be in accordance with:
- (a) The recommendations in the New Zealand Fish Passage Guidelines (Franklin et al., 2018); and
 - (b) The permitted activity Rule C.2.1.8, and C.2.3 General conditions of the Proposed Regional Plan.

POST CONSTRUCTION COMPLIANCE AND MONITORING

Native Avifauna Collision Management Plan (NACMP)

- 52 If the monitoring required by the certified NAMP identifies that At Risk or Threatened birds are colliding with solar panels, the Consent Holder or its agent/contractor must submit a Native Avifauna Collision Management Plan (NACMP) to the Council for certification.
- 53 The objective of the NACMP is to minimise and mitigate the risk on At Risk and Threatened avifauna as a result of collisions with solar panels and vehicles based on observations made during the monitoring required by the certified NAMP.
- 54 The NACMP must be:
- (a) Prepared by a Suitably Qualified and Experienced Ornithologist; and
 - (b) Provided to the Council within twenty (20) working days of the collision discovery;
 - (c) Certified in writing by the Council's Compliance Manager

Any actions arising under the certified NACMP must be complied with.

Monitoring

- 55 The Consent Holder shall monitor ecological information on vegetation and freshwater ecology, and water levels, of the restored and constructed wetlands for a minimum of 5 years following completion of construction of the wetlands on Sites 1 and 3 to confirm the requirements outlined in Conditions 32-33 are successfully achieved.
- 56 The Consent Holder must provide an annual monitoring report to the Council detailing the results of the monitoring in Condition 55, and any remediation measures necessary to achieve the requirements of Conditions 32-33. The monitoring report shall include (but is not limited to):
- (a) Results of all monitoring undertaken as required by these conditions;
 - (b) Six (6) monthly wetland water levels for a minimum period of 2 years following completion of the restored and constructed wetlands.
 - (c) An interpretation of the results.
 - (d) Identification and reporting on ecological indicators regarding the restored and constructed wetlands viability and success;
 - (e) Recommendations about the frequency of monitoring events to be undertaken in the future.

Advice Note: *Separate monitoring reports may be required for the various wetlands in accordance with the different timing/sequencing in Condition 30.*

- 57 The Consent Holder must provide the Annual Monitoring Report required by condition 56 above to the Council's assigned monitoring officer no later than one (1) month after each anniversary of the project commissioning date, for a period of 5 years therein.
- 58 From the date of receipt of the written evidence required under Condition 36 of this consent, the Consent Holder must ensure that all areas of completed planting are maintained in perpetuity. Where any planting is damaged, destroyed or otherwise removed, that planting shall be replaced with the same or similar species of same or similar numbers as soon as practicable and in any case within 12 months.

59 Once Condition 55 ceases to have effect, the Consent Holder must provide a report from a suitably qualified and experienced ecologist to the Council's assigned monitoring officer at a minimum of five yearly intervals that:

(a) Assesses the ecological health of the restored and constructed wetlands;

(b) Determines compliance with Condition 58; and

(c) Provides any measures required to achieve Condition 58.

Flood control bund

60 The flood control bund required to be designed and constructed under Conditions 28 and 29 along the south-western side of the Rama Road on Site 1 must be maintained at all times to the approved height width and length as part of regular site maintenance activities.

COMMUNITY FUND

61 Within forty (40) working days of the project becoming operational, the Consent Holder must establish a community fund to provide support for community groups and projects in the Ruakākā area (or other areas, as may be appropriate).

REVIEW CONDITION

62 The Council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions annually during the month of September for any one or more of the following purposes:

(a) To deal with any adverse effects on the environment that may arise from the exercise of this consent and which it is appropriate to deal with at a later stage;
or

(b) To require the adoption of the best practicable option to remove or reduce any adverse effect on the environment.

(c) To change the ground water levels and/or vegetation composition associated with the restored and constructed wetlands in order to achieve the outcomes intended by the conditions of this consent.

(d) To adjust or alter the method of recording and reporting information on the restored and constructed wetlands.

63 This consent will lapse five (5) years from the date of commencement, unless before this date the consent has been given effect to.

Advice Note: *An application can be made to the Council in accordance with Section 125 of the Act to extend the date after which is the consent lapses. Such an application must be made before the consent lapses.*

- **Duration:** 35 years

INDICATIVE WETLAND CONCEPT



0 50 100 150 200 m



scale 1 : 2500 @ A3

Ref: 1338_PlantingConcept_20231030



updated 30.10.2023

PLANTING CONCEPT SOUTH EAST SITE 3

RUAKĀKĀ ENERGY PARK

This plan has been prepared by Boffa Miskell Limited on the specific instructions of our Client. It is solely for our Client's use in accordance with the agreed scope of work. Any use or reliance by a third party is at that party's own risk. Where information has been supplied by the Client or obtained from other external sources, it has been assumed that it is accurate. No liability or responsibility is accepted by Boffa Miskell Limited for any errors or omissions to the extent that they arise from inaccurate information provided by the Client or any external sources.

LEGEND

- Site boundary
- Sand excavation and peat laid
- Existing wetland retained
- Open water habitat
- Manuka-Machaerina Shrubland
- Raised Islands
- Vegetated margins
- Kānuka buffer (5 m)

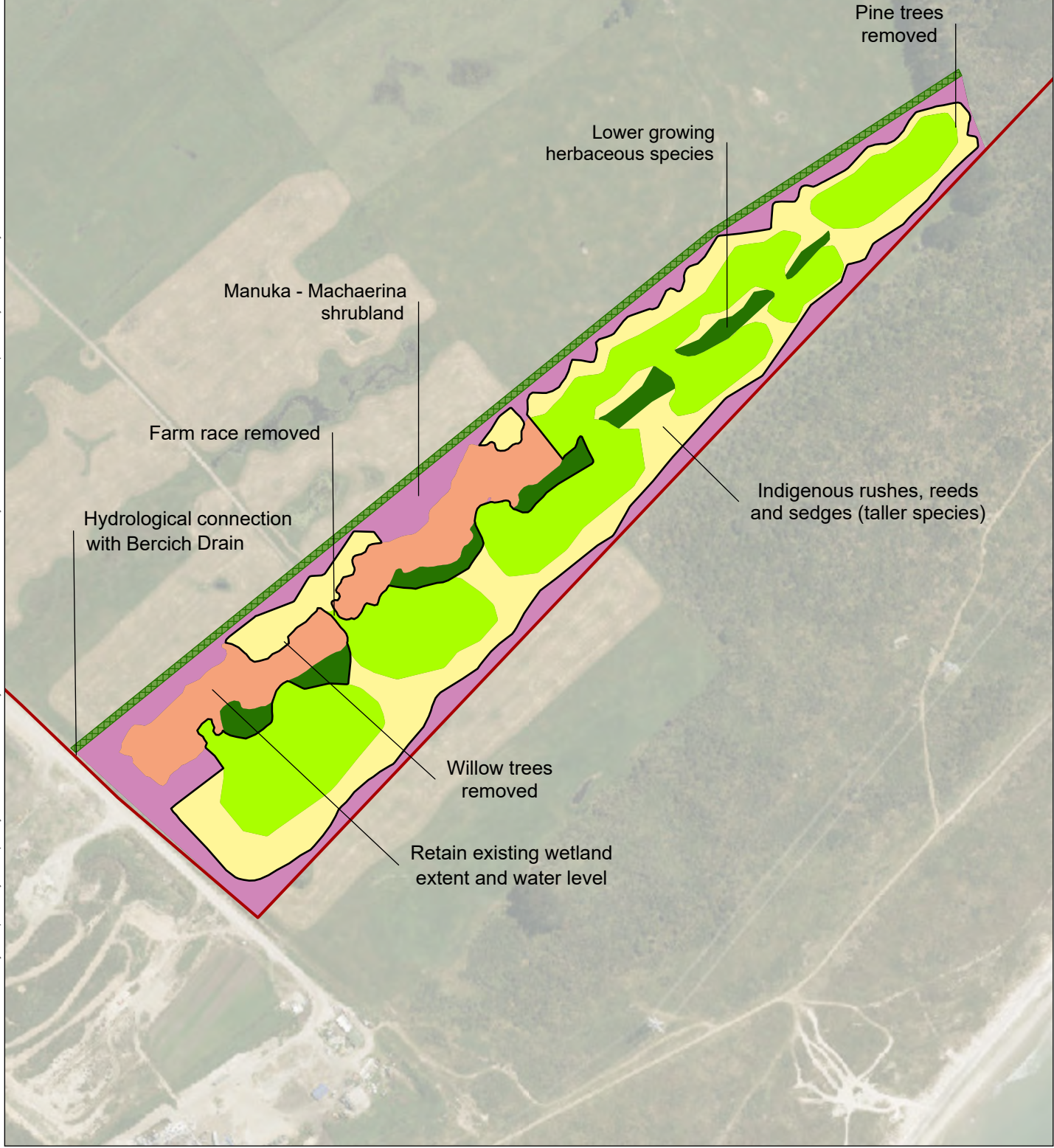


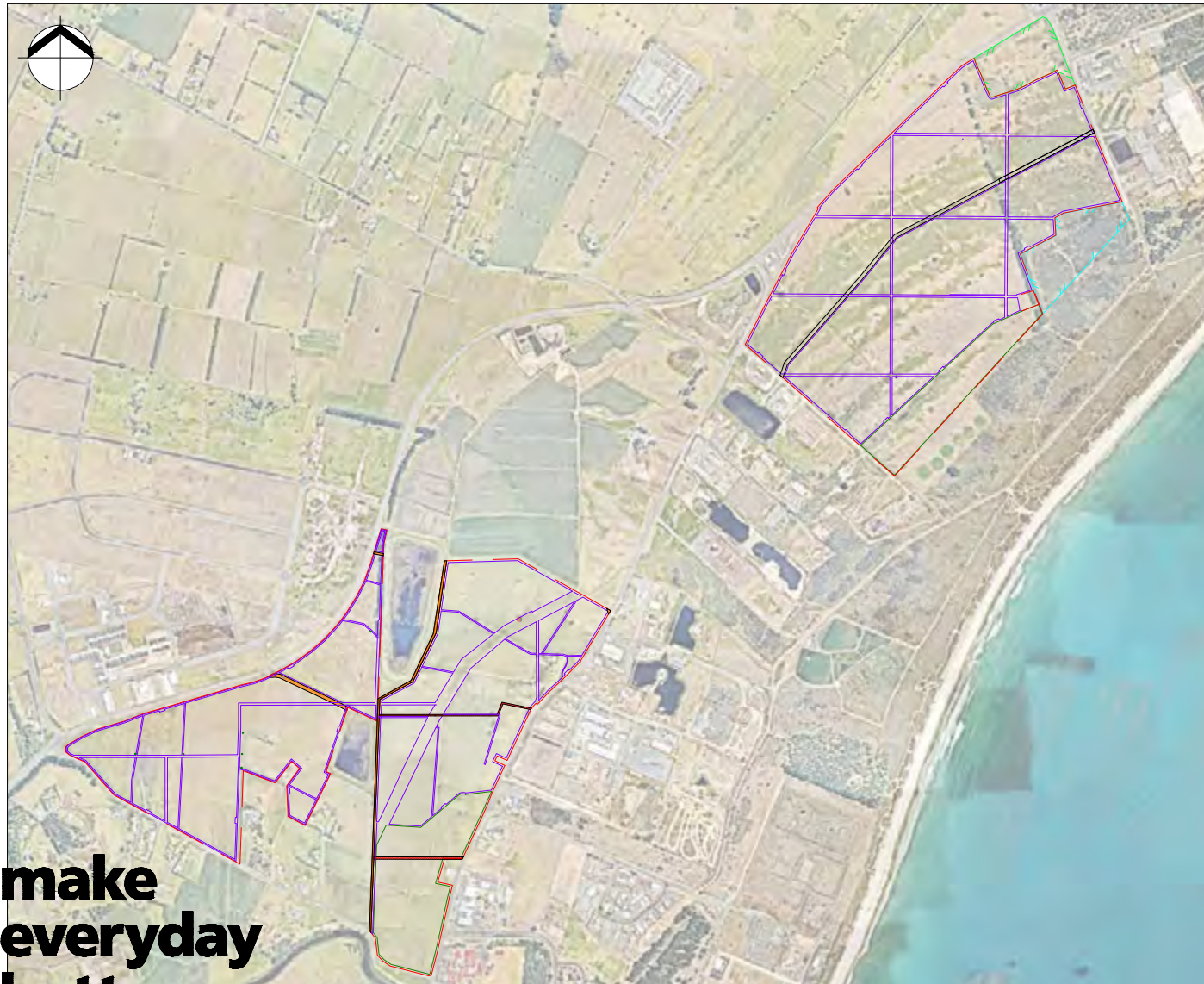
Figure 9

MERIDIAN SOLAR FARM

CIVIL

MERIDIAN ENERGY LTD (MERIDIAN)
 Beca Limited (Beca)
 Ruakaka, Whangarei, 0171, New Zealand

2318415
 02 AUGUST 2023
 RESOURCE CONSENT



**make
 everyday
 better.**

DRAWING LIST

DRAWING No.	DRAWING TITLE
DWG No.	DRAWING TITLE
2318415-CA-0000	COVER SHEET
2318415-1-CA-1000	EXISTING SITE SERVICES, CLEARANCE AND DEMOLITION SHEET VIEWPORT LAYOUT PLAN
2318415-1-CA-1001	EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 1
2318415-1-CA-1002	EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 2
2318415-1-CA-1003	EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 3
2318415-1-CA-1004	EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 4
2318415-1-CA-1005	EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 5
2318415-1-CA-2001	INDICATIVE FINISHED LEVEL PLAN
2318415-1-CA-2002	INDICATIVE EARTHWORK CUT AND FILL PLAN
2318415-1-CA-2010	INDICATIVE ROAD AND STORMWATER LAYOUT PLAN
2318415-1-CA-3000	INDICATIVE LONG SECTION SHEET 1
2318415-1-CA-3001	INDICATIVE LONG SECTION SHEET 2
2318415-2-CA-1000	EXISTING SITE SERVICES, CLEARANCE AND DEMOLITION SHEET VIEWPORT LAYOUT PLAN
2318415-2-CA-1001	EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 1
2318415-2-CA-1002	EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 2
2318415-2-CA-1003	EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 3
2318415-2-CA-1004	EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 4
2318415-2-CA-2001	INDICATIVE FINISHED LEVEL PLAN
2318415-2-CA-2002	INDICATIVE EARTHWORK CUT AND FILL PLAN
2318415-2-CA-2010	INDICATIVE ROAD AND STORMWATER LAYOUT PLAN
2318415-2-CA-3000	INDICATIVE LONG SECTION SHEET 1
2318415-2-CA-3001	INDICATIVE LONG SECTION SHEET 2
2318415-3-CA-1000	EXISTING SITE SERVICES, CLEARANCE AND DEMOLITION SHEET VIEWPORT LAYOUT PLAN
2318415-3-CA-1001	EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 1
2318415-3-CA-1002	EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 2
2318415-3-CA-1003	EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 3
2318415-3-CA-2001	INDICATIVE FINISHED LEVEL PLAN
2318415-3-CA-2002	INDICATIVE EARTHWORK CUT AND FILL PLAN
2318415-3-CA-2010	INDICATIVE ROAD AND STORMWATER LAYOUT PLAN
2318415-3-CA-3000	INDICATIVE LONG SECTION SHEET 1
2318415-3-CA-3001	INDICATIVE LONG SECTION SHEET 2
2318415-CA-3010	TYPICAL DETAILS CULVERT STRUCTURES
2318415-CA-3011	TYPICAL DETAILS CULVERT CROSS-SECTION
2318415-CA-3012	TYPICAL DETAILS ROAD CROSS-SECTIONS
2318415-CA-3013	TYPICAL DETAILS WETLAND CROSS-SECTION



Drawing No. 2318415-CA-0000



LEGEND:

EXISTING

- GIU — GIU
- CCID — CCID
- SW — SW
- SS — SS
- W — W
- CCID — CCID
- BOUNDARY
- GAS
- COMMUNICATION
- TRANSPWER LINE
- STORMWATER PIPE
- STORMWATER OPEN DRAIN
- SANITARY SEWER
- WATER
- CHORUS CABLE
- 5 m CONTOURS
- 1 m CONTOURS
- FIRST GAS UNDERGROUND GAS PIPE
- COUNCIL DRAIN
- COUNCIL EASEMENT
- CROWN EASEMENT
- SS MANHOLE
- SW DEVICE
- SW CULVERT STRUCTURE
- TRANSPWER POLE
- WATER DEVICE

EXISTING NORTHPOWER

- 400v/O — 400V OVERHEAD
- 400v/U — 400V UNDERGROUND
- 11kv/O — 11KV OVERHEAD
- 11kv/U — 11KV UNDERGROUND
- 33kv/O — 33KV OVERHEAD
- P — P
- FOU — FIBRE UNDERGROUND
- FO — FIBRE OVERHEAD
- DUCT — FIBRE DUCT
- POWER POLE

PROPOSED

- SITE EXTENT BOUNDARY
- BUILDING TO BE REMOVED
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

RESOURCE CONSENT
NOT FOR CONSTRUCTION

C	FOR RESOURCE CONSENT	VW		02.08.23	Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
B	FOR RESOURCE CONSENT	VW	JS	10.07.23	1:2500	Drawn	V.WHYTE	15.03.23	Date
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23	Reduce Scale (A3)	Day Checker			
No.	Revision	By	Chk	Appd	Date	1:5000	Day Check		

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:2500	Drawn	V.WHYTE	15.03.23	Date
Reduce Scale (A3)	Day Checker			
1:5000	Day Check			



Client: **RUAKAKĀ SOLAR FARM SITE 1**

Title: **EXISTING SITE SERVICES, CLEARANCE AND DEMOLITION SHEET VIEWPORT LAYOUT PLAN**

Discipline	CIVIL
Drawing No.	2318415-1-CA-1000
Rev.	C



LEGEND:

EXISTING

- GIU — GIU
- CCID — CCID
- SW — SW
- SS — SS
- W — W
- CCID — CCID
- 5 m CONTOURS
- 1 m CONTOURS
- FIRST GAS UNDERGROUND GAS PIPE
- COUNCIL DRAIN
- COUNCIL EASEMENT
- CROWN EASEMENT
- SS MANHOLE
- SW DEVICE
- CHORUS CABLE
- WATER
- TRANSPOWER POLE
- WATER DEVICE
- SW CULVERT STRUCTURE

EXISTING NORTHPOWER

- 400v/O — 400V OVERHEAD
- 400v/U — 400V UNDERGROUND
- 11kv/O — 11KV OVERHEAD
- 11kv/U — 11KV UNDERGROUND
- 33kv/O — 33KV OVERHEAD
- P — P
- FOU — FIBRE UNDERGROUND
- FO — FIBRE OVERHEAD
- DUCT — FIBRE DUCT
- POWER POLE

PROPOSED

- SITE EXTENT BOUNDARY
- BUILDING TO BE REMOVED
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

C	FOR RESOURCE CONSENT	VW		02.08.23
B	FOR RESOURCE CONSENT	VW	JS	10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23
No.	Revision	By	Chk	Appd

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
Reduced Scale (A3)	Drawn	V.WHYTE	15.03.23	Date
1:2000	Design Checker			
	Design Verifier			
	Design Check			
	* Refer to Revision 1 for Original Signature			

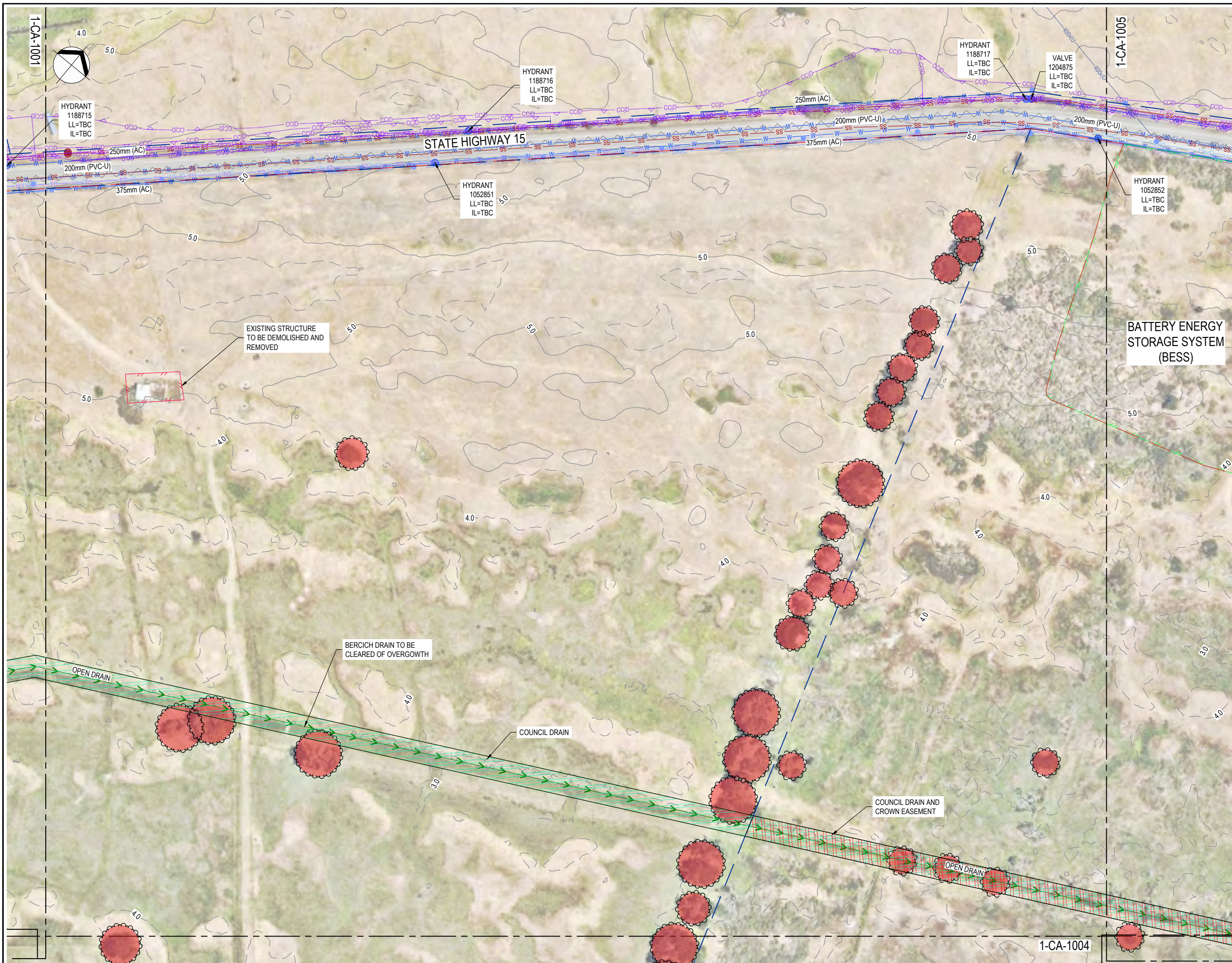


Client: **RUAKAKA SOLAR FARM SITE 1**

Title: **EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 1**

Discipline	CIVIL
Drawing No.	2318415-1-CA-1001
Rev.	C

RESOURCE CONSENT NOT FOR CONSTRUCTION



LEGEND:

EXISTING

- GIU - GIU
- CCID - CCID
- SW - SW
- SS - SS
- W - W
- CCID - CCID
- BOUNDARY
- GAS
- COMMUNICATION
- TRANSPOWER LINE
- STORMWATER PIPE
- STORMWATER OPEN DRAIN
- SANITARY SEWER
- WATER
- CHORUS CABLE
- 5 m CONTOURS
- 1 m CONTOURS
- FIRST GAS UNDERGROUND GAS PIPE
- COUNCIL DRAIN
- COUNCIL EASEMENT
- CROWN EASEMENT
- SS MANHOLE
- SW DEVICE
- SW CULVERT STRUCTURE
- TRANSPOWER POLE
- WATER DEVICE

EXISTING NORTHPOWER

- 400v/O - 400V OVERHEAD
- 400v/U - 400V UNDERGROUND
- 11kv/O - 11KV OVERHEAD
- 11kv/U - 11KV UNDERGROUND
- 33kv/O - 33KV OVERHEAD
- P - P
- FO/U - FIBRE UNDERGROUND
- FO - FIBRE OVERHEAD
- DUCT - FIBRE DUCT
- POWER POLE

PROPOSED

- SITE EXTENT BOUNDARY
- BUILDING TO BE REMOVED
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

RESOURCE CONSENT
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
Reduced Scale (A3)	Drawn	V.WHYTE <td>15.03.23 <td>Date</td> </td>	15.03.23 <td>Date</td>	Date
1:2000	Day Verifier			
	Dtg Check			

* Refer to Revision 1 for Original Signature



Client: **RUAKĀKĀ SOLAR FARM SITE 1**

Title: **EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 2**

Discipline	CIVIL
Drawing No.	2318415-1-CA-1002
Rev.	C



LEGEND:

EXISTING

- GIU — GIU
- CCID — CCID
- SW — SW
- SS — SS
- W — W
- CCID — CCID
- BOUNDARY
- GAS
- COMMUNICATION
- TRANSPOWER LINE
- STORMWATER PIPE
- STORMWATER OPEN DRAIN
- SANITARY SEWER
- WATER
- CHORUS CABLE
- 5 m CONTOURS
- 1 m CONTOURS
- FIRST GAS UNDERGROUND GAS PIPE
- COUNCIL DRAIN
- COUNCIL EASEMENT
- CROWN EASEMENT
- SS MANHOLE
- SW DEVICE
- SW CULVERT STRUCTURE
- TRANSPOWER POLE
- WATER DEVICE

EXISTING NORTHPOWER

- 400v/O — 400V OVERHEAD
- 400v/U — 400V UNDERGROUND
- 11kv/O — 11KV OVERHEAD
- 11kv/U — 11KV UNDERGROUND
- 33kv/O — 33KV OVERHEAD
- P — P
- FOU — FIBRE UNDERGROUND
- FO — FIBRE OVERHEAD
- DUCT — FIBRE DUCT
- POWER POLE

PROPOSED

- SITE EXTENT BOUNDARY
- BUILDING TO BE REMOVED
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

RESOURCE CONSENT
NOT FOR CONSTRUCTION

C	FOR RESOURCE CONSENT	VW		02.08.23
B	FOR RESOURCE CONSENT	VW	JS	10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23
No.	Revision	By	Chk	Appd

Original Scale (A1)	Design Drawn	V.WHYTE	15.03.23	Approved For Construction*
Reduced Scale (A3)	Design Verifier	V.WHYTE	15.03.23	Date
1:2000	Dwg Check			

* Refer to Revision 1 for Original Signature



Client: **RUAKAKA SOLAR FARM SITE 1**

Title: **EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 3**

Discipline	CIVIL
Drawing No.	2318415-1-CA-1003
Rev.	C



LEGEND:

EXISTING

- GIU — GIU — GAS
- CCID — CCID — COMMUNICATION
- AAA — TRANSPOWER LINE
- SW — SW — STORMWATER PIPE
- SW — SW — STORMWATER OPEN DRAIN
- SS — SS — SANITARY SEWER
- W — W — WATER
- CCID — CCID — CHORUS CABLE
- 5 m CONTOURS
- 1 m CONTOURS
- FIRST GAS UNDERGROUND GAS PIPE
- COUNCIL DRAIN
- COUNCIL EASEMENT
- CROWN EASEMENT
- SS MANHOLE
- SW DEVICE
- TRANSPOWER POLE
- WATER DEVICE
- SW CULVERT STRUCTURE

EXISTING NORTHPOWER

- 400v(O) — 400V OVERHEAD
- 400v(U) — 400V UNDERGROUND
- 11kv(O) — 11KV OVERHEAD
- 11kv(U) — 11KV UNDERGROUND
- 33kv(O) — 33KV OVERHEAD
- P — P — POWER DUCT
- FO(U) — FIBRE UNDERGROUND
- FO — FO — FIBRE OVERHEAD
- DUCT — FIBRE DUCT
- POWER POLE

PROPOSED

- SITE EXTENT BOUNDARY
- BUILDING TO BE REMOVED
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

RESOURCE CONSENT
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
Reduced Scale (A3)	Drawn	V.WHYTE	15.03.23	Date
1:2000	Design Verifier			
	Dwg Check			

* Refer to Revision 1 for Original Signature



Client: **RUAKĀKĀ SOLAR FARM SITE 1**

Title: **EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 4**

Discipline	CIVIL
Drawing No.	2318415-1-CA-1004
Rev.	C



LEGEND:

EXISTING

- GIU — GIU
- CCID — CCID
- SW — SW
- SS — SS
- W — W
- CCID — CCID
- BOUNDARY
- GAS
- COMMUNICATION
- TRANSPOWER LINE
- STORMWATER PIPE
- STORMWATER OPEN DRAIN
- SANITARY SEWER
- WATER
- CHORUS CABLE
- 5 m CONTOURS
- 1 m CONTOURS
- FIRST GAS UNDERGROUND GAS PIPE
- COUNCIL DRAIN
- COUNCIL EASEMENT
- CROWN EASEMENT
- SS MANHOLE
- SW DEVICE
- TRANSPOWER POLE
- WATER DEVICE
- SW CULVERT STRUCTURE

EXISTING NORTHPOWER

- 400v/O — 400V OVERHEAD
- 400v/U — 400V UNDERGROUND
- 11kv/O — 11KV OVERHEAD
- 11kv/U — 11KV UNDERGROUND
- 33kv/O — 33KV OVERHEAD
- P — P
- FOU — FIBRE UNDERGROUND
- FO — FIBRE OVERHEAD
- DUCT — FIBRE DUCT
- POWER POLE

PROPOSED

- SITE EXTENT BOUNDARY
- BUILDING TO BE REMOVED
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
Reduced Scale (A3)	Design Verifier <td>V.WHYTE <td>15.03.23 <td>Date</td> </td></td>	V.WHYTE <td>15.03.23 <td>Date</td> </td>	15.03.23 <td>Date</td>	Date
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	* Refer to Revision 1 for Original Signature			

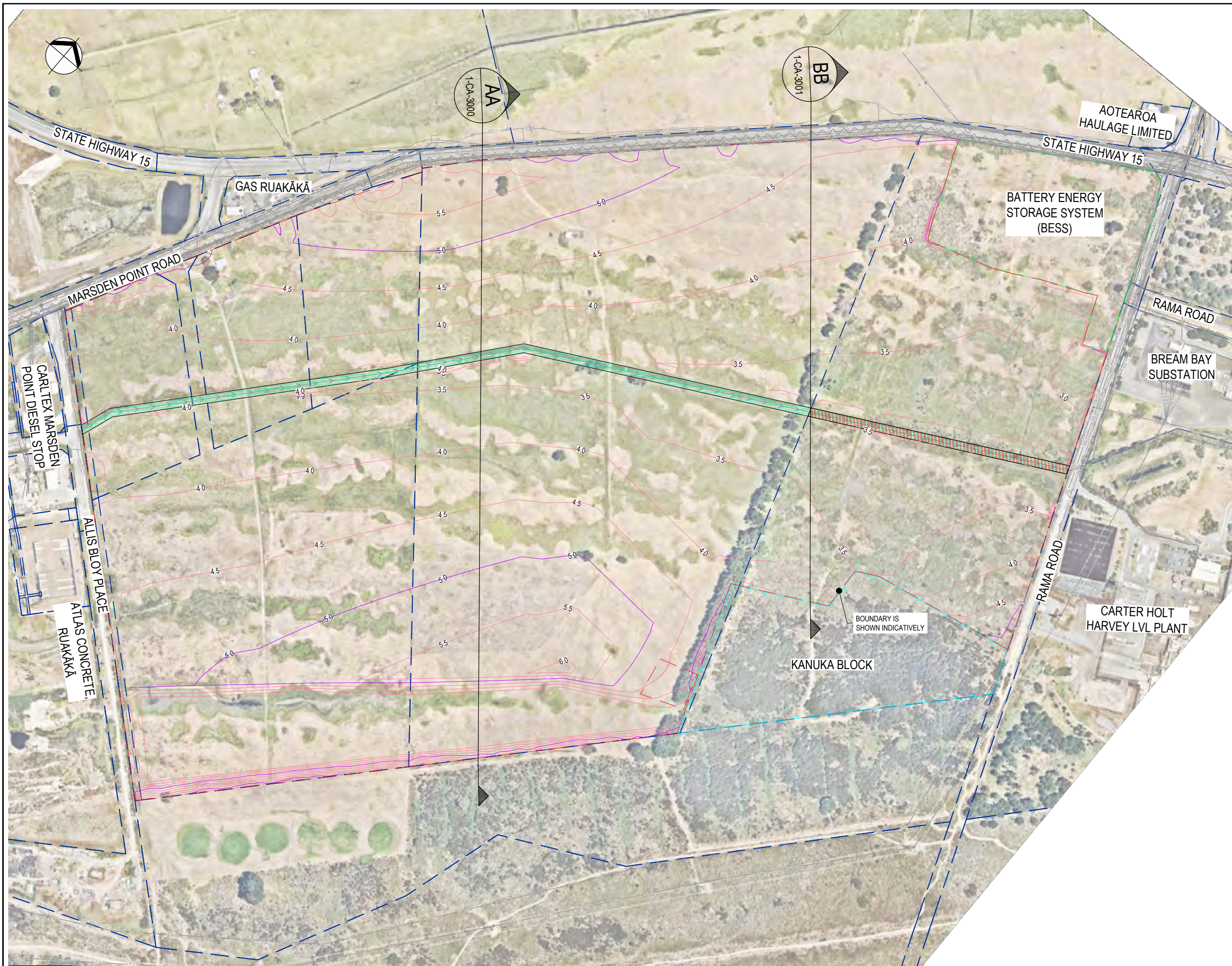


Client: **RUAKĀKĀ SOLAR FARM SITE 1**

Title: **EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 5**

Discipline	CIVIL
Drawing No.	2318415-1-CA-1005
Rev.	C

RESOURCE CONSENT NOT FOR CONSTRUCTION



LEGEND:

EXISTING	
	BOUNDARY
	VEGETATION
	GARDEN/GRASS
	EDGE OF SEAL
	GAS
	COMMUNICATION
	TRANSPWER LINE
	STORMWATER
	OPEN DRAIN
	STORMWATER DRAIN
	SANITARY SEWER
	WATER
	CHORUS CABLE
	FIRST GAS UNDERGROUND
	GAS PIPE
	COUNCIL DRAIN
	COUNCIL EASEMENT
	CROWN EASEMENT
	SS MANHOLE
	SW DEVICE
	TRANSPWER POLE
	WATER DEVICE
EXISTING NORTHPOWER	
	400V OVERHEAD
	400V UNDERGROUND
	11KV OVERHEAD
	11KV UNDERGROUND
	33KV OVERHEAD
	33KV UNDERGROUND
	POWER DUCT
	FIBRE UNDERGROUND
	FIBRE OVERHEAD
	FIBRE DUCT
	POWER POLE
PROPOSED	
	SITE EXTENT BOUNDARY
	BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
	KANUKA BLOCK
	2.5 m INDICATIVE CONTOURS
	0.5 m INDICATIVE CONTOURS

RESOURCE CONSENT
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:2500	Drawn	V.WHYTE <td>15.03.23</td> <td>Date</td>	15.03.23	Date
Reduce Scale (A3)	Design Verifier			
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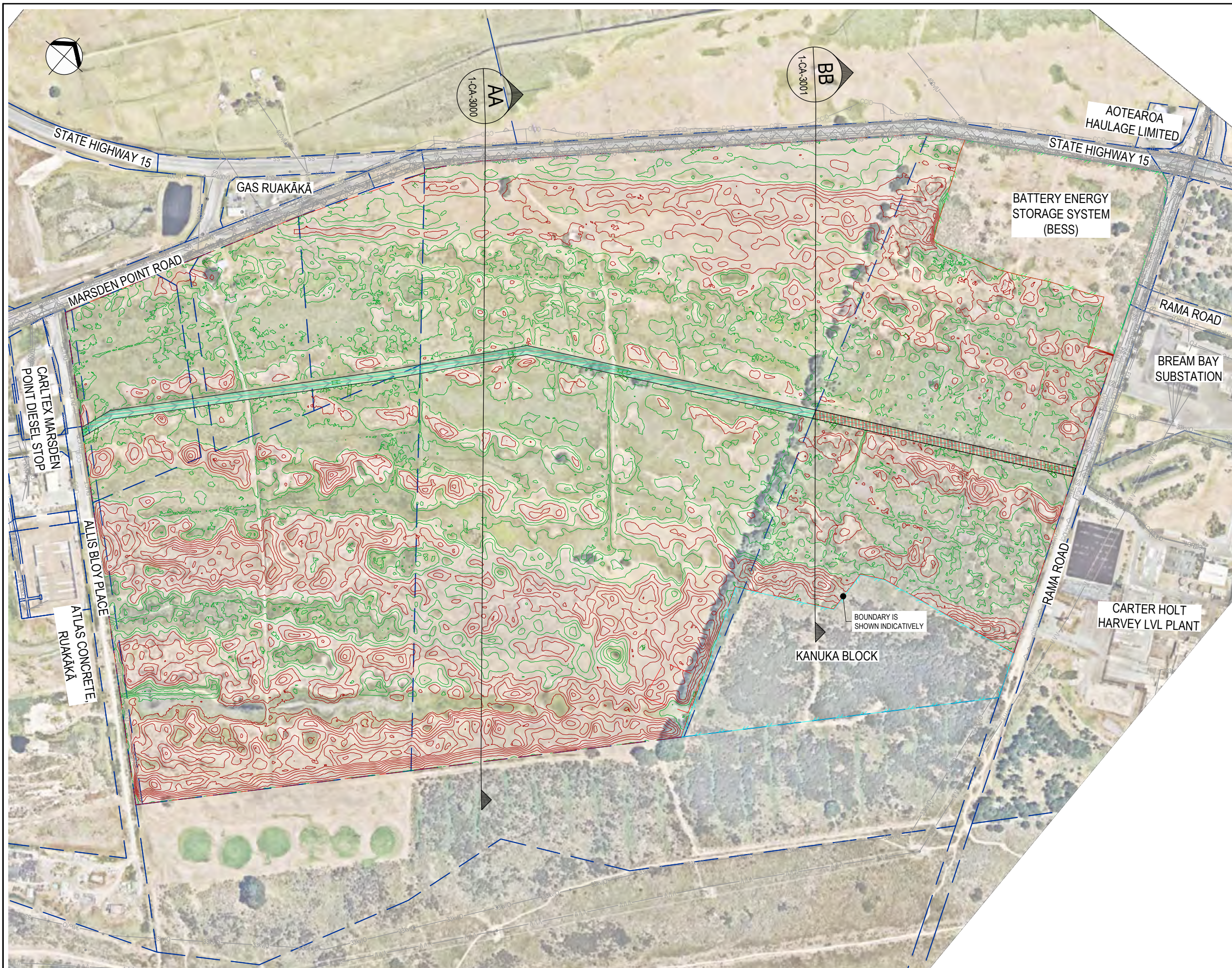
* Refer to Revision 1 for Original Signature



Client: **RUAKĀKĀ SOLAR FARM SITE 1**

Title: **INDICATIVE FINISHED LEVEL PLAN**

Discipline	CIVIL
Drawing No.	2318415-1CA-2001
Rev.	C



LEGEND:

EXISTING

- GJU — GJU — GAS
- CCJD — CCJD — COMMUNICATION
- A A A — A A A — TRANSPOWER LINE
- SW — SW — STORMWATER
- D — D — D — OPEN DRAIN
- D — D — D — STORMWATER DRAIN
- SS — SS — SANITARY SEWER
- W — W — W — WATER
- CCID — CCID — CHORUS CABLE
- — — FIRST GAS UNDERGROUND
- — — GAS PIPE
- — — COUNCIL DRAIN
- — — COUNCIL EASEMENT
- — — CROWN EASEMENT
- SS MANHOLE ● TRANSPOWER POLE
- SW DEVICE ● WATER DEVICE

EXISTING NORTHPOWER

- 400v(O) — 400V OVERHEAD
- 400v(U) — 400V UNDERGROUND
- 11kv(O) — 11KV OVERHEAD
- 11kv(U) — 11KV UNDERGROUND
- 33kv(O) — 33KV OVERHEAD
- P — P — POWER DUCT
- FO(U) — FO(U) — FIBRE UNDERGROUND
- FO — FO — FIBRE OVERHEAD
- DUCT — DUCT — FIBRE DUCT
- POWER POLE

PROPOSED

- — — SITE EXTENT BOUNDARY
- — — BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- — — KANUKA BLOCK
- — — INDICATIVE AREA OF CUT
- — — INDICATIVE AREA OF FILL

RESOURCE CONSENT
NOT FOR CONSTRUCTION

C	FOR RESOURCE CONSENT	VW		02.08.23	Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
B	FOR RESOURCE CONSENT	VW	JS	10.07.23	1:2500	Drawn	V.WHYTE	15.03.23	Date
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23	Reduced Scale (A3)	Digit Check			
No.	Revision	By	Chk	Appd	Date	1:5000	* Refer to Revision 1 for Original Signature		

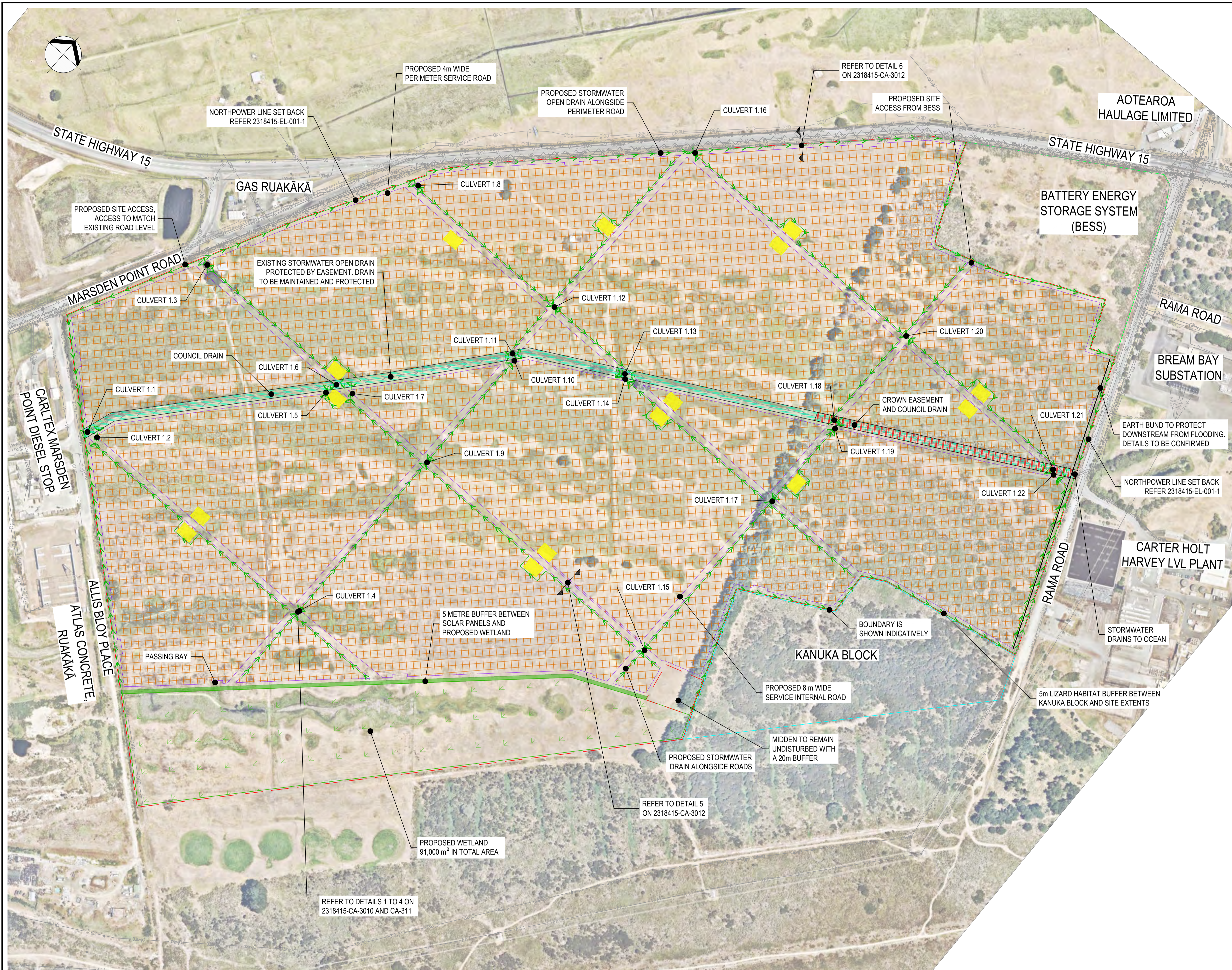
Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:2500	Drawn	V.WHYTE	15.03.23	Date
Reduced Scale (A3)	Digit Check			
1:5000	* Refer to Revision 1 for Original Signature			



Client: **RUAKĀKĀ SOLAR FARM SITE 1**

Title: **INDICATIVE EARTHWORK CUT AND FILL PLAN**

Discipline	CIVIL
Drawing No.	2318415-1-CA-2002
Rev.	C



LEGEND:

EXISTING

- BOUNDARY
- GAS
- COMMUNICATION
- TRANSPOWER LINE
- STORMWATER
- OPEN DRAIN
- STORMWATER DRAIN
- SANITARY SEWER
- WATER
- CHORUS CABLE
- STORMWATER OPEN DRAIN
- FIRST GAS UNDERGROUND
- GAS PIPE
- COUNCIL DRAIN
- COUNCIL EASEMENT
- CROWN EASEMENT
- SS MANHOLE
- SW DEVICE
- TRANSPOWER POLE
- WATER DEVICE
- CULVERT STRUCTURE

EXISTING NORTHPOWER

- 400V OVERHEAD
- 400V UNDERGROUND
- 11kV OVERHEAD
- 11kV UNDERGROUND
- 33kV OVERHEAD
- POWER DUCT
- FIBRE UNDERGROUND
- FIBRE OVERHEAD
- FIBRE DUCT

PROPOSED

- SITE EXTENT BOUNDARY
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- SERVICE ROAD
- WETLAND EXTENT
- STORMWATER OPEN DRAIN
- STORMWATER CULVERT
- SOLAR PANEL ZONE
- WETLAND
- TRANSPOWER PYLON
- MAINTENANCE RESERVE
- CULVERT HEADWALL
- MEDIUM VOLTAGE POWER STATION

**RESOURCE CONSENT
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

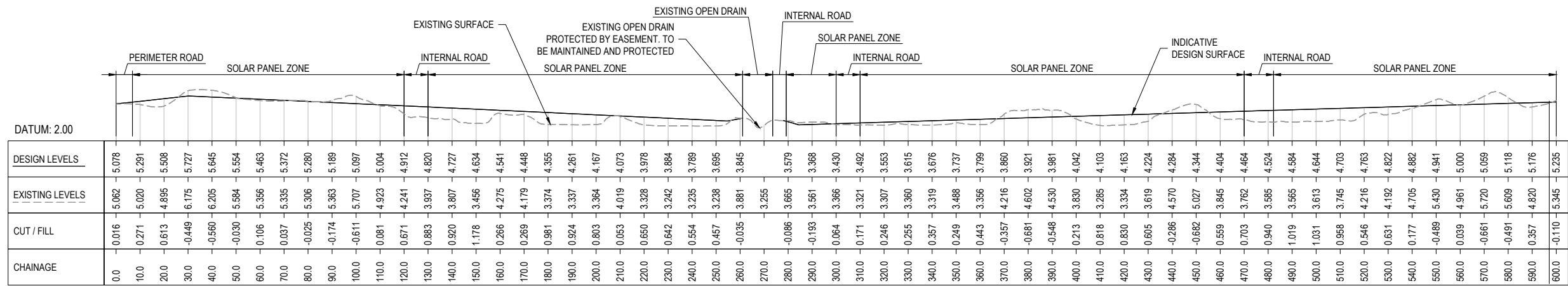
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1:2500	Drawn	V.WHYTE <td>27.04.23</td> <td></td>	27.04.23	
Reduced Scale (A3)	Design	V.WHYTE <td>27.04.23</td> <td></td>	27.04.23	
1:5000	Checked			



Client: **RUAKAKA SOLAR FARM SITE 1**

Title: **INDICATIVE ROAD AND STORMWATER LAYOUT PLAN**

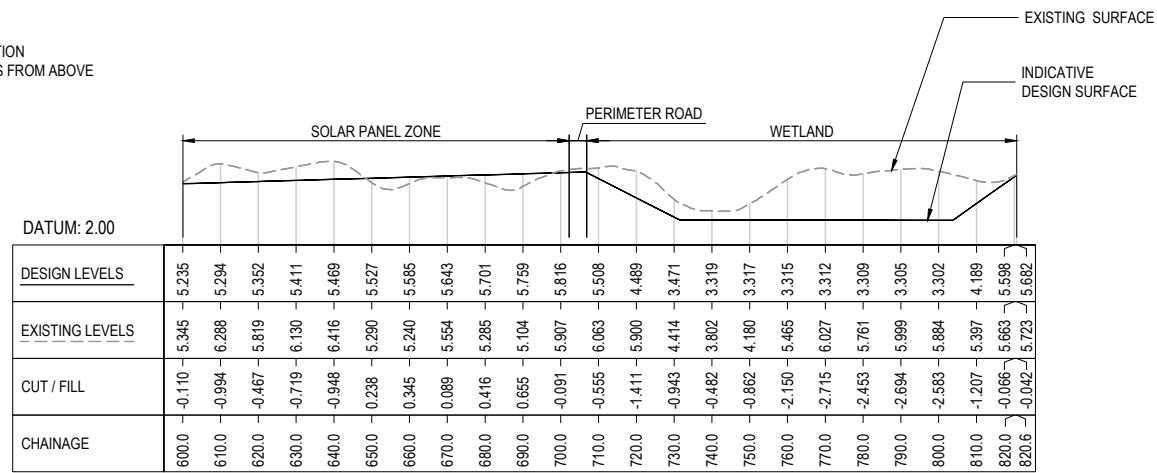
Discipline	CIVIL
Drawing No.	2318415-1-CA-2010
Rev.	C



LONGITUDINAL SECTION: ALIGNMENT AA
SCALE HORIZ= 1:1000; VERT= 1:200

LONG SECTION CONTINUES BELOW

LONG SECTION CONTINUES FROM ABOVE



LONGITUDINAL SECTION: ALIGNMENT AA
SCALE HORIZ= 1:1000; VERT= 1:200

**RESOURCE CONSENT
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

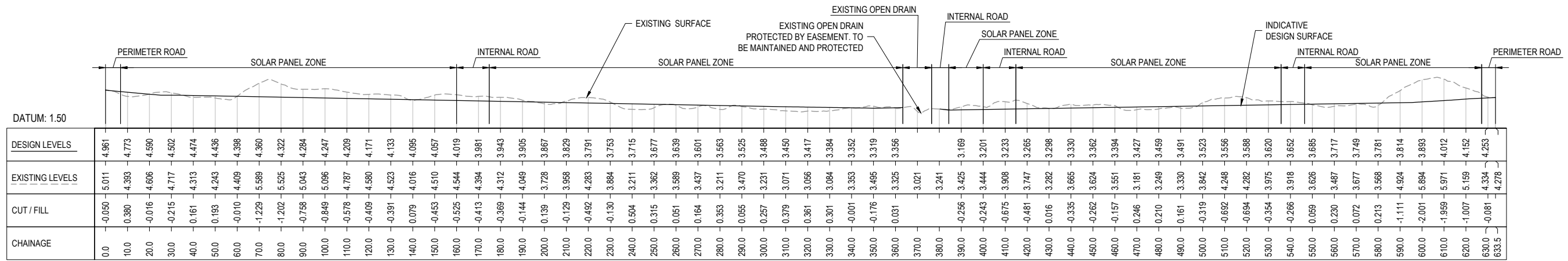
Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
AS SHOWN	Drawn	V.WHYTE <td>15.03.23</td> <td></td>	15.03.23	
Reduction Scale (A3)	Design Checker			
HALF SHOWN	Refer to Revision 1 for Original Signature			



Client: **RUAKAKA SOLAR FARM SITE 1**

Title: **INDICATIVE LONG SECTION SHEET 1**

Discipline	CIVIL
Drawing No.	2318415-1-CA-3000
Rev.	C



CHAINAGE	DESIGN LEVELS	EXISTING LEVELS	CUT / FILL
0.0	4.961	5.011	-0.050
10.0	4.773	4.393	0.380
20.0	4.590	4.606	-0.016
30.0	4.502	4.717	-0.215
40.0	4.474	4.313	0.161
50.0	4.436	4.243	0.193
60.0	4.398	4.409	-0.010
70.0	4.360	5.589	-1.229
80.0	4.322	5.525	-1.202
90.0	4.284	5.043	-0.758
100.0	4.247	5.096	-0.849
110.0	4.209	4.787	-0.578
120.0	4.171	4.580	-0.409
130.0	4.133	4.523	-0.391
140.0	4.095	4.016	0.079
150.0	4.057	4.510	-0.453
160.0	4.019	4.544	-0.525
170.0	3.981	4.394	-0.413
180.0	3.943	4.312	-0.369
190.0	3.905	4.049	-0.144
200.0	3.867	3.728	0.139
210.0	3.829	3.958	-0.129
220.0	3.791	4.283	-0.492
230.0	3.753	3.884	-0.130
240.0	3.715	3.211	0.504
250.0	3.677	3.362	0.315
260.0	3.639	3.589	0.051
270.0	3.601	3.437	0.164
280.0	3.563	3.211	0.353
290.0	3.525	3.470	0.055
300.0	3.488	3.231	0.257
310.0	3.450	3.071	0.379
320.0	3.412	3.056	0.356
330.0	3.374	3.084	0.301
340.0	3.336	3.353	-0.017
350.0	3.298	3.495	-0.197
360.0	3.260	3.325	0.065
370.0	3.222	3.021	0.241
380.0	3.184	3.241	-0.057
390.0	3.146	3.425	-0.279
400.0	3.108	3.444	-0.336
410.0	3.070	3.908	-0.838
420.0	3.032	3.747	-0.715
430.0	2.994	3.282	0.288
440.0	2.956	3.665	-0.709
450.0	2.918	3.624	-0.706
460.0	2.880	3.551	-0.671
470.0	2.842	3.181	0.341
480.0	2.804	3.249	-0.445
490.0	2.766	3.330	-0.564
500.0	2.728	3.842	-1.114
510.0	2.690	4.248	-1.558
520.0	2.652	4.282	-1.630
530.0	2.614	3.975	-1.361
540.0	2.576	3.918	-1.342
550.0	2.538	3.626	-1.088
560.0	2.500	3.487	-0.987
570.0	2.462	3.677	-1.215
580.0	2.424	3.568	-1.144
590.0	2.386	4.924	-2.538
600.0	2.348	5.884	-3.536
610.0	2.310	5.971	-3.661
620.0	2.272	5.159	-2.887
630.0	2.234	4.334	-2.100
633.5	2.196	4.278	-2.082

LONGITUDINAL SECTION: ALIGNMENT BB
SCALE HORIZ= 1:1000; VERT= 1:200

C	FOR RESOURCE CONSENT	VW		02.08.23
B	FOR RESOURCE CONSENT	VW	JS	10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23
No.	Revision	By	Chk	Appd

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
AS SHOWN	Drawn	V.WHYTE	15.03.23	
Reduced Scale (A3)	Day Verifier			Date
HALF SHOWN	Day Check			

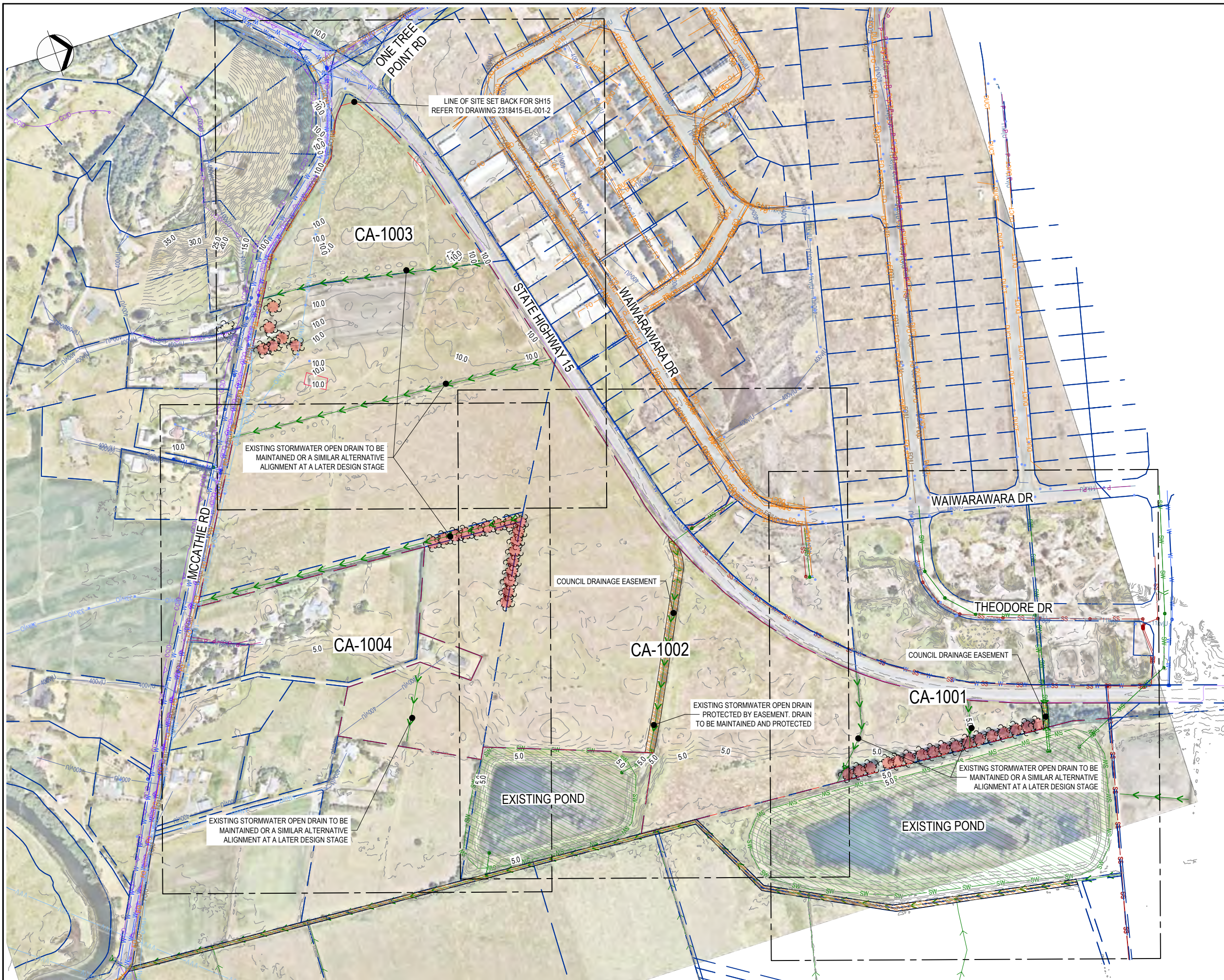


Client: RUAKAKA SOLAR FARM SITE 1

Project: INDICATIVE LONG SECTION SHEET 2

Discipline	CIVIL
Drawing No.	2318415-1-CA-3001
Rev.	C

RESOURCE CONSENT
NOT FOR CONSTRUCTION



LEGEND:

EXISTING	
— GJU —	BOUNDARY
— CCJD —	GAS
— AAA —	COMMUNICATION
— SW —	TRANSPOWER LINE
— SS —	STORMWATER PIPE
— W —	STORMWATER OPEN DRAIN
— CCJD —	SANITARY SEWER
— W —	WATER
— CCJD —	CHORUS CABLE
—	5 m CONTOURS
—	1 m CONTOURS
—	FIRST GAS UNDERGROUND GAS PIPE
—	COUNCIL DRAIN
—	COUNCIL EASEMENT
—	CROWN EASEMENT
● SS MANHOLE	TRANSPOWER POLE
● SW DEVICE	WATER DEVICE
—	SW CULVERT STRUCTURE
EXISTING NORTHPOWER	
— 400V(O) —	400V OVERHEAD
— 400V(U) —	400V UNDERGROUND
— 11kV(O) —	11KV OVERHEAD
— 11kV(U) —	11KV UNDERGROUND
— 33kV(O) —	33KV OVERHEAD
— P —	POWER DUCT
— FO(U) —	FIBRE UNDERGROUND
— FO(O) —	FIBRE OVERHEAD
— DUCT —	FIBRE DUCT
●	POWER POLE
PROPOSED	
—	SITE EXTENT BOUNDARY
—	BUILDING TO BE REMOVED
—	BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
—	KANUKA BLOCK
●	TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

RESOURCE CONSENT
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

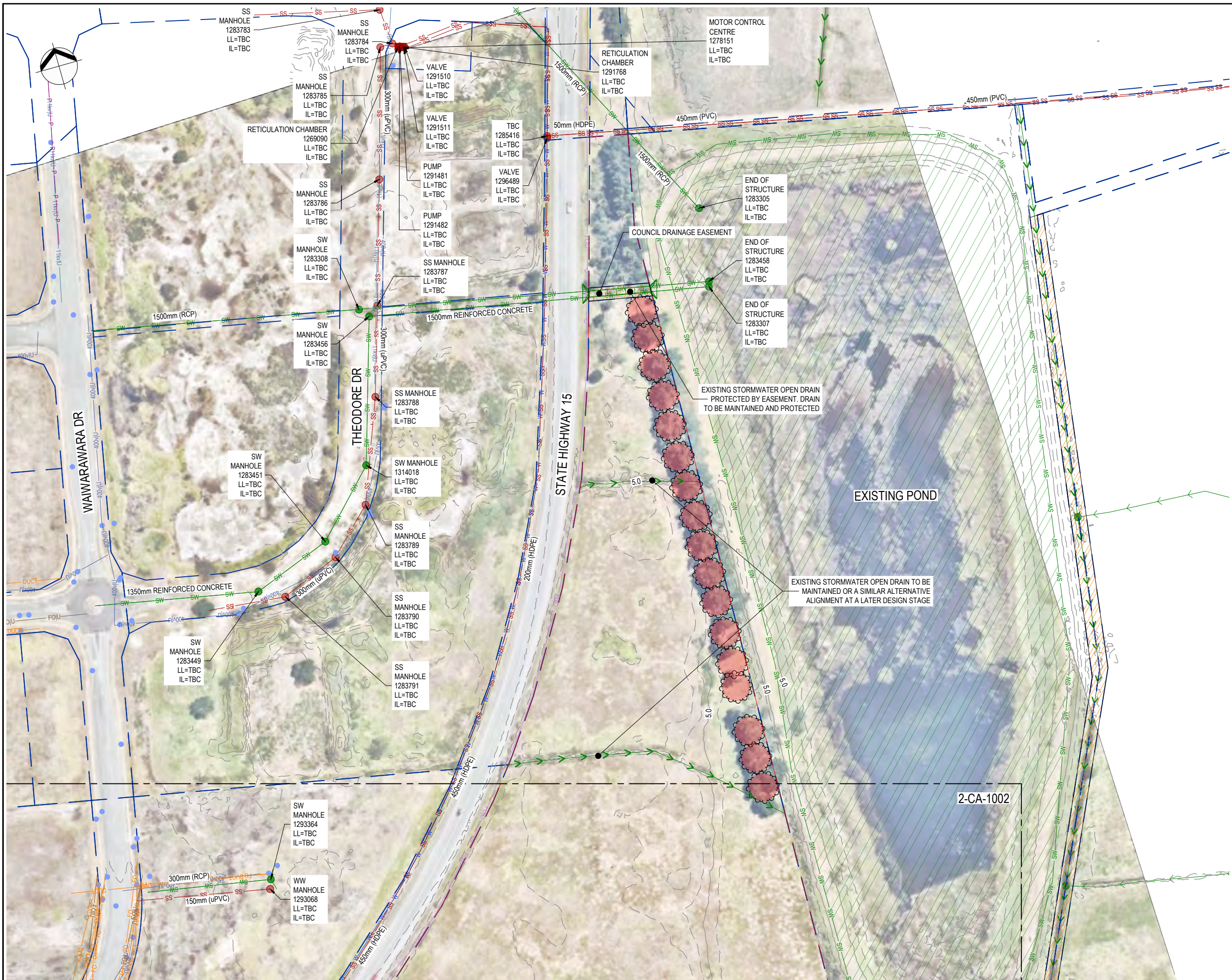
Original Scale (A1)	Design	Drawn	Date	Approved For Construction*
1:2500	V.WHYTE	V.WHYTE	15.03.23	15.03.23
Reduce Scale (A3)	1:5000			



Client: Meridian
Project: RUAKAKA SOLAR FARM SITE 2

Title: EXISTING SITE SERVICES, CLEARANCE AND DEMOLITION SHEET VIEWPORT LAYOUT PLAN

Discipline	Rev.
CIVIL	C
Drawing No.	2318415-2CA-1000



LEGEND:

EXISTING

- BOUNDARY
- GAS
- COMMUNICATION
- TRANSPOWER LINE
- STORMWATER PIPE
- STORMWATER OPEN DRAIN
- SANITARY SEWER
- WATER
- CHORUS CABLE
- 5 m CONTOURS
- FIRST GAS UNDERGROUND GAS PIPE
- COUNCIL DRAIN
- COUNCIL EASEMENT
- CROWN EASEMENT
- SS MANHOLE
- SW DEVICE
- SW CULVERT STRUCTURE
- TRANSPOWER POLE
- WATER DEVICE

EXISTING NORTHPOWER

- 400V OVERHEAD
- 400V UNDERGROUND
- 11kV OVERHEAD
- 11kV UNDERGROUND
- 33kV OVERHEAD
- 33kV UNDERGROUND
- POWER DUCT
- FOIU FIBRE UNDERGROUND
- FO FIBRE OVERHEAD
- DUCT FIBRE DUCT
- POWER POLE

PROPOSED

- SITE EXTENT BOUNDARY
- BUILDING TO BE REMOVED
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

C	FOR RESOURCE CONSENT	VW		02.08.23
B	FOR RESOURCE CONSENT	VW	JS	10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23
No.	Revision	By	Chk	Appd

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:1000	Drawn	V.WHYTE	15.03.23	Date
Reduced Scale (A3)	Design Checker			
1:2000	Design Checker			



Client: **RUAKĀKĀ SOLAR FARM SITE 2**

Title: **EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 1**

Discipline	CIVIL
Drawing No.	2318415-2-CA-1001
Rev.	C

RESOURCE CONSENT NOT FOR CONSTRUCTION



LEGEND:

EXISTING

- G/U — G/U — GAS
- CCID — COMMUNICATION
- T — T — TRANSPOWER LINE
- SW — SW — STORMWATER PIPE
- SS — SS — STORMWATER OPEN DRAIN
- SS — SS — SANITARY SEWER
- W — W — WATER
- CCID — CHORUS CABLE
- 5m — 5m — 5 m CONTOURS
- 1m — 1m — 1 m CONTOURS
- — — FIRST GAS UNDERGROUND GAS PIPE
- — — COUNCIL DRAIN
- — — COUNCIL EASEMENT
- — — CROWN EASEMENT
- SS MANHOLE ● TRANSPOWER POLE
- SW DEVICE ● WATER DEVICE
- SW CULVERT STRUCTURE

EXISTING NORTHPOWER

- 400v/O — 400V OVERHEAD
- 400v/U — 400V UNDERGROUND
- 11kv/O — 11KV OVERHEAD
- 11kv/U — 11KV UNDERGROUND
- 33kv/O — 33KV OVERHEAD
- P — P — POWER DUCT
- FO/U — FIBRE UNDERGROUND
- FO — FO — FIBRE OVERHEAD
- DUCT — FIBRE DUCT
- POWER POLE

PROPOSED

- — — SITE EXTENT BOUNDARY
- — — BUILDING TO BE REMOVED
- — — BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- — — KANUKA BLOCK
- TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

RESOURCE CONSENT
NOT FOR CONSTRUCTION

C	FOR RESOURCE CONSENT	VW		02.08.23
B	FOR RESOURCE CONSENT	VW	JS	10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23
No.	Revision	By	Chk	Appd

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:1000	Drawn	V.WHYTE	15.03.23	Date
Reduced Scale (A3)	Design Checker			
1:2000	Design Checker			



Client: **RUAKAKA SOLAR FARM SITE 2**

Title: **EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 2**

Discipline	CIVIL
Drawing No.	2318415-2CA-1002
Rev.	C



LEGEND:

EXISTING

- BOUNDARY
- GAS
- COMMUNICATION
- TRANSPOWER LINE
- STORMWATER PIPE
- STORMWATER OPEN DRAIN
- SANITARY SEWER
- WATER
- CHORUS CABLE
- 5 m CONTOURS
- 1 m CONTOURS
- FIRST GAS UNDERGROUND GAS PIPE
- COUNCIL DRAIN
- COUNCIL EASEMENT
- CROWN EASEMENT
- SS MANHOLE
- SW DEVICE
- TRANSPOWER POLE
- WATER DEVICE
- SW CULVERT STRUCTURE

EXISTING NORTHPOWER

- 400V OVERHEAD
- 400V UNDERGROUND
- 11kV OVERHEAD
- 11kV UNDERGROUND
- 33kV OVERHEAD
- POWER DUCT
- FOIU FIBRE UNDERGROUND
- FO FIBRE OVERHEAD
- DUCT FIBRE DUCT
- POWER POLE

PROPOSED

- SITE EXTENT BOUNDARY
- BUILDING TO BE REMOVED
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

**RESOURCE CONSENT
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

Original Scale (A1)	Design	Drawn	15.03.23	Approved For Construction*
1:1000	V.WHYTE	V.WHYTE	15.03.23	
Reduce Scale (A3)	Design	Checked	Date	
1:2000	V.WHYTE			



Client: **RUAKAKA SOLAR FARM SITE 2**

Title: **EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 3**

Discipline	CIVIL
Document No.	2318415-2CA-1000_1004.DWG
Revision	C

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LEGEND:

EXISTING

- BOUNDARY
- GAS
- COMMUNICATION
- TRANSPOWER LINE
- STORMWATER PIPE
- STORMWATER OPEN DRAIN
- SANITARY SEWER
- WATER
- CHORUS CABLE
- 5 m CONTOURS
- 1 m CONTOURS
- FIRST GAS UNDERGROUND GAS PIPE
- COUNCIL DRAIN
- COUNCIL EASEMENT
- CROWN EASEMENT
- SS MANHOLE
- SW DEVICE
- SW CULVERT STRUCTURE
- TRANSPOWER POLE
- WATER DEVICE

EXISTING NORTHPOWER

- 400V OVERHEAD
- 400V UNDERGROUND
- 11kV OVERHEAD
- 11kV UNDERGROUND
- 33kV OVERHEAD
- 33kV UNDERGROUND
- POWER DUCT
- FOIU FIBRE UNDERGROUND
- FO FIBRE OVERHEAD
- DUCT FIBRE DUCT
- POWER POLE

PROPOSED

- SITE EXTENT BOUNDARY
- BUILDING TO BE REMOVED
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

C	FOR RESOURCE CONSENT	VW		02.08.23
B	FOR RESOURCE CONSENT	VW	JS	10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23
No.	Revision	By	Chk	Appd

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:1000	Drawn	V.WHYTE	15.03.23	Date
Reduce Scale (A3)	Design Check			
1:2000	Design Check			

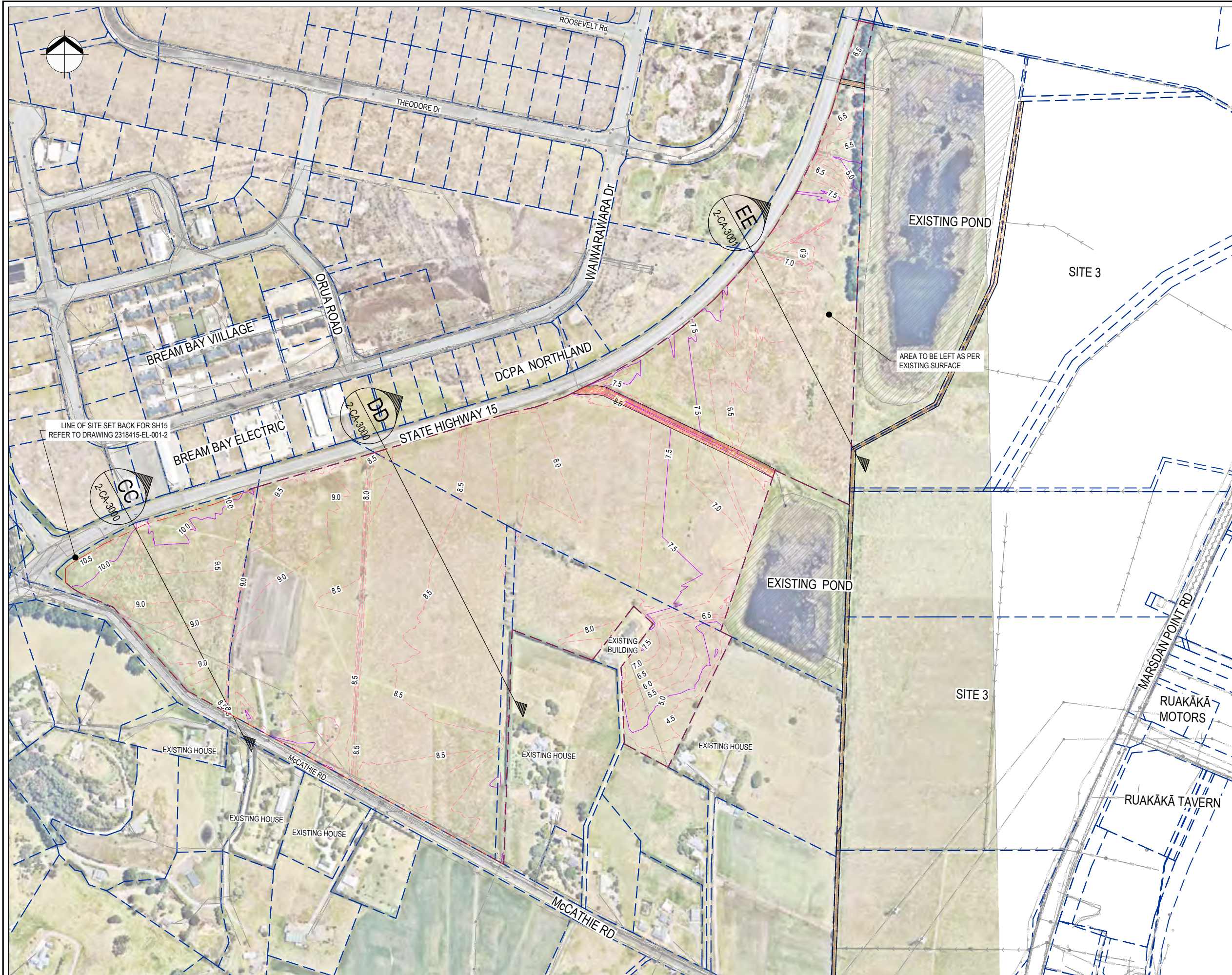


Client: **RUAKĀKĀ SOLAR FARM SITE 2**

Title: **EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 4**

Discipline	CIVIL
Drawing No.	2318415-2CA-1004
Rev.	C

RESOURCE CONSENT NOT FOR CONSTRUCTION



LEGEND:

EXISTING	
	BOUNDARY
	VEGETATION
	GARDEN/GRASS
	EDGE OF SEAL
	GAS
	COMMUNICATION
	TRANSPWER LINE
	STORMWATER
	OPEN DRAIN
	STORMWATER DRAIN
	SANITARY SEWER
	WATER
	CHORUS CABLE
	FIRST GAS UNDERGROUND
	GAS PIPE
	COUNCIL DRAIN
	COUNCIL EASEMENT
	CROWN EASEMENT
	SS MANHOLE
	SW DEVICE
	TRANSPWER POLE
	WATER DEVICE
EXISTING NORTHPOWER	
	400V OVERHEAD
	400V UNDERGROUND
	11KV OVERHEAD
	11KV UNDERGROUND
	33KV OVERHEAD
	POWER DUCT
	FIBRE UNDERGROUND
	FIBRE OVERHEAD
	FIBRE DUCT
	POWER POLE
PROPOSED	
	SITE EXTENT BOUNDARY
	BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
	KANUKA BLOCK
	2.5 m INDICATIVE CONTOURS
	0.5 m INDICATIVE CONTOURS

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:2500	Drawn	V.WHYTE <td>15.03.23</td> <td>Date</td>	15.03.23	Date
Reduce Scale (A3)	Design Checker			
1:5000	Dwg Check			

* Refer to Revision 1 for Original Signature



Client: **RUAKĀKĀ SOLAR FARM SITE 2**

Title: **INDICATIVE FINISHED LEVEL PLAN**

Discipline	CIVIL
Drawing No.	2318415-2-CA-2001
Rev.	C

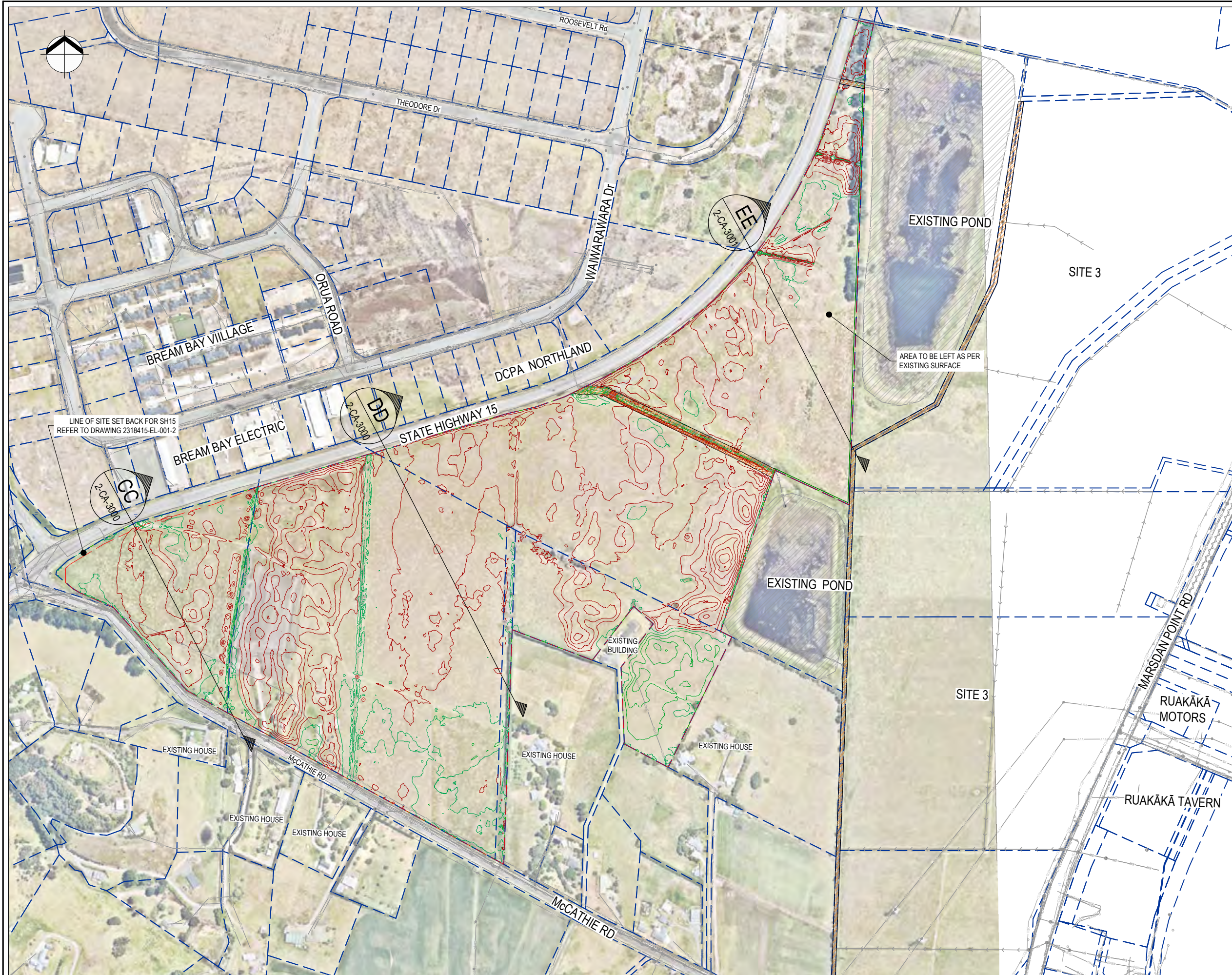
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Document No. 2318415-2-CA-2001.DWG



LEGEND:

EXISTING	
	BOUNDARY
	GAS
	COMMUNICATION
	TRANSPWER LINE
	STORMWATER
	OPEN DRAIN
	STORMWATER DRAIN
	SANITARY SEWER
	WATER
	CHORUS CABLE
	FIRST GAS UNDERGROUND
	GAS PIPE
	COUNCIL DRAIN
	COUNCIL EASEMENT
	CROWN EASEMENT
	SS MANHOLE
	SW DEVICE
	TRANSPWER POLE
	WATER DEVICE
EXISTING NORTHPOWER	
	400V OVERHEAD
	400V UNDERGROUND
	11KV OVERHEAD
	11KV UNDERGROUND
	33KV OVERHEAD
	POWER DUCT
	FIBRE UNDERGROUND
	FIBRE OVERHEAD
	FIBRE DUCT
	POWER POLE
PROPOSED	
	SITE EXTENT BOUNDARY
	BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
	KANUKA BLOCK
	INDICATIVE AREA OF CUT
	INDICATIVE AREA OF FILL

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:2500 <td>Drawn</td> <td>V.WHYTE <td>15.03.23 <td>Date</td> </td></td>	Drawn	V.WHYTE <td>15.03.23 <td>Date</td> </td>	15.03.23 <td>Date</td>	Date
Reduce Scale (A3)	Design Checker			
1:5000	Check			

* Refer to Revision 1 for Original Signature



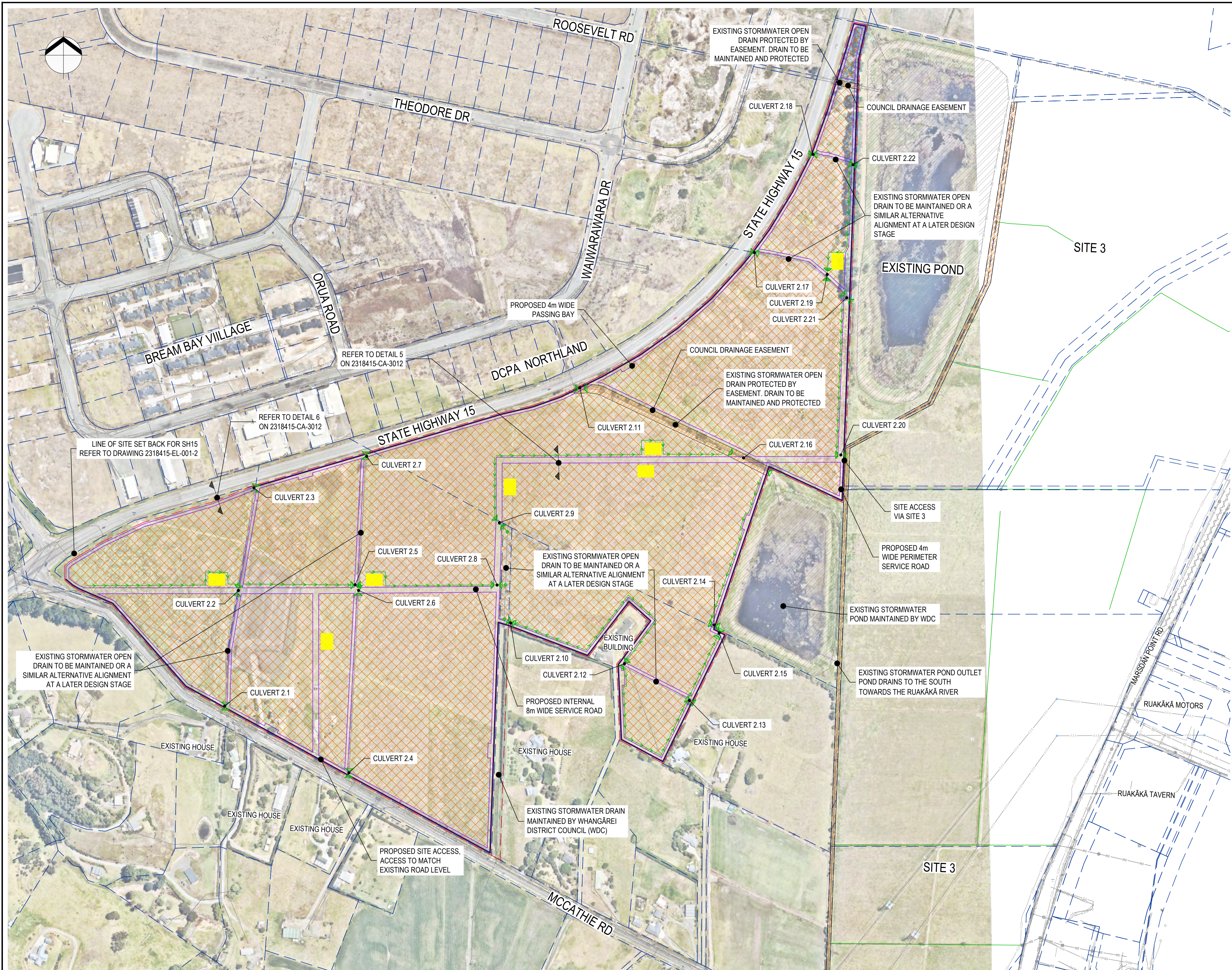
Client: **RUAKĀKĀ SOLAR FARM SITE 2**

Title: **INDICATIVE EARTHWORK CUT AND FILL PLAN**

Discipline	Rev.
CIVIL	C

Drawing No. 2318415-2-CA-2002

RESOURCE CONSENT NOT FOR CONSTRUCTION



LEGEND:

EXISTING

- BOUNDARY
- GAS
- COMMUNICATION
- TRANSPOWER LINE
- STORMWATER
- OPEN DRAIN
- STORMWATER DRAIN
- SANITARY SEWER
- WATER
- CHORUS CABLE
- STORMWATER OPEN DRAIN
- FIRST GAS UNDERGROUND
- GAS PIPE
- COUNCIL DRAIN
- COUNCIL EASEMENT
- CROWN EASEMENT
- SS MANHOLE
- SW DEVICE
- TRANSPOWER POLE
- WATER DEVICE
- CULVERT STRUCTURE

EXISTING NORTHPOWER

- 400V OVERHEAD
- 400V UNDERGROUND
- 11KV OVERHEAD
- 11KV UNDERGROUND
- 33KV OVERHEAD
- POWER DUCT
- FIBRE UNDERGROUND
- FIBRE OVERHEAD
- FIBRE DUCT

PROPOSED

- SITE EXTENT BOUNDARY
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- SERVICE ROAD
- WETLAND EXTENT
- STORMWATER OPEN DRAIN
- STORMWATER CULVERT
- SOLAR PANEL ZONE
- WETLAND
- TRANSPOWER PYLON
- MAINTENANCE RESERVE
- CULVERT HEADWALL
- MEDIUM VOLTAGE POWER STATION

RESOURCE CONSENT
NOT FOR CONSTRUCTION

C	FOR RESOURCE CONSENT	VW		02.08.23
B	FOR RESOURCE CONSENT	VW	JS	10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23
No.	Revision	By	Chk	Appd

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:2500	Drawn	V.WHYTE	15.03.23	Date
Revised Scale (A3)	Dwg Verifier			
1:5000	Dwg Check			

* Refer to Revision 1 for Original Signature

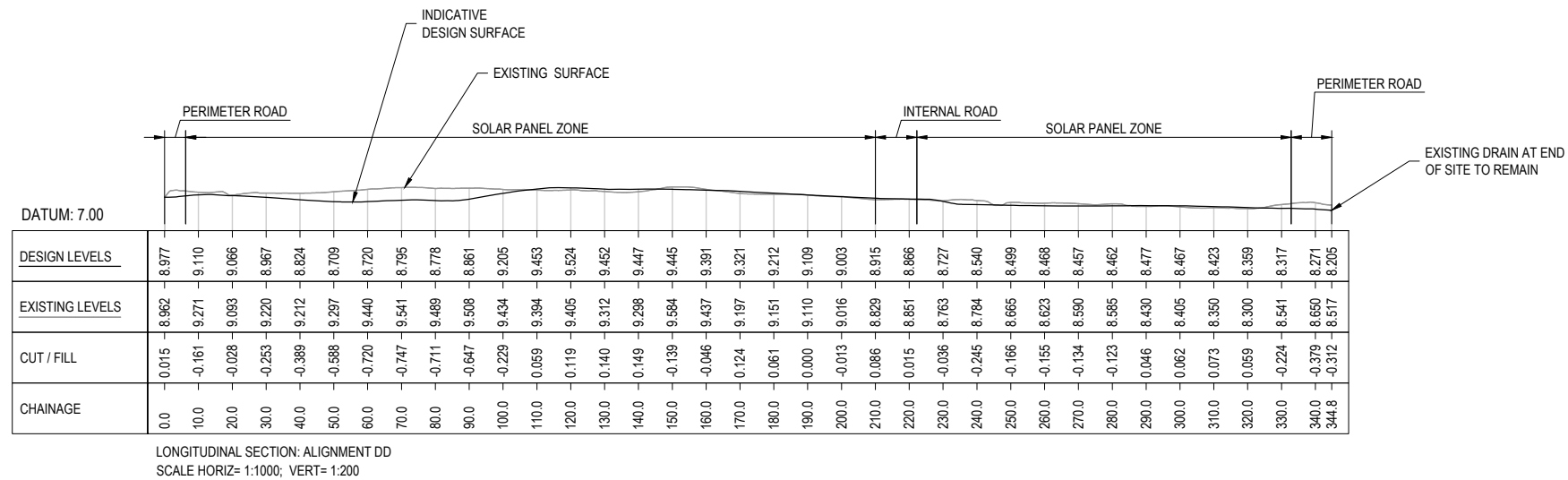
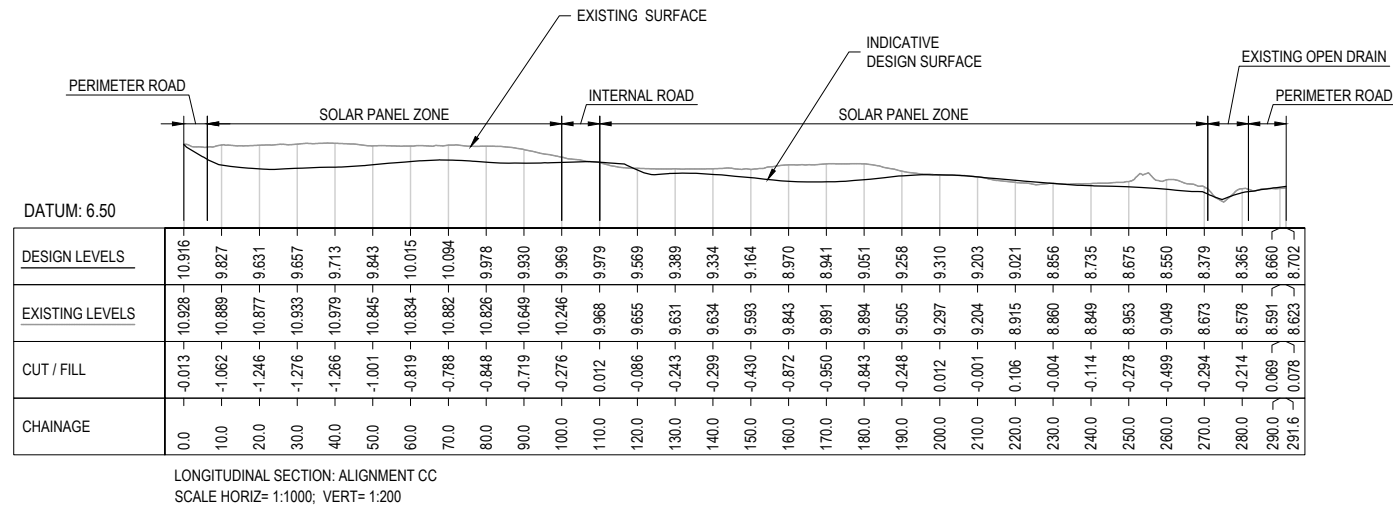


Client: _____

Project: **RUAKAKA SOLAR FARM SITE 2**

Title: **INDICATIVE ROAD AND STORMWATER LAYOUT PLAN**

Discipline	CIVIL
Drawing No.	2318415-2-CA-2010
Rev.	C



**RESOURCE CONSENT
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
AS SHOWN	Drawn	V.WHYTE	15.03.23	
Reduced Scale (A3)	Design Verifier			
HALF SHOWN	Dwg Check			

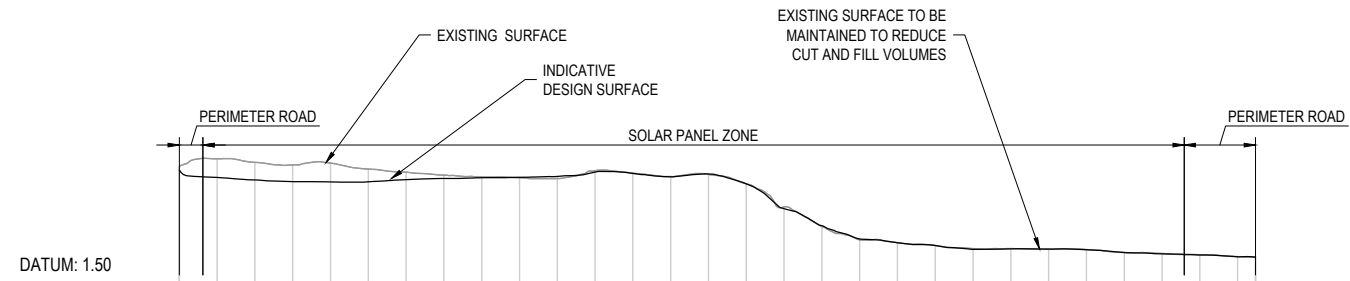
* Refer to Revision 1 for Original Signature



Client: **RUAKAKA SOLAR FARM
SITE 2**

Title: **INDICATIVE LONG SECTION
SHEET 1**

Discipline	CIVIL
Drawing No.	2318415-2-CA-3000
Rev.	C



DATUM: 1.50

CHAINAGE	0.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0	160.0	170.0	180.0	190.0	200.0	210.0	220.0	230.0	240.0	250.0	260.0	270.0	280.0	284.7
DESIGN LEVELS	7.459	7.061	6.925	6.840	6.820	6.828	6.941	7.002	7.044	7.067	7.114	7.345	7.273	7.089	7.242	6.721	5.409	4.504	3.805	3.602	3.457	3.258	3.281	3.262	3.234	3.088	3.021	2.958	2.865	2.841
EXISTING LEVELS	7.608	8.048	7.857	7.721	7.619	7.502	7.340	7.181	7.085	7.042	7.001	7.410	7.287	7.103	7.215	6.723	5.500	4.469	3.756	3.610	3.458	3.297	3.296	3.278	3.244	3.089	3.037	2.967	2.871	2.853
CUT / FILL	-0.149	-0.987	-0.933	-0.880	-0.999	-0.674	-0.399	-0.180	-0.041	-0.024	-0.113	-0.066	-0.014	-0.014	-0.026	-0.002	-0.090	-0.035	-0.049	-0.008	-0.001	-0.038	-0.015	-0.016	-0.010	-0.001	-0.017	-0.009	-0.006	-0.012

LONGITUDINAL SECTION: ALIGNMENT EE
SCALE HORIZ= 1:1000; VERT= 1:200

**RESOURCE CONSENT
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
AS SHOWN	Drawn	V.WHYTE	15.03.23	
Reduced Scale (A3)	Design Verifier			
HALF SHOWN	Dwg Check			

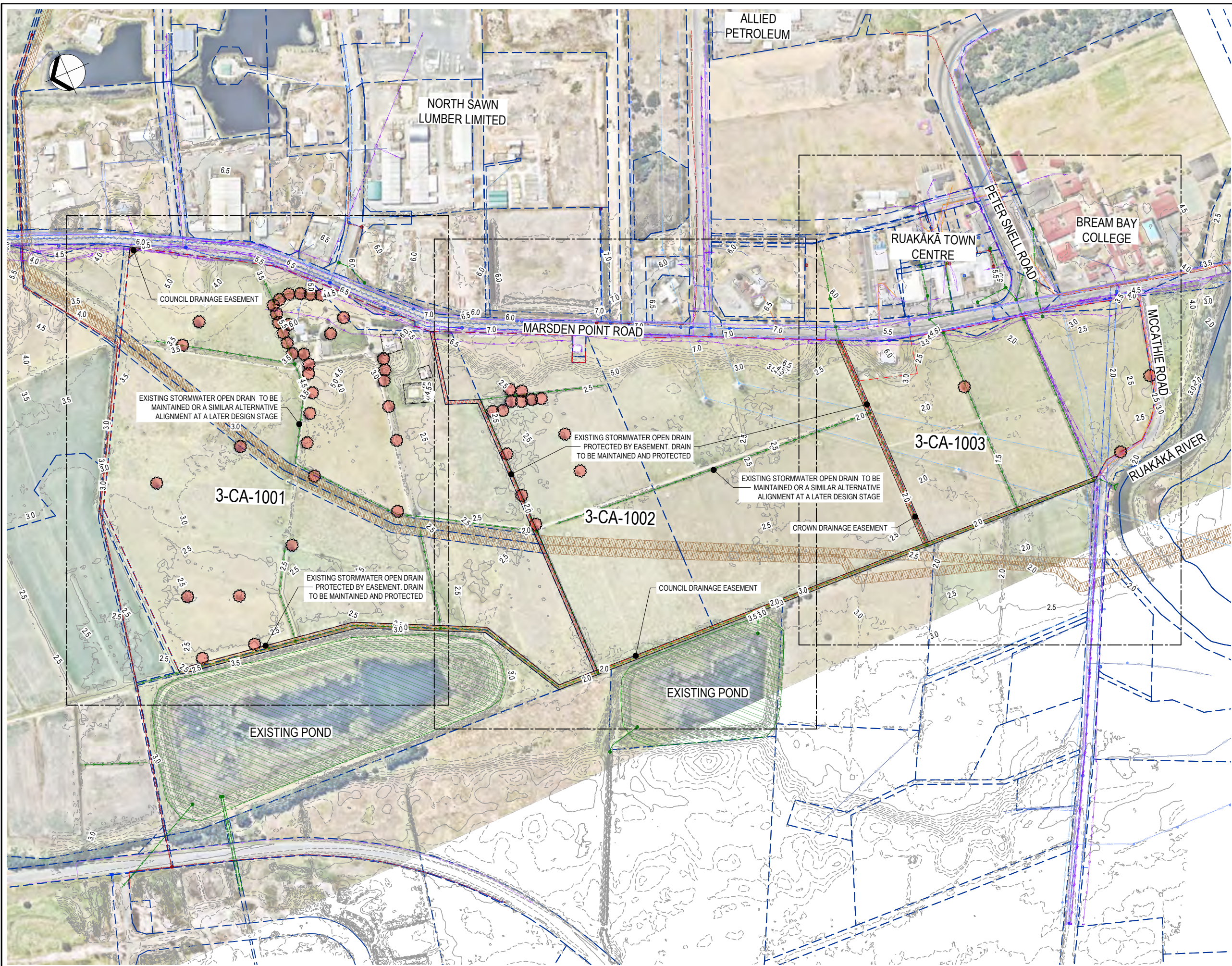
* Refer to Revision 1 for Original Signature



Project: RUAKAKA SOLAR FARM
SITE 2

Title: INDICATIVE LONG SECTION
SHEET 2

Discipline	CIVIL
Drawing No.	2318415-2-CA-3001
Rev.	C



LEGEND:

EXISTING

- GJU GAS
- CCID COMMUNICATION
- AAA TRANSPOWER LINE
- SW SW STORMWATER PIPE
- SS SS SANITARY SEWER
- W-W-W WATER
- CCID CHORUS CABLE
- 5 m CONTOURS
- 1 m CONTOURS
- FIRST GAS UNDERGROUND GAS PIPE
- COUNCIL DRAIN
- COUNCIL EASEMENT
- CROWN EASEMENT
- SS MANHOLE
- SW DEVICE
- TRANSPOWER POLE
- WATER DEVICE
- SW CULVERT STRUCTURE

EXISTING NORTHPOWER

- 400V/O 400V OVERHEAD
- 400V/U 400V UNDERGROUND
- 11kV/O 11kV OVERHEAD
- 11kV/U 11kV UNDERGROUND
- 33kV/O 33kV OVERHEAD
- P P POWER DUCT
- FO/U FIBRE UNDERGROUND
- FO FO FIBRE OVERHEAD
- DUCT FIBRE DUCT
- POWER POLE

PROPOSED

- SITE EXTENT BOUNDARY
- BUILDING TO BE REMOVED
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

C	FOR RESOURCE CONSENT	VW		02.08.23	Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
B	FOR RESOURCE CONSENT	VW	JS	10.07.23	1:2500	Drawn	V.WHYTE	15.03.23	
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23	Reduce Scale (A3)	Design Verifier			
No.	Revision	By	Chk	Appd	Date	Dtg Check			Date

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:2500	Drawn	V.WHYTE	15.03.23	
Reduce Scale (A3)	Design Verifier			
1:5000	Dtg Check			

* Refer to Revision 1 for Original Signature



Client: Meridian
 Project: RUAKAKA SOLAR FARM SITE 3

Title: EXISTING SITE SERVICES, CLEARANCE AND DEMOLITION SHEET VIEWPORT LAYOUT PLAN

Discipline	CIVIL
Drawing No.	2318415-3CA-1000
Rev.	C

RESOURCE CONSENT NOT FOR CONSTRUCTION



LEGEND:

EXISTING

- G/U — GAS
- CC/D — COMMUNICATION
- T/P — TRANSPOWER LINE
- SW — STORMWATER PIPE
- S/S — STORMWATER OPEN DRAIN
- SS — SANITARY SEWER
- W — WATER
- C/C — CHORUS CABLE
- 5m — 5m CONTOURS
- 1m — 1m CONTOURS
- F/G — FIRST GAS UNDERGROUND GAS PIPE
- C/D — COUNCIL DRAIN
- C/E — COUNCIL EASEMENT
- C/E — CROWN EASEMENT
- SS — SS MANHOLE
- SW — SW DEVICE
- T/P — TRANSPOWER POLE
- W — WATER DEVICE
- SW — SW CULVERT STRUCTURE

EXISTING NORTHPOWER

- 400V/O — 400V OVERHEAD
- 400V/U — 400V UNDERGROUND
- 11kV/O — 11kV OVERHEAD
- 11kV/U — 11kV UNDERGROUND
- 33kV/O — 33kV OVERHEAD
- P — POWER DUCT
- FO/U — FIBRE UNDERGROUND
- FO — FIBRE OVERHEAD
- DUCT — FIBRE DUCT
- — POWER POLE

PROPOSED

- SITE EXTENT BOUNDARY
- BUILDING TO BE REMOVED
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

C	FOR RESOURCE CONSENT	VW		02.08.23
B	FOR RESOURCE CONSENT	VW	JS	10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23
No.	Revision	By	Chk	Appd

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:1000	Drawn	V.WHYTE	15.03.23	Date
Reduce Scale (A3)	Design Checker			
1:2000	Design Checker			

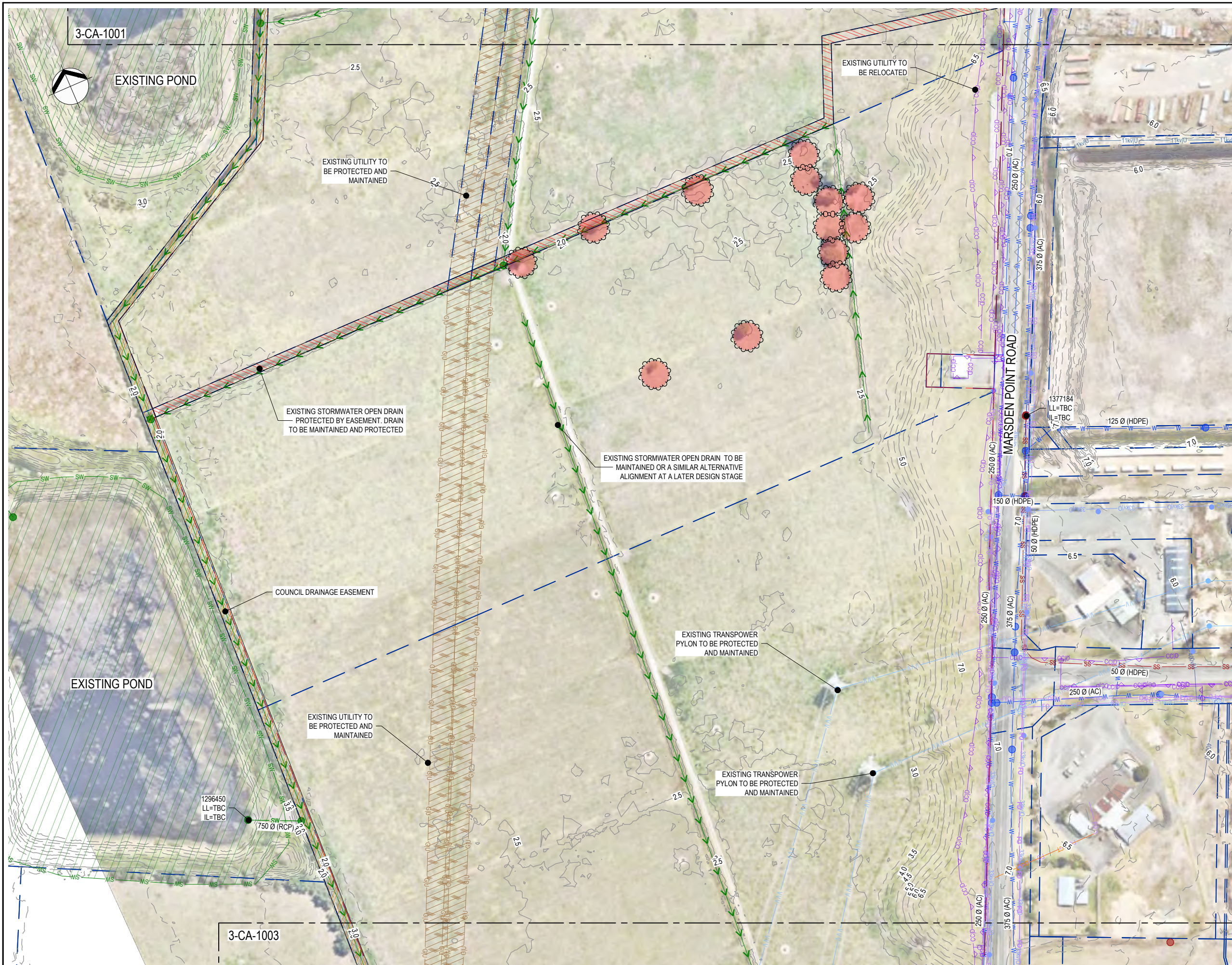


Client: **RUAKĀKĀ SOLAR FARM SITE 3**

Title: **EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 1**

Discipline	CIVIL
Drawing No.	2318415-3CA-1001
Rev.	C

RESOURCE CONSENT NOT FOR CONSTRUCTION



LEGEND:

EXISTING

- GJU — GAS
- CCID — COMMUNICATION
- AAA — TRANSPOWER LINE
- SW — STORMWATER PIPE
- SS — SANITARY SEWER
- W — WATER
- CCID — CHORUS CABLE
- 5m — 5 m CONTOURS
- 1m — 1 m CONTOURS
- — FIRST GAS UNDERGROUND GAS PIPE
- — COUNCIL DRAIN
- — COUNCIL EASEMENT
- — CROWN EASEMENT
- SS MANHOLE
- SW DEVICE
- TRANSPOWER POLE
- WATER DEVICE
- SW CULVERT STRUCTURE

EXISTING NORTHPOWER

- 400V/O — 400V OVERHEAD
- 400V/U — 400V UNDERGROUND
- 11kV/O — 11KV OVERHEAD
- 11kV/U — 11KV UNDERGROUND
- 33kV/O — 33KV OVERHEAD
- P — POWER DUCT
- FO/U — FIBRE UNDERGROUND
- FO — FIBRE OVERHEAD
- DUCT — FIBRE DUCT
- POWER POLE

PROPOSED

- — SITE EXTENT BOUNDARY
- — BUILDING TO BE REMOVED
- — BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- — KANUKA BLOCK
- — TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

RESOURCE CONSENT
NOT FOR CONSTRUCTION

C	FOR RESOURCE CONSENT	VW		02.08.23	Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
B	FOR RESOURCE CONSENT	VW	JS	10.07.23	1:1,000	Drawn	V.WHYTE	15.03.23	
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23	Reduced Scale (A3)	Day Checker			Date
No.	Revision	By	Chk	Appd	Date	* Refer to Revision 1 for Original Signature			

3-CA-1001	3-CA-1003
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Client: **RUAKĀKĀ SOLAR FARM SITE 3**

Title: **EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 2**

Discipline	CIVIL
Drawing No.	2318415-3-CA-1002
Rev.	C



LEGEND:

EXISTING

- GJU — GJU — GAS
- CCID — CCID — COMMUNICATION
- SW — SW — STORMWATER PIPE
- SS — SS — SANITARY SEWER
- W — W — WATER
- CCID — CCID — CHORUS CABLE
- 5m — 5m — 5 m CONTOURS
- 1m — 1m — 1 m CONTOURS
- — — FIRST GAS UNDERGROUND GAS PIPE
- — — COUNCIL DRAIN
- — — COUNCIL EASEMENT
- — — CROWN EASEMENT
- SS MANHOLE ● TRANSPOWER POLE
- SW DEVICE ● WATER DEVICE
- — — SW CULVERT STRUCTURE

EXISTING NORTHPOWER

- 400V/O — 400V OVERHEAD
- 400V/U — 400V UNDERGROUND
- 11kV/O — 11kV OVERHEAD
- 11kV/U — 11kV UNDERGROUND
- 33kV/O — 33kV OVERHEAD
- P — P — POWER DUCT
- FO/U — FO/U — FIBRE UNDERGROUND
- FO/O — FO/O — FIBRE OVERHEAD
- DUCT — DUCT — FIBRE DUCT
- POWER POLE

PROPOSED

- — — SITE EXTENT BOUNDARY
- — — BUILDING TO BE REMOVED
- — — BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- — — KANUKA BLOCK
- TREE TO BE REMOVED-INDICATIVE LOCATION SHOWN

RESOURCE CONSENT
NOT FOR CONSTRUCTION

C	FOR RESOURCE CONSENT	VW		02.08.23
B	FOR RESOURCE CONSENT	VW	JS	10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23
No.	Revision	By	Chk	Appd

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:1000	Drawn	V.WHYTE	15.03.23	Date
Reduce Scale (A3)	Dwg Check			
1:2000	Dwg Check			

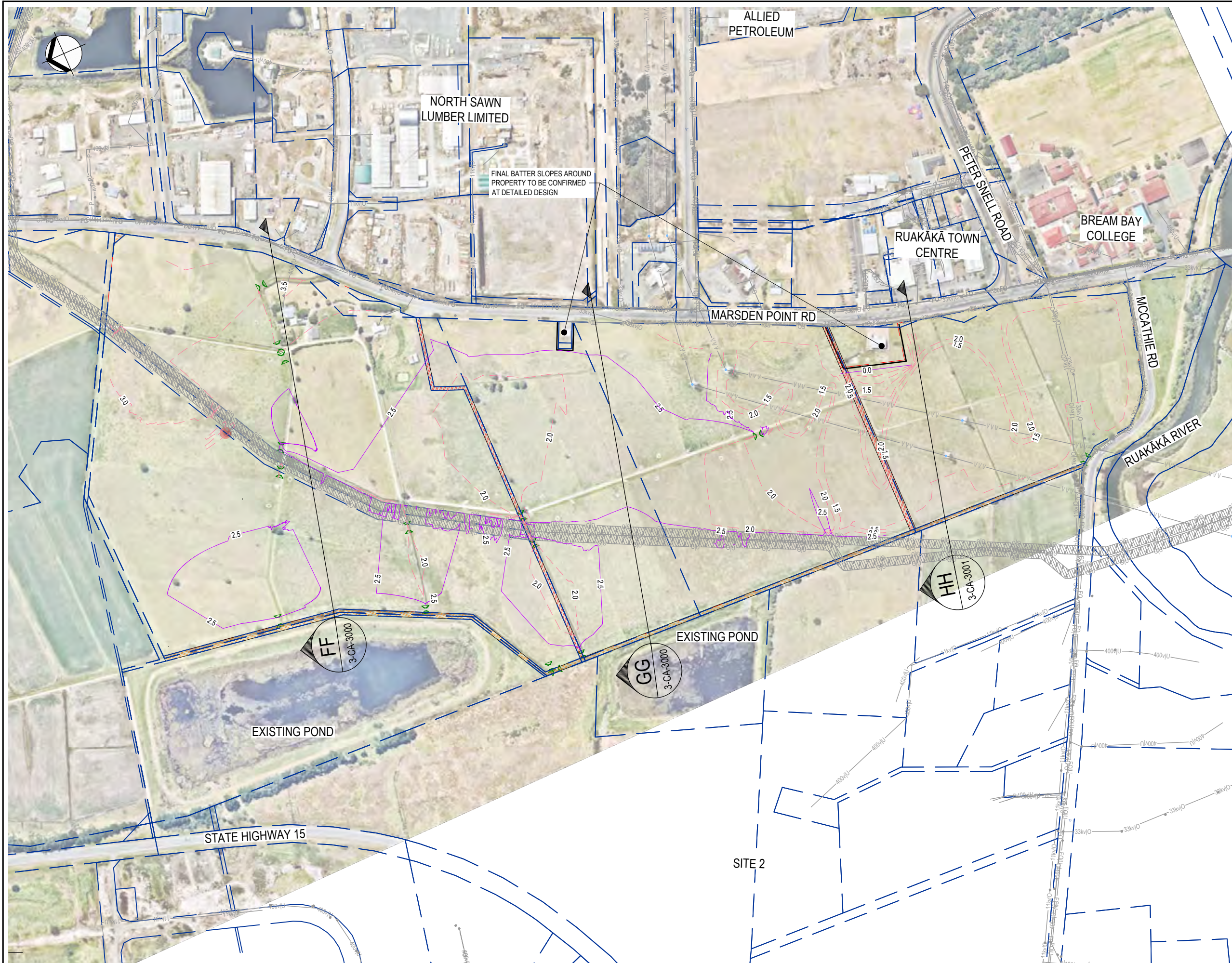
* Refer to Revision 1 for Original Signature



Client: **RUAKAKA SOLAR FARM SITE 3**

Title: **EXISTING SITE SERVICES CLEARANCE AND DEMOLITION PLAN SHEET 3**

Discipline	CIVIL
Document No.	2318415-3CA-1003
Rev.	C



LEGEND:

EXISTING

- BOUNDARY
- VEGETATION
- GARDEN/GRASS
- EDGE OF SEAL
- GAS
- COMMUNICATION
- TRANSPOWER LINE
- STORMWATER
- OPEN DRAIN
- STORMWATER DRAIN
- SANITARY SEWER
- WATER
- CHORUS CABLE
- FIRST GAS UNDERGROUND
- GAS PIPE
- COUNCIL DRAIN
- COUNCIL EASEMENT
- CROWN EASEMENT
- SS MANHOLE
- SW DEVICE
- TRANSPOWER POLE
- WATER DEVICE

EXISTING NORTHPOWER

- 400V(O) 400V OVERHEAD
- 400V(U) 400V UNDERGROUND
- 11kv(O) 11KV OVERHEAD
- 11kv(U) 11KV UNDERGROUND
- 33kv(O) 33KV OVERHEAD
- P P POWER DUCT
- FO(U) FIBRE UNDERGROUND
- FO FIBRE OVERHEAD
- DUCT FIBRE DUCT
- POWER POLE

PROPOSED

- SITE EXTENT BOUNDARY
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- 2.5 m INDICATIVE CONTOURS
- 0.5 m INDICATIVE CONTOURS

C	FOR RESOURCE CONSENT	VW		02.08.23	Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
B	FOR RESOURCE CONSENT	VW	JS	10.07.23	1:2500	Drawn	V.WHYTE	15.03.23	Date
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23	Reduce Scale (A3)	Design Checker			
No.	Revision	By	Chk	Appd	Date	1:5000	* Refer to Revision 1 for Original Signature		

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:2500	Drawn	V.WHYTE	15.03.23	Date
Reduce Scale (A3)	Design Checker			
1:5000	* Refer to Revision 1 for Original Signature			

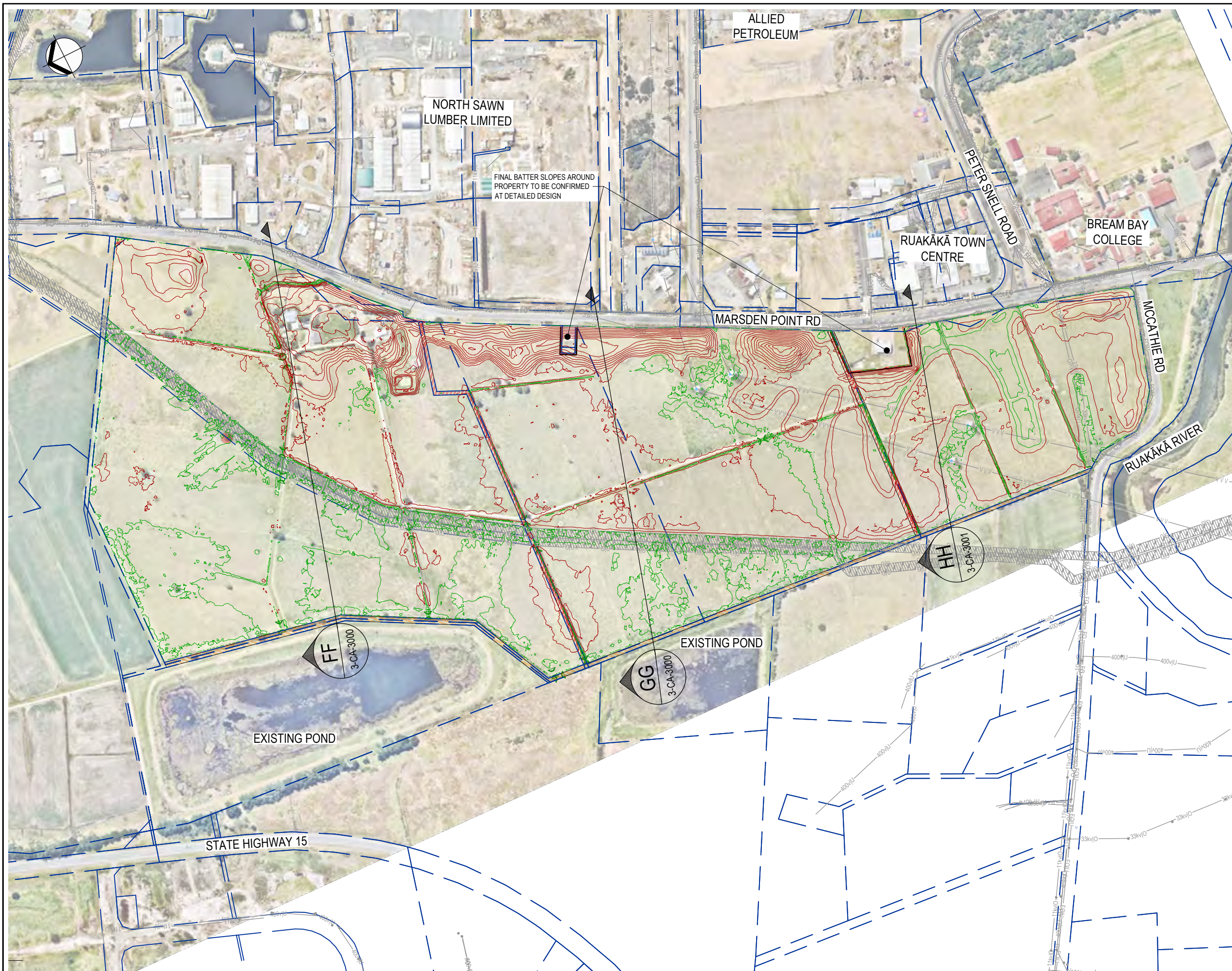


Client: **RUAKAKĀ SOLAR FARM SITE 3**

Project: **INDICATIVE FINISHED LEVEL PLAN**

Discipline	CIVIL
Drawing No.	2318415-3-CA-2001
Rev.	C

RESOURCE CONSENT NOT FOR CONSTRUCTION



LEGEND:

EXISTING

- GJU — GJU — GAS
- CCJD — CCJD — COMMUNICATION
- A/A — A/A — TRANSPOWER LINE
- SW — SW — STORMWATER
- >>> —>>> — OPEN DRAIN
- D — D — D — STORMWATER DRAIN
- SS — SS — SANITARY SEWER
- W — W — W — WATER
- CCJD — CCJD — CHORUS CABLE
- >>> —>>> — FIRST GAS UNDERGROUND GAS PIPE
- >>> —>>> — COUNCIL DRAIN
- >>> —>>> — COUNCIL EASEMENT
- >>> —>>> — CROWN EASEMENT
- SS MANHOLE ● TRANSPOWER POLE
- SW DEVICE ● WATER DEVICE

EXISTING NORTHPOWER

- 400v(O) — 400V OVERHEAD
- 400v(U) — 400V UNDERGROUND
- 11kv(O) — 11KV OVERHEAD
- 11kv(U) — 11KV UNDERGROUND
- 33kv(O) — 33KV OVERHEAD
- P — P — POWER DUCT
- FO(U) — FIBRE UNDERGROUND
- FO — FO — FIBRE OVERHEAD
- DUCT — DUCT — FIBRE DUCT
- POWER POLE

PROPOSED

- SITE EXTENT BOUNDARY
- BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- KANUKA BLOCK
- INDICATIVE AREA OF CUT
- INDICATIVE AREA OF FILL

RESOURCE CONSENT
NOT FOR CONSTRUCTION

C	FOR RESOURCE CONSENT	VW		02.08.23	Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
B	FOR RESOURCE CONSENT	VW	JS	10.07.23	1:2500	Drawn	V.WHYTE	15.03.23	Date
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23	Reduced Scale (A3)	Design Checker			
No.	Revision	By	Chk	Appd	Date	1:5000	* Refer to Revision 1 for Original Signature		

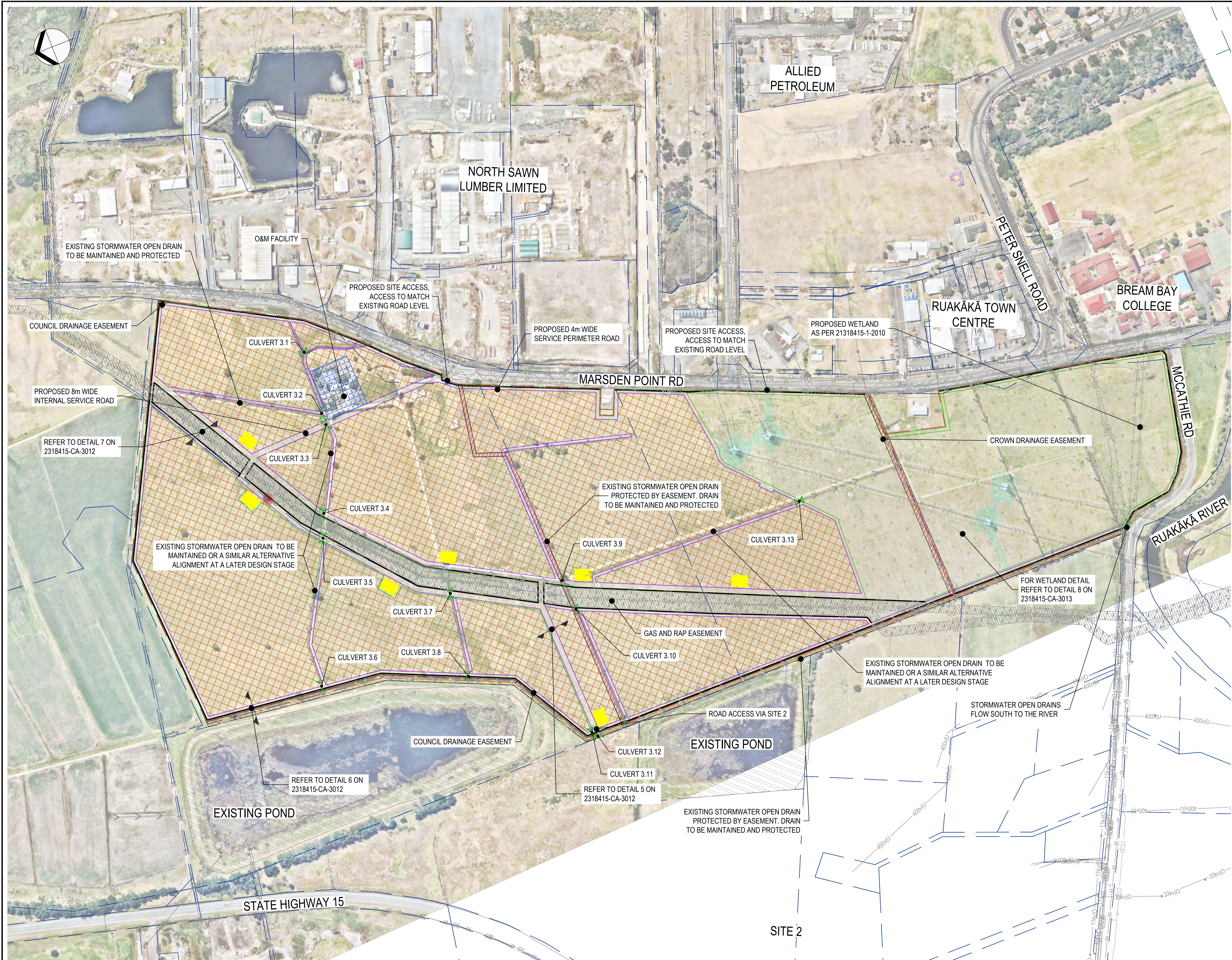
Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:2500	Drawn	V.WHYTE	15.03.23	Date
Reduced Scale (A3)	Design Checker			
1:5000	1:5000			



Client: **Meridian.**
Project: **RUAKAKA SOLAR FARM SITE 3**

Title: **INDICATIVE EARTHWORK CUT AND FILL PLAN**

Discipline	CIVIL
Drawing No.	2318415-3-CA-2002
Rev.	C



LEGEND:

EXISTING

- G/U — G/U — GAS
- C/C/D — C/C/D — COMMUNICATION
- A/A/A — A/A/A — TRANSPOWER LINE
- SW — SW — STORMWATER
- D — D — D — OPEN DRAIN
- D — D — D — STORMWATER DRAIN
- SS — SS — SS — SANITARY SEWER
- W — W — W — WATER
- C/C/D — C/C/D — CHORUS CABLE
- — — — STORMWATER OPEN DRAIN
- — — — FIRST GAS UNDERGROUND
- — — — GAS PIPE
- — — — COUNCIL DRAIN
- — — — COUNCIL EASEMENT
- — — — CROWN EASEMENT
- SS MANHOLE ● TRANSPOWER POLE
- SW DEVICE ● WATER DEVICE
- — — — CULVERT STRUCTURE

EXISTING NORTHPOWER

- 400v/O — 400V OVERHEAD
- 400v/U — 400V UNDERGROUND
- 11kv/O — 11KV OVERHEAD
- 11kv/U — 11KV UNDERGROUND
- 33kv/O — 33KV OVERHEAD
- P — P — P — POWER DUCT
- FO/U — FO/U — FIBRE UNDERGROUND
- FO — FO — FIBRE OVERHEAD
- DUCT — ● — FIBRE DUCT

PROPOSED

- — — — SITE EXTENT BOUNDARY
- — — — BATTERY ENERGY STORAGE SYSTEM (BESS) SITE
- — — — KANUKA BLOCK
- — — — SERVICE ROAD
- — — — WETLAND EXTENT
- — — — STORMWATER OPEN DRAIN
- — — — STORMWATER CULVERT
- — — — SOLAR PANEL ZONE
- — — — WETLAND
- — — — TRANSPOWER PYLON
- — — — MAINTENANCE RESERVE
- — — — CULVERT HEADWALL
- MEDIUM VOLTAGE POWER STATION

**RESOURCE CONSENT
NOT FOR CONSTRUCTION**

C	FOR RESOURCE CONSENT	VW		02.08.23
B	FOR RESOURCE CONSENT	VW	JS	10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23
No.	Revision	By	Chk	Appd

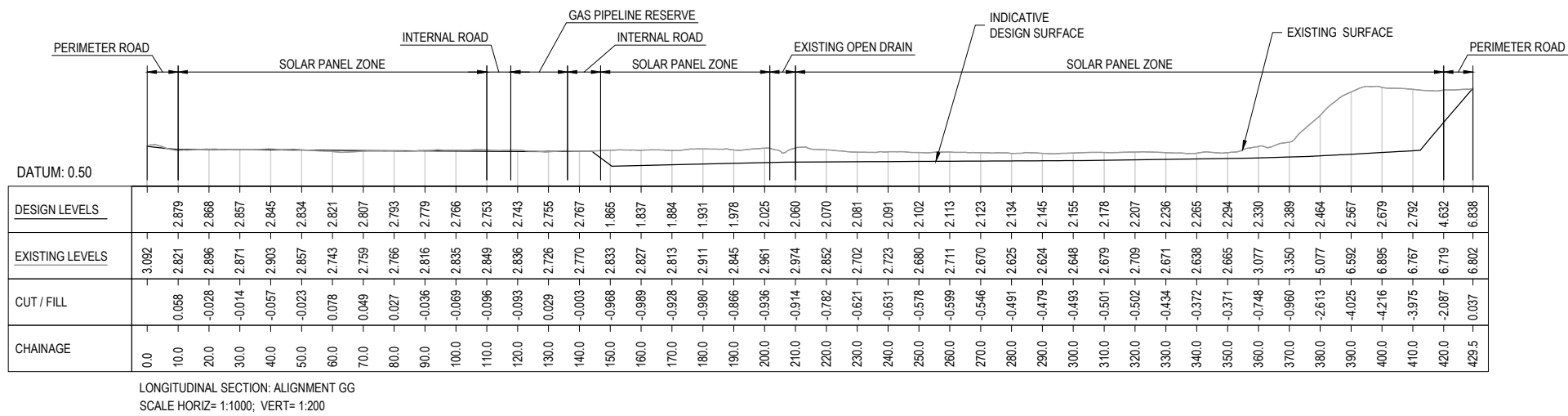
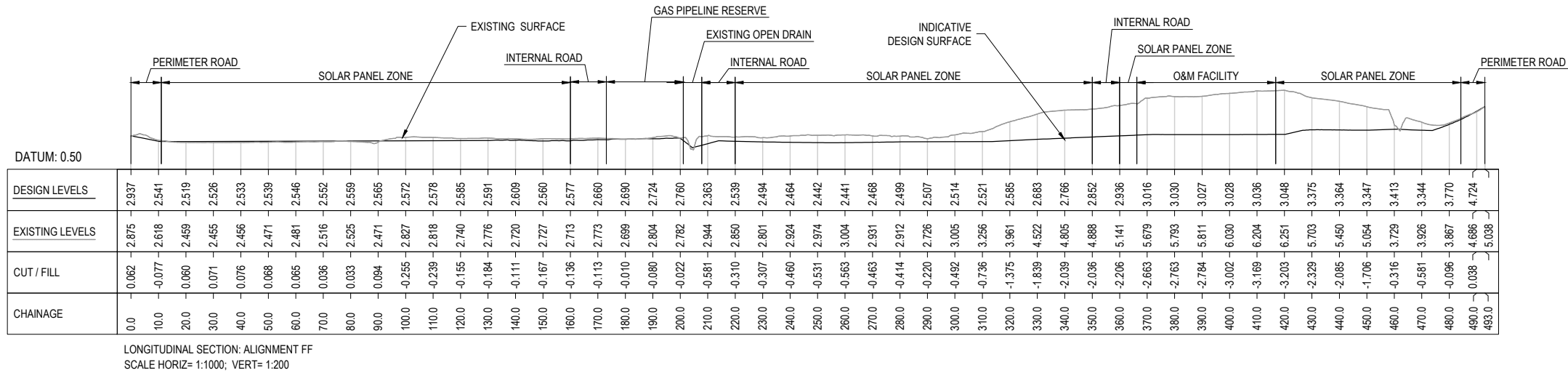
Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
1:2500	Drawn	V.WHYTE	15.03.23	Date
Reduced Scale (A3)	Drawn			
1:5000	Check			



Client: Meridian
Project: RUAKAKĀ SOLAR FARM SITE 3

Title: INDICATIVE ROAD AND STORMWATER LAYOUT PLAN

Discipline	CIVIL
Drawing No.	2318415-3-CA-2010
Rev.	C



**RESOURCE CONSENT
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

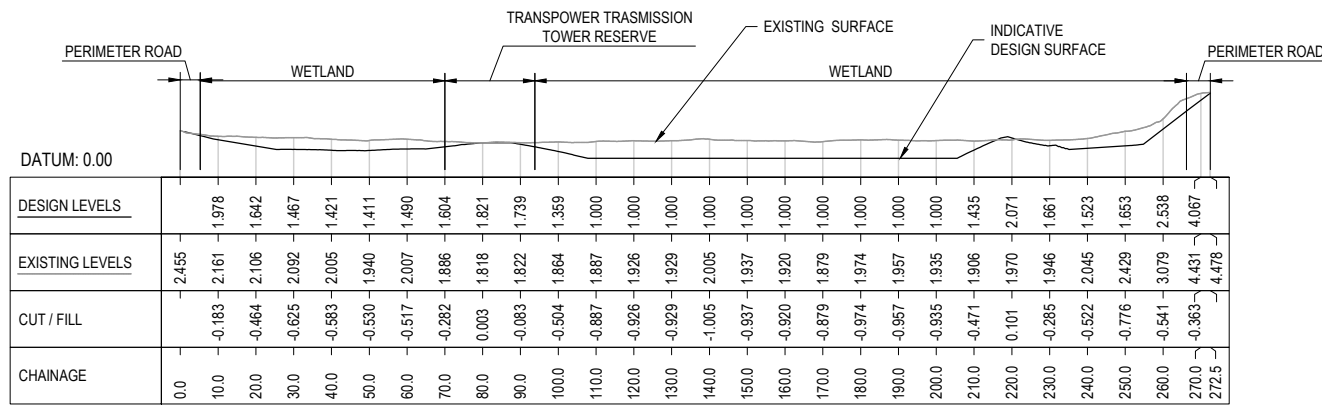
Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
AS SHOWN	Drawn	V.WHYTE <td>15.03.23</td> <td>Date</td>	15.03.23	Date
Reduction Scale (A3)	Design Checker			
HALF SHOWN	* Refer to Revision 1 for Original Signature			



Client: **RUAKAKA SOLAR FARM SITE 3**

Title: **INDICATIVE LONG SECTION SHEET 1**

Discipline	CIVIL
Drawing No.	2318415-3-CA-3000
Rev.	C



LONGITUDINAL SECTION: ALIGNMENT HH
SCALE HORIZ= 1:1000; VERT= 1:200

RESOURCE CONSENT
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

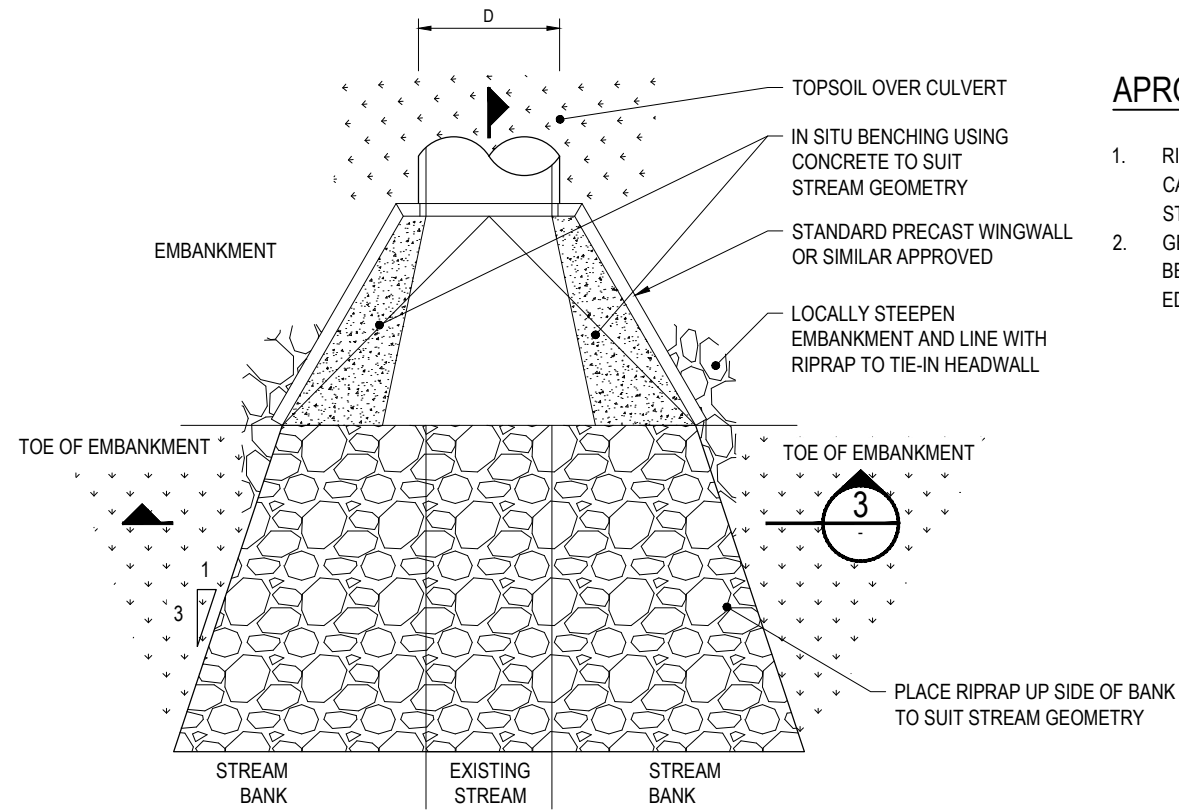
Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
AS SHOWN	Drawn	V.WHYTE	15.03.23	
Reduced Scale (A3)	Day Checker			Date
HALF SHOWN	Day Check			



Client: **RUAKĀKĀ SOLAR FARM SITE 3**

Title: **INDICATIVE LONG SECTION SHEET 2**

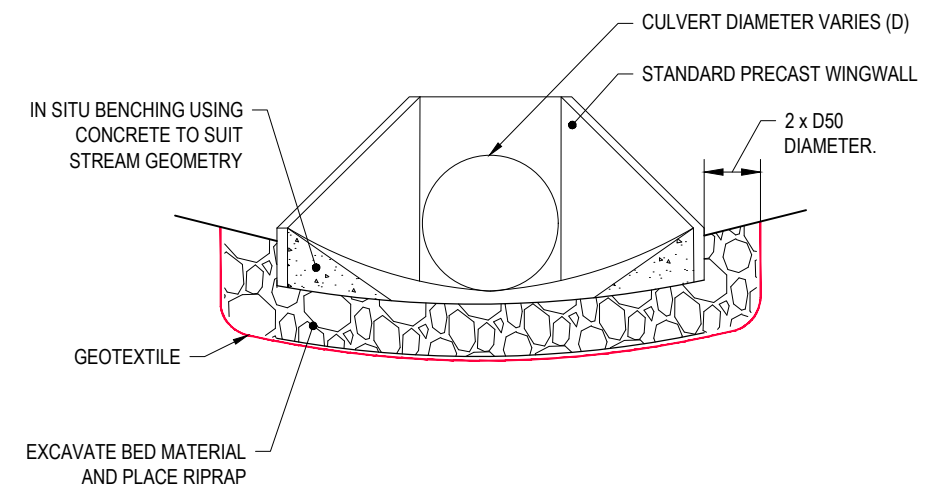
Discipline	CIVIL
Drawing No.	2318415-3-CA-3001
Rev.	C



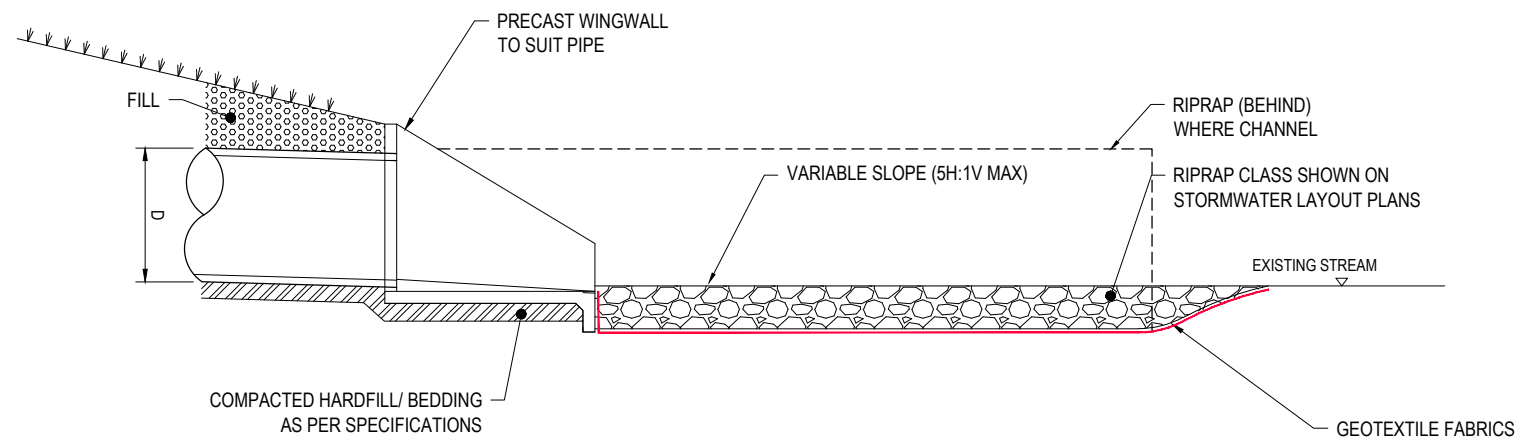
APRON NOTES:

1. RIPRAP APRON IS TO BE PLACED FLAT. WHERE THIS CANNOT BE ACHIEVED, THE APRON SHALL NOT BE STEEPER THAN 1.5H:1V
2. GEOTEXTILE MATERIAL TO OVERLAP AND EXTEND BEYOND ROCK. SECURE THE FILTER CLOTH AT THE EDGES VIA SECURE PINS

1 SINGLE BARREL PIPE - TYPICAL RIPRAP APRON
NTS



3 SINGLE BARREL PIPE - TYPICAL RIPRAP APRON
SCALE 1:50



2 TYPICAL RIPRAP SCOUR PROTECTION
SCALE 1:50

RESOURCE CONSENT
NOT FOR CONSTRUCTION

C	FOR RESOURCE CONSENT	VW		02.08.23
B	FOR RESOURCE CONSENT	VW	JS	10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS	01.06.23
No.	Revision	By	Chk	Appd

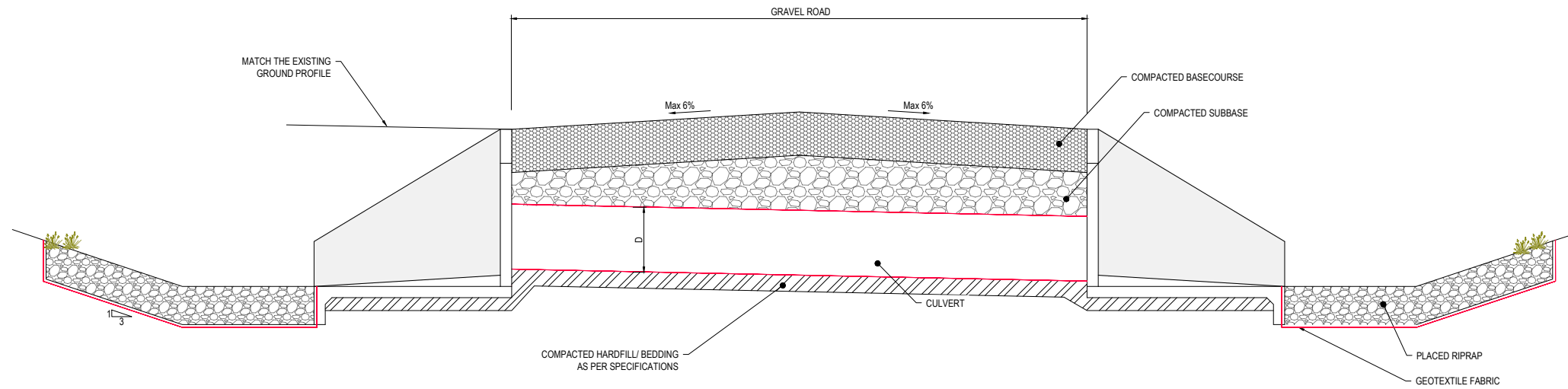
Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
AS SHOWN	Drawn	V.WHYTE	15.03.23	Date
Reduced Scale (A3)	Design Checker			
HALF SHOWN	Drawn			



Client: **RUAKAKA SOLAR FARM**

Title: **TYPICAL DETAILS
CULVERT STRUCTURES**

Discipline	CIVIL
Drawing No.	2318415-CA-3010
Rev.	C



4 TYPICAL CULVERT UNDERNEATH ROAD DETAIL
SCALE NTS

**RESOURCE CONSENT
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
NTS	Drawn	V.WHYTE	15.03.23	
Reduced Scale (A3)	Design Verifier			
NTS	Dwg Check			

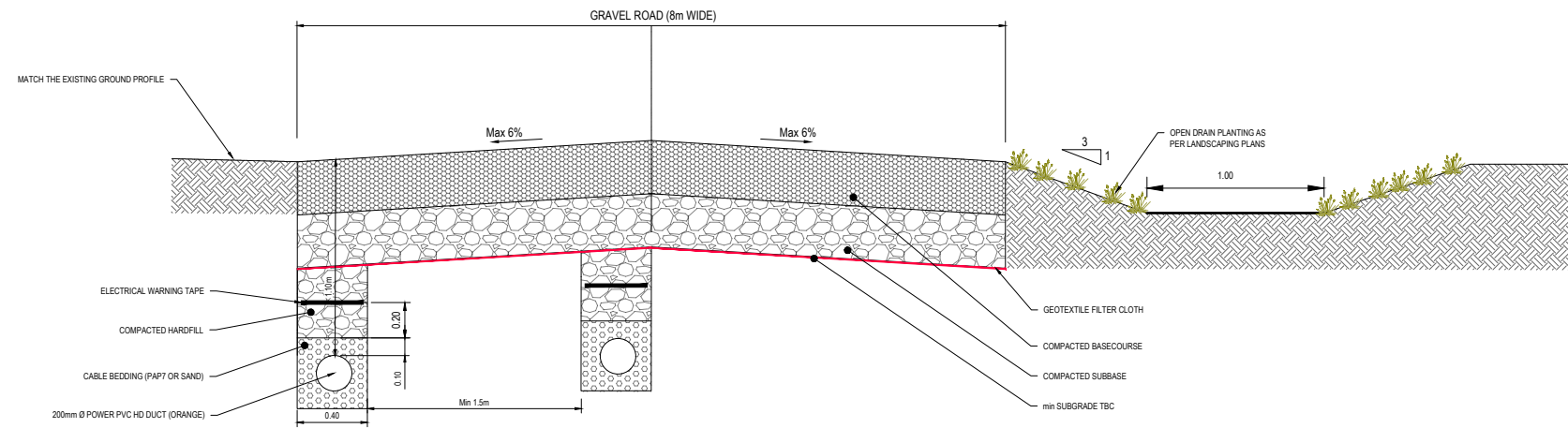
* Refer to Revision 1 for Original Signature



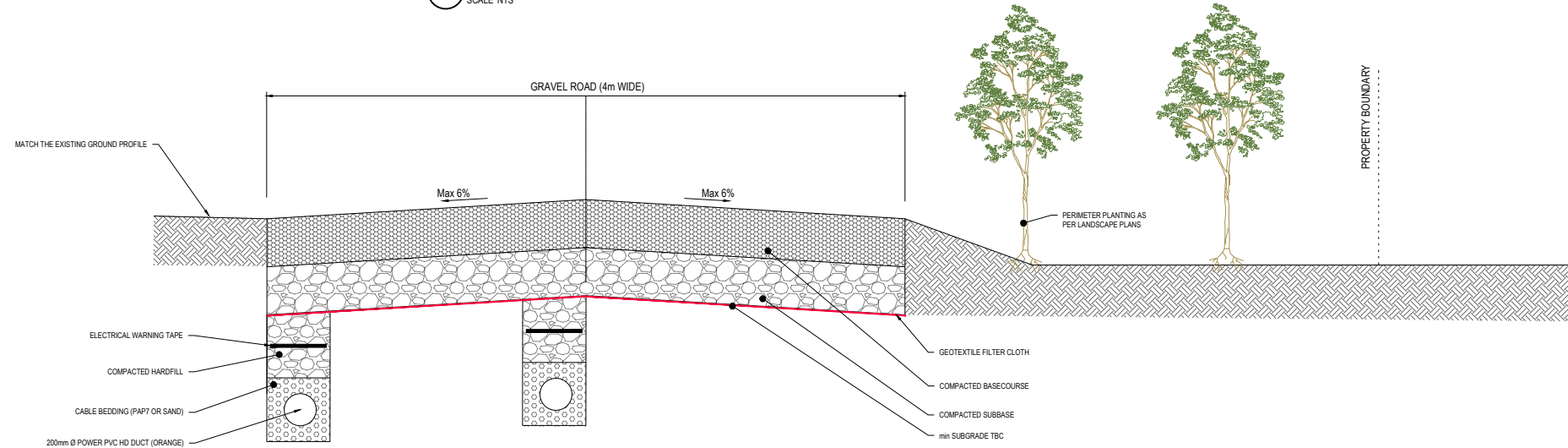
Client: Meridian.
Project: RUAKĀKĀ SOLAR FARM

Title: TYPICAL DETAILS
CULVERT CROSS-SECTION

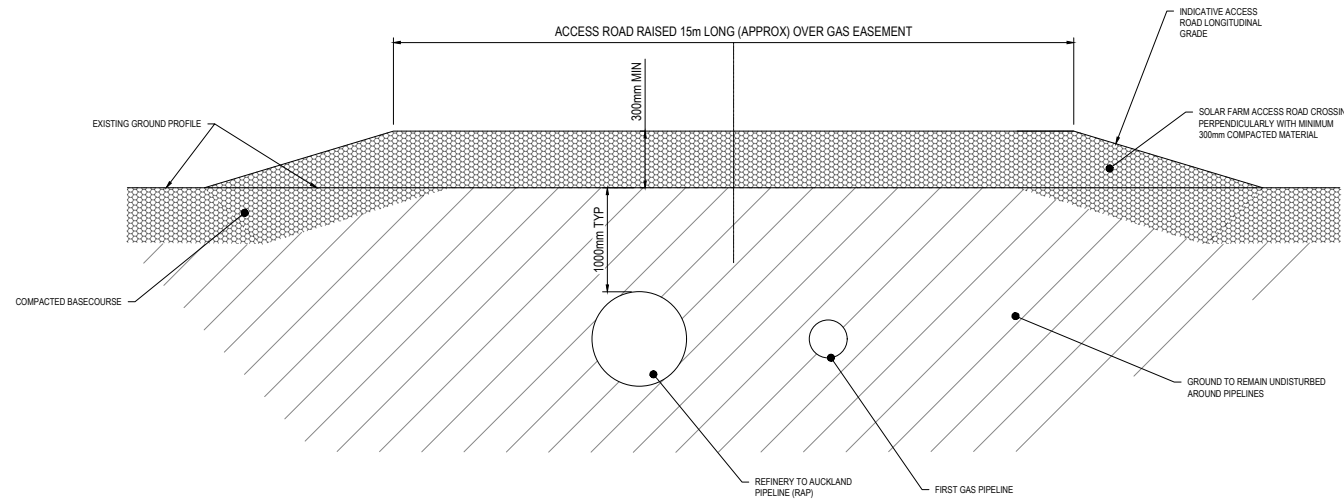
Discipline	CIVIL
Drawing No.	2318415-CA-3011
Rev.	C



5 TYPICAL INTERNAL ROAD SECTION
SCALE NTS



6 TYPICAL PERIMETER ROAD SECTION
SCALE NTS



7 TYPICAL PERPENDICULAR ROAD SECTION ACROSS FIRSTGAS PIPELINE
SCALE NTS

**RESOURCE CONSENT
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
NTS	Drawn	V.WHYTE <td>15.03.23</td> <td>Date</td>	15.03.23	Date
Reduced Scale (A3)	Design Checker			
NTS	Dtg Check			

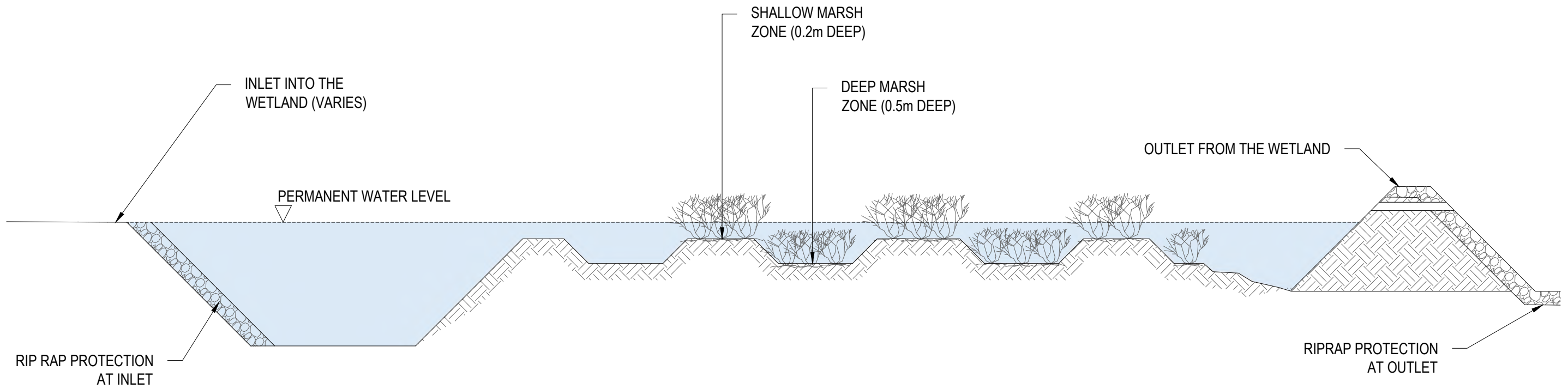
* Refer to Revision 1 for Original Signature



Client: **Meridian.**
Project: **RUAKAKA SOLAR FARM**

Title: **TYPICAL DETAILS
ROAD CROSS-SECTIONS**

Discipline	CIVIL
Drawing No.	2318415-CA-3012
Rev.	C



8 TYPICAL WETLAND CROSS SECTION
SCALE NTS

**RESOURCE CONSENT
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
C	FOR RESOURCE CONSENT	VW			02.08.23
B	FOR RESOURCE CONSENT	VW	JS		10.07.23
A	DRAFT - FOR CLIENT REVIEW	VW	JS		01.06.23

Original Scale (A1)	Design	V.WHYTE	15.03.23	Approved For Construction*
NTS	Drawn	V.WHYTE	15.03.23	
Reduced Scale (A3)	Design Verifier			
NTS	Dwg Check			

* Refer to Revision 1 for Original Signature



Client: **Meridian.**
Project: **RUAKĀKĀ SOLAR FARM**

Title: **TYPICAL DETAILS
WETLAND CROSS-SECTION**

Discipline	CIVIL
Drawing No.	2318415-CA-3013
Rev.	C



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Ruakākā Energy Park

Ruakākā Energy Park, Solar Farm – Consent Drawings

Prepared for Meridian Energy Limited

Prepared by Beca Limited

August 2023

Reason for Issue: **For Consent**

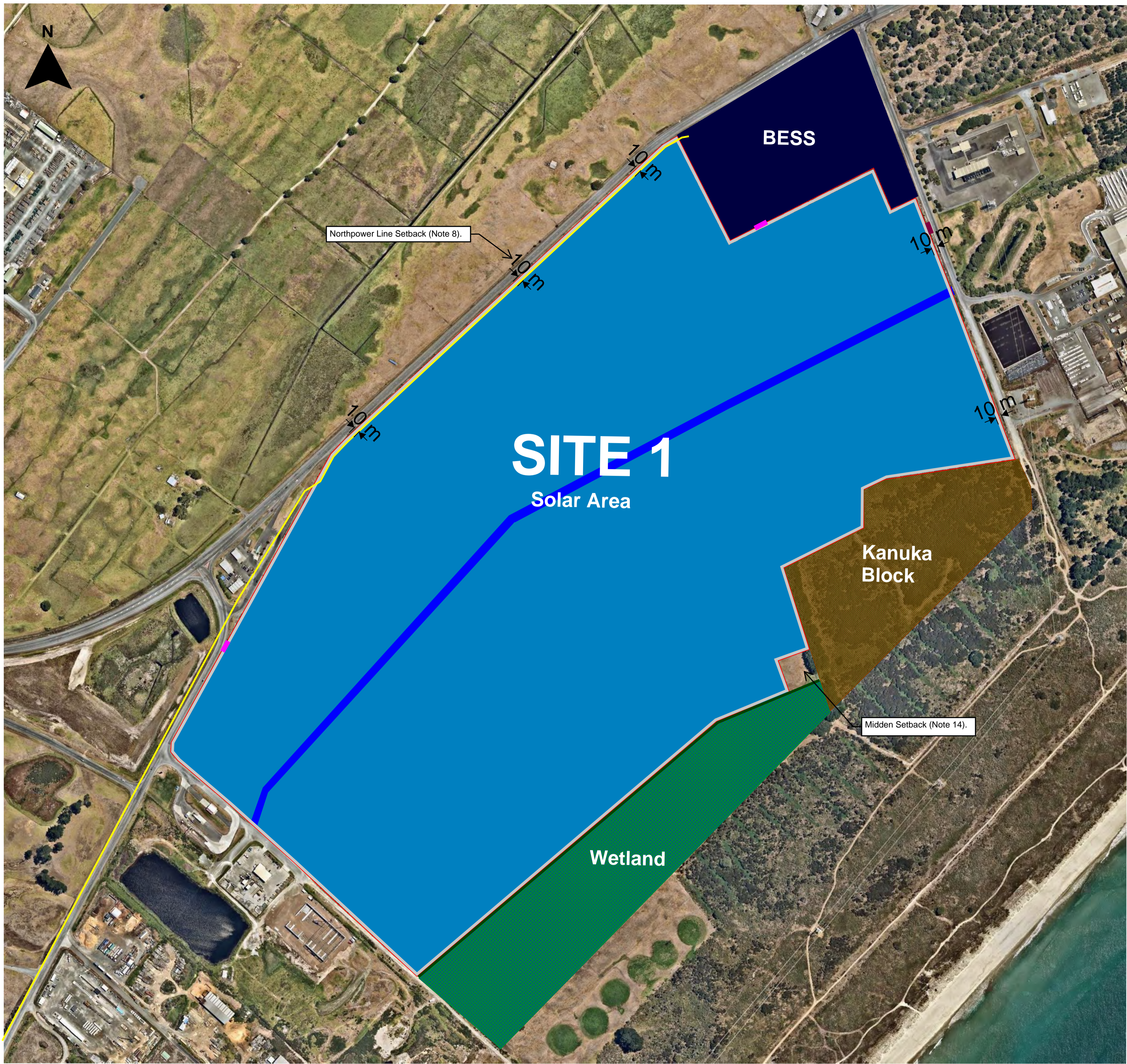
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- Fixed Tilt System Site 2 Indicative Plan & Elevation Drawing
- Fixed Tilt System Site 3 Indicative Plan & Elevation Drawing
- Single-Axis-Tracking System Site 1 Indicative Plan & Elevation Drawing
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- Single-Axis-Tracking System Site 3 Indicative Plan & Elevation Drawing
- Inverter Power Station Site 1 Indicative Plan & Elevation Drawing
- Inverter Power Station Site 2 Indicative Plan & Elevation Drawing
- Inverter Power Station Site 3 Indicative Plan & Elevation Drawing
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Layout Drawings:

- Fixed Tilt System Arrangement (1 of 2)
- Fixed Tilt System Arrangement (2 of 2)
- Single Axis Tracking System Arrangement (1 of 2)
- Single Axis Tracking System Arrangement (2 of 2)



LEGEND:

Existing

- Drain

Proposed

- Perimeter planting
- Perimeter road (4m)
- Perimeter fencing
- Proposed site access points
- Indicative 33 kV transmission line & OPGW
- Constructed wetland
- Temporary construction access point
- Solar Area (Solar panels, power stations, 33kV reticulation, laydown area and internal roading)

- NOTES:**
- O&M facility & Control room all located within BESS.
 - Refer to Ruakaka Solar Farm - Design Basis Report for constraints information.
 - Refer to Engineering Alternatives and Optimisation Report for wetland information.
 - Refer to Ruakaka Solar Farm Traffic Impact Assessment for access point information.
 - Refer to Civil Design Report for earthwork and internal roading information.
 - Do not scale from this drawing.
 - Print in Colour.
 - All dimensions are in meters and levels in meters unless noted otherwise. All dimensions to be verified and are estimates only.
 - There has been an allowance of at least 10m to accommodate clearance between solar panels and the existing Northpower lines, 'Critical Electricity Line'.
 - The 'Solar Area' includes solar panels, power stations, 33 kV reticulation, internal roading and other associated equipment. Quantities will be confirmed during design.
 - Racking solution, solar panels, power stations, roading and general solar farm arrangement to be confirmed during detailed design.
 - Possible racking solutions can be found on drawings 2318415-EL-003 & -005.
 - Indicative power station dimensions can be found on drawing 2318415-EL-007.
 - Exact locations of all parts of the installation to be determined by contractor.
 - Midden to be undisturbed with a 20m buffer.

FOR INFORMATION
NOT FOR CONSTRUCTION

E	Details removed, client comments actioned.	BEP	HP	HP	07/23
F	Client comments actioned, text font & Note 8 updated	TH	HP	HP	08/23
C	Kanuka Block re-mapped & inverter placement moved on Site 2	TH	HP	HP	03/05/23
D	Consent Drawing update	TH	HP	HP	01/06/23
No.	Revision	By	Chk	Appd	Date

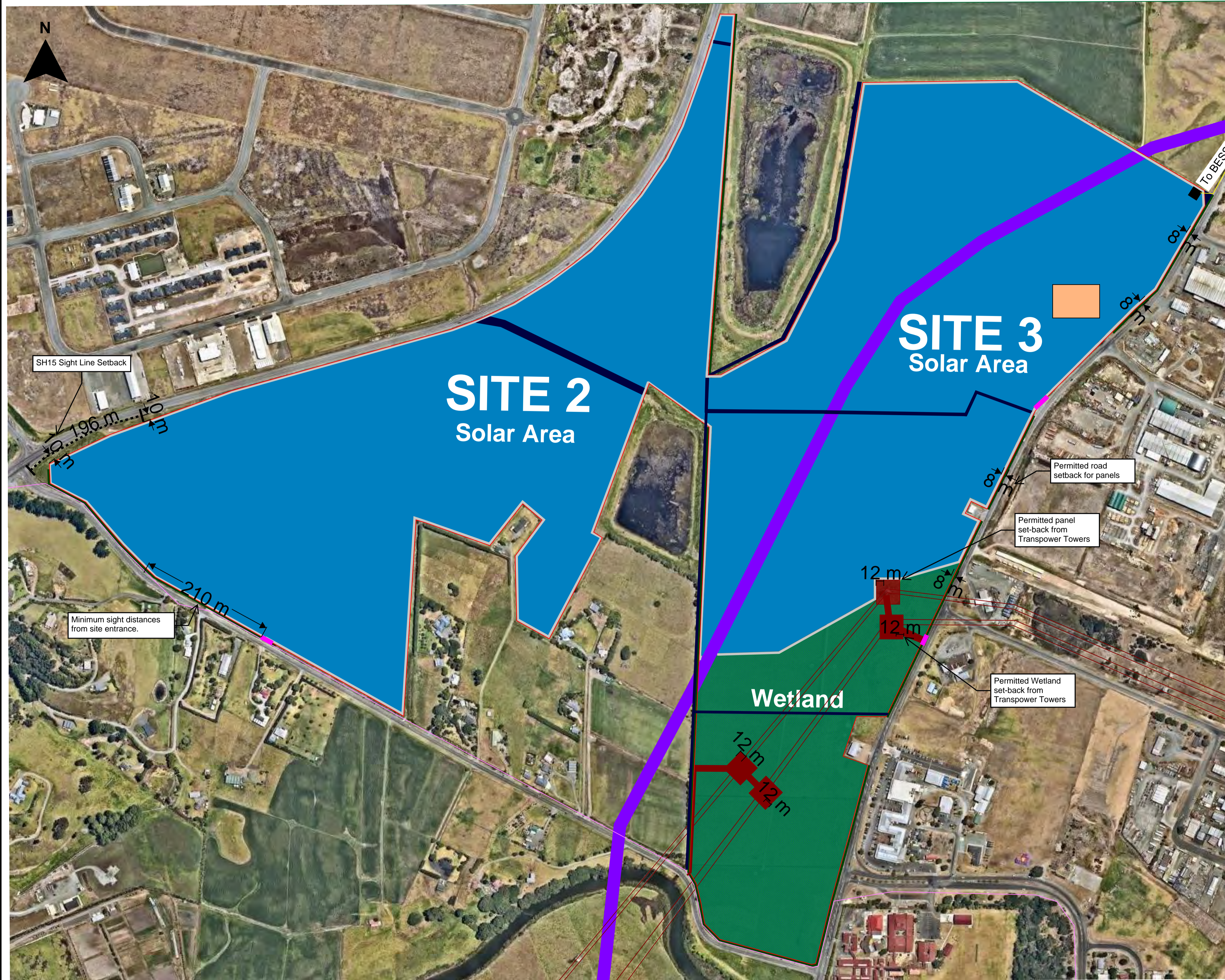
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Reduced Scale (A3)	Drawn	TH	Date
	Dwg Verifier	HP	
	Dwg Check	HP	
* Refer to Revision 1 for Original Signature			



Client: **RUAKAKA ENERGY PARK SOLAR FARM**

Title: **SOLAR FARM LAYOUT (1 of 2)**

Discipline	SOLAR
Drawing No.	2318415-EL-001-1
Rev.	F



LEGEND:

Existing:

- Transpower Assets (notes 13 & 19)
- Gas & RAP pipeline easement
- Dwellings to be repurposed as satellite control room & O&M facility
- Existing 11 kV Northpower line (note 18)
- Site drainage

Proposed:

- Perimeter planting (1.8m x 2m)
- Perimeter road (4m)
- Perimeter fencing
- Proposed site access points
- 33 kV Transmission line & OPGW
- Constructed wetland
- Switching Station (15m x 15m)
- Solar Area (Solar panels, power stations, laydown area and internal roading)

- NOTES:**
1. Road to run parallel to pipelines, will encroach on easement but aligned to avoid surcharge load on pipes. Design subject to agreement with Firstgas.
 2. Refer to Ruakaka Solar Farm - Design Basis Report for constraints information.
 3. Refer to Engineering Alternatives and Optimisation Report for wetland information.
 4. Refer to Ruakaka Solar Farm Traffic Impact Assessment for access point information.
 5. Road design assumes that large access vehicles will only use main access road. Recommended route would be to access from Site 2 and leave through Site 3.
 6. Panels set-back is 12m from Transpower towers as per WDC District Plan. Refer to 'Ruakaka Solar Farm - Design Basis Report'.
 7. Do not scale from this drawing.
 8. All dimensions are in meters and levels in meters unless noted otherwise. All dimensions to be verified and are estimates only.
 9. Exact locations of all parts of the installation to be determined by contractor.
 10. Print in Colour.
 11. Setback is 10m from the SH15 Sight Line Setback.
 12. Temporary lay-down areas will be set-up at the beginning of construction. These areas will reduce to the permanent lay-down areas of approximately 25 m x 25 m following completion of construction. Refer to the 'Erosion and Sediment Control Plan - Ruakaka' Report for construction details.
 13. Access to Transpower assets will be agreed with Transpower ahead of construction. Access points & routes are indicative only.
 14. Site 2 minimum sight distances from site access: 210m
 15. Site 3 Permitted road setback for panels: 8m
 18. Existing Northpower 11kV line goes through the site. Line to be relocated as per consultation with Northpower.
 19. No wetland excavation within 12m of tower legs, as per consultation with Transpower.
 20. The 'Solar Area' includes solar panels, power stations, 33 kV reticulation, internal roading and other associated equipment. Quantities will be confirmed during design.
 21. Racking solution, power station, switching station and solar farm layout to be confirmed during detailed design.
 22. Possible racking solutions can be found on drawings 2318415-EL-004, -004A & 2318415-EL-006, -006A.
 23. Indicative power station dimensions can be found on drawings 2318415-EL-008, 008A.
 24. Indicative switching station dimensions can be found on drawing 2318415-EL-009.

**FOR INFORMATION
NOT FOR CONSTRUCTION**

E	Details removed, client comments actioned.	BEP	HP	HP	07/23
F	Client comments actioned.	TH	HP	HP	08/23
C	Kanuka Block re-mapped & inverter placement moved on Site 2	TH	HP	HP	03/05/23
D	Consent Drawing update	TH	HP	HP	1/06/23
No.	Revision	By	Chk	Appd	Date

Original Scale (A1)	Design	TH	Approved For Construction*
Reduced Scale (A3)	Drawn	TH	Date
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	Dwg Check	HP	
* Refer to Revision 1 for Original Signature			



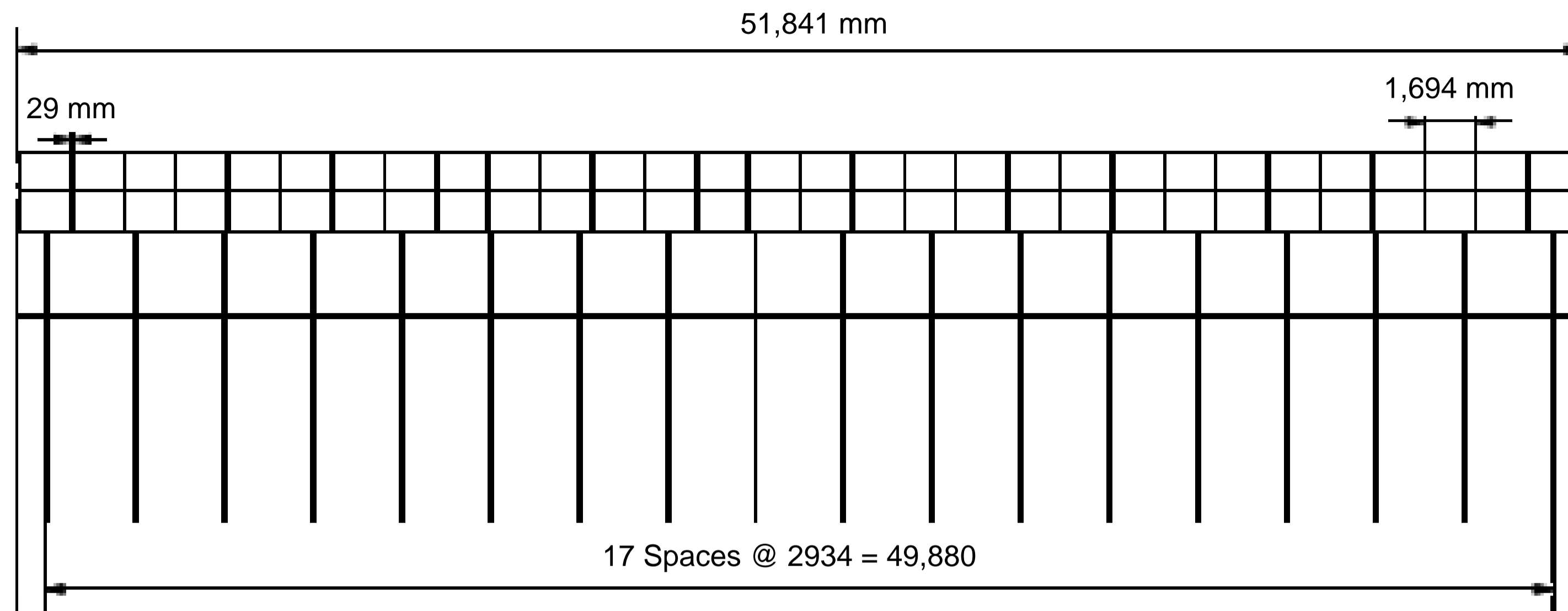
Client: **RUAKAKA ENERGY PARK SOLAR FARM**

Title: **SOLAR FARM LAYOUT (2 of 2)**

Discipline	SOLAR	
Drawing No.	2318415-EL-001-2	Rev. F

INDICATIVE MODULE BAY

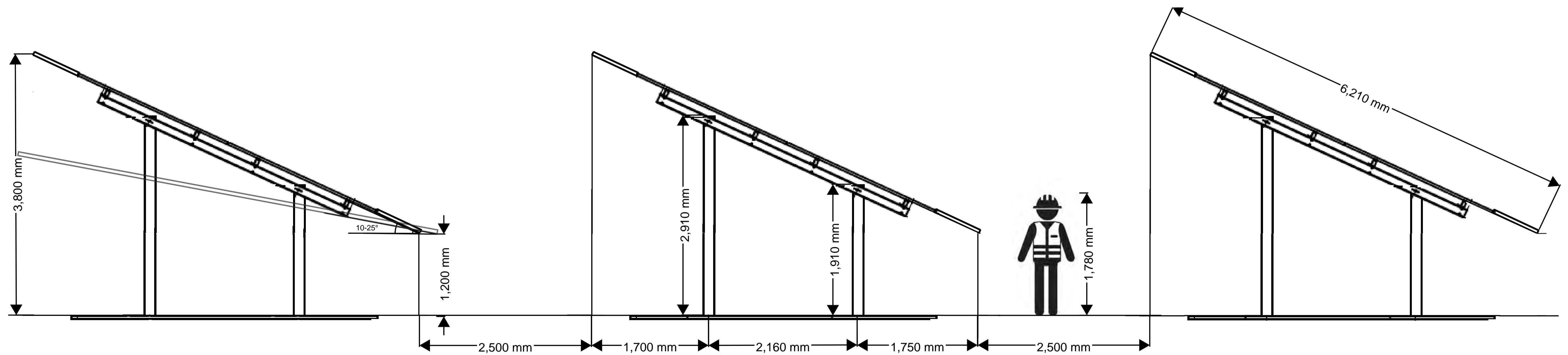
NUMBER OF MODULE BAYS WILL VARY.



INDICATIVE FIXED TILT RACKING SYSTEM



INDICATIVE RACKING DIMENSIONS



- Note:
1. Panel tilt to be confirmed during detailed design. Tilt angle will be between 10 and 25 degrees as shown.
 2. Dimensions are indicative only and to be confirmed during detailed design.
 3. Not to scale

FOR INFORMATION
NOT FOR CONSTRUCTION

A	FIRST ISSUE FOR CONSENT	BEP	HP	HP	05/23
B	Flood clearance height amended, client comments actioned.	BEP	HP	HP	07/23
C	Client comments actioned.	TH	HP	HP	07/23
No.	Revision	By	Chk	Appd	Date

Original Scale (A1)	Design	BEP	05/23	Approved For Construction*
	Drawn	BEP	05/23	
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	Dwg Check	HP	05/23	
* Refer to Revision 1 for Original Signature				



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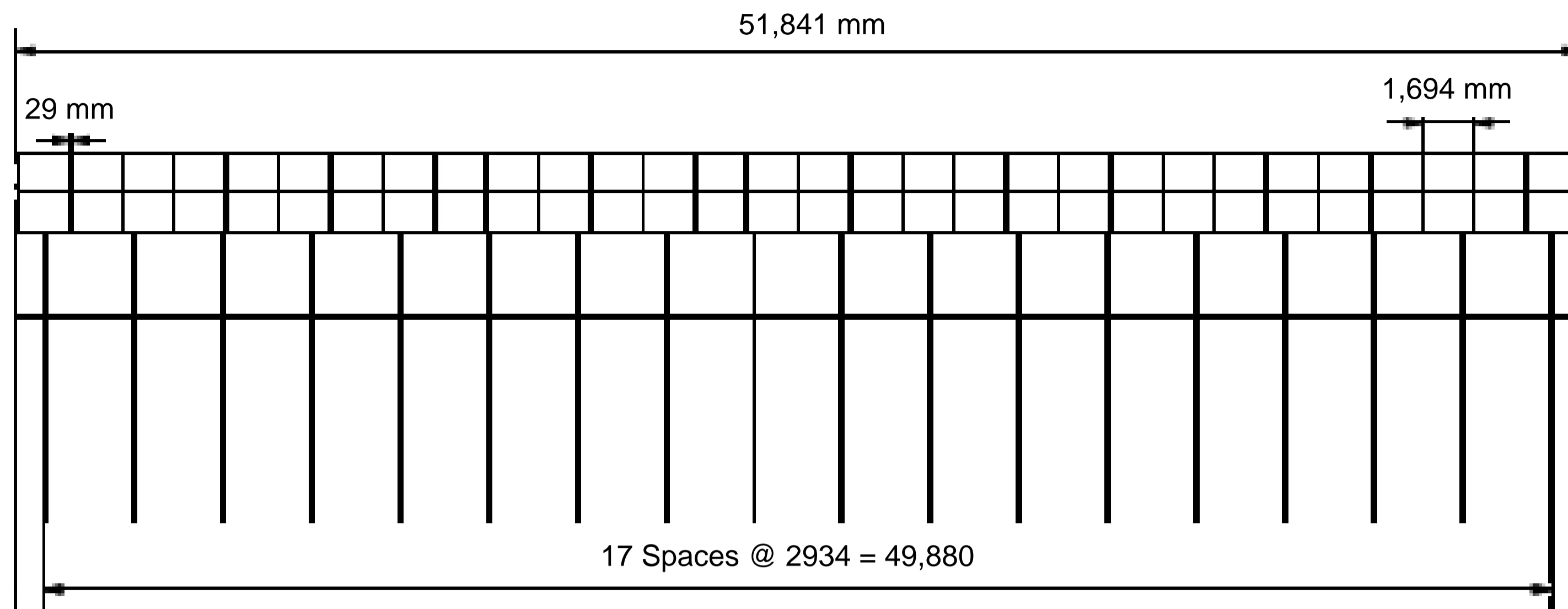
Project: RUAKĀKĀ ENERGY PARK SOLAR FARM

Title: RUAKĀKĀ ENERGY PARK FIXED TILT SYSTEM SITE 1 INDICATIVE PLAN & ELEVATION DRAWING

Discipline	SOLAR
Drawing No.	2318415-EL-003
Rev.	C

INDICATIVE MODULE BAY

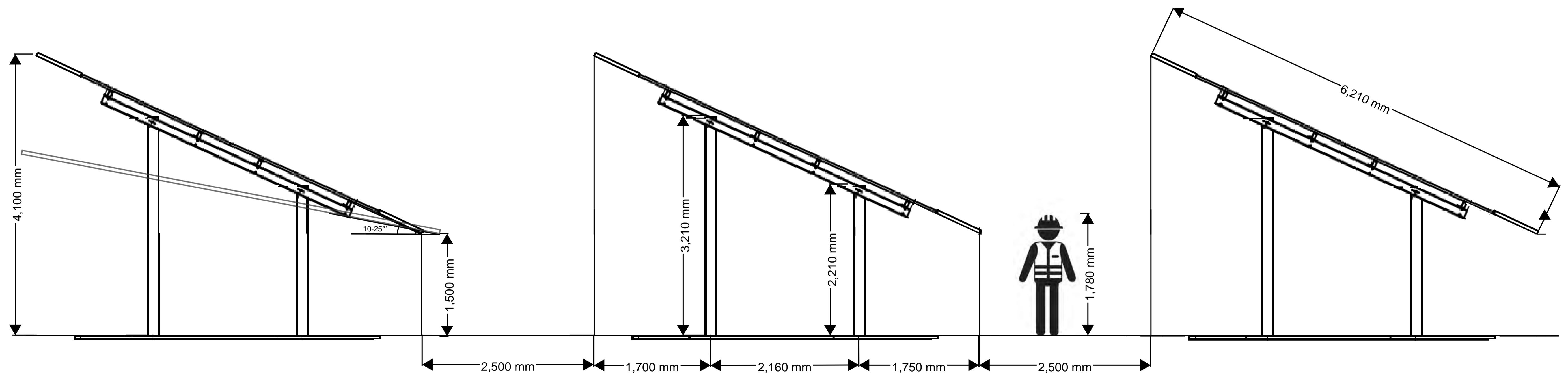
NUMBER OF MODULE BAYS WILL VARY.



INDICATIVE FIXED TILT RACKING SYSTEM



INDICATIVE RACKING DIMENSIONS



- Note:
1. Panel tilt to be confirmed during detailed design. Tilt angle will be between 10 and 25 degrees as shown.
 2. Dimensions are indicative only and to be confirmed during detailed design.
 3. Not to scale

FOR INFORMATION
NOT FOR CONSTRUCTION

A	FIRST ISSUE FOR CONSENT	BEP	HP	HP	07/23
B	Client comments actioned	TH	HP	HP	07/23
No.	Revision	By	Chk	Appd	Date

Original Scale (A1)	Design	BEP	07/23	Approved For Construction*
Reduced Scale (A3)	Drawn	BEP	07/23	Date
	Dwg Verifier	HP	07/23	
	Dwg Check	HP	07/23	

* Refer to Revision 1 for Original Signature



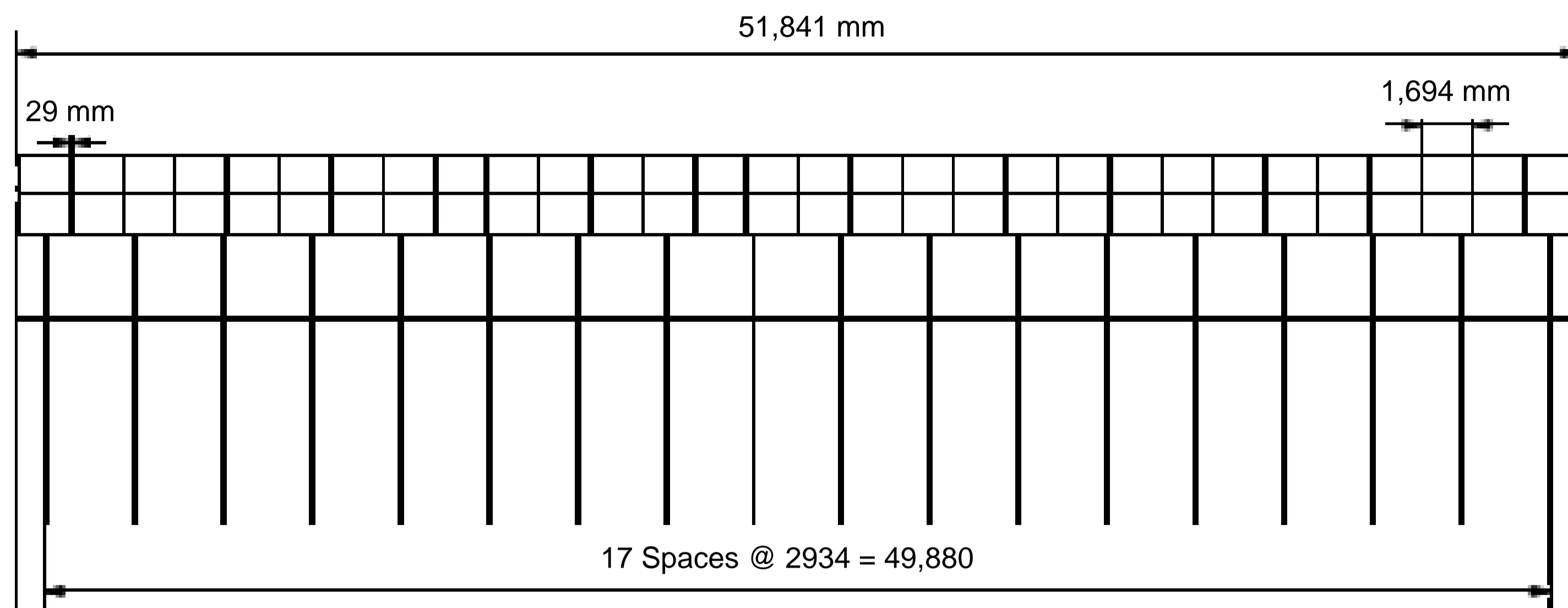
Client: RUAKĀKĀ ENERGY PARK SOLAR FARM

Title: RUAKĀKĀ ENERGY PARK FIXED TILT SYSTEM SITE 2 INDICATIVE PLAN & ELEVATION DRAWING

Discipline	SOLAR
Drawing No.	2318415-EL-004
Rev.	B

INDICATIVE MODULE BAY

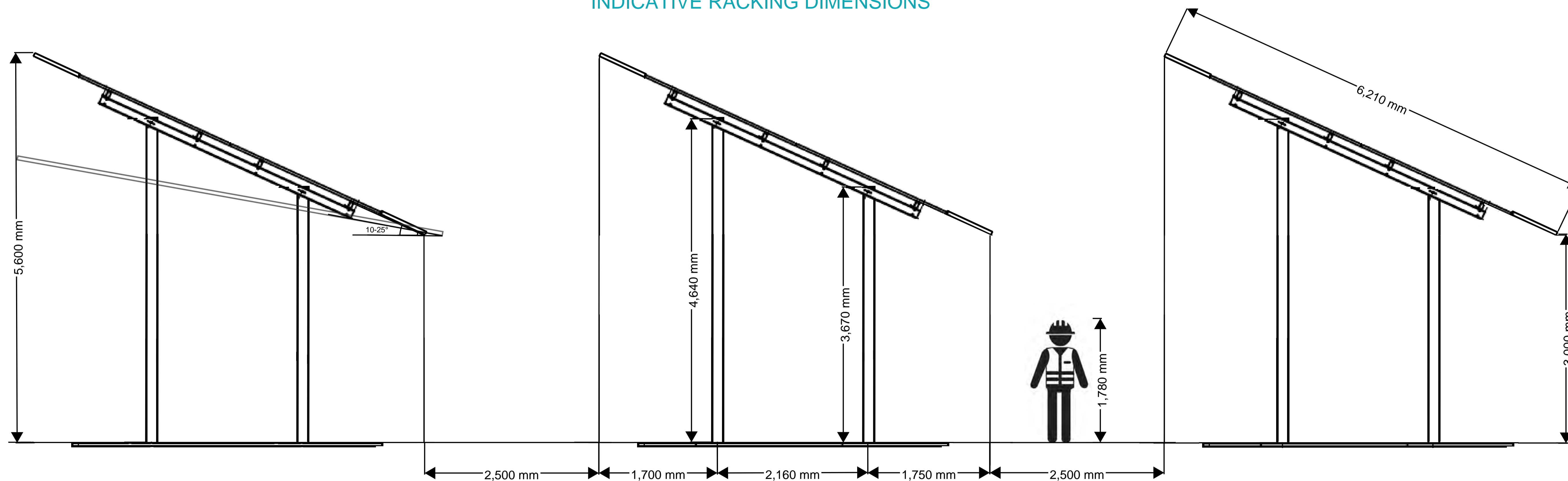
NUMBER OF MODULE BAYS WILL VARY.



INDICATIVE FIXED TILT RACKING SYSTEM



INDICATIVE RACKING DIMENSIONS



- Note:
1. Panel tilt to be confirmed during detailed design. Tilt angle will be between 10 and 25 degrees as shown.
 2. Dimensions are indicative only and to be confirmed during detailed design.
 3. Not to scale.

FOR INFORMATION
NOT FOR CONSTRUCTION

A	FIRST ISSUE FOR CONSENT	BEP	HP	HP	05/23
B	Flood clearance height amended, client comments actioned	BEP	HP	HP	07/23
C	Client comments actioned	TH	HP	HP	07/23
No.	Revision	By	Chk	Appd	Date

Original Scale (A1)	Design	BEP	05/23	Approved For Construction*
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	Dwg Check	HP	05/23	

* Refer to Revision 1 for Original Signature



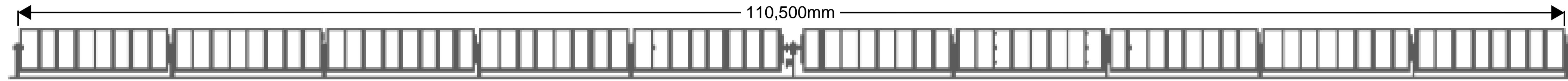
Client: RUAKAKA ENERGY PARK SOLAR FARM

Project: RUAKAKA ENERGY PARK FIXED TILT SYSTEM SITE 3 INDICATIVE PLAN & ELEVATION DRAWING

Discipline	SOLAR
Drawing No.	2318415-EL-004A
Rev.	C

INDICATIVE MODULE BAY

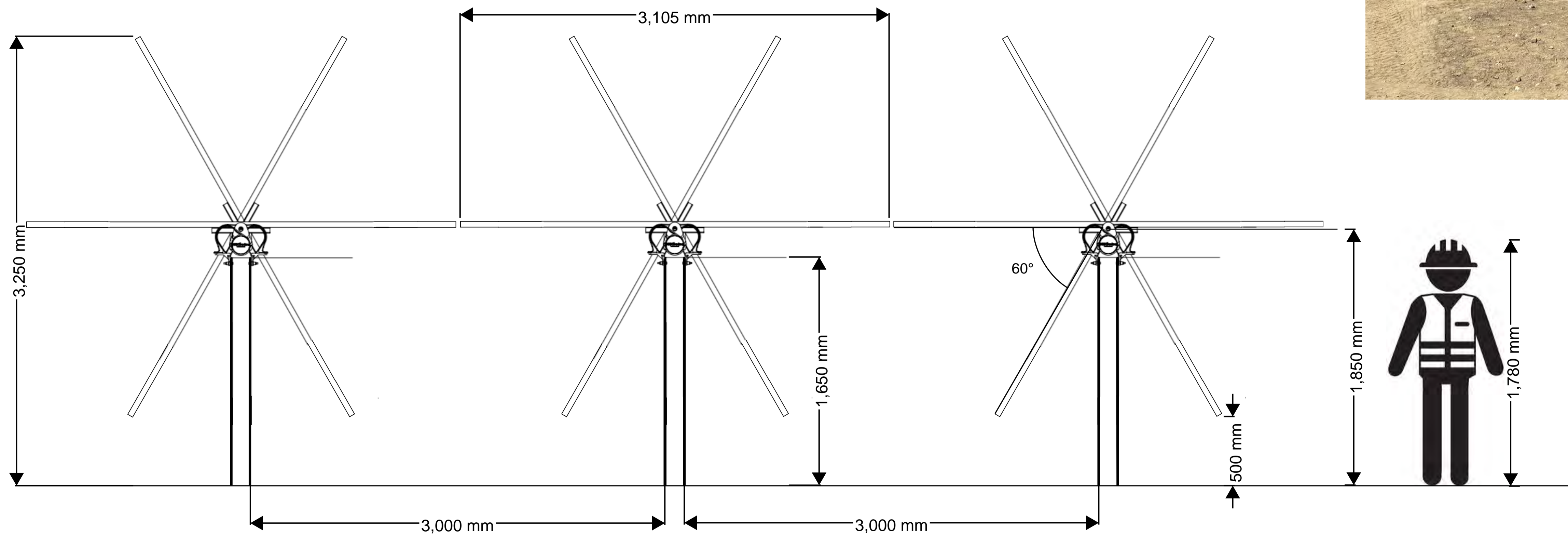
85m ROW WITH 80 PANELS MOUNTED.
ACTUAL NUMBER OF MODULE BAYS WILL VARY.



INDICATIVE SINGLE AXIS TRACKING RACKING SYSTEM



INDICATIVE RACKING DIMENSIONS



**FOR INFORMATION
NOT FOR CONSTRUCTION**

A	FIRST ISSUE FOR CONSENT	BEP	HP	HP	05/23
B	Flood clearance height amended, client comments actioned.	BEP	HP	HP	07/23
C	Drawing title and heights updated to enable clearance from ground	TH	HP	HP	07/23
No.	Revision	By	Chk	Appd	Date

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	Dwg Check	HP	05/23	

* Refer to Revision 1 for Original Signature



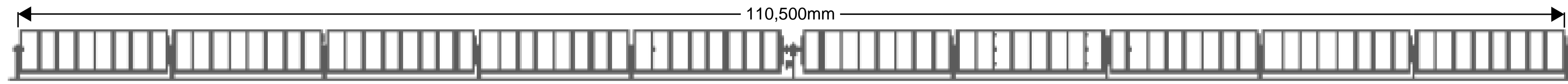
Client: RUAKAKA ENERGY PARK SOLAR FARM

Project: RUAKAKA ENERGY PARK SINGLE-AXIS-TRACKING SYSTEM SITE 1 INDICATIVE PLAN & ELEVATION DRAWING

Discipline	SOLAR
Drawing No.	2318415-EL-005
Rev.	C

INDICATIVE MODULE BAY

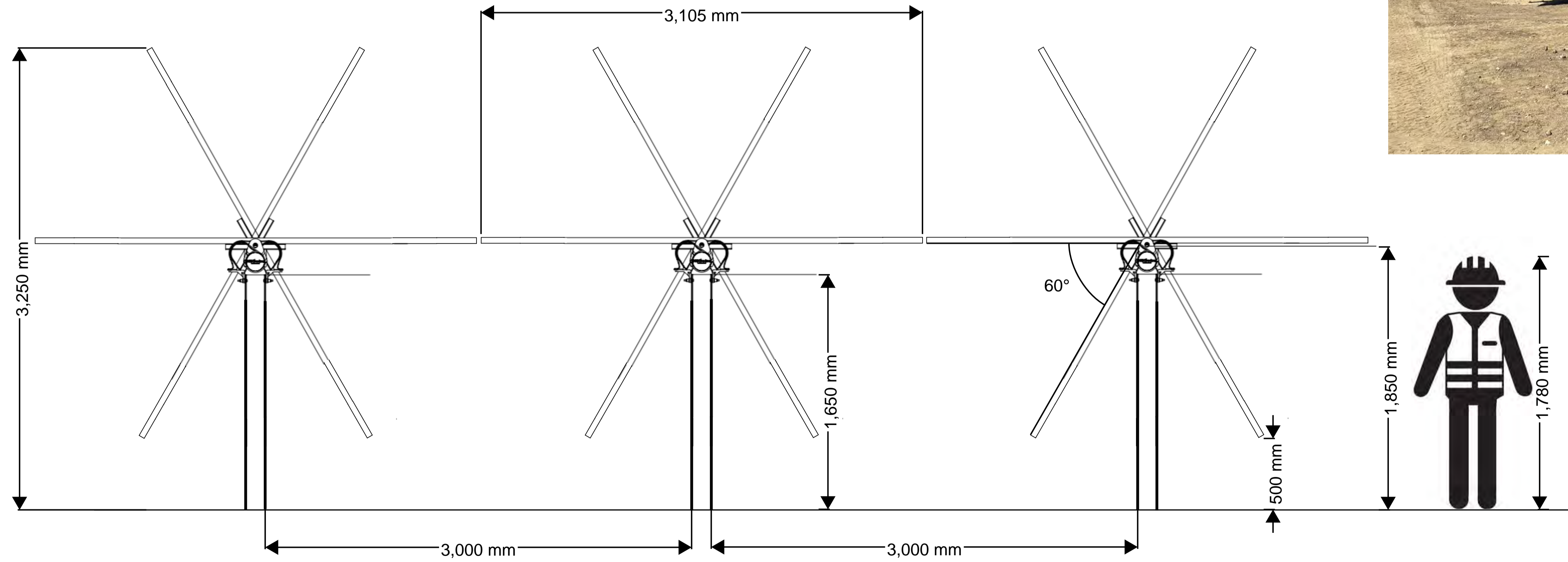
85m ROW WITH 80 PANELS MOUNTED.
ACTUAL NUMBER OF MODULE BAYS WILL VARY.



INDICATIVE SINGLE AXIS TRACKING RACKING SYSTEM



INDICATIVE RACKING DIMENSIONS



**FOR INFORMATION
NOT FOR CONSTRUCTION**

A	FIRST ISSUE FOR CONSENT	BEP	HP	HP	07/23
B	Drawing title and heights updated				
No.	Revision	By	Chk	Appd	Date

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	Dwg Check	HP	07/23	

* Refer to Revision 1 for Original Signature



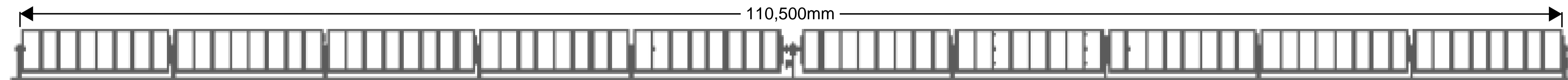
Client: **RUAKĀKĀ ENERGY PARK SOLAR FARM**

Project: **RUAKĀKĀ ENERGY PARK SINGLE-AXIS-TRACKING SYSTEM SITE 2 INDICATIVE PLAN & ELEVATION DRAWING**

Discipline	SOLAR
Drawing No.	2318415-EL-006
Rev.	B

INDICATIVE MODULE BAY

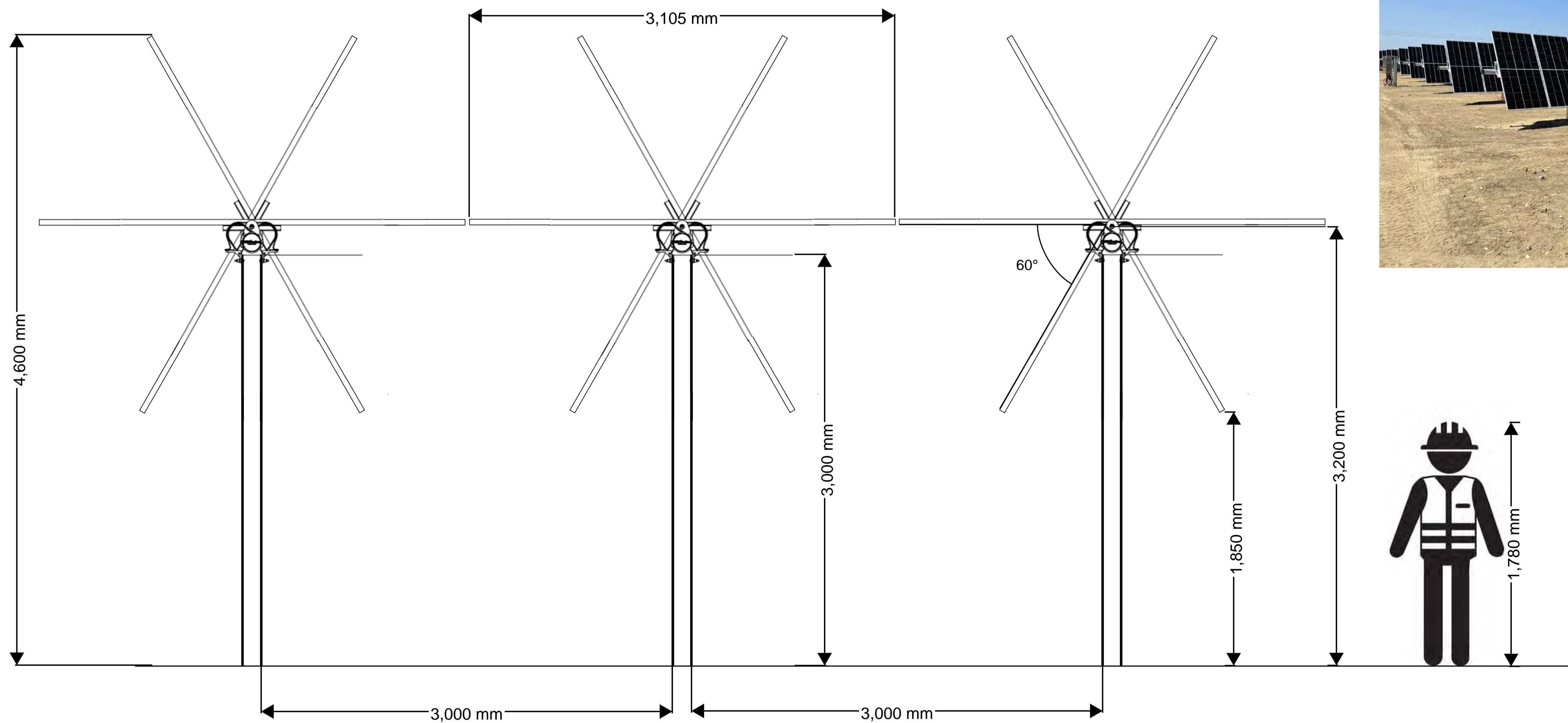
85m ROW WITH 80 PANELS MOUNTED.
ACTUAL NUMBER OF MODULE BAYS WILL VARY.



INDICATIVE SINGLE AXIS TRACKING RACKING SYSTEM



INDICATIVE RACKING DIMENSIONS



FOR INFORMATION
NOT FOR CONSTRUCTION

A	FIRST ISSUE FOR CONSENT	BEP	HP	HP	05/23
B	Flood clearance height amended, client comments actioned.	BEP	HP	HP	07/23
C	Drawing title and heights updated	TH	HP	HP	07/23
No.	Revision	By	Chk	Appd	Date

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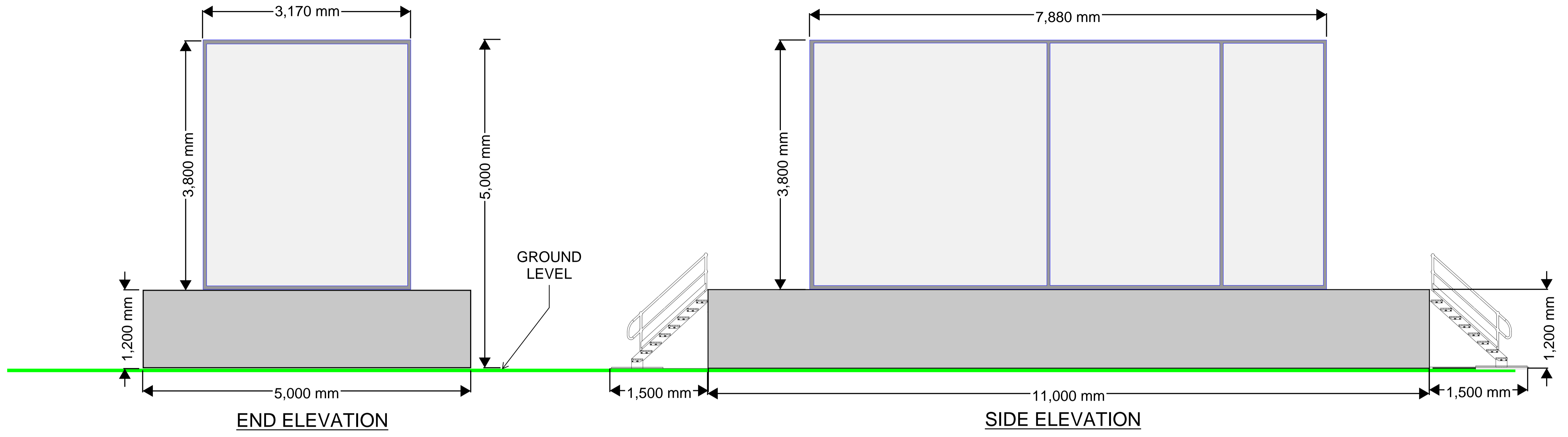
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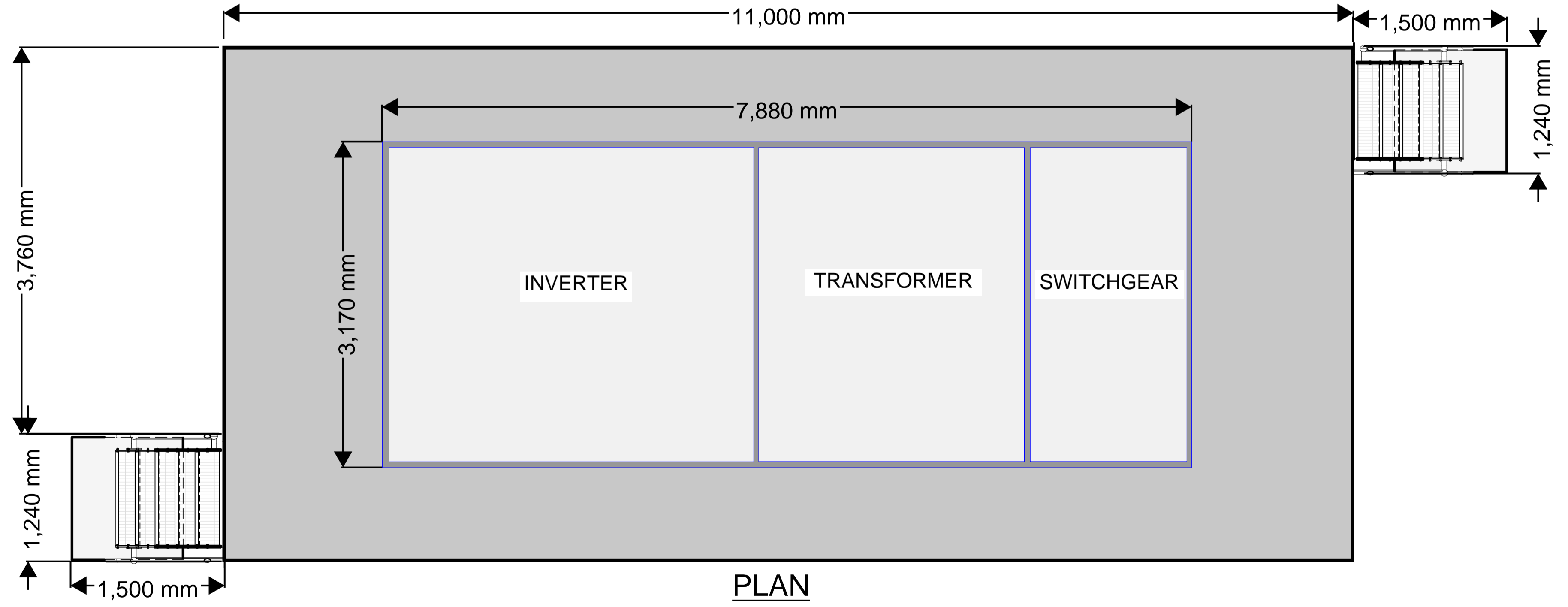
Client: RUAKĀKĀ ENERGY PARK SOLAR FARM

Title: RUAKĀKĀ ENERGY PARK SINGLE-AXIS-TRACKING SYSTEM SITE 3 INDICATIVE PLAN & ELEVATION DRAWING

Discipline	SOLAR
Drawing No.	2318415-EL-006A
Rev.	C



INDICATIVE POWER INVERTER STATION



PLAN

Note:
Inverter platform will be piles or a concrete pad on raised earthworks platform. To be decided during detailed design.

**FOR INFORMATION
NOT FOR CONSTRUCTION**

A	FIRST ISSUE FOR CONSENT	BEP	HP	HP	05/23
B	Flood clearance height amended, note added.	BEP	HP	HP	07/23
C	Increase MVPS height	TH	HP	HP	07/23
No.	Revision	By	Chk	Appd	Date

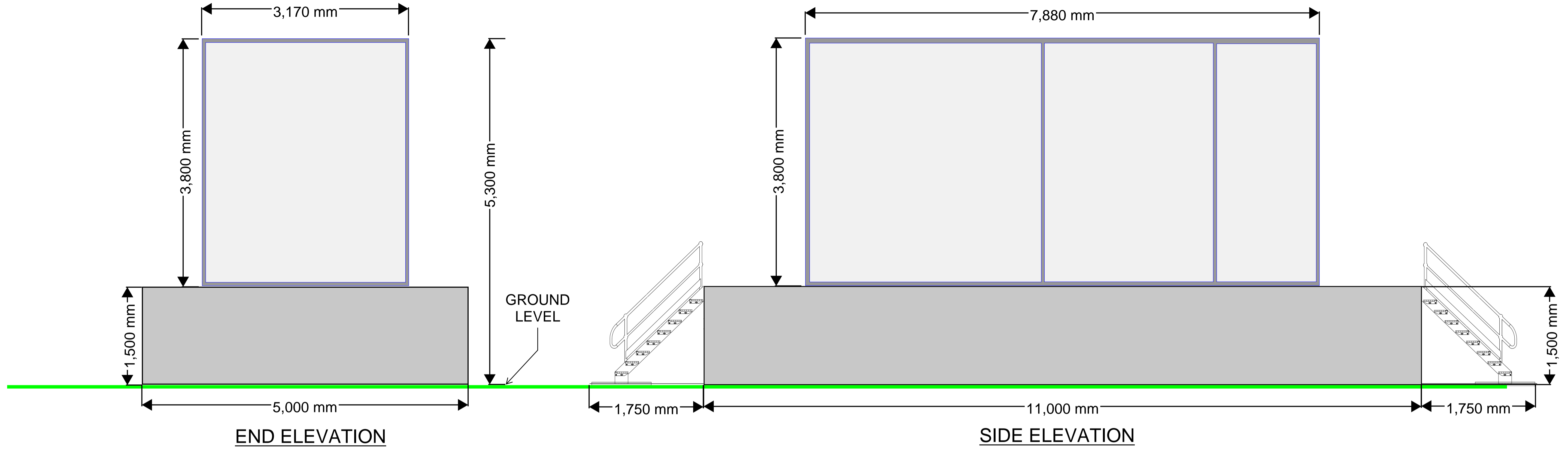
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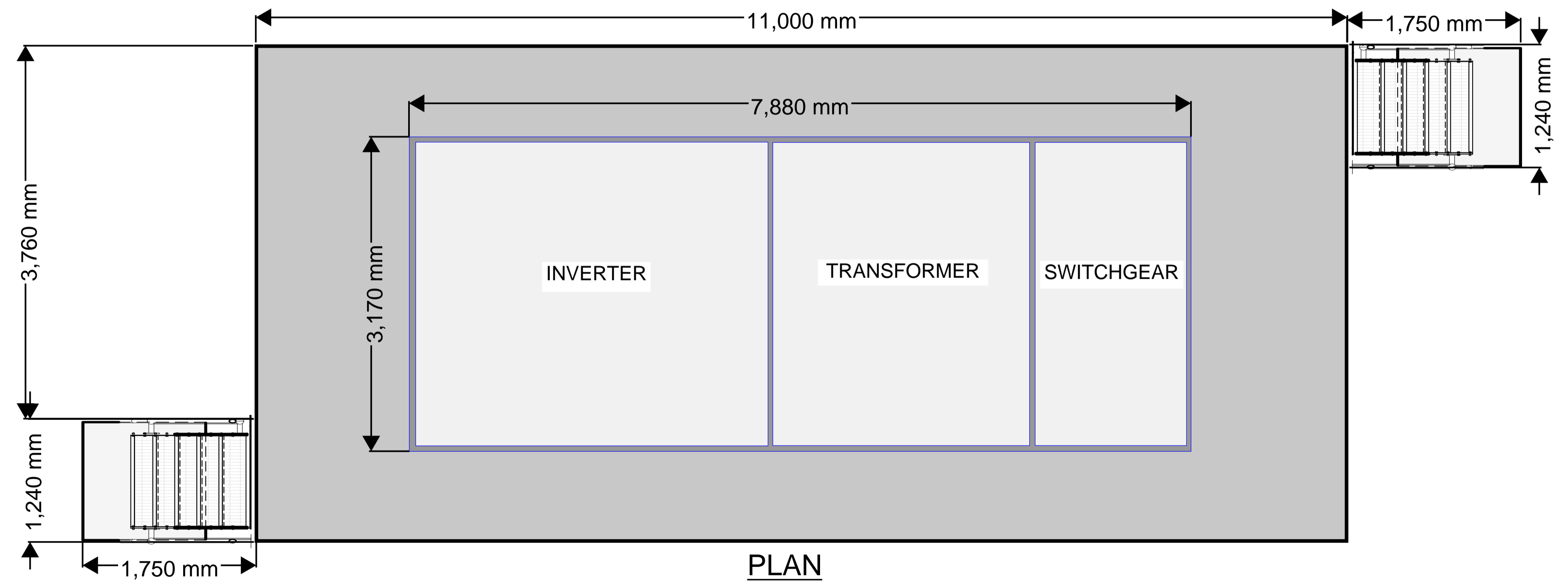
Client: **RUAKAKA ENERGY PARK SOLAR FARM**

Project: **RUAKAKA ENERGY PARK INVERTER POWER STATION SITE 1 INDICATIVE PLAN & ELEVATION DRAWING**

Discipline	SOLAR
Drawing No.	2318415-EL-007
Rev.	C



INDICATIVE POWER INVERTER STATION



PLAN

Note:
Inverter platform will be piles or a concrete pad on raised earthworks platform. To be decided during detailed design.

**FOR INFORMATION
NOT FOR CONSTRUCTION**

A	FIRST ISSUE FOR CONSENT	BEP	HP	HP	07/23
B	Increase MVPS height	TH	HP	HP	07/23
No.	Revision	By	Chk	Appd	Date

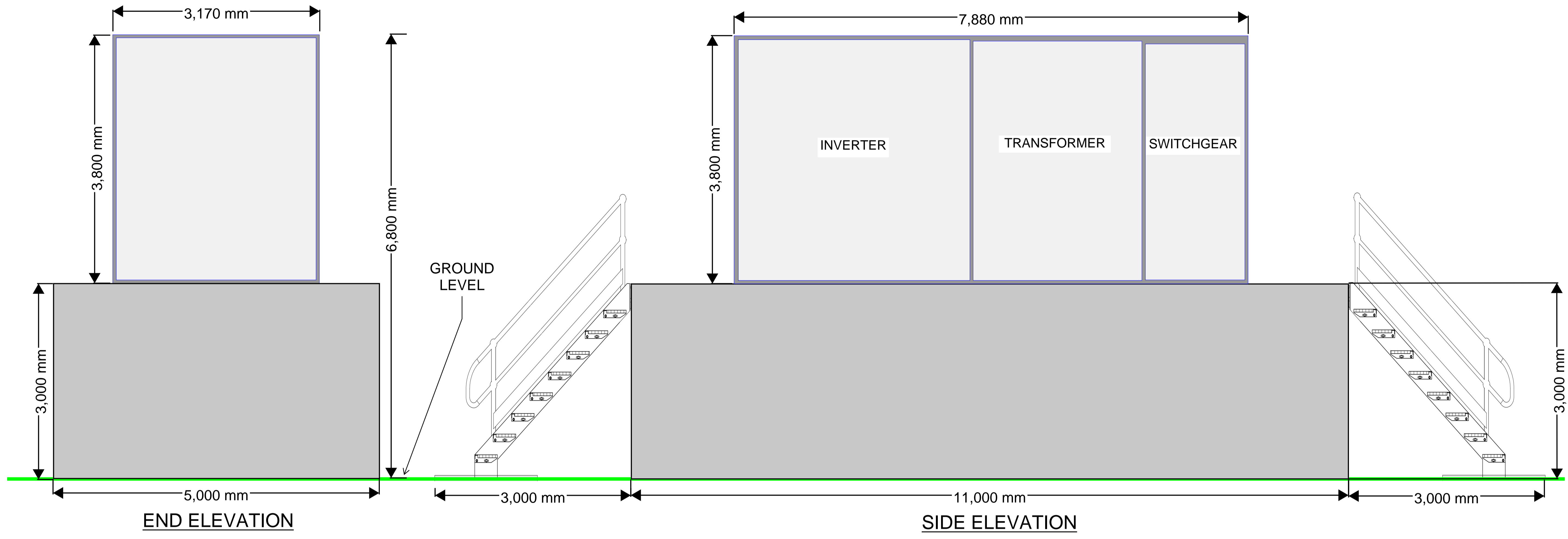
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* Refer to Revision 1 for Original Signature				



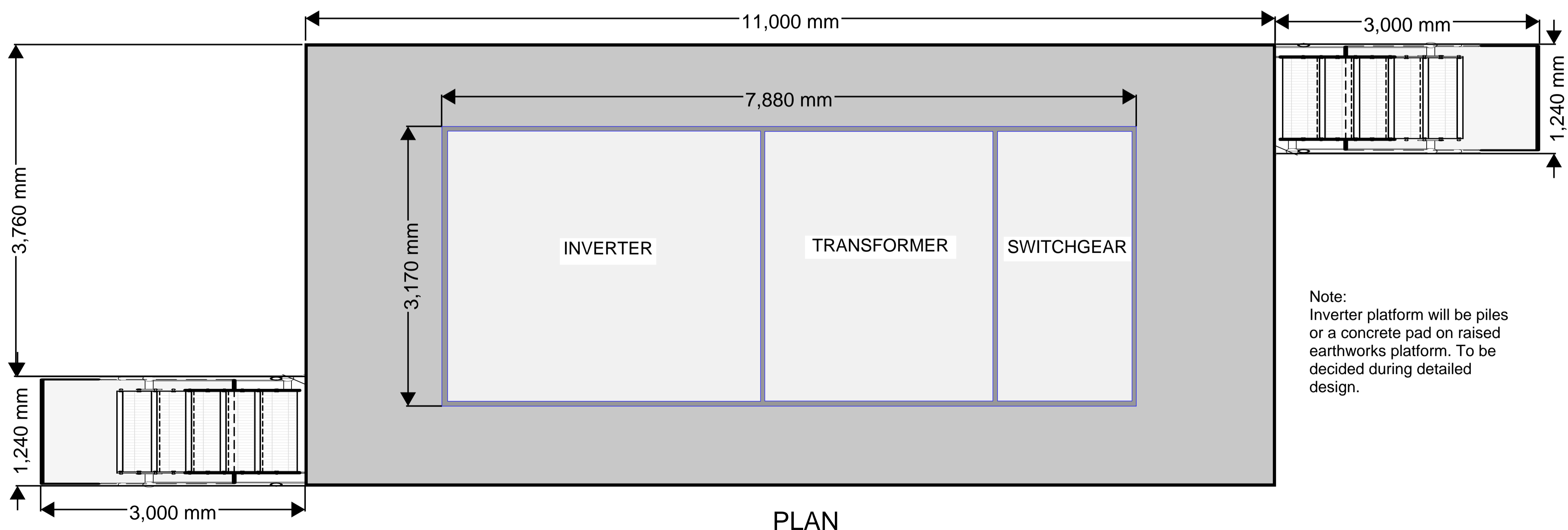
Client: RUAKĀKĀ ENERGY PARK SOLAR FARM

Project: RUAKĀKĀ ENERGY PARK INVERTER POWER STATION SITE 2 INDICATIVE PLAN & ELEVATION DRAWING

Discipline	SOLAR
Drawing No.	2318415-EL-007A
Rev.	B



INDICATIVE POWER INVERTER STATION



Note:
Inverter platform will be piles or a concrete pad on raised earthworks platform. To be decided during detailed design.

**FOR INFORMATION
NOT FOR CONSTRUCTION**

A	FIRST ISSUE FOR CONSENT	BEP	HP	HP	05/23
B	Flood clearance height revised, note added.	BEP	HP	HP	07/23
C	Increase MVPS height	TH	HP	HP	07/23
No.	Revision	By	Chk	Appd	Date

Original Scale (A1)	Design	BEP	05/23	Approved For Construction*
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	Dwg Check	HP	05/23	

* Refer to Revision 1 for Original Signature



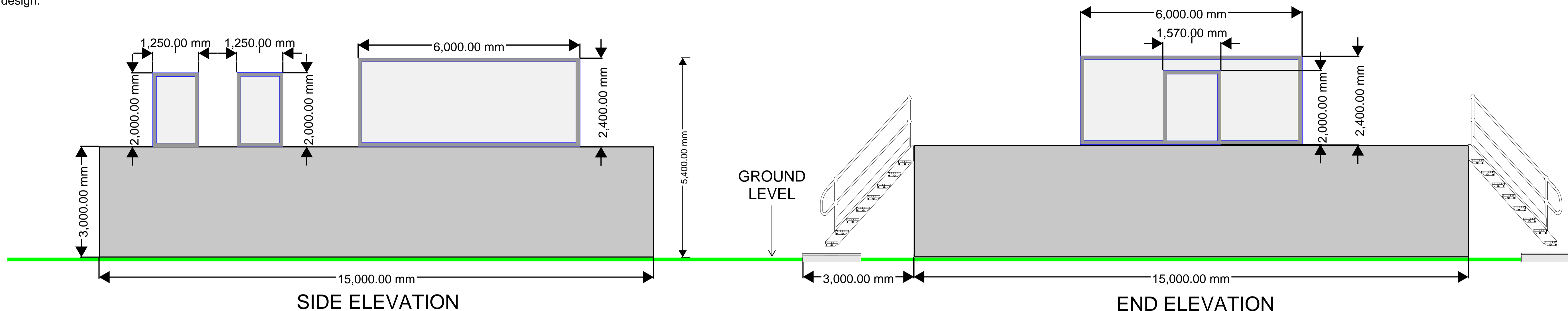
Client: **RUAKĀKĀ ENERGY PARK SOLAR FARM**

Title: **RUAKĀKĀ ENERGY PARK INVERTER POWER STATION SITE 3 INDICATIVE PLAN & ELEVATION DRAWING**

Discipline	SOLAR
Drawing No.	2318415-EL-008
Rev.	C

INDICATIVE CONTROL SHED AND RMU DIMENSIONS

- Notes:
 1) The Control Shed will be on Site 3
 2) Inverter platform will be piles or a concrete pad on raised earthworks platform. To be decided detailed design.



SIDE ELEVATION

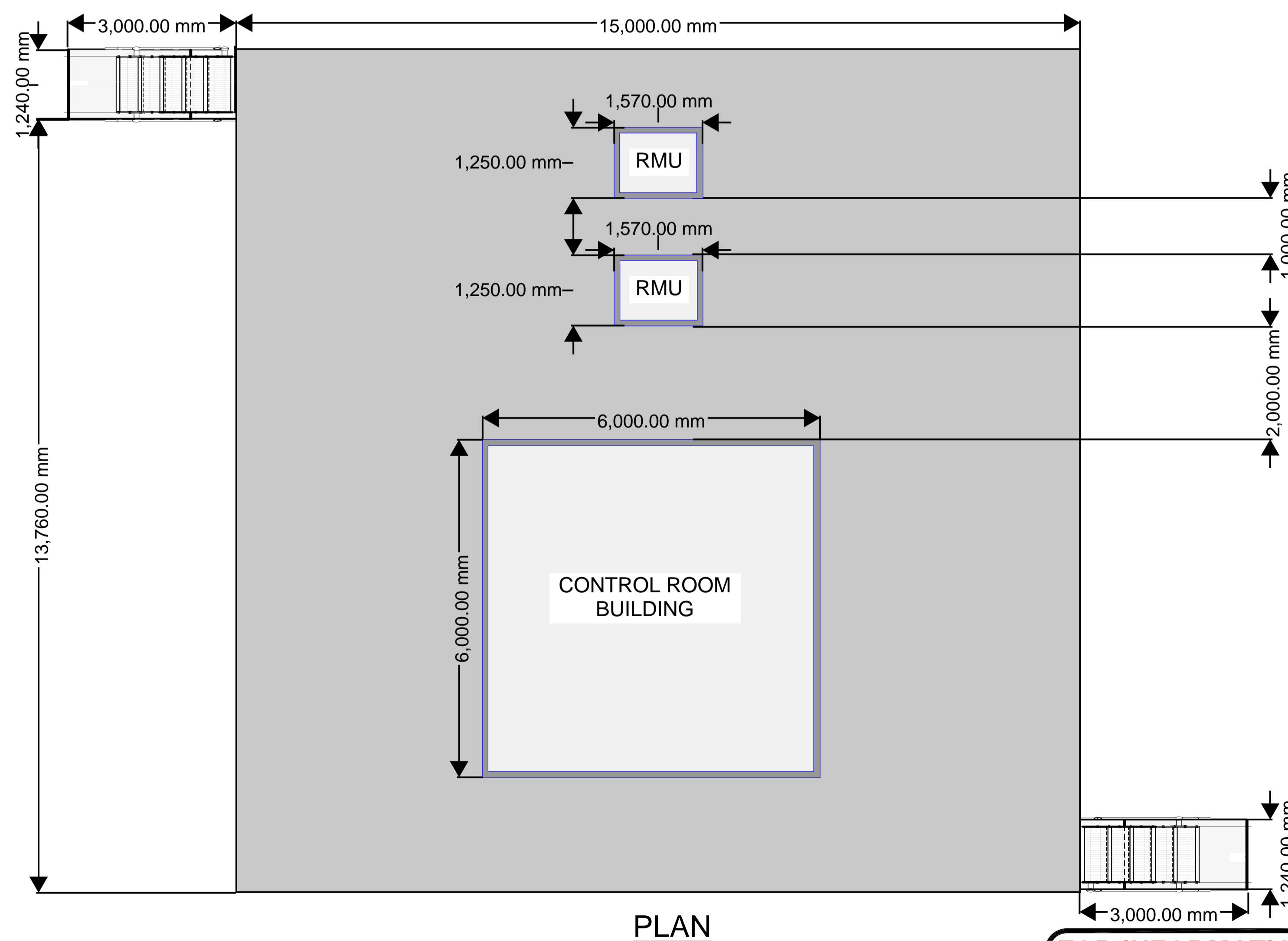
END ELEVATION



**INDICATIVE OUTDOOR 3-WAY
33kV RING MAIN UNIT**



**INDICATIVE CONTROL ROOM
BUILDING**



PLAN

**FOR INFORMATION
NOT FOR CONSTRUCTION**

A	FIRST ISSUE FOR CONSENT	BEP	HP	HP	05/23
B	Maximum height added	TH	HP	HP	08/23
No.	Revision	By	Chk	Appd	Date

Original Scale (A1)	Design	BEP	05/23	Approved For Construction*
Reduced Scale (A3)	Drawn	BEP	05/23	Date
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* Refer to Revision 1 for Original Signature



Client: **RUAKĀKĀ ENERGY PARK SOLAR FARM**

Title: **RUAKĀKĀ ENERGY PARK SWITCHING STATION INDICATIVE PLAN & ELEVATION DRAWING**

Discipline	SOLAR
Drawing No.	2318415-EL-011
Rev.	B