Te Kaunihera o Te Hiku o te Ika
Far North District Council

Office Use Only
Application Number:

Application for resource consent or fast-track resource consent

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA)) (If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of Schedule 4). Prior to, and during, completion of this application form, please refer to Resource Consent Guidance Notes and Schedule of Fees and Charges — both available on the Council's web page.

1. Pre-Lodgement Meeting

Have you met with a council Resource Consent representative to discuss this application prior to lodgement? ◯ **Yes** ✔ **No**

2. Type of Consent being applied for

(more than one circle can be ticked):

- ✔ **Land Use**
- ◯ **Fast Track Land Use***
- ◯ **Subdivision**
- ◯ **Consent under National Environmental Standard** (e.g. Assessing and Managing Contaminants in Soil)
- ◯ **Discharge**
- ◯ **Change of Consent Notice (s.221(3))**
- ◯ **Extension of time (s.125)**
- ◯ **Other (please specify)** _____

The fast track is for simple land use consents and is restricted to consents with a controlled activity status.

3. Would you like to opt out of the Fast Track Process?

✔ **Yes** ◯ **No**

4. Consultation

Have you consulted with Iwi/Hapū? ✔ **Yes** ◯ **No**

If yes, which groups have you consulted with?	Ngati Kawa
Who else have you consulted with?	Waitangi Treaty Grounds Trust

*For any questions or information regarding iwi/hapū consultation, please contact Te Hono at Far North District Council **tehonosupport@fndc.govt.nz***

5. Applicant Details

Name/s: Connexa Limited

Email: [redacted]

Phone number: [redacted]

Postal address:
(or alternative method of service under section 352 of the act) [redacted]

6. Address for Correspondence

Name and address for service and correspondence (if using an Agent write their details here)

Name/s: Pavithra Perera - Incite (Auckland) Limited

Email: [redacted]

Phone number: [redacted]

Postal address:
(or alternative method of service under section 352 of the act) [redacted]

**** All correspondence will be sent by email in the first instance. Please advise us if you would prefer an alternative means of communication.***

7. Details of Property Owner/s and Occupier/s

Name and Address of the Owner/Occupiers of the land to which this application relates (where there are multiple owners or occupiers please list on a separate sheet if required)

Name/s: See attached Certificate of Title

Property Address/ Location:

_____

_____

_____

Postcode _____

8. Application Site Details

Location and/or property street address of the proposed activity:

Name/s:

Site Address/ Location: 26 Tau Henare Drive, Waitangi

Postcode

Legal Description: LOT 1 DP 326610 **Val Number:**

Certificate of title: Certificate of Title attached

Please remember to attach a copy of your Certificate of Title to the application, along with relevant consent notices and/or easements and encumbrances (search copy must be less than 6 months old)

Site visit requirements:

Is there a locked gate or security system restricting access by Council staff? ◯ **Yes** ✔ **No**

Is there a dog on the property? ◯ **Yes** ✔ **No**

Please provide details of any other entry restrictions that Council staff should be aware of, e.g. health and safety, caretaker's details. This is important to avoid a wasted trip and having to re-arrange a second visit.

9. Description of the Proposal:

Please enter a brief description of the proposal here. Please refer to Chapter 4 of the District Plan, and Guidance Notes, for further details of information requirements.

Install a 20m high telecommunication facility.

If this is an application for a Change or Cancellation of Consent Notice conditions (s.221(3)), please quote relevant existing Resource Consents and Consent Notice identifiers and provide details of the change(s), with reasons for requesting them.

10. Would you like to request Public Notification?

◯ **Yes** ✔ **No**

11. Other Consent required/being applied for under different legislation

(more than one circle can be ticked):

- ◯ **Building Consent** Enter BC ref # here (if known)
- ◯ **Regional Council Consent (ref # if known)** Ref # here (if known)
- ◯ **National Environmental Standard consent** Consent here (if known)
- ◯ **Other (please specify)** Specify 'other' here

12. National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health:

The site and proposal may be subject to the above NES. In order to determine whether regard needs to be had to the NES please answer the following:

Is the piece of land currently being used or has it historically ever been used for an activity or industry on the Hazardous Industries and Activities List (HAIL) ◯ **Yes** ✔ **No** ◯ **Don't know**

Is the proposed activity an activity covered by the NES? Please tick if any of the following apply to your proposal, as the NESCS may apply as a result. ◯ **Yes** ◯ **No** ◯ **Don't know**

- ◯ **Subdividing land**
- ◯ **Changing the use of a piece of land**
- ◯ **Disturbing, removing or sampling soil**
- ◯ **Removing or replacing a fuel storage system**

13. Assessment of Environmental Effects:

Every application for resource consent must be accompanied by an Assessment of Environmental Effects (AEE). This is a requirement of Schedule 4 of the Resource Management Act 1991 and an application can be rejected if an adequate AEE is not provided. The information in an AEE must be specified in sufficient detail to satisfy the purpose for which it is required. Your AEE may include additional information such as Written Approvals from adjoining property owners, or affected parties.

Your AEE is attached to this application ✔ **Yes**

13. Draft Conditions:

Do you wish to see the draft conditions prior to the release of the resource consent decision? ● **Yes** ◯ **No**

If yes, do you agree to extend the processing timeframe pursuant to Section 37 of the Resource Management Act by 5 working days? ✔ **Yes** ◯ **No**

14. Billing Details:

This identifies the person or entity that will be responsible for paying any invoices or receiving any refunds associated with processing this resource consent. Please also refer to Council's Fees and Charges Schedule.

Name/s: (please write in full) Incite (Auckland) Limited

Email: [redacted]

Phone number:

Postal address:
(or alternative method of service under section 352 of the act)

Fees Information
An instalment fee for processing this application is payable at the time of lodgement and must accompany your application in order for it to be lodged. Please note that if the instalment fee is insufficient to cover the actual and reasonable costs of work undertaken to process the application you will be required to pay any additional costs. Invoiced amounts are payable by the 20th of the month following invoice date. You may also be required to make additional payments if your application requires notification.

Declaration concerning Payment of Fees
I/we understand that the Council may charge me/us for all costs actually and reasonably incurred in processing this application. Subject to my/our rights under Sections 357B and 358 of the RMA, to object to any costs, I/we undertake to pay all and future processing costs incurred by the Council. Without limiting the Far North District Council's legal rights if any steps (including the use of debt collection agencies) are necessary to recover unpaid processing costs I/we agree to pay all costs of recovering those processing costs. If this application is made on behalf of a trust (private or family), a society (incorporated or unincorporated) or a company in signing this application I/we are binding the trust, society or company to pay all the above costs and guaranteeing to pay all the above costs in my/our personal capacity.

Name: (please write in full) Pavithra Perera

Signature:
(signature of bill payer) [redacted]

Date 27-Mar-2025

MANDATORY

15. Important Information:

Note to applicant
You must include all information required by this form. The information must be specified in sufficient detail to satisfy the purpose for which it is required.
You may apply for 2 or more resource consents that are needed for the same activity on the same form.
You must pay the charge payable to the consent authority for the resource consent application under the Resource Management Act 1991.

Fast-track application
Under the fast-track resource consent process, notice of the decision must be given within 10 working days after the date the application was first lodged with the authority, unless the applicant opts out of that process at the time of lodgement. A fast-track application may cease to be a fast-track application under section 87AAC(2) of the RMA.

Privacy Information:
Once this application is lodged with the Council it becomes public information. Please advise Council if there is sensitive information in the proposal. The information you have provided on this form is required so that your application for consent pursuant to the Resource Management Act 1991 can be processed under that Act. The information will be stored on a public register and held by the Far North District Council. The details of your application may also be made available to the public on the Council's website, www.fndc.govt.nz. These details are collected to inform the general public and community groups about all consents which have been issued through the Far North District Council.

15. Important information continued...

Declaration

The information I have supplied with this application is true and complete to the best of my knowledge.

Name: (please write in full) Pavithra Perera

Signature: [redacted] **Date** 27-Mar-2025

A signature is not required if the application is made by electronic means

Checklist (please tick if information is provided)

- ◯ Payment (cheques payable to Far North District Council)
- ◯ A current Certificate of Title (Search Copy not more than 6 months old)
- ◯ Details of your consultation with Iwi and hapū
- ◯ Copies of any listed encumbrances, easements and/or consent notices relevant to the application
- ◯ Applicant / Agent / Property Owner / Bill Payer details provided
- ◯ Location of property and description of proposal
- ◯ Assessment of Environmental Effects
- ◯ Written Approvals / correspondence from consulted parties
- ◯ Reports from technical experts (if required)
- ◯ Copies of other relevant consents associated with this application
- ◯ Location and Site plans (land use) AND/OR
- ◯ Location and Scheme Plan (subdivision)
- ◯ Elevations / Floor plans
- ◯ Topographical / contour plans

Please refer to Chapter 4 of the District Plan for details of the information that must be provided with an application. Please also refer to the RC Checklist available on the Council's website. This contains more helpful hints as to what information needs to be shown on plans.

Assessment of Environmental Effects

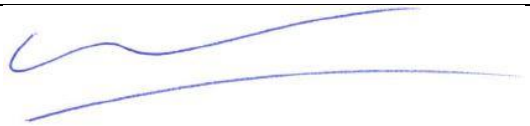
Connexa Limited

Proposed Telecommunications Facility
26 Tau Henare Drive, Waitangi

March 2025

INCITE

Quality Control

Title	Assessment of Environmental Effects, Proposed Telecommunications Facility, 26 Tau Henare Drive, Waitangi
Client	Connexa Limited
Version	Final
Date	27 March 2025
File Reference	A55100.01
Prepared by	Pavithra Perera
Signature	
Reviewed by	Chris Horne
Signature	

Limitations:

The report has been prepared for Connexa Limited, according to their instructions, to support a resource consent application. This report has been prepared on the basis of information provided by Connexa Limited. Incite has not independently verified the provided information and has relied upon it being accurate and sufficient for use by Incite in preparing the report. Incite accepts no responsibility for errors or omissions in the provided information.

Contents

1.0 Introduction

This assessment is provided in support of the resource consent application, in accordance with the requirements of section 88 of the Resource Management Act 1991, the Fourth Schedule to the Act and relevant requirements set out within the Operative Far North District Plan (ODP). The resource consent application is made by Connexa Limited (Connexa) to install, operate and maintain a mobile phone facility at 26 Tau Henare Drive, Waitangi.

Resource consent as a discretionary activity is required as a new pole and antennas within a Recreational Activities Zone are not regulated in the Resource Management (National Environmental Standards for Telecommunications Facilities) Regulations 2016 (NESTF) and is a discretionary activity in the ODP. The rules in the Proposed Far North District Plan (PDP) do not currently have legal effect.

Connexa is an independent mobile towers and infrastructure business, previously a part of Spark New Zealand Trading Limited (Spark). Spark retains a shareholding in Connexa.

The Connexa facility is required to provide enhanced coverage and capacity for the Spark and One New Zealand Limited (One NZ) mobile phone and wireless services including wireless broadband throughout the area.

2.0 Description of the Proposal

2.1 Plans and Documentation

The following plans and documentation are attached as appendices:

- Appendix A – Plans
- Appendix B – Radiofrequency Assessment
- Appendix C – Noise Reports
- Appendix D – Certificate of Title
- Appendix E – Consultation
- Appendix F – Landscape Assessment

2.2 The Site and Surrounds

The application site is located on 26 Tau Henare Drive, Waitangi and is utilised as a car park for the Waitangi Treaty Grounds. The site is legally described as LOT 1 DP 326610 and is owned by the Waitangi National Trust Board. The immediately adjacent land is a separate title containing the Waitangi Golf Club but is under the same ownership.

The surrounding area includes the golf course adjoining to the north, parking and open space recreation space south of the golf course and west to Tau Henare Drive, and the Waitangi Treaty Grounds east of Tau Henare Drive. The area around the application site is very well vegetated with mature trees. The area immediately across Tau Henare Drive is also well vegetated. The application site has been assessed by an archaeologist with no evidence of features at the site location and the closest recorded Heritage site is 236 metres away.

Further, there are no dwellings located within close proximity to the site.

Tau Henare Drive is not a public road and is located within the same title as the application site.

Figure 1: Proposed facility location (Source: Far North District Council GIS Maps)

Figure 2: Updated aerial of application site (Source: Google Maps)

2.3 The Proposal

In summary, the proposal seeks to install, operate and maintain a new mobile phone site at 26 Tau Henare Drive, Waitangi. The Connexa facility will provide equipment for Spark and One NZ mobile phone and wireless broadband customers in and around Waitangi.

Specifically, the proposal will consist of the following:

- Install a new pole structure. Total height of the new pole inclusive of antennas, excluding the lighting rod, is 20m. The maximum width of the pole at its base will measure 1m.
- Install panel antennas for Spark and One NZ at the top of the pole on a 3.8m wide headframe.
- Install ancillary equipment on the pole below the panel antennas.
- Install four new Spark equipment cabinets on a concrete foundation, which will be 1.8m high with a total footprint of 2m^2 (excluding concrete plinth).
- Install three new One NZ equipment cabinets on a concrete foundation, which will be 1.94m high with a total footprint of 1.79m^2 (excluding concrete plinth).

- Install underground fibre and power connections.
- Minor ancillary earthworks for foundations and service trenches.

Plans showing the proposed facility are included in **Appendix A**.

3.0 Reasons for Resource Consent

In order to determine the activity status of the proposal, it must first be considered against the regulations provided for under the *Resource Management (National Environmental Standards for Telecommunication Facilities) Regulations 2016* (NESTF). If the regulations of the NESTF cannot be met, or the activity is not regulated, then the ODP and any relevant PDP (if the rules have legal effect) requires consideration. The proposed cabinets and radiofrequency standards are regulated, however the new pole and antenna are not regulated and therefore subject to the ODP.

3.1 Resource Management (National Environmental Standards for Telecommunication Facilities) Regulations 2016 (NESTF)

The *Resource Management (National Environmental Standards for Telecommunication Facilities) Regulations 2016* (NESTF) provide national standards for telecommunication utilities. The NESTF came into effect on 1 January 2017 and replaces the previous 2008 regulations. The new regulations have broader application than the previous regulations and now also cover a range of new facilities and upgrades outside of roads, as well as providing for new poles and a larger development envelope for equipment inside roads. The NESTF applies to Connexa, Spark and One NZ as they fall within the definition of a "facility operator" because they have been declared a "network operator" under section 5 of the Telecommunications Act 2001. The following table outlines the provisions of the NESTF relevant to the proposal.

The proposal is for a new pole located in the Recreational Activities Zone, which is not regulated under the NETSF and is instead assessed under the district plan assessment below. The proposed cabinets, sub part 5 overlays, earthworks and radio frequency fields are assessed under Table 1 below.

Table 1: Assessment of relevant NESTF regulations[1]

Regulation	Compliance Assessment
11: Activity complying with standard is a permitted activity	**Complies:** As set out below, the proposed works in regard to the cabinets and radiofrequency comply with all of the relevant permitted activity conditions. The proposed pole and antennas are not regulated under the NESTF and are a discretionary activity

[1] This table should be read in conjunction with the NESTF: http://www.legislation.govt.nz/regulation/public/2016/0281/30.0/DLM6697001.html

	under the ODP. See assessment of the District Plan below.
19: Cabinets – regulated activity and standard	**Complies:** The equipment cabinets are a regulated activity. All relevant standards applying to the cabinets are complied with as set out below.
20: Cabinets not servicing antenna on building	**Complies:** 1. The regulation applies as the cabinets are not subject to regulation 21 (cabinets serving antenna on building). 2. The height and footprint rules in sub clause 3 are met and the power supply is connected underground. 3. Clause (d) is relevant to cabinets not in a road reserve and is not in a residential zone. The height of the Spark and One NZ cabinets do not exceed 2.5m (1.8m proposed for Spark and 1.94m proposed for One NZ) and the footprint of the cabinets will not exceed $5m^2$ ($2m^2$ proposed for combined Spark cabinets and $1.79m^2$ proposed for combined One NZ cabinets).
25: Noise limits for cabinets not in road reserve	**Complies:** This regulation is complied with if the cabinets are installed and operated in accordance with the district plan rules about noise from a facility at the place where the cabinet is located (Recreational Activities Zone). The noise (rating) level for all activities shall be conducted so as to ensure that noise from the site shall not exceed the following noise limits as measured at or within the boundary of any site in the Residential, Coastal Residential or Russell Township Zones, or at or within the notional boundary of any dwelling in any other rural or coastal zones: 0700 to 2200 hours - 55 dBA L10 2200 to 0700 hours - 45 dBA L10 and 70 dBA Lmax The cabinets are located a considerable distance away from the above identified zones. The application site and the surrounding environment is comprised of a golf club and the Treaty grounds with the nearest residential activity (Copthorne Hotel and Resort Bay of Islands may contain staff accommodation) located approximately 257m away. The cabinets will comply with the above noise levels by a wide margin. Attached as **Appendix C** are two noise reports for Spark and One NZ cabinets.

	The proposal involves a total of four Spark cabinets (one of the cabinets will be installed in the future to futureproof the facility), two of which will be noise generating cabinets with the other two being a passive battery cabinet and a utility cabinet which will not generate any noise. Either cabinet configurations in the report (RRH and RFM) used by Spark at the proposed location will comply with the identified noise levels per the attached noise report titled *Eaton ECS33 – ENT Residential Roadside Telecommunications Cabinets: Noise Emission* The proposal also involves a total of three One NZ cabinets and the attached One NZ cabinet report titled *VODAFONE GREENFIELD CABINETS Sound Level Distance Tables* confirms that the cabinets will comply with the above noise limits at the relevant measurement points. The noise report is for a four cabinet configuration and only three are being installed here.
44: Trees and vegetation in road reserve 45: Significant trees 46: Historic Heritage Values 47: Visual amenity landscapes 48: Significant habitats for indigenous vegetation 49: Significant habitats for indigenous fauna 50: Outstanding natural features and landscapes 51: Places adjoining the Coastal Marine Area 52: Rivers and lakes	**N/A:** No overlays apply to the subject site protecting the values set out in these regulations.
54: Earthworks: regional rules apply	**Complies:** The very minor earthworks will not trigger a regional earthworks consent.
55. Radiofrequency fields	**Complies:** The facility is to be operated in accordance with NZS 2772: Part 1: 1999 Radiofrequency Fields Part 1 – Maximum Exposure Levels – 3 kHz to 300 GHz. It is confirmed that radiofrequency exposures from the proposed Spark and One NZ antennas to be used on the pole will comply with this standard. The radio frequency assessments in **Appendix B** meets the requirements for a pre-commencement report as stipulated in Regulation 55(2)(b)(ii). Other transmitting facilities in the immediate locality have been considered in regard to cumulative exposures.

	As the pre-commencement prediction concludes that the radio frequency exposures from the panel antennas, including any cumulative effects, are not predicted to exceed 25% of the NZS2772.1.1999 standard, no post-commencement monitoring is required.

Based on the above assessment, the regulated components of this proposal comply with the NESTF (cabinets and radio frequency exposures) and does not require resource consent.

The proposed pole and antennas are not regulated under the NESTF and as outlined in the District Plan assessment below, the proposed pole is a discretionary activity in the District Plan. This is only in relation to boundary matters with the adjacent title in the same ownership.

3.2 Operative Far North District Plan

The proposed new pole and antennas are not regulated by the NESTF and accordingly must be assessed against the District Plan. The radio equipment cabinets and radiofrequency exposures are regulated by the NESTF and are separately assessed against the relevant regulations above.

The site is located in the Recreational Activities Zone and is not subject to any designations or special overlays.

Figure 3: Zoning Map (Source: Far North Maps – ODP)

Activities relating to Infrastructure are in Chapter 17: Designations and Utility Services. Further, the proposal must also meet any relevant zone standards in Chapter 9: Recreation/conservation environment. However, other than the pole and attached antennas, the equipment is subject to the NESTF and not the rules in Chapter 17 of the ODP. The relevant District Plan rules are detailed below.

Table 2: Assessment of Relevant District Plan Provisions

Rule	Compliance Assessment
Section 9.6 Recreational Activities Zone	
9.6.5.1.4 Sunlight	**Does not Comply:** The proposed facility is located adjacent a site boundary and will not comply with the height in relation to boundary (HIRTB) of 45 degree recession plane as measured inwards from any point 2m vertically above ground level.
9.6.5.1.6 Setback from boundaries	**Does not Comply:** The overall facility is setback approximately 1.3m from the adjacent site boundary and does not comply with the 2m setback. Tau Henere Drive is not a legal road and is within the same land title. Therefore, road setback will not be required.
9.6.5.1.9 Screening for Neighbours	**Complies:** The facility is not adjoining sites zoned as Residential, Conservation, Russell Township and Coastal Residential Zones. The closest relevant zone (Conservation) is located approximately 105m away. The area around the proposed facility is well screened form adjacent zones by existing vegetation.
9.6.5.1.12 Noise	**Complies:** Assessed under the NESTF
Section 17.2 Utility Services	
17.2.6.1.4(a) the maximum height of any support structure including antennae is 20m	**Complies:** The proposed pole and attached antennas are 20m high, and compliant with this height limit.
17.2.6.1.4(b) the maximum diameter of microwave dishes shall be 2m	**N/A:** No microwave dish antennas proposed.
17.2.6.1.4(c) if the facility is accessible to the public, it is designed and operated in accordance with NZS 2722 1:1999 "Radiofrequency Fields: Part 1: Maximum Exposure Levels: 3 kHz – 300 GHz" and with NZS 6609.2:1990 "Radiofrequency Radiation: Part 2: Principles and Methods of Measurement: 300 kHz – 100 GHz".	**N/A:** Regulated under the NESTF.
17.2.6.1.4(d) telecommunication facilities located in road reserve comply with the National Environmental Standard for Telecommunication Facilities	**N/A:** The facility will not be located in a road reserve.

The proposal is therefore a **discretionary activity** in accordance with the applicable provisions of the ODP, but only in relation to boundary matters with the adjacent title in the same ownership.

3.3 Proposed Far North District Plan

The Proposed Far North District Plan (PDP) was notified on 27 July 2022.

Within the PDP, the application site is located in a Rural Production Zone and is adjacent a Sport and Active Recreation Zone. The site is also located within a Coastal Environment. The relevant rules within the PDP do not yet have any legal effect. Therefore, the rules under the PDP have not been assessed.

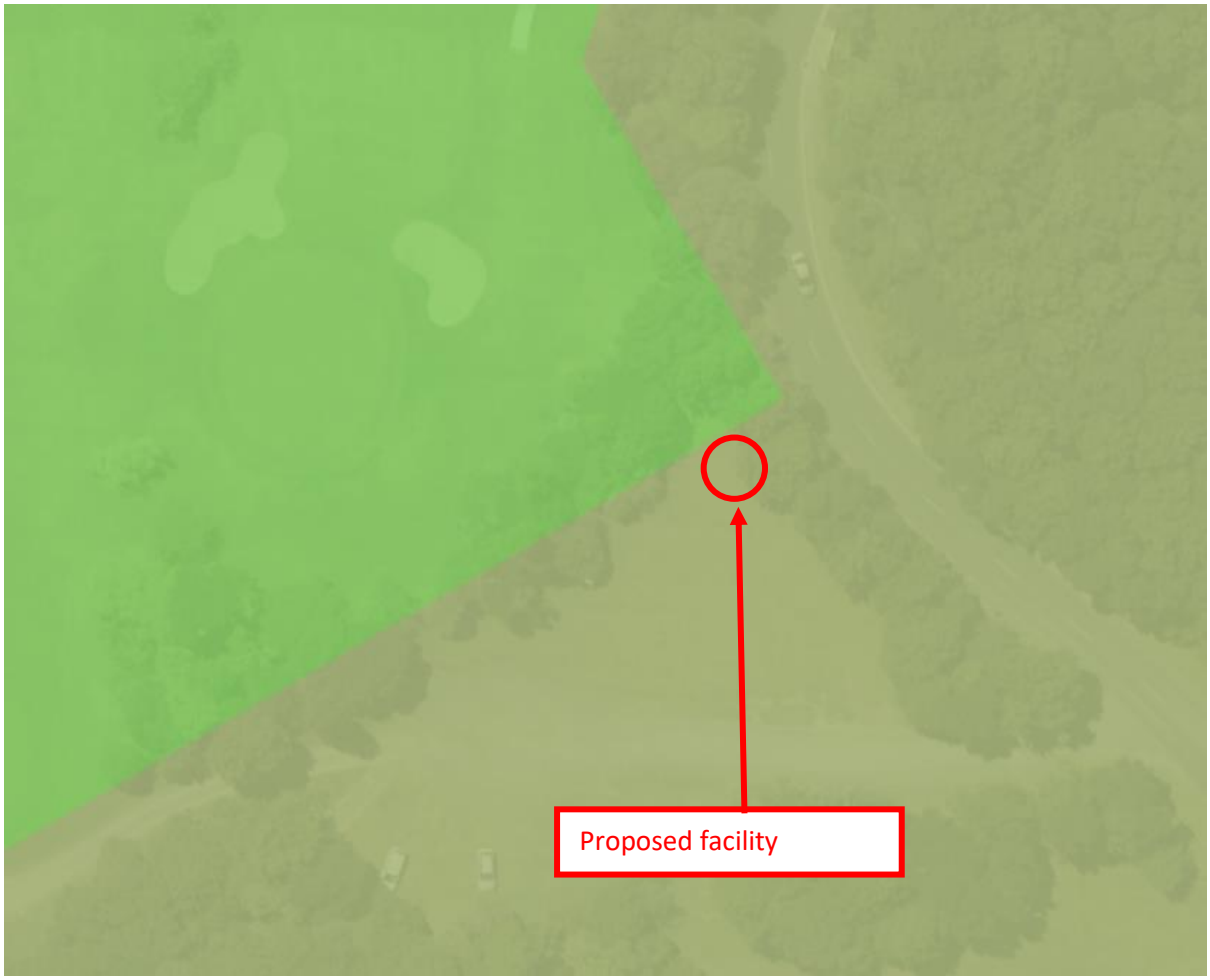


Figure 4: Zoning Map (Source: Far North Maps – PDP)

There are no HAIL activities present as confirmed by the Northland Regional Council Land-use Register Map.

4.0 Assessment of Environmental Effects

4.1 Effects Overview

The cabinets are a permitted activity under the NESTF and as such do not require resource consent. As the pole does not meet the HIRTB and set back standards in the District Plan from the immediately adjacent site it is a discretionary activity under the ODP, and resource consent as a discretionary activity is required. Accordingly, this assessment focuses on the visual and overshadowing effects of the proposed pole and antennas.

For completeness, positive effects are also assessed.

4.2 Visual and Shadow Effects

The District Plan anticipates telecommunication poles and attached antennas in the Reactional Activities Zone up to 20m in height and has accordingly provided for these as permitted activities. However, this is subject to meeting the HIRTB control and setback from the adjacent site. While there is a ODP HIRTB and set back infringement from the adjacent site due to being located next to the site boundary, the adjacent site is under the same ownership as the application site (both owned by Waitangi National Trust Board). Any overshadowing or dominance will be over a golf course, with the pole located nowhere near the club facilities and will therefore have less than minor adverse visual effects within this context. The narrow pole profile would only generate any shade on the golf course in any particular location for a brief period of time. The large trees around the golf course will similarly create intermittent shading on the golf course as the sun position moves. The base of the facility will also be adequately screened from the adjacent site, with only the headframe and upper parts of the pole being visible to the immediate environment.

A pole within the golf course itself would be a permitted activity up to 20m, so is anticipated in this type of location in the District Plan, and it is only the title boundary between two sites in the same ownership that create a ODP infringement.

The facility is located approximately 1.3m away from the site boundary and given the setback infringement of only 0.7m, the adjoining site being under the same ownership and the boundary screening, any adverse effects caused due to this infringement is also considered less than minor.

Additionally, under the PDP, the application site is proposed to be rezoned into a Rural Production Zone. Once this zoning has legal effect, this would allow for a 25m high and 6m wide telecommunication facility with a 6m wide headframe at the top of the pole at the application site as a permitted activity under NESTF Regulation 35 and would not require compliance with HIRTB and setback rules under the district plan. The only provision is maintaining a 50m set back from any dwelling.

Overall, the visual of the proposed pole and antennas are assessed as being consistent with what is anticipated in the zone having less than minor adverse visual effects in the particular location being the

interface between a car park and golf course. Similarly, overshadowing effects on the golf course will be transient, localised, and are assessed as less than minor.

4.3 Positive Effects

The proposal will have a number of positive effects for the surrounding community as it forms a part of essential infrastructure providing enhanced telecommunication and wireless broadband services for Spark and One NZ customers. The telecommunication facility will provide social and economic benefits by improving mobile connectivity and data speeds for the community, thereby assisting businesses and households alike. Additionally, it will enhance disaster resilience by providing a more comprehensive and robust telecommunications network.

A new cell site is needed in the area to improve coverage across the whole of the Bay of Islands. The new cell site will add much needed capacity into the network which will off load the traffic from the existing cell sites across the Bay of Islands, notably at Russell and Haruru. Waitangi experiences poor service and congestion when events are held at Waitangi as there is not enough capacity to service the crowds. Further when there are events at other areas closer to the existing cell sites, this also affects the coverage that is available at Waitangi.

4.4 Effects Summary

Having regard to the above analysis, it is considered that any actual or potential adverse effects of the pole and antenna is assessed as less than minor. The proposed cabinets and radio frequency exposures are within the permitted baseline of effects as they are permitted by the NESTF. Overall, it is anticipated that the proposal will result in positive effects for Waitangi and the surrounding area.

5.0 Statutory Assessment

5.1 Resource Management Act (RMA)

Section 104(1) of the RMA sets out the matters a consent authority must, subject to Part 2, have regard to. These matters are as follows:

a) any actual and potential effects on the environment of allowing the activity; and

ab) any measure proposed or agreed to be the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity; and

b) any relevant provisions of-

- *i). a national environmental standard:*
- *ii). other regulations:*
- *iii). a national policy statement:*
- *iv). a New Zealand coastal policy statement*
- *v). a regional policy statement or proposed regional policy statement*
- *vi). a plan or proposed plan; and*

c) *any other matter the consent authority considers relevant and reasonably necessary to determine the application."*

Taking section 104(1) into regard, the statutory assessment for this proposal considers the following matters relevant:

- RMA Part 2 (Purpose and Principles)
- Operative Far North District Plan
- Proposed Far North District Plan

5.1.1 Section 5 - Purpose

The purpose of the RMA is to *"promote the sustainable management of natural and physical resources"* (s5(1)). Under section 5(2) *"sustainable management"* means:

"managing the *use, development, and protection of natural and physical resources in a way or at a rate, which enables people and communities to provide for their social, economic and cultural wellbeing and for their health and safety while –*

a) sustaining the potential natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

b) safeguarding the life-supporting capacity of air, water, soil and ecosystems; and

c) avoiding, remedying, or mitigating any adverse effects of activities on the environment."

With regard to section 5(2), the proposal:

- Provides for the social and economic wellbeing of the local community through the provision of improved telecommunications and wireless broadband coverage to Waitangi.

- Any adverse effects on visual amenity are appropriately mitigated.

5.1.2 Section 6 – Matters of national importance

In achieving the purpose of the RMA, it is stated that all persons exercising functions and powers under it shall recognise and provide for several matters of national importance. There are no matters of national importance relevant to this application.

5.1.3 Section 7 – Other matters

In achieving the purpose of the RMA it is stated that all persons exercising functions and powers under it shall recognise and provide for additional matters with regards to managing the use, development, and protection of natural and physical resources. The following are those that have been considered of relevance to this application:

...

c) *the maintenance and enhancement of amenity values*

...

e) *maintenance and enhancement of the quality of the environment*

...

With regard to section 7, the proposal:

- Will result in less than minor adverse effects on amenity values and the quality of the environment over and above the permitted baseline whilst will providing positive social and economic effects for people and communities.

5.1.4 Section 8 – Treaty of Waitangi

In achieving the purpose of the RMA, the principles of the Treaty of Waitangi must be taken into account by all persons exercising functions and powers under it in relation to managing the use, development and protection of natural and physical resources. No treaty issues have been identified that are relevant to this proposal.

5.2 Relevant Objectives and Policies

Operative Far North District Plan

The relevant objectives and policies to this application are included in Chapter 17: Designations and Utility Services.

The objectives and policies in Chapter 17 generally address the need to protect the environment from any adverse effects and to ensure that any adverse effects from development on site amenity in regard to natural and landscape values are avoided, remedied or mitigated. The policy themes relevant to this application are assessed as follows:

- That any significant adverse effects of proposed utility services and radio communications on amenity values is avoided, remedied or mitigated.
    - The proposal will be located in a car park adjacent to a golf course and will have less than minor adverse visual effects when assessed against the existing and future context of the surrounding. The poles and antennas will also be painted or supplied in a recessive colour which will minimise its visibility.

- That provision be made to enable new/upgraded utility services to meet growth demand.
    - The proposal allows for an extension of mobile/wireless broadband coverage which will meet the publics growth and demand.

- That provision be made for utility services corridors (such as roads) and the co-siting of telecommunication and radio communication equipment where technically and commercially practicable.
    - The Connexa facility was designed to co-locate Spark and One NZ services which will be beneficial for customers of either operator and will forgo the need for two separate poles within the same environment.

Proposed Far North District Plan

The relevant objectives and policies to this application are included in PART 2 – DISTRICT-WIDE MATTERS / ENERGY, INFRASTRUCTURE, AND TRANSPORT / Infrastructure.

The objectives and policies in the chapter generally address the need to protect the environment from any adverse effects and to ensure that any adverse effects from development of telecommunications infrastructure on site amenity in regard to natural and landscape values are avoided, remedied or mitigated. The policy themes relevant to this application are assessed as follows:

- In the coastal environment, manage the effects of the development, operation, maintenance and upgrading of infrastructure activities.
    - While located in the coastal environment, the facility is located in a well screened area well away from the coastal edge and separated by large stands of trees. It could be posited closer to the coastal edge as a permitted activity as it is only boundary matters that result in resource consent being required. The proposal will l avoid any significant adverse effects on any natural features and landscapes, and areas of natural character.

- Provide for infrastructure where there are benefits.
    - The proposal will benefit the community by providing improved telecommunication and broadband services to the area which will improve the quality of life and standard of living.

- Where practicable and appropriate for the type of infrastructure, minimise the adverse visual effects of infrastructure by co-location or multiple use.
    - The proposed facility is designed to collocate two network utility operators which will forgo the need for two separate poles within the same environment thereby minimising the adverse visual effects created by two vertical structures.

Overall, the proposal is assessed as being consistent with the relevant objectives and policies of the ODP and the PDP.

6.0 Consultation

For the reasons outlined in the assessment of environmental effects above, the adverse effects of this proposal, when considering the location, siting and design of the equipment, are considered to be less than minor. Therefore, formal consultation under the RMA is not required.

Connexa has been working with the Waitangi Treaty Grounds Trust (WTGT) on the cell site proposal since 2023, as the proposal is situated on land they administer. Connexa will lease the land that the cell site will be built on from WTGT. In late February 2024 WTGT advised Connexa to engage with Te Tii Marae and hapū representatives about the proposal. Nicole Wihongi - Head of Operations and Infrastructure for WTGT, provided the contact details for Ngati Kawa and Albie Apiata for Connexa to engage with them as the official Te Tii Marae representatives.

On the 18th March 2024 Caitlin Metz from Connexa sent a comprehensive email with information introducing the proposal to Ngati Kawa and Albie Apiata and copied in Nicole Wihongi. A copy of the emails relating to engaging with the representatives is attached as **Appendix E**.

11th of April 2024 Albie Apiata replied to Caitlin Metz via email explaining that he has experienced poor service at Waitangi and that Connexa should seek Heritage NZ advice on the area. Caitlin Metz phoned Albie Apiata on 15th April to seek clarification on his email. In the phone conversation Albie Apiata confirmed that he and Ngati Kawa are the official representatives, and that Albie will be working with Caitlin on this project and will confer with Ngati Kawa. Albie advised Caitlin to speak to Heritage NZ Northland office to seek their advice on the area where the cell site is proposed.

16th April Caitlin spoke to Bill Edwards at Heritage NZ, Northland office and discussed the proposal and Albie Apiata's advice. Bill Edwards advised Connexa to engage an archaeologist to complete an archaeological assessment of the area. Connexa engaged Dr Justin Maxwell of Sunrise Archaeology to complete an archaeology assessment of the cell site location and the proposed power and fibre routes to the cell site.

Connexa arranged for a site visit to the proposed cell site location with the approval of WTGT. Caitlin Metz informed Albie Apiata of the site visit details. On 1 May 2024 Dr Justin Maxwell met on site with Joseph Byron-Joyce from Miyamoto and Igi Miranda from Entelar Group to complete the assessment of the proposed cell site location and to discuss the power and fibre routes to the cell site location. Albie Apiata and Ngati Kawa were able to join the team on site to discuss the proposed works. The team on site decided changes were needed to the suggested power and fibre routes and therefore more work was required before the archaeology assessment could be finalised.

On the 16th May 2024, Albie Apiata asked Connexa about the possibility of placing the cell site in the forested area above Haruru. Connexa responded that Spark and 2degrees already have cell sites at the suggested location in the forest. Another site at this location would not improve the service at Waitangi and a new site located in Waitangi is required to improve the services across the wider area. Please refer to the original email explaining the need for the new cell site sent on 18 March 2024.

Connexa were also asked to provide a visual assessment of the new cell site and 21 May 2024 Connexa provided visual simulations that were conducted by Wayfinder for the cell site location in December 2022. The information was still valid for the current Connexa proposal. See the Wayfinder Landscape Assessment in **Appendix F**.

20th June 2024 Albie Apiata invited Caitlin Metz from Connexa to attend a hui of the Marae Select Committee to discuss the proposal. Caitlin Metz accepted this invitation although the date and time had not yet been set.

3rd July 2024 Dr Justin Maxwell and Neil Stratful from Liquid Electrical (drilling contractor) visited the site with permission from WTGT to assess the power and fibre routes as these had now been determined. This visit was necessary for the finalisation of the Archaeology Assessment by Dr Maxwell.

17 July 2024 Caitlin Metz emailed Albie Apiata to ask if a date had been set for the Te Tii Marae Select Committee hui. Albie Apiata replied that "*due to a heavy work load we are unable to set a date at this point in time. It could be weeks or months away before we commit. Please be patient*".

25th September 2024 Caitlin Metz and Fiona Lilley had a meeting with WTGT to go through the detail of where the proposal was currently at. On the morning of the 25th September Caitlin Metz phoned Albie Apiata to ask if he could meet that day at short notice. Albie was able to meet with Fiona Lilley, and Caitlin Metz at the Breeze Café at Waitangi. The discussion covered meeting for the first time, the projects underway at the marae, Albie's history and moving back home and his role within the marae and hapū as well as discussion about the cell site proposal and the information that had been provided by Connexa. Caitlin Metz provided printed information to Albie that had previously been emailed to Albie. Albie discussed that the marae committee was very busy and had not set a date to discuss the proposal. Caitlin outlined the next steps once the lease was signed with WTGT, that Connexa would then apply for a resource consent application with Council and a Heritage NZ application to modify.

On 20th March 2025 Connexa received the signed Lease Agreement from WTGT via Nicole Wihongi, Operations Manager. Nicole advised that she and Ngati Kawa have a meeting during the week of 24th March and would advise Ngati Kawa that the lease had been signed. Caitlin advised that once the resource consent and Heritage NZ applications were ready Connexa would provide these to Ngati Kawa and engagement would be ongoing.

7.0 Notification Assessment

Public Notification Assessment – s95A

In relation to public notification, Connexa does not request that the application is publicly notified.

It is noted that the application is not precluded from public notification because:

- there is no rule or national environmental standard that precludes public notification of the application;
- the activity is not a controlled activity, and;
- the application is not solely for a boundary activity.

However, public notification is not required in this instance because:

- there is no rule or national environmental standard that requires public notification of the application;
- as outlined above, the adverse effects of the proposal are assessed as being less than minor; and
- there are no special circumstances that would warrant the application being publicly notified.

Limited Notification Assessment – s95B

There are no affected customary rights groups or customary marine title groups and the land is not subject to a statutory acknowledgement.

It is noted that the application is not precluded from limited notification because:

- there is no rule or national environmental standard that precludes limited notification of the application;

- the activity is not a controlled activity.

However, limited notification is not required in this instance because:

- as outlined above, the adverse effects of the proposal are assessed as being less than minor and no persons are considered to be adversely affected in terms of s95E; and
- there are no special circumstances that would warrant the application being limited notified.

Overall Notification Assessment

Based in the assessment above, the Council can process and grant this application on a non-notified basis with no affected party approvals.

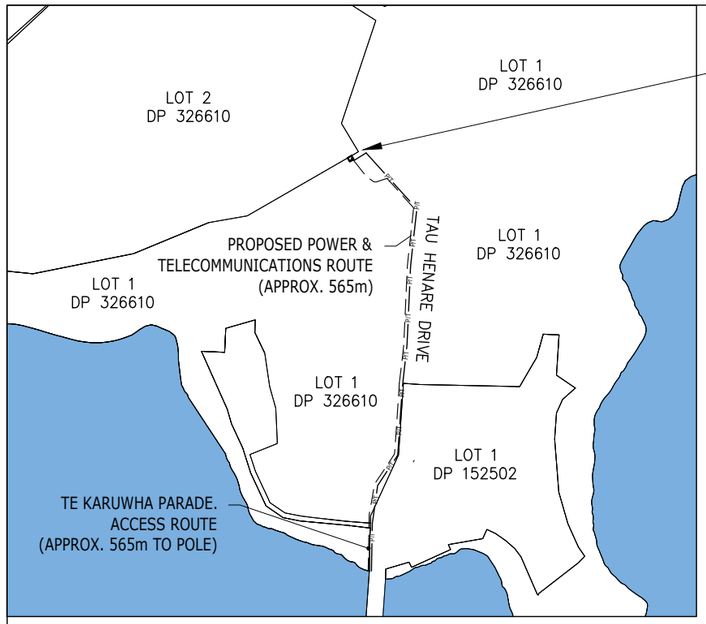
8.0 Conclusion

The proposal is a well-designed facility that is necessary to provide enhanced telecommunication and wireless broadband services to the area. Whilst the pole does not meet all permitted activity standards in the ODP, the infringements have been assessed as having less than minor adverse effects over and above the permitted baseline. The proposal will have positive social and economic effects for the community through provision of enhanced telecommunication and wireless broadband services for both Spark and One NZ customers. It is therefore assessed as being consistent with the relevant objectives and policies of the ODP and PDP.

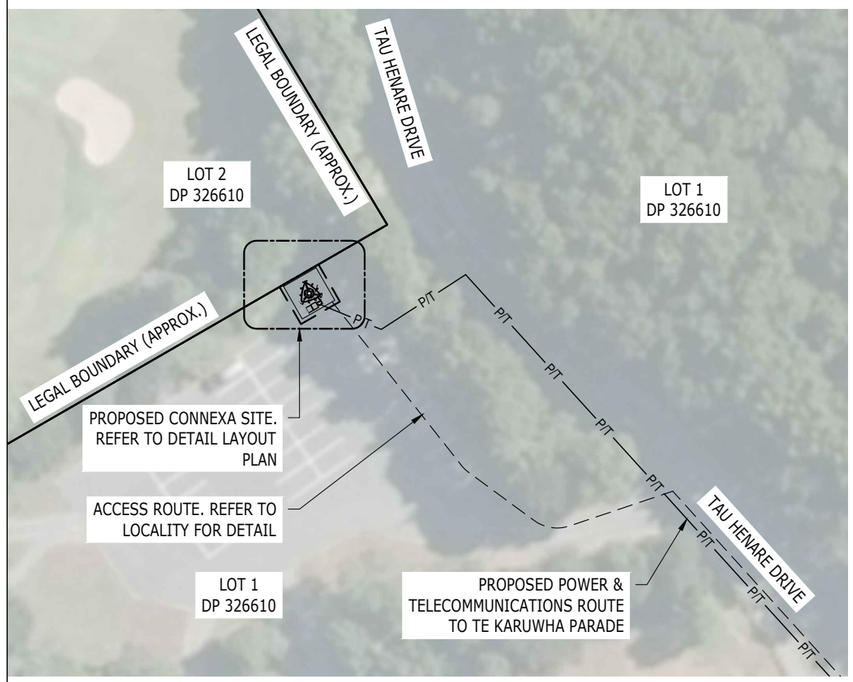
Accordingly, the proposal is considered to promote the sustainable management of natural and physical resources as embodied in Part 2 of the Resource Management Act 1991.

Appendix A

Plans

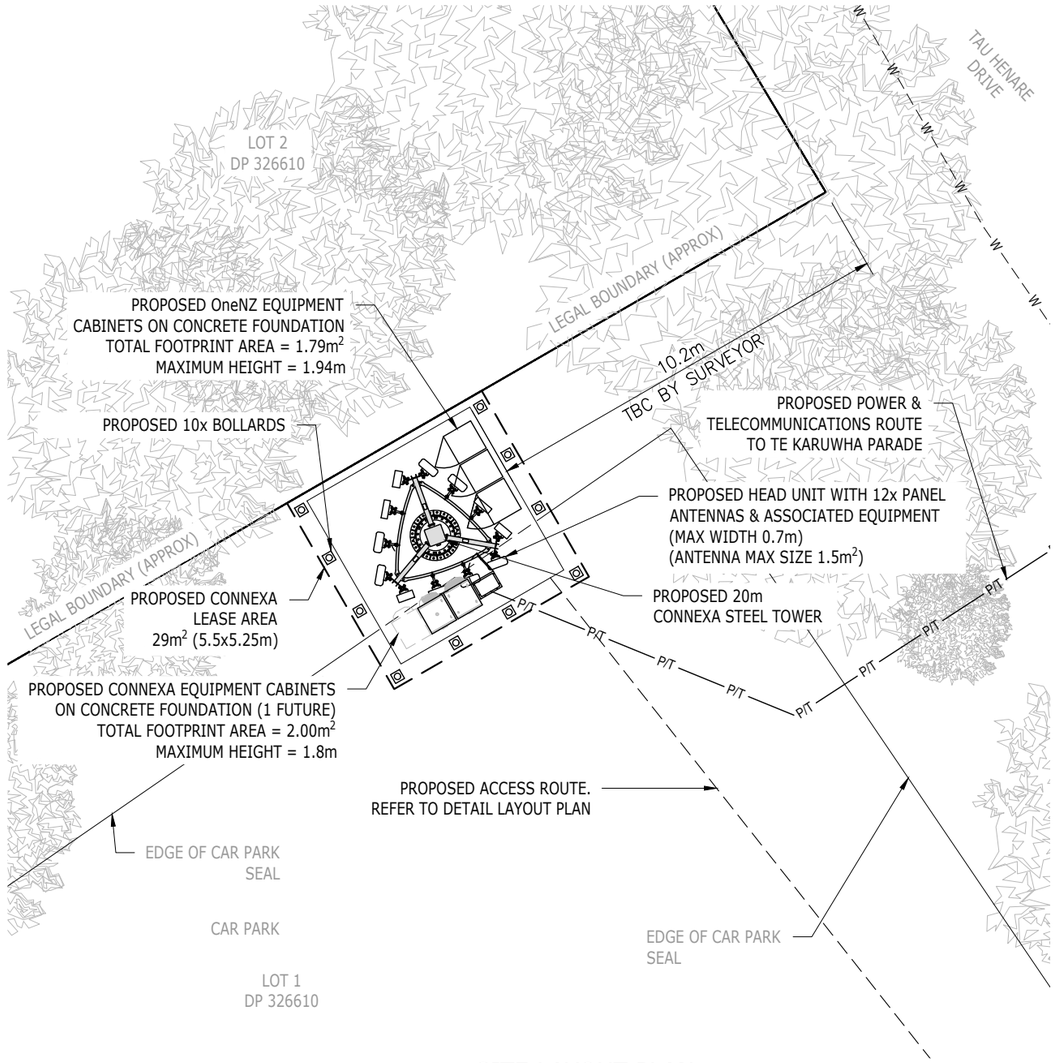


LOCALITY PLAN
SCALE 1:7500



DETAIL LAYOUT PLAN
SCALE 1:750

IMAGE : SOURCE FROM THE LINZ DATA SERVICE



SITE LAYOUT PLAN
SCALE 1:150

NOTES :

1. ACCESS TO SITE FROM TAU HENARE DRIVE AS SHOWN.
2. THE NORTH POINT IS INDICATIVE ONLY.
   BOUNDARIES, BEARINGS AND DISTANCES SHOWN ARE APPROXIMATE AND SUBJECT TO SURVEY.
   LEVELS GIVEN ARE FROM GROUND LEVEL AND ARE APPROXIMATE ONLY.
3. ALL EXISTING SURFACES AND FEATURES SHALL BE FULLY REINSTATED TO THEIR ORIGINAL CONDITION.
4. EXISTING SERVICES INFORMATION HAS BEEN OBTAINED AND PLOTTED FROM LOCAL AUTHORITY AND SERVICE PROVIDERS RECORDS. WHILE EVERY ENDEAVOUR HAS BEEN MADE TO INDICATE ALL KNOWN SERVICES ON PLANS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ALL EXISTING SERVICES IN THE VICINITY OF THE SITE. THESE SERVICES HAVE NOT BEEN CONFIRMED ON SITE. ANY DAMAGE TO EXISTING SERVICES SHALL BE MADE GOOD AT THE CONTRACTOR'S EXPENSE.
5. ROUTE FOR POWER AND TELECOMMUNICATION ROUTE GOING OUT TO TE KARUWHA PARADE. TO BE CONFIRMED.
6. REFER TO CONNEXA STANDARD SIGNS AS REQUIRED.

LEGEND

P	POWER
Z	POWER - OVERHEAD
P/T	POWER AND TELECOM
T	TELECOM
G	GAS
W	WATER
FO	FIBRE OPTIC
SW	STORMWATER
S	SEWER
	LEGAL BOUNDARY
	ACCESS ROUTE
	FENCE
	DRAINAGE
	MANHOLE

CONNEXA

miyamoto.
Level 7, 138 The Terrace,
PO BOX 6354 Marion Square
Wellington, 6144
T: 64 04 801 9026
miyamoto.nz

REF	REVISION DETAILS	BY	DATE
4A	S&L LAYOUT UPDATE	DMG	10.07.24
3	REDLINES AMENDED	KC	13.12.23
2	ACCESS ROUTE AMENDED	KC	12.12.23
1	SL - APPROVED	KC	08.12.23
C	REDLINES AMENDED	KC	07.12.23
B	OneNZ HARDWARE ADDED	KC	06.12.23
A	FOR CLIENT APPROVAL	KC	05.12.23

Consultant: Connexa

Drawn	DMG	Date	10.07.24
Designed	-	Date	-
Checked	-	Date	-
Approved	-	Date	-
Checked	-	Date	-
Approved	-	Date	-

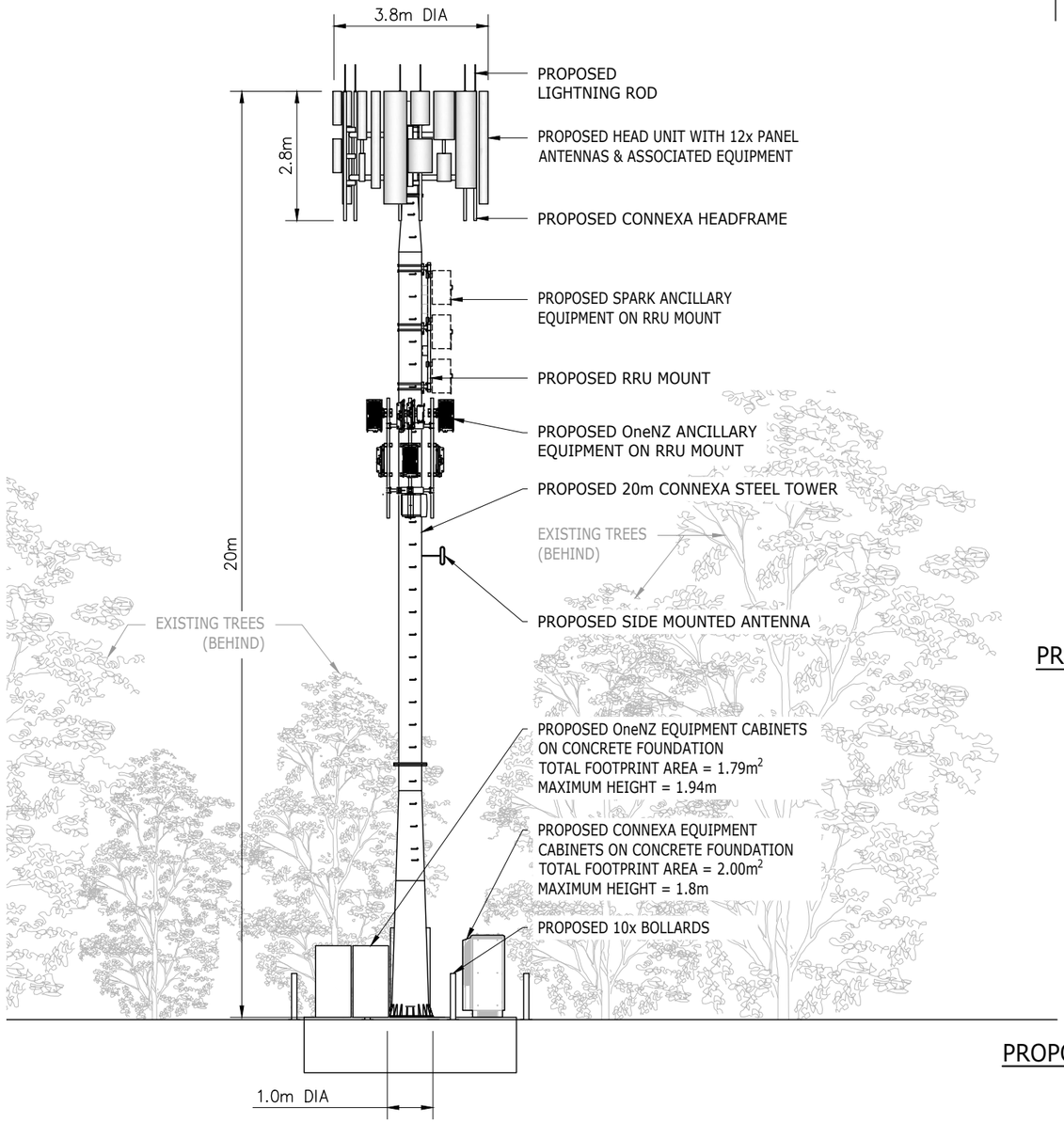
Project:
NWGI
TAU HENARE DRIVE
26 TAU HENARE DRIVE,
WAITANGI

Drawing Title:
SITE & EQUIPMENT LAYOUT

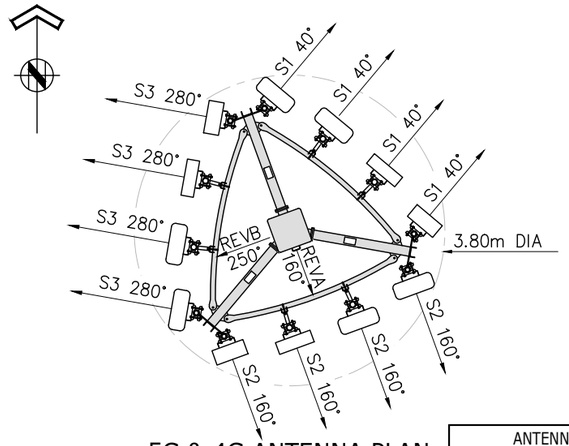
CONFIDENTIAL
DO NOT COPY

Status: SITE & LAND
Site Code: NWGI
Scale: AS SHOWN
Site Type: GREENFIELD
Sheet Size: A3
Drawing No.: S-010
Rev.: 4A

MNZ PROJECT NUMBER : 230689



PROPOSED SOUTH-WESTERN ELEVATION
SCALE 1:125

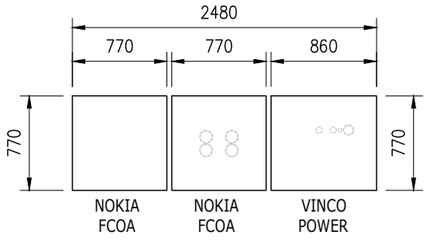


5G & 4G ANTENNA PLAN
SCALE 1:75

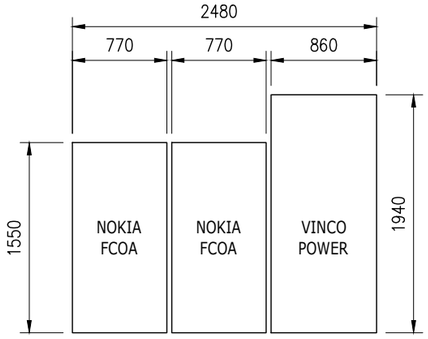
ANTENNA AZIMUTHS
REFERENCED FROM
PLUMBING DIAGRAM v1.0 - 27/08/23

NOTES :

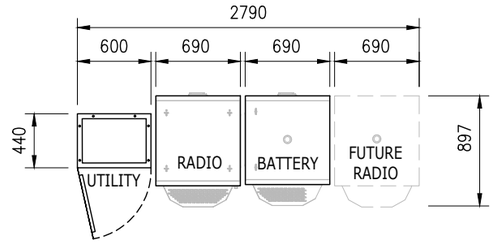
1. REFER TO S-010 FOR NOTES.
2. ANTENNA HEIGHTS ARE MEASURED FROM GROUND LEVEL.
3. ACCESS TO ANTENNAS VIA CLIMBABLE RUNGS.



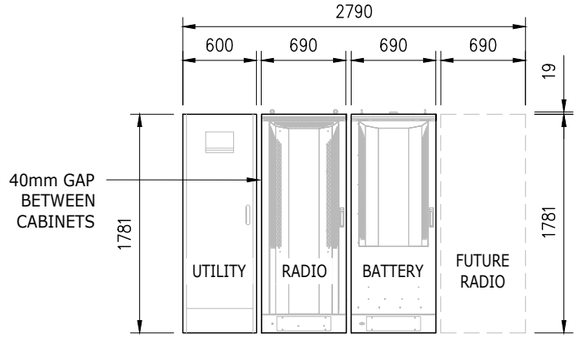
PROPOSED OneNZ CABINET LAYOUT - PLAN
SCALE 1:50



PROPOSED OneNZ CABINET LAYOUT - ELEVATION
SCALE 1:50



PROPOSED CONNEXA CABINET LAYOUT - PLAN
SCALE 1:50



PROPOSED CONNEXA CABINET LAYOUT - ELEVATION
SCALE 1:50

CONNEXA

miyamoto.
Level 7, 138 The Terrace,
PO BOX 6354 Marion Square
Wellington, 6144
T: 64 04 801 9026
miyamotointernational.co.nz

REF	REVISION DETAILS	BY	DATE
4A	S&L LAYOUT UPDATE	DMG	10.07.24
3	REDLINES AMENDED	KC	13.12.23
2	ACCESS ROUTE AMENDED	KC	12.12.23
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B	OneNZ HARDWARE ADDED	KC	06.12.23
A	FOR CLIENT APPROVAL	KC	05.12.23

Consultant: Drawn DMG, Date 10.07.24; Designed -, Date -; Checked -, Date -; Approved -, Date -

Connexa: Checked -, Date -; Approved -, Date -

Project:
NWGI
TAU HENARE DRIVE
26 TAU HENARE DRIVE,
WAITANGI

Drawing Title:
POLE & EQUIPMENT DETAILS

Status: SITE & LAND
Site Code: NWGI
Scale: AS SHOWN
Site Type: GREENFIELD
Sheet Size: A3
Drawing No.: S-011
Rev.: 4A

MNZ PROJECT NUMBER : 230689

Appendix B

Radiofrequency Assessment

LAND USE CONSENT APPLICATION FOR THE PROPOSED RADIO FACILITY AT WAITANGI

ASSESSMENT OF RADIO-FREQUENCY MATTERS

This assessment has been prepared using information gathered as at the date of this report and has been prepared in accordance with the requirements of section 88 of the Fourth Schedule to the Resource Management Act 1991.

Author:	Nuwan Chandimal
Position:	RF Engineer
Qualifications:	Master of Engineering
Reviewed:	Barry Savage
Approved:	Barry Savage
Date:	23/02/2024

Introduction

1 This report is an assessment of the radiofrequency (RF) fields from the proposed Spark New Zealand (Spark) Waitangi radio communication facility, to be located at 26 Tau Henare Drive, Waitangi.

2 This report confirms that the facility, operating as an RFG facility, as defined within Regulations 4 (Interpretations) is a permitted activity under Regulation 11 as it will comply with Regulation 55 of the Resource Management (National Environmental Standards for Telecommunication Facilities) Regulations 2016 ("NESTF"). Telecommunications facilities generating radiofrequency (RF) fields are a permitted activity under Regulation 11 when the standards set out under Part 3, Subpart 7 Regulation 55 are complied with.

3 As with any radio transmission system, the transmit antennas of the proposed radio-communication facility are designed to deliberately emit RF electromagnetic energy from the antenna system. Radiofrequency is a non-ionising energy with a low energy level.

4 Clause 55(2) of the NES requires telecommunication facilities generating RF fields to be operated in accordance with New Zealand Standard NZS 2772: Part 1: 1999. This is the current New Zealand Standard that describes exposure limits and measures to be taken when using RF energy.

5 The New Zealand Standard NZS2772.1:1999 consists of two parts; Part 1 sets out maximum RF exposure levels, and Part 2 sets out principles and methods of measurement.

6 All Spark radio communication facilities are designed and operated to comply with the New Zealand Standard.

Site specifications

7 The RF equipment specifications of the proposed Waitangi radio communication facility relevant to the RF calculations are set out in Table 1.

Estimated RF levels for the site

8 The calculations used to confirm compliance were made in accordance with the requirements described in the New Zealand Standard NZS2772.1:1999.

9 The calculations used data supplied by the manufacturers of the transmitting equipment and the maximum power levels for which consent is sought (specified in Table 1).

10 The estimated RF exposure levels are determined by:

- frequencies of operation; and
- the directional performance of the transmit antennas; and
- the sum of RF power at the antennas; and
- the distance and orientation from the antennas

11 The calculated estimates are conservative because it is assumed that all of the proposed transmitters are operating at full power. Total transmitter power depends on the number, and location of the mobile phones using the site. Normally only a fraction of the proposed RF power will be transmitted from the site at one time.

12 From time to time, the direction in which the antennas are pointed may be adjusted, depending on network requirements. Estimate includes the maximum designed down-tilt of the antenna.

Certification of Compliance with Regulation 55 of the NESTF - AS/NZS 2772.1 and AS/NZS 2772.2

13 Based on design information the RF exposure levels at the proposed Waitangi radio communication facility vary from place to place but in no instance exceeds the New Zealand Standard NZS2772.1:1999 in readily accessible areas, and as such meets Clause 55(2) of the NES.

14 In addition, this report has been prepared in accordance with AS/NZS 2772.2.2016 Radiofrequency fields: Part 2: Principles and Methods of Measurement and Computation – 3kHz to 300GHz, and as such meets Clause 55(3) of the NES.

15 I confirm that the estimated RF exposure takes account of additional radiofrequency exposures arising from other nearby telecommunications facilities.

16 In the case of the proposed Waitangi radio communication facility the cumulative RF exposure from this site and other existing radio sites in the vicinity do not reach or exceed 25% of the Standard at any place where the public can reasonably access and that no monitoring will be required in terms of Clause 55(5) of the NES.

17 I conclude that public exposure will, at all times, comply with the requirements of the New Zealand Standard, and complies with Part 3, Subpart 7 of the NES.

Table 1

Proposed Waitangi radio communication facility specifications

	Sector 1	Sector 2	Sector 3	Unit
Power into transmit antenna 750 MHz:	134	134	134	Watts
Power into transmit antenna 870 MHz:	105	105	105	Watts
Power into transmit antenna 1830 MHz:	134	134	134	Watts
Power into transmit antenna 2140 MHz:	134	134	134	Watts
Power into transmit antenna 2300 MHz:	0	0	0	Watts
Power into transmit antenna 2640 MHz:	134	134	134	Watts
Power into transmit antenna 3630 MHz:	240	240	240	Watts
Intended initial antenna direction:	*1-120°*	*121-240°*	*241-360°*	Degrees E of GN
Antenna dimensions:	2.5 0.5 0.2	2.5 0.5 0.2	2.5 0.5 0.2	H (m) W (m) D (m)
Antenna midpoint height:	18.75	18.75	18.75	m
Antenna directivity 750 MHz [max]:	15.8	15.8	15.8	dBi
Antenna directivity 870 MHz [max]:	15.8	15.8	15.8	dBi
Antenna directivity 1830 MHz [max]:	18.3	18.3	18.3	dBi
Antenna directivity 2140 MHz [max]:	18.5	18.5	18.5	dBi
Antenna directivity 2300 MHz [max]:	N/A	N/A	N/A	dBi
Antenna directivity 2640 MHz [max]:	18.8	18.8	18.8	dBi
Antenna directivity 3630 MHz [max]:	24.9	24.9	24.9	dBi

Notice and Report-Statement of Compliance

Submitted in accordance with Reg 55 of the Resource Management (National Environmental Standards for Telecommunication Facilities) Regulations 2016.

Site Code: **N1WII**

Site Name: **Waitangi.**

Site Address: **26 Tau Henare Drive, Waitangi.**

Author:	**Craige Pote – RF Design Engineer**
Approved By:	**Brett 'O Brien – RF Design Engineer**
Date:	**22/02/2024**

RF Human Exposure Limits

The New Zealand Government has produced a national standard for exposure to RF transmissions.

This is encompassed in the New Zealand Standard NZS2772.1.1999 which permits a maximum exposure level to Radio Frequency Fields 3 KHz to 300 GHz.

One New Zealand is performing technical work to this cell site.

After the technical work, the site will still operate in compliance with the New Zealand Standard.

The calculations used to confirm compliance were made in accordance with the requirements described in the new Australian/New Zealand Standard AS/NZS2772.2.2016.

The location and the site type ensure that there is no area in front of the face of the antenna that is accessible to the public. Therefore, the associated radio frequency fields, including any cumulative effects, are not expected to reach or exceed 25% of the maximum level authorized by NZS2772.1.1999 in areas accessible to general public.

In addition, this report has been prepared in accordance with NZS AS/NZS 2772.2 Radiofrequency Radiation: Part 2: Principles and Methods of Measurement 3 KHz to 300 GHz, and as such meets Reg 55(3)(a) of the NES 2016.

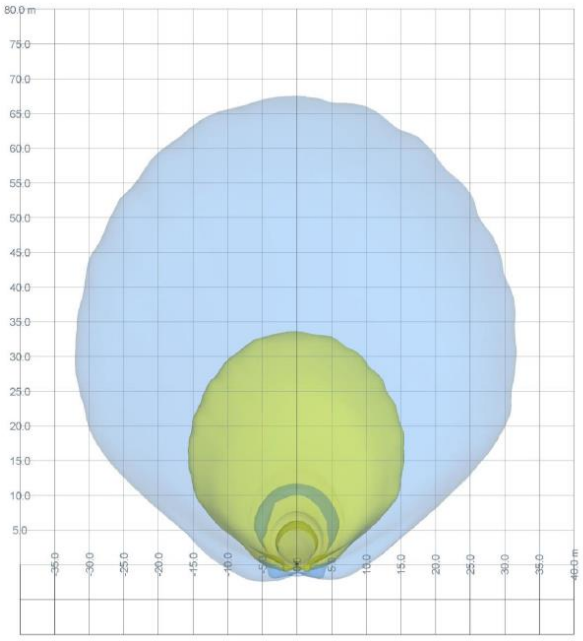
Compliance with NZS 2772.1.:1999

One New Zealand confirms that the cell site is designed, installed, and operated in accordance with NZS 2772.1.1999. Compliance with Clause 10 of this Standard is achieved through careful site planning and design and following best industry practices.

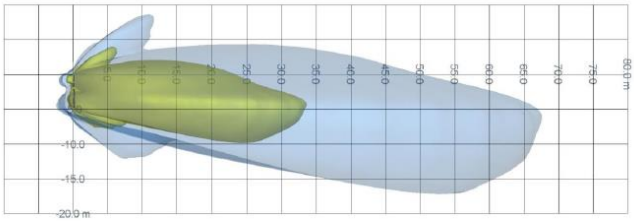
RF warning signs, access control measures, and safe working procedures will be in place. One New Zealand engages contractors who are certified industrial professionals, with extensive health and safety training as required under the Health and Safety at Work Act.

KKZZV4-65D-R8 + AQQL + mmWave

STACKED



Input values	Unit	700MHz	900MHz	1800MHz	2100MHz	2600MHz	3500TDD	mmWave
Max Cabinet/RRU Power	[W]	160	160	160	160	160	320	10
M-MIMO Actual Maximum Power Factor	%	100%	100%	100%	100%	100%	75%	100%
Adjusted TX Power	[W]	160.00	160.00	160.00	160.00	160.00	240.00	10.00
Antenna Gain	[dBi]	16.0	16.4	17.3	18.2	18.2	24.0	29.0
Downtilt	[degrees]	0	0	0	0	0	0	0
Feeder Loss/Attenuation	[dB]	0.5	0.5	0.5	0.5	0.5	0.0	0.0
Maximum Safety Distance Public 25%	[m]	67.57		Vertical Distance Public 25% from Top of Antenna			17.20	
Maximum Safety Distance Public 100%	[m]	33.60		Vertical Distance Public 100% from Top of Antenna			9.90	



Appendix C

Noise Report

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND
College of Engineering

Acoustics Research Group
Department of Mechanical Engineering

REPORT

Number: 486

Issue: 1

Date: 29/03/2024

Standards: NZS 6801
NESTF

Eaton ECS33 – ENT Telecommunications Cabinets with RRH units and four RFM units: Noise Emission

Prepared by: Brian Donohue

Eaton Industries Company
106 Wrights Road
Christchurch 8024
New Zealand

Acoustics Research Group	Report number 486	Issue date 29/03/2024
TITLE AND SUBTITLE Eaton ECS33 – ENT telecommunications cabinet with RRH units and four RFM units: noise emission		Version No. 1 Departmental code N/A
TESTED BY Brian Donohue and John Pearse		Contract/Grant No. N/A
SUPPLEMENTARY NOTES		
ABSTRACT Determination of the sound levels emitted by a group of Eaton type ECS33-ENT telecommunications cabinets fitted with RRH units and four RFM radio units, by measurements according to NESTF and NZS 6801.		
KEYWORDS sound pressure level; roadside telecommunications cabinet		
AVAILABILITY ☒ For release to client only ☐ For Departmental use only ☐ For general release		No of pages 10
SIGNATURES ☐ Author: Brian Donohue ☐ Tested By: Brian Donohue and John Pearse ☐ Checked by: John Pearse ☐ Released by: John Pearse		

1 Summary

The rear of the telecommunications cabinet arrangement is the critical surface for planning consents. The cabinet group arrangement fitted with RRH unts and four RFM modules does not meet the NESTF [1] requirements in respect of noise emissions, exceeding both the L_{Aeq} and L_{AFmax} requirements – where the L_{AFmax} is exceeded only at the front of the cabinet group for all the fan voltage test settings.

The cabinets include daytime and nighttime operating modes. The nighttime mode autonomously reduces cabinet fan speeds, and hence noise levels, during evening hours. The fan speed is independent of ambient temperature and consequently the colour of the cabinets does not affect noise emissions.
The array configuration is shown in Figure 1 with the cabinet doors open and closed. Figure 2 shows the measurement microphone positions, all at 3 metres from the nearest face of the cabinet group.

Noise contour plots have been included as Figure 3 (Night-time) and Figure 4 (Day), to aid in site selection where there is a need to meet noise emission requirements and the distance to the cabinets must be estimated. The contours only consider attenuation with distance and do not include attenuation from other mechanisms such as atmospheric conditions, ground surface character and presence of barriers. Full consideration of outdoor propagation of noise should be in accordance with ISO 9613[2].

Figure 1 Cabinet group arrangement under test
From left to right: Utility cabinet, PEB cabinet, Radio cabinet, Radio cabinet

[1] Ministry for the Environment 2016 *National Environmental Standards for Telecommunication Facilities: Users guide.*
[2] ISO9613:1996 Acoustics – *Attenuation of sound during propagation outdoors*. ISO Switzerland,

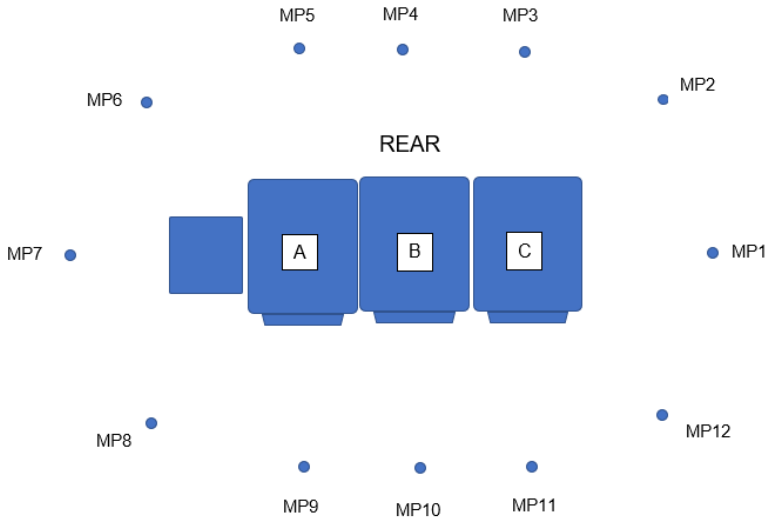


Figure 2 Measurement positions. Cabinet A (PEB) – power equipment and battery cabinet, Cabinets B and C radio equipment)

2 Results

For Tests 2a, the night-time fan control voltages were adjusted:
1 x PEB – cabinet fans set to a speed of approximately 890 rpm.
2 x ECS33-ENT-R – cabinet fans set to a speed of approximately 310 rpm.
4 x RFM units – 50% duty cycle fan speed 5150 rpm.

For Tests 2b, the daytime fan control voltages were adjusted:
1 x PEB – cabinet fans set to a speed of approximately 1220 rpm.
2 x ECS33-ENT-R – cabinet fans set to a speed of approximately 600 rpm.
4 x RFM – 75% duty cycle fan speed 7565 rpm.

The sound levels for this present case are tabulated below in Tables 1 and 2 for selected points at the front and rear of the cabinet group. Section 3 contains predicted contour plots for night and day operation.

Table 1 Night-time sound levels at distances from the cabinet group

Distance, m	Sound pressure level $L_{AEQ\ (5min)}$ dB			
	Front (MP10)	Right (MP1)	Left (MP7)	Rear (MP4)
3	57.1	48.7	48.0	46.5
5	52.7	44.3	43.6	42.1
10	46.6	38.2	37.5	36.0
15	43.1	34.7	34.0	32.5

Table 2 Daytime sound levels at distances from the cabinet group

Distance, m	Sound pressure level $L_{AEQ\ (5min)}$ dB			
	Front (MP10)	Right (MP1)	Left (MP7)	Rear (MP4)
3	67.4	61.2	57.0	55.3
5	63.0	56.8	52.6	50.9
10	56.9	50.7	46.5	44.8
15	53.4	47.2	43.0	41.3
20	50.9	44.7	40.5	38.8

3 Noise contour plots

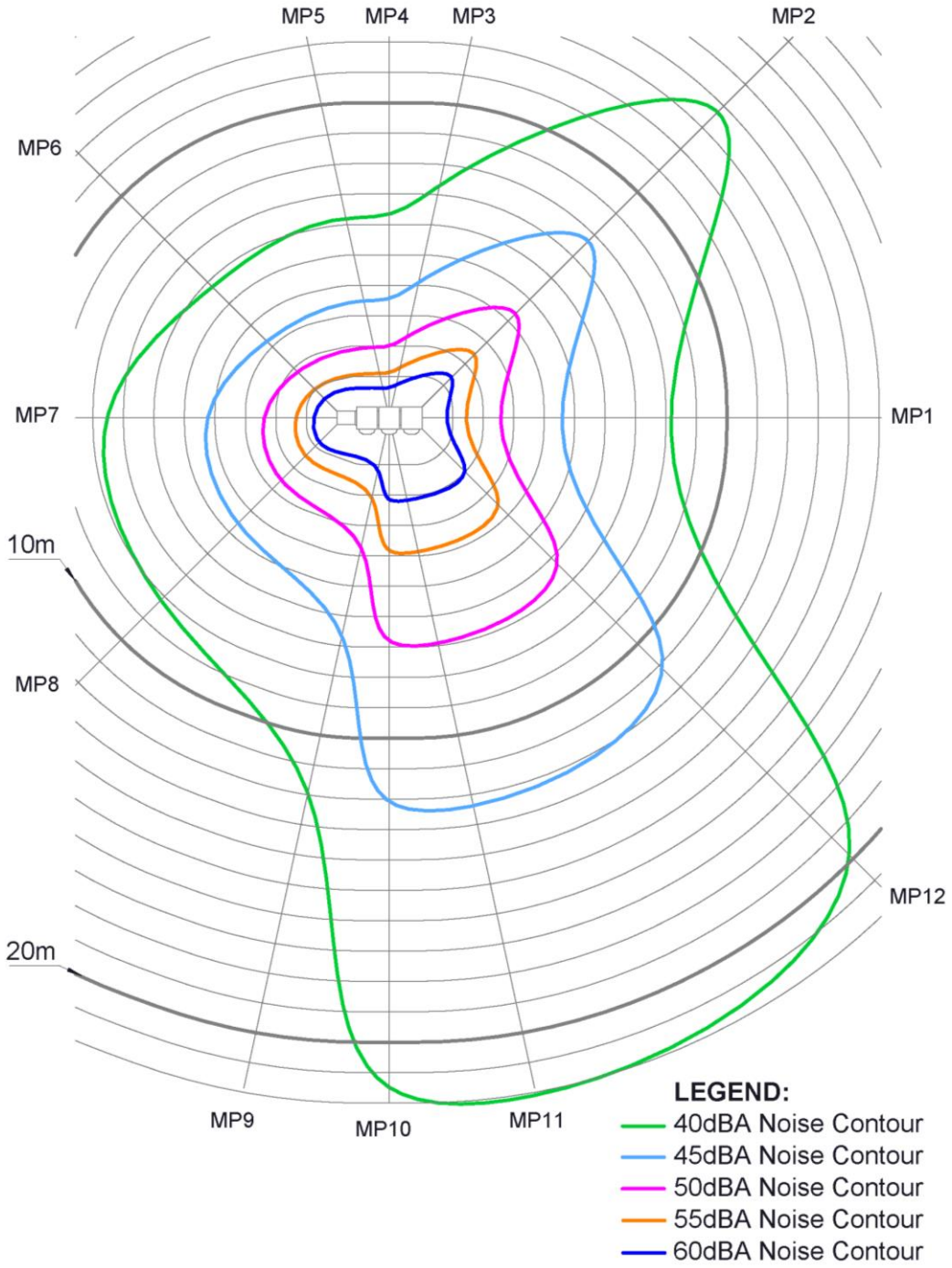


Figure 3 Night-time sound level contour plots for cabinet group: RRH + 4xRFM units, $L_{Aeq5min}$ 40,45, 50, 55, and 60 dBA

Note: For the 55 and 60 dBA contours the calculated distances are within the near-field where acoustic conditions are complex, due to wave interactions, and attract a larger margin of uncertainty[3]

[3] Applies for distances closer than 2 metres

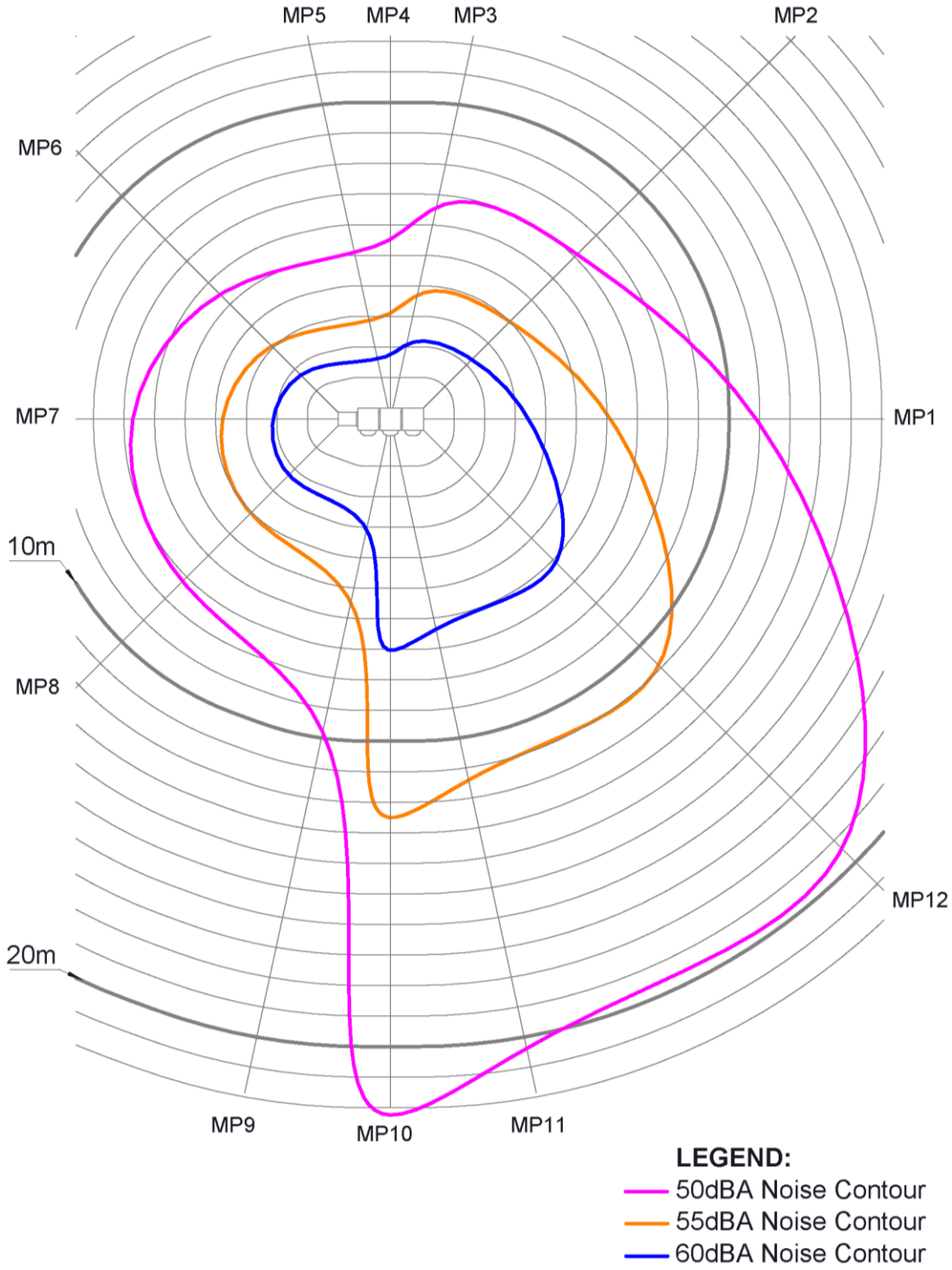


Figure 4 Day-time sound level contour plots for cabinet group: RRH + 4xRFM units, $L_{Aeq5min}$ 50, 55, and 60 dBA

Note: For the 60 dBA contour, the calculated distances for the points at the rear of the cabinet are within the near-field, where acoustic conditions are complex due to wave interactions, attract a larger margin of uncertainty[4].

[4] Applies for distances closer than 2 metres

Appendix 1 Test details

Table A1 Cabinet mounted ventilation fans used in the tests

Cabinet	Fan model	Max rated speed rpm
ECS33-ENT-PEB	ebmpapst type R1G225-AF11-21	2700
ECS33-ENT-R	PBM type PW3N400B48HJ	1500

Table A2 Highest sound levels measured at 3 m behind the cabinets

Test	Arrangement	Cabinet fan voltage Vdc	Cabinet fan speed rpm	Rated max. fan speed rpm	RFM duty cycle	RFM fan speed rpm	Highest sound level at rear L_{AFmax} dB
2a	Night-time	2/1.5/1.5 *	890/310/310	2700/1500/1500	50%	5150	47.9
2b	Day-time	3.0$	1220/600/600	2700/1500/1500	75%	7565	55.2

* Cabinet A 2 V, B and C 1.5 V, Night-time 50% duty cycle,
$ All cabinets 3 V, Day-time 75% duty cycle

Appendix 2 Barriers

For situations where a cabinet group is required to meet defined noise level criteria, the use of a barrier or barriers may provide a solution. The installation of a barrier between the noise source (cabinet group) and a receiver is an effective way to reduce the level of noise experienced by the receiver. The reduction in noise level is a function of the path-lengths over and around the barrier (Figures A1 and A2), the ground conditions, the materials used to construct the barrier, and the dominant frequency(ies) of the source. Each situation requires specific design to arrive at the dimensions and positioning of the barrier (or barriers), whilst the materials of construction can be standardised or modular.

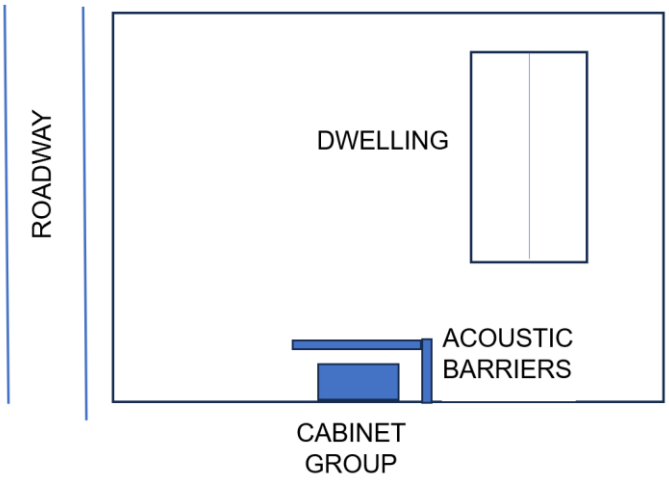


Figure A1 Case of the cabinet group not at the roadside

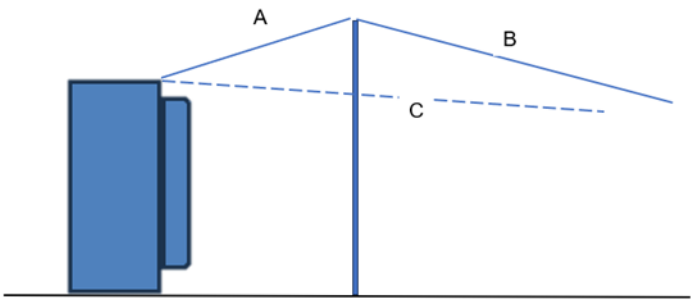


Figure A2 Diffraction over a barrier (path length difference)

Suitably placed and designed barriers may provide from 10 to 15 dB effective attenuation for moderate cost, depending upon the distance between the cabinet group and the receiver. Greater attenuation is possible using more expensive means, for example earth mounds, but the theoretical maximum is 24 dB.

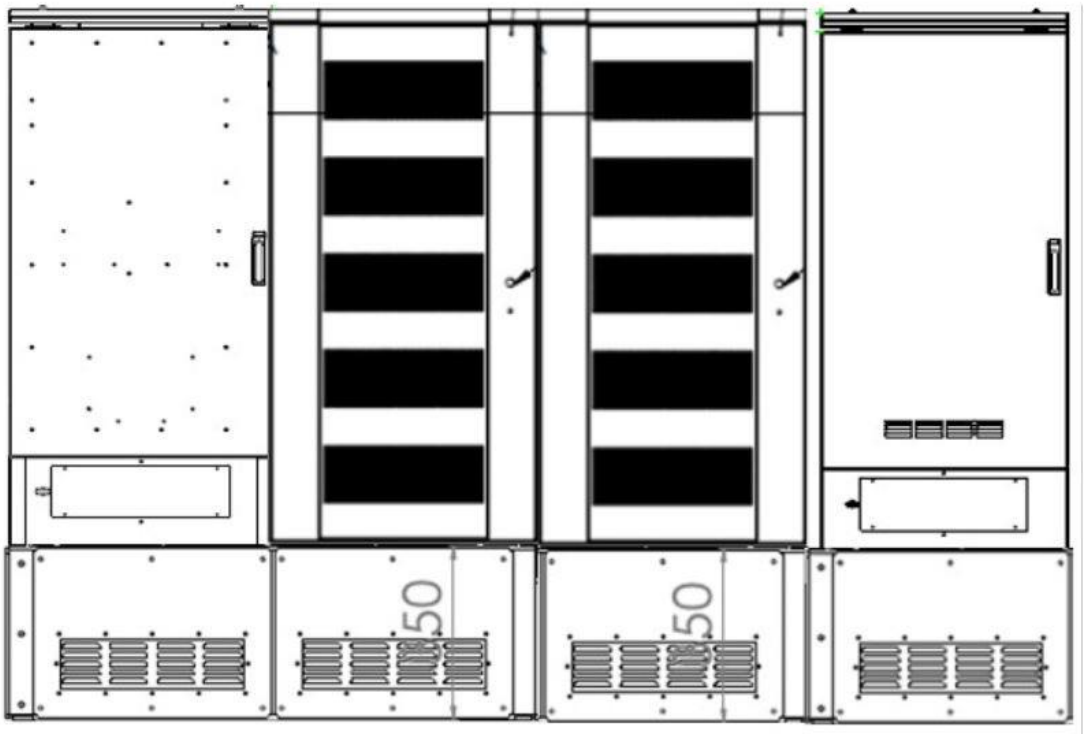
The degree of attenuation is a function of the difference between the direct line between source and listener (C in Figure A2) and the diffracted path (A+B) in Figure A2), and the length of the barrier compared with the length of the sound source. The wavelength of the sound is also important, and the barrier must be evaluated across the audible frequency spectrum.

Examples of barrier types and materials that are used to screen road traffic noise can be found on the website: Noise barriers and suppliers | Waka Kotahi NZ Transport Agency (nzta.govt.nz). Typical materials used are:

- Engineered plywood
- Concrete panels
- Acrylic panels
- Moulded plastic
- Steel panels,
- Composites and
- Walls made from stones in wire baskets

These barriers are all rated at offering attenuation of 15 dB or more, some barrier types have been tested in situ that perform higher than expected.

Other factors must be considered when selecting barrier materials as the barrier is subject to wind loading, seismic forces, weathering, vandalism, and possibly fire. Road traffic barriers have a design life of 50 years, which eliminates the use of wood in any proposed design for example.



MARSHALL DAY Acoustics

VODAFONE GREENFIELD CABINETS
SOUND LEVEL DISTANCE TABLES

Rp 003 20201028 | 4 March 2021

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Project: **VODAFONE GREENFIELD CABINETS**
Sound Level Distance Tables

Prepared for: **Vodafone New Zealand Limited**
Private Bag 92143
Auckland 1142
New Zealand

Attention: **Rikard Eriksson / Colin Clune**

Report No.: **Rp 003 20201028**

Document Control

Status:	Rev:	Comments	Date:	Author:	Reviewer:
Approved	-	For client issue	4 Mar 2021	K. Prosée	C. Robinson

TABLE OF CONTENTS

1.0 INTRODUCTION

Marshall Day Acoustics Limited (MDA) has been engaged by Vodafone New Zealand Limited (Vodafone) to provide predicted L_{Aeq} sound emission data in relation to Vodafone's *Greenfield* mobile phone telecommunications cabinet array.

The *Greenfield* cabinet array incorporates older existing cabinets and a new EC26 – FCOA HEX cabinet.

The L_{Aeq} sound data presented in this report is intended for use in relation to measurement and assessment criteria in New Zealand Standards NZS 6801:2008 *Acoustics – Measurement of environmental sound* and NZS 6802:2008 *Acoustics – Environmental Noise.*

A glossary of terminology is included in Appendix A.

2.0 GREENFIELD CABINET ARRAY

2.1 Configuration

The *Greenfield* cabinet array comprises three individual cabinets mounted next to each other on a common plinth as follows:

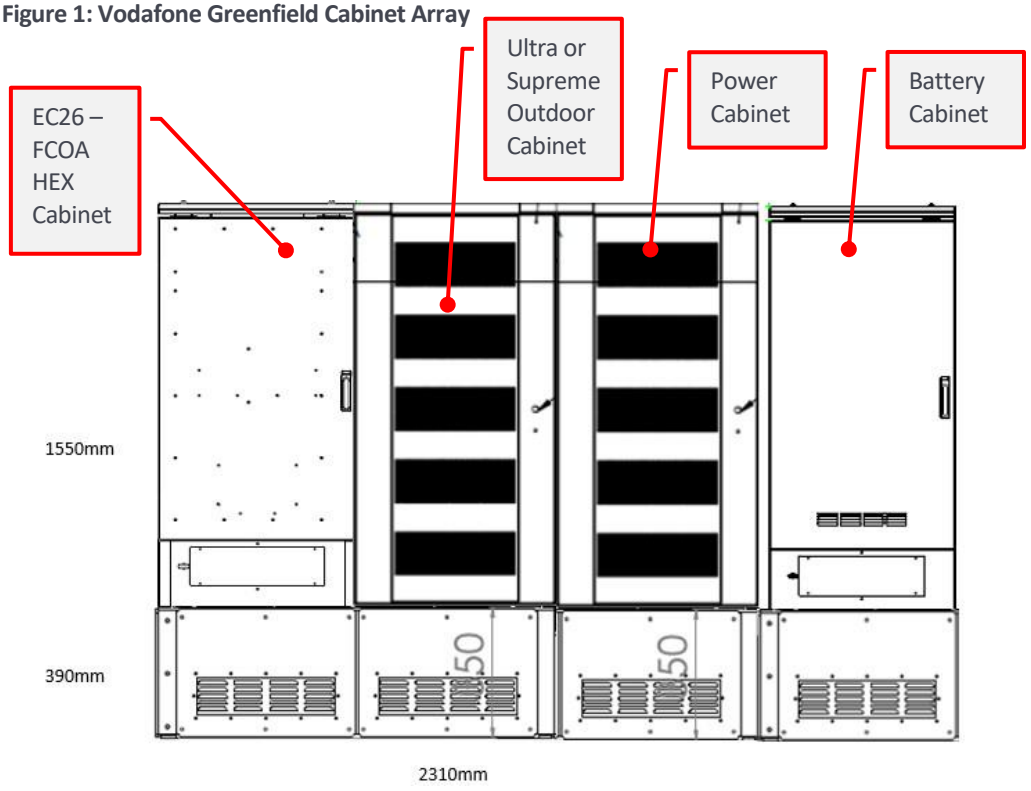
- 1 x EC26 – FCOA HEX cabinet with *Greenfield* setup
- Either: 1 x Ultra Outdoor cabinet (2G) or 1 x Supreme Outdoor cabinet (3G)
- 1 x Power Cabinet

The *Ultra Outdoor* and *Supreme Outdoor* cabinets and *Power Cabinet* are older existing 2G/3G designs that have been in use within the Vodafone network for many years. All the above cabinets generate noise emission from forced fan cooling systems.

An optional *Battery cabinet* may be added to the above array if required, determined on a site-by-site basis. The battery cabinet does not produce any noise.

Figure 1 shows a typical configuration including a battery cabinet.

Figure 1: Vodafone Greenfield Cabinet Array



2.2 Installations

2.2.1 New sites

The *Greenfield* cabinet array (as described in Section 2.1) will be installed at new Vodafone sites.

2.2.2 Existing sites

Existing sites will be upgraded by Vodafone so that the cabinet arrangement matches that of the *Greenfield* cabinet array. In some cases, there may be more cabinets existing on a Vodafone site than are needed to provide the same arrangement as the *Greenfield* cabinet array. In this regard, any cabinets not needed would be decommissioned/disconnected, but left in place.

Accordingly, the resulting noise emission from any upgraded site would be the same as that installed for any new site.

3.0 EC26 – FCOA HEX CABINET

3.1 Overview

The EC26 – FCOA HEX is a new cabinet developed by Vodafone which accommodates all mobile frequency bands i.e., 2G, 3G, 4G and 5G.

The design includes a removable rear cover (sound cover) which reduces noise emission from the rear of the cabinet where the heat exchanger cooling vents are located.

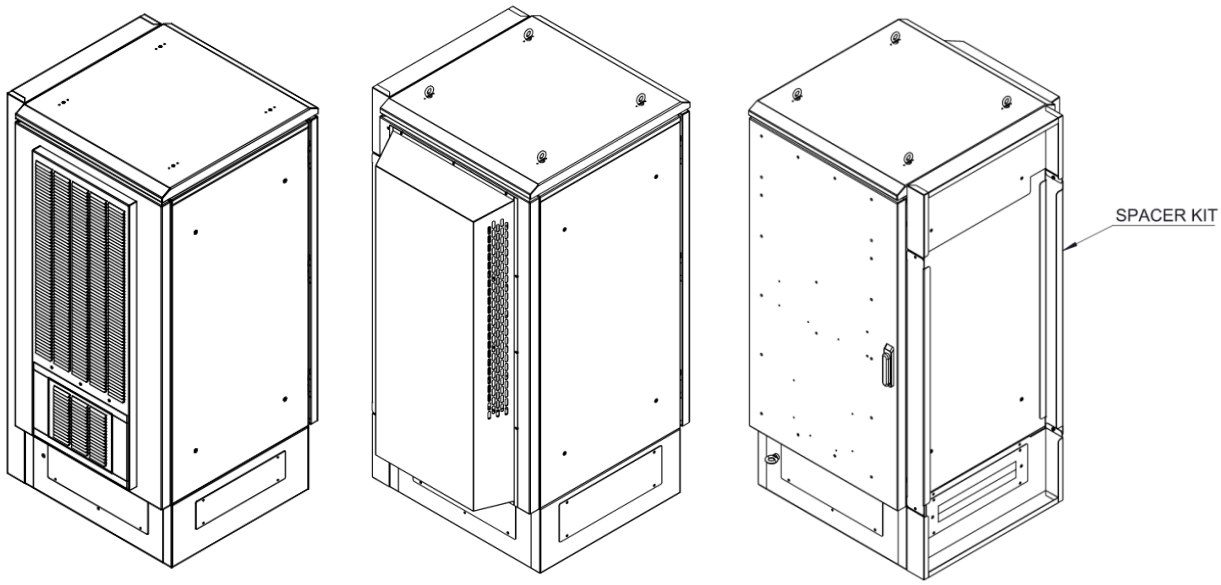
Photos and pictorial views of the new EC26 – FCOA HEX cabinet are shown in Figures 2 and 3.

Figure 2: EC26 – FCOA HEX Photos

Front / side view

Rear view with sound cover

Figure 3: EC26 – FCOA HEX cabinet pictorial views



Rear/side – no sound cover **Rear/side – with sound cover** **Front / side**

The overall dimensions are:

- Height: 1550 mm
- Width: 770 mm
- Depth: 770 mm without sound cover / 875 mm with sound cover

The principal sound source from the cabinet is from the cooling fans/heat exchanger system used to maintain the internal temperature within manufacturer's specified temperature limits. The cooling fan sound is generally constant in nature.

The cooling requirement for the cabinet is controlled by altering the fan voltage setting, which in turn controls the fan speed. A higher fan speed results in more cooling and generally higher noise emission.

3.2 Measured sound levels

Sound emission levels for the EC26 – FCOA HEX cabinet were measured by the College of Engineering Acoustics Research Group from the University of Canterbury (UC) in Christchurch.

Test results are documented in UC Report No. 479 *Eaton EC26 – FCOA Telecommunications Cabinet: Noise Emission*, dated 10 February 2021 (Eaton Report).

Measurements were undertaken at 3 metres from the centre of all four sides of the cabinet (at a height of 1.2 metres) for four different fan supply DC voltage settings; 2.5, 5, 7.5 and 10 Volts.

The measurements at each of the four voltage settings were completed both with and without the sound cover fitted on the rear of the cabinet.

Inspection of the measured sound pressure levels in the Eaton Report indicates that noise emission was highest from the rear of the cabinet in all cases.

The sound emission levels from the Eaton Report (rounded to the nearest decibel) are summarised in Table 1.

Table 1: Sound pressure levels at 3 metres (from Eaton Report) for tested fan voltage settings

Orientation	Measured sound pressure levels (dB $L_{Aeq\ 5min}$ @ 3 metres)							
	Sound cover removed				Sound cover fitted			
	2.5 Vdc	5 Vdc	7.5 Vdc	10 Vdc	2.5 Vdc	5 Vdc	7.5 Vdc	10 Vdc
Front	41	50	56	59	36	43	49	51
Left	45	55	59	62	40	47	51	53
Rear	49	59	63	67	42	49	53	56
Right	43	53	58	61	37	47	51	52

3.3 Greenfield setup

The setup used for the Greenfield EC26 – FCOA HEX cabinet is detailed in Table 2.

Table 2: Setup for Greenfield EC26 – FCOA HEX cabinet

EC26 – FCOA HEX Setup	Fan Speed Voltage Setting - Volts dc		Sound Cover
	Daytime Operation	Night-time Operation	
Greenfield	10	5	Fitted

4.0 NOISE DATA

The sound pressure level (or noise level) generated by the cabinets at a given distance is calculated from a sound power level (dB L_{WA}). The sound power level represents the total sound power radiated from the cabinet(s). Sound power levels for individual cabinets and for the *Greenfield* cabinet array are detailed below.

4.1 Older cabinet designs

Table 3 presents the sound power levels for the older existing 2G/3G cabinets and power cabinet (referred to in Section 2.1). This data was provided to Vodafone by Nokia, the manufacturer of the cabinets.

Table 3: Sound power levels for older cabinet designs

Cabinet	Sound Power Level dB L_{WA} (Re 10^{-12} W)	
	Daytime operation	Night-time operation
Ultra Outdoor or Supreme Outdoor	65	60
Power cabinet	65	60

4.2 EC26 – FCOA HEX cabinet

Table 4 presents the sound power levels for the *Greenfield* setup. They are based on the sound pressure levels measured from the rear of the cabinet as presented in Table 1.

Table 4: Sound power levels for Greenfield EC26 – FCOA HEX cabinet only

EC26 – FCOA HEX Setup	Calculated Sound Power Level dB L_{WA} (Re 10^{-12} W)	
	Daytime operation	Night-time operation
Greenfield	75	68

4.3 Greenfield cabinet array

The overall sound power levels for the *Greenfield* cabinet array (for all cabinets combined as described in Section 2.1) are shown in Table 5.

Table 5: Overall sound power levels for Greenfield cabinet array

Cabinet Array	Calculated Sound Power Level dB L_{WA} (Re 10^{-12} W)	
	Daytime operation	Night-time operation
Greenfield	76	69

5.0 SOUND LEVEL TABLE

The predicted sound levels at various distances between 1 and 50 metres for the *Greenfield* cabinet array have been calculated for daytime and night-time operation based on the sound power levels in Table 5. The results are presented in Appendix B.

All calculated sound levels are "time average levels" symbolised by $L_{Aeq\,(t)}$, where (t) is the representative sample period (typically 15 minutes).

The $L_{Aeq\,(t)}$ may also be referred to as "LEQ" (Table 1, NZS6802:2008).

6.0 DISCUSSION

Sound from the cooling units is generally constant, so for the purpose of environmental acoustic assessment, the L_{max} can be assumed to be similar to the L_{eq} and both can be derived from the sound power level data.

The tables in Appendix B are based on receiver locations with a clear line of site to the cabinets. Screening provided by solid fences, bunds or buildings would reduce the received sound level. Large solid surfaces behind or to the side of the sound source may reflect sound thereby increasing the received sound level.

Table 6 presents the setback distance (in metres) at which compliance can be generally achieved with common noise limits without screening.

If the cabinet combination is located within the compliance distance, mitigation such as acoustic screening must be considered.

Table 6: Compliance distances in metres – Greenfield cabinet array (without screening)

Cabinet Array	Period	Common Noise Limits dB L_{Aeq}				
		40	45	50	55	60
Greenfield	Daytime	n/a	14 m	7 m	4 m	2 m
	Night-time	12 m	6 m	4 m	2 m	1 m

APPENDIX A GLOSSARY OF TERMINOLOGY

SPL or L_P	Sound Pressure Level A logarithmic ratio of a sound pressure measured at distance, relative to the threshold of hearing (20 µPa RMS) and expressed in decibels.
SWL or L_{WA}	Sound Power Level A logarithmic ratio of the acoustic power output of a source relative to 10^{-12} watts and expressed in decibels. Sound power level is calculated from measured sound pressure levels and represents the level of total sound power radiated by a sound source.
dB	Decibel The unit of sound level. Expressed as a logarithmic ratio of sound pressure P relative to a reference pressure of Pr=20 µPa i.e. dB = 20 x log(P/Pr)
dBA	The unit of sound level which has its frequency characteristics modified by a filter (A-weighted) so as to more closely approximate the frequency bias of the human ear.
A-weighting	The process by which noise levels are corrected to account for the non-linear frequency response of the human ear.
FCOA	Flexi Cabinet Outdoor (Version A)
HEX	Heat exchanger system fitted for cooling requirements
$L_{Aeq\,(t)}$	The equivalent continuous (time-averaged) A-weighted sound level. This is commonly referred to as the average noise level. The suffix "t" represents the time period to which the noise level relates, e.g. (8 h) would represent a period of 8 hours, (15 min) would represent a period of 15 minutes and (2200-0700) would represent a measurement time between 10 pm and 7 am.
L_{Amax}	The A-weighted maximum noise level. The highest noise level which occurs during the measurement period.
Noise	A sound that is unwanted by, or distracting to, the receiver.
NZS 6801:2008	New Zealand Standard NZS 6801:2008 “Acoustics – Measurement of environmental sound”
NZS 6802:2008	New Zealand Standard NZS 6802:2008 “Acoustics – Environmental Noise”

APPENDIX B SOUND LEVEL DISTANCE TABLE – GREENFIELD CABINET ARRAY

Distance (metres)	Sound level dB L_{Aeq} *	
	Daytime operation	Night-time operation
1	65	58
2	60	54
3	57	51
4	55	48
5	53	47
6	52	45
7	50	44
8	49	43
9	48	42
10	47	41
12	46	39
14	45	38
16	44	37
18	43	36
20	42	35
25	40	33
30	38	32
35	37	30
40	36	29
45	35	28
50	34	27

* Expected sound level (dB L_{Aeq}) at a height of 1.2 metres above the ground at a distance of 'X' metres from the cabinet façade

Appendix D

Certificate of Title

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier **108096**

Land Registration District **North Auckland**

Date Issued 30 November 2007

Prior References

NA26B/893 NA26B/894 NA88C/748

Estate Fee Simple

Area 411.4460 hectares more or less

Legal Description Lot 1 Deposited Plan 326610

Registered Owners

Waitangi National Trust Board

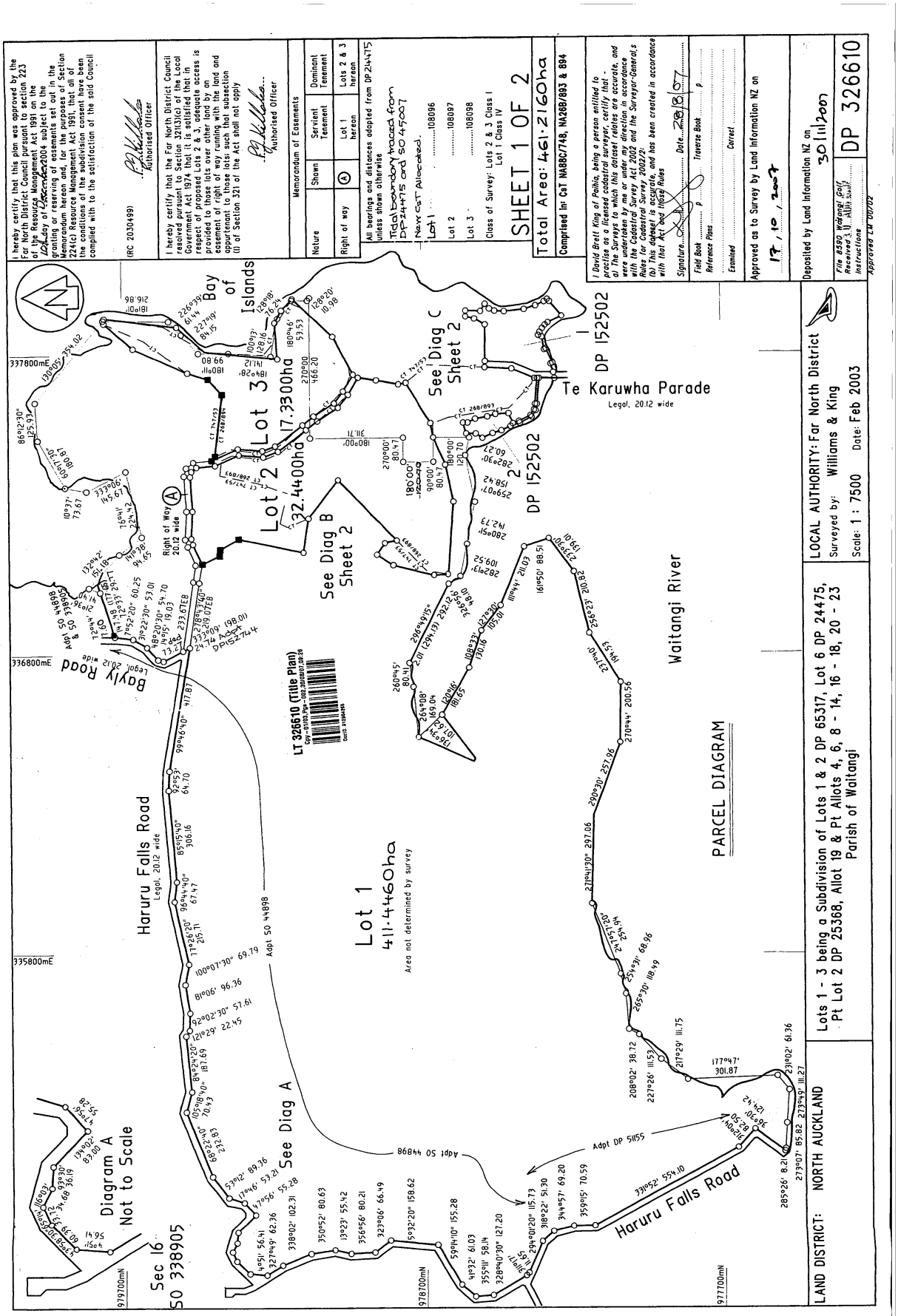
Interests

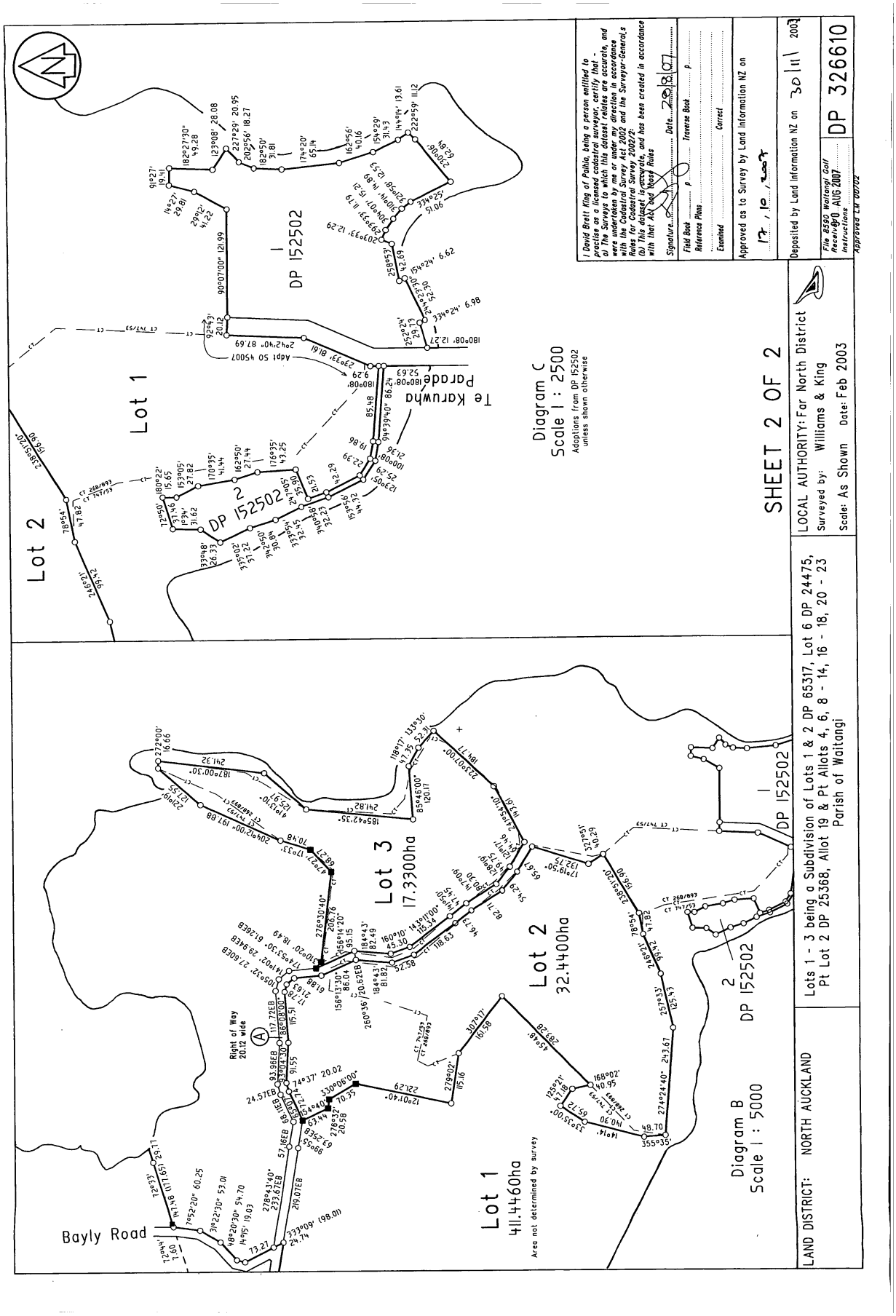
Subject to the provisions of the Waitangi National Trust Board Act 1932

Appurtenant hereto is a right to convey water easement created by Easement Instrument 6457401.4 - 14.6.2005 at 9:00 am(affects part formerly part lot 2 DP 25368)

Subject to a right of way over part marked A DP 326610 created by Easement Instrument 7637990.2 - 30.11.2007 at 9:00 am

The easements created by Easement Instrument 7637990.2 are subject to Section 243 (a) Resource Management Act 1991


I hereby certify that this plan was approved by the Far North District Council pursuant to section 223 of the Resource Management Act 1991 on the 10th day of December 2004 subject to section 224(c) Resource Management Act 1991, that all the conditions of the subdivision consent have been complied with to the satisfaction of the said Council
(RC 2030499)
Authorised Officer
I hereby certify that the Far North District Council resolved pursuant to Section 321(3)(c) of the Local Government Act 1974 that it is satisfied that in respect of proposed Lots 2 & 3, adequate access is provided to those lots over other land by an easement of right of way running with the land and appurtenant to those lots such that subsection (3) of Section 321 of the Act shall not apply
Authorised Officer
Memorandum of Easements
Nature | Shown | Servient Tenement | Dominant Tenement
Right of way | A | Lot 1 hereon | Lots 2 & 3 hereon
All bearings and distances adopted from DP 244715 unless shown otherwise
Total boundary traced from DP 244715 and SO 45907
New cst Allocated.
Lot 1 108096
Lot 2 108097
Lot 3 108098
Class of Survey: Lots 2 & 3 Class I
Lot 1 Class IV
SHEET 1 OF 2
Total Area: 461.2160ha
Comprised in: CoT NA88C/748, NA28B/893 & 894
I David Brett King of Paihia, being a person entitled to practise as a licensed cadastral surveyor, certify that -
a) The Surveys to which this dataset relates are accurate, and were undertaken by me or under my direction in accordance with the Cadastral Survey Act 2002 and the Surveyor-General's Rules for Cadastral Survey 2002/22;
(b) This dataset is accurate, and has been created in accordance with that Act and those Rules
Signature..... Date..... 28/8/07
Field Book ..... p ..... Traverse Book ..... p
Reference Plans .....
Examined ..... Correct
Approved as to Survey by Land Information NZ on
17 / 10 / 2007
Deposited by Land Information NZ on
30 Oct 2007
File 8390 Waitangi Golf
Received X Allen
Instructions
Approved LT 00702
DP 326610
LOCAL AUTHORITY: Far North District
Surveyed by: Williams & King
Scale: 1 : 7500 Date: Feb 2003
Lots 1 - 3 being a Subdivision of Lots 1 & 2 DP 65317, Lot 6 DP 24475, Pt Lot 2 DP 25368, Allot 19 & Pt Allots 4, 6, 8 - 14, 16 - 18, 20 - 23 Parish of Waitangi
LAND DISTRICT: NORTH AUCKLAND
PARCEL DIAGRAM
Lot 1 411.4460ha
Area not determined by survey
Lot 2 DP 152502
Lot 3 17.3300ha
Lot 2 32.4400ha
Te Karuwha Parade
Legal, 20.12 wide
Haruru Falls Road
Legal, 20.12 wide
Bayly Road
Legal, 20.12 wide
Right of Way A 20.12 wide
Waitangi River
See Diag A
See Diag B Sheet 2
See Diag C Sheet 2
Diagram A Not to Scale
Sec 16 SO 338905
Adpt SO 44898
Adpt DP 51155
LT 326610 (Title Plan)
337800mE
336800mE
335800mE
979700mN
978700mN
977700mN


I David Brett King of Paihia, being a person entitled to practise as a licensed cadastral surveyor, certify that -
(a) The Surveys to which this dataset relates are accurate, and were undertaken by me or under my direction in accordance with the Cadastral Survey Act 2002 and the Surveyor-General's Rules for Cadastral Survey 2002/22.
(b) This dataset is accurate, and has been created in accordance with that Act and those Rules
Signature ..... Date 28/8/07
Field Book ..... p ..... Traverse Book ..... p .....
Reference Plans .....
Examined ..... Correct .....
Approved as to Survey by Land Information NZ on
17 / 10 / 2007
Deposited by Land Information NZ on 30/11/2007
File 8590 Waitangi Golf Records/90 AUG 2007
Instructions
DP 326610
Approved LIM 007102
SHEET 2 OF 2
LOCAL AUTHORITY: Far North District
Surveyed by: Williams & King
Scale: As Shown Date: Feb 2003
Lots 1 - 3 being a Subdivision of Lots 1 & 2 DP 65317, Lot 6 DP 24475, Pt Lot 2 DP 25368, Allot 19 & Pt Allots 4, 6, 8 - 14, 16 - 18, 20 - 23 Parish of Waitangi
LAND DISTRICT: NORTH AUCKLAND
Diagram A
Scale 1 : 5000
Lot 1
41.4460ha
Area not determined by survey
Lot 2
32.4400ha
Lot 3
17.3300ha
Bayly Road
Right of Way 20.12 wide
Diagram C
Scale 1 : 2500
Adoptions from DP 152502 unless shown otherwise
Lot 1
Lot 2
DP 152502
Te Karuwha Parade

Appendix E

Consultation

From: Caitlin Metz <Caitlin.Metz@connexa.co.nz>
Sent: Monday, 18 March 2024 4:52 pm
To: 'ngatikawat@gmail.com'; 'hama.waitangi@gmail.com'
Cc: 'Nicole Wihongi'
Subject: Introducing Connexa and the proposal for Waitangi
Attachments: 230689 NWGI Tau Henare Drive-GF-SL-Rev 3.pdf

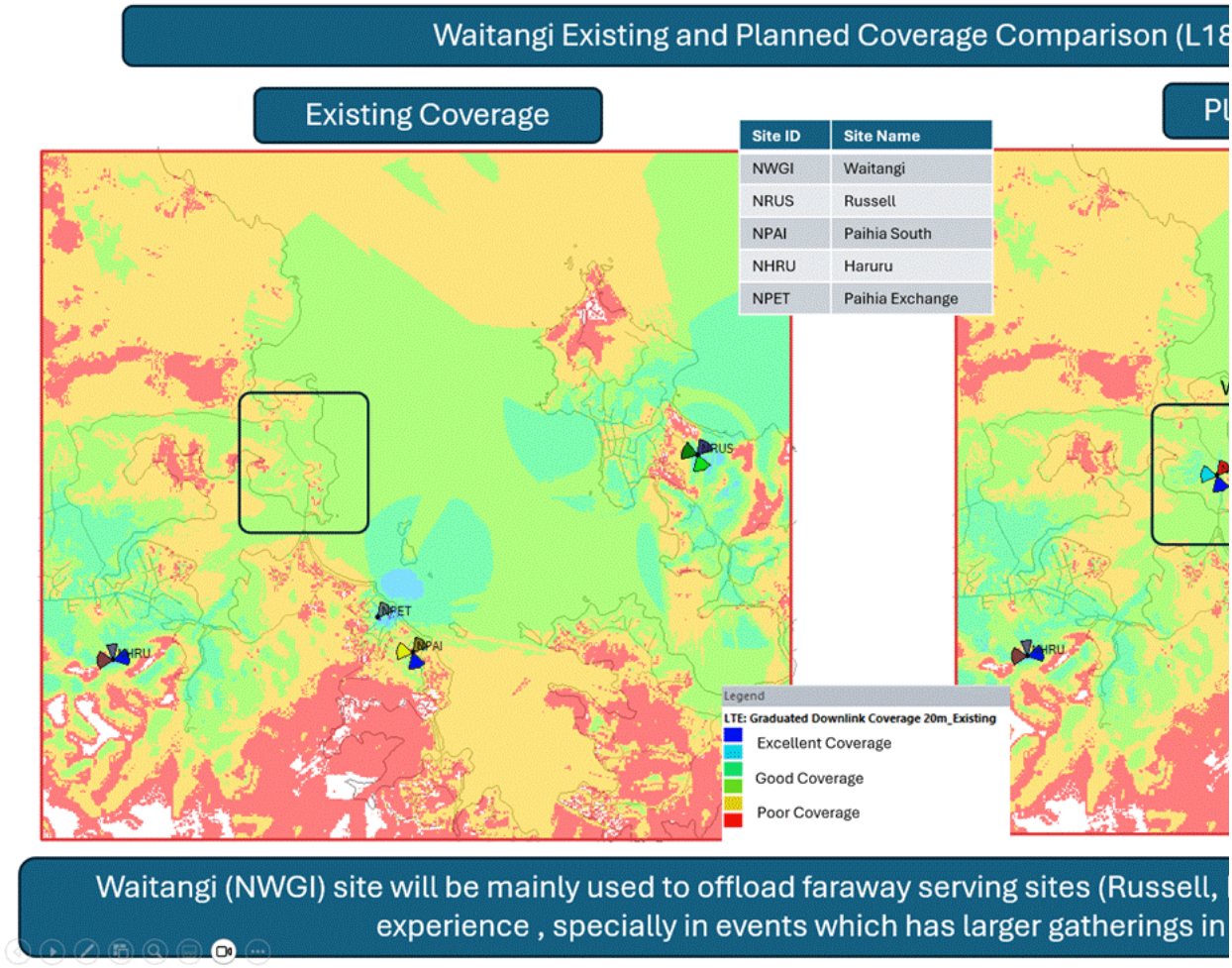
Importance: High

Tēnā kourua Ngati Kawa me Albert
Nicole Wihongi has kindly provided me with your email contacts. My name is Caitlin Metz, Engagement Manager for Connexa. Our company has been in discussion with the Waitangi Treaty Grounds Trust regarding a much-needed cell site in the area around Waitangi. The Trust are now happy in principle with the proposal and have asked Connexa to consult on the proposal with the hapū. I would be very happy to come and meet with you to discuss this proposal in detail.

Connexa is a tower company, we look after the cell site infrastructure, the pole, cabinets, foundation and literally the nuts and bolts of the cell site. We also manage the lease arrangement for any cell site. More can be found about us at **www.connexa.co.nz**

The need for a cell site at Waitangi
A new cell site is needed in the area to improve coverage across the whole of the Bay of Islands. The new cell site will add much needed capacity into the network which will off load the traffic from the existing cell sites across the Bay of Islands. On the left-hand side, the existing cell sites are shown at Russell, Paihia South (a recent Connexa cell site), Haruru and the Paihia Exchange. The four cell sites work in together to provide coverage across the wider area. Waitangi is shown as the area within the black box. You may know from experience that the cell service can be patchy at Waitangi at times – especially hosting events with may people in the area.

The right-hand side of the diagram (Planned Coverage) shows the addition of the proposed Waitangi cell site which will bring capacity closer to the users at Waitangi, improving service not only at Waitangi but also freeing up capacity at the other cell sites listed – hence improving coverage across the whole area.



The proposal for Waitangi
Both Spark and One NZ have a requirement to improve capacity through the proposed new cell site at Waitangi. Therefore, Connexa has designed a cell site that can take antennas for both Spark and One NZ. The advantage is that the one cell site can improve the services for

Spark and One NZ customers. The pole is also capable of taking antenna from 2degrees when their network requires this additional capacity. The Waitangi Trust has asked if a UHF Repeater could also be installed on the cell site to assist with the Treaty Grounds radio network.

The cell site location chosen is the corner of the Waitangi carpark that backs on to the golf course. The site plans **are attached** and below is a *digital representation* of the proposed structure in the chosen location for your consideration. This shows the cell site arranged with the full sets of antennae from Spark and One NZ.

Next steps
Could you please let me know if you would like me to meet with you, or if I should present to your marae / hapū committee about the proposal. I would be happy to travel to Waitangi to do so, or if you prefer, I can join a hui via Teams or Zoom. I can be contacted on mobile **021 033 1116** if you would like to discuss the next steps or ask any questions. I look forward to hearing from you.

Ngā mihi nui
Caitlin Metz

CONNEXA
Caitlin Metz
Engagement Manager
P: 0800 661 266
www.connexa.co.nz
Level 2, 34 Sale Street
Auckland 1010, New Zealand

From: hamawaitangi@gmail.com
Sent: Thursday, 25 July 2024 3:20 pm
To: Caitlin Metz
Cc: Ngati Kawa; Nicole Wihongi; Sunrise Archaeology
Subject: Re: Introducing Connexa and the proposal for Waitangi

Kiaora Caitlin,

Thank you for your email.

Due to a heavy work load we are unable to set a date at this point in time.

It could be weeks or months away before we commit. Please be patient.

Nga mihi

Albie Apiata

> On 17 Jul 2024, at 2:44 PM, Caitlin Metz <Caitlin.Metz@connexa.co.nz> wrote:
>
> Kia ora Albie
>
> I am following up on your invitation to present to the Select Committee and wonder if you have set a date and time for that hui, please?
>
> Ngā mihi
> Caitlin
>
> <image001.png> <image002.jpg>
> **Caitlin Metz**
> **Engagement Manager**
> **P:** 0800 661 266
> **www.connexa.co.nz**
> Level 2, 34 Sale Street
> Auckland 1010, New Zealand
> <image003.png>
>
>
>
> ---
>
> **From:** Caitlin Metz
> **Sent:** Thursday, June 20, 2024 8:34 AM
> **To:** hamawaitangi@gmail.com
> **Cc:** Ngati Kawa <ngatikawat@gmail.com>
> **Subject:** RE: Introducing Connexa and the proposal for Waitangi
> **Importance:** High
>
> Morena Albie
> Thank you for your email inviting me to present to the Select Committee. I am very happy to have the invitation and accept ahead of knowing the date and time.
>
> Would it be possible to have Dr Justin Maxwell assess the power route now, so we can present a full suite of information to the Select Committee. Otherwise, this investigation will be outstanding for the meeting. It is the last piece of information required to fully understand the extent of works for the proposal and the role of Heritage NZ. I'm sure the Select Committee would appreciate having all the information presented at the meeting.
>
> Could you please get back to me on that point. It will require Justin visiting the site location and making some hand auger holes to study the ground layers.
>
> Ngā mihi nui
> Caitlin

<image003.png>

From: hamawaitangi@gmail.com <hamawaitangi@gmail.com>
Sent: Thursday, June 20, 2024 5:53 AM
To: Caitlin Metz <Caitlin.Metz@connexa.co.nz>; Ngati Kawa <ngatikawat@gmail.com>
Subject: Re: Introducing Connexa and the proposal for Waitangi

Morena Caitlin,

Hope all is well for you.

Just to keep communication going.

I'm inviting you to meet and to present the proposal to our select committee at Waitangi Marae.

A date and time is yet to be set. I will keep you updated.

Nga mihi

Albie Apiata

> On 20 Jun 2024, at 5:13 AM, hamawaitangi@gmail.com wrote:
>
> Morena Caitlin,
>
> Hope all is well for you
>
> > On 17 Jun 2024, at 12:02 PM, Caitlin Metz <Caitlin.Metz@connexa.co.nz> wrote:
> >
> > Kia ora Albie and Ngati Kawa
> > I hope you have had time to consider the further information sent which I trust answers all your questions.
> >
> > Can we now have permission for Dr Justin Maxwell and the service locate team (ground penetrating radar) to visit the site location to assess the new power route? This is necessary to complete the Archaeology Report.
> >
> > The white line on the map below is the proposed directional drilling route.
> >
> > 1. This route minimises root disturbance of the significant vegetation which surrounds Tau Henare Drive.
> > 2. Total drilling distance estimated to be 156.12 metres.
> > 3. Commencing from the existing power source the cable will go under Tau Henare Drive and through the lawn area and car park to the cell site location.
> > 4. A survey of the route via ground penetrating radar (GPR) will be required. Justin Maxwell will also need to survey the route for the archaeological report.
> > 5. During the directional drilling, excavations are required at each end point and at the turn once the road has been crossed. Excavation dimensions of 1m x 1m have been allowed for.
> >
> > <image012.png>
> >
> > Ngā mihi
> > Caitlin

From: Nicole Wihongi <NicoleWihongi@waitangi.org.nz>
Sent: Thursday, June 13, 2024 10:44 AM
To: Caitlin Metz <Caitlin.Metz@connexa.co.nz>; hamawaitangi@gmail.com; ngatikawat@gmail.com; Sunrise Archaeology <jj@sunarc.co.nz>
Cc: Paul Kinghan <paul@acquisition.co.nz>; Andrew Wiseman <andrew.wiseman@northlandvaluers.co.nz>
Subject: RE: Introducing Connexa and the proposal for Waitangi

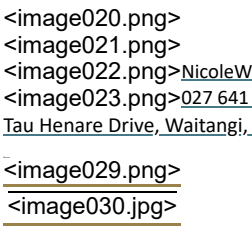
Kia ora ano,

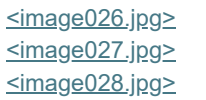
Apologies I must have missed that last email that provided the visual impact detail.

Hama and Ngati Kawa please see attached.

Let me know if you want to catch up again regarding this?

Ngā mihi



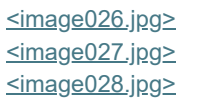


From: Nicole Wihongi
Sent: Thursday, June 13, 2024 10:29 AM
To: Caitlin Metz <Caitlin.Metz@connexa.co.nz>; hamawaitangi@gmail.com; ngatikawat@gmail.com; Sunrise Archaeology <jj@sunarc.co.nz>
Cc: Paul Kinghan <paul@acquisition.co.nz>; Andrew Wiseman <andrew.wiseman@northlandvaluers.co.nz>
Subject: RE: Introducing Connexa and the proposal for Waitangi

Kia ora Caitlin,

Apologies for the slow reply, I had to discuss this with several people in our organisation. We are ok for this to happen, but will need Iwi sign off as well. Was there any progress on providing some images from the marae and bridge up to the proposed tower so that Hama and Ngati Kawa can see if there is any visual impact from the Marae end?

Ngā mihi



From: Caitlin Metz <Caitlin.Metz@connexa.co.nz>
Sent: Wednesday, May 22, 2024 2:36 PM
To: Nicole Wihongi <NicoleWihongi@waitangi.org.nz>; hamawaitangi@gmail.com; ngatikawat@gmail.com; Sunrise Archaeology <jj@sunarc.co.nz>
Cc: Paul Kinghan <paul@acquisition.co.nz>; Andrew Wiseman <andrew.wiseman@northlandvaluers.co.nz>
Subject: RE: Introducing Connexa and the proposal for Waitangi

Kia ora koutou

I now have information about the proposed power run to the proposed cell site location. The white line on the map below is the proposed directional drilling route.

6. This route minimises root disturbance of the significant vegetation which surrounds Tau Henare Drive.
7. Total drilling distance estimated to be 156.12 metres.
8. Commencing from the existing power source the cable will go under Tau Henare Drive and through the lawn area and car park to the cell site location.
9. A survey of the route via ground penetrating radar (GPR) will be required. Justin Maxwell will also need to survey the route for the archaeological report.
10. During the directional drilling, excavations are required at each end point and at the turn once the road has been crossed. Excavation dimensions of 1m x 1m have been allowed for.

<image012.png>

Could we please have your approval to plan for the archaeologist and the GPR team to visit site for the required surveys.

If you have any questions, please just ask.

Ngā mihi
Caitlin in

<image013.png> <image014.jpg>
Caitlin Metz
Engagement Manager
P: 0800 661 266
www.connexa.co.nz
Level 2, 34 Sale Street
Auckland 1010, New Zealand

<image015.png>

From: Caitlin Metz
Sent: Tuesday, May 21, 2024 11:08 AM
To: Nicole Wihongi <NicoleWihongi@waitangi.org.nz>; hamawaitangi@gmail.com; ngatikawat@gmail.com
Cc: Paul Kinghan <paul@acquisition.co.nz>; Andrew Wiseman <andrew.wiseman@northlandvaluers.co.nz>
Subject: RE: Introducing Connexa and the proposal for Waitangi
Importance: High

Kia ora koutou

Nicole has been in contact to raise a couple of matters for Connexa to answer which I outline below.

1. **Can Connexa use the 2degrees tower in the forest above Haruru?**

Both Spark and 2degrees are already at the location in the forestry above Haruru. The sites in the Bay of Islands are at capacity and a new site is needed in Waitangi to improve the coverage across the Bay of Islands, with all sites working together. Please refer to my initial email where I explained the need for the new tower at Waitangi – please see attached.

The map below shows the location of the Spark and 2degrees sites in the forest. Unfortunately these sites do not provide sufficient coverage and capacity across the area and specifically to Waitangi. If they did provide the required coverage, then a new site at

Waitangi would not be needed. Your own experience shows that there is a need for improved coverage at Waitangi and to achieve this a new cell site needs to be placed **close** to Waitangi itself.
The placement of the new tower has been carefully worked through, taking your feedback into consideration. The proposed location is the most appropriate from a planning, visual and coverage perspective. We also hope it is the most appropriate from a cultural perspective and we hope the archaeological report will support that.
Connexa have worked with the other mobile providers to ensure only **one tower** is built that can meet the needs of Spark, One NZ and in the future 2degrees. **This will take away the need for 3 separate towers in the vicinity of Waitangi to provide good coverage from all three operators.**

Map showing the location of 2degrees and Spark sites in the Forest – approximately 3.4 kms from Waitangi.
<image031.jpg>

2. **Visual considerations of the tower in the wider area.**
Spark engaged Shannon from Wayfinder, a Landscape Architect, to complete visual representations of the tower in the proposed location at the carpark. The full suite of representations from Wayfinder is attached, and I encourage you to look through the full set. Five different viewpoints have been considered looking back to where the tower is proposed in the carpark.
Where the tower cannot be seen from the viewpoint, this is shown by a yellow line, which indicates where the tower would be behind the vegetation. The beautiful vegetation in the wider area does provide very good screening of the tower which means the tower will not be visible at ground level from the main visitor centre and many other locations.

Drone photo at 20 metres to provide context.

<image032.png>

Viewpoint 2 – from 1 Te Araroa Trail
From the wider perspective this is the most visible viewpoint of the tower, with the vegetation screening most of the tower, however the top section will be visible.
<image033.jpg>
Viewpoint 5 – from Waitangi Bridge near Te Tii Marae

1. The yellow line indicates where the tower is positioned.
2. The distance to the tower is approximately 800 metres and the vegetation provides screening for most of the tower.
3. From this viewpoint you may be able to see the very top of the tower, as most of the tower is behind vegetation. If the top of the headframe is visible it will be a minor element in the distance and blended into the tree line against the sky.

<image034.jpg>

Once you have considered this information, please let me know if there are further questions. It would be good to discuss what our next steps are also.
Please note I am waiting on the power route information from Spark and One NZ. Once received, I will send this to you and Justin Maxwell as he requires the power route for his archaeology report.

Ngā mihi
Caitlin

<image013.png>
<image014.jpg>
Caitlin Metz
Engagement Manager
P: 0800 661 266
www.connexa.co.nz
Level 2, 34 Sale Street
Auckland 1010, New Zealand

<image015.png>

From: Caitlin Metz <Caitlin.Metz@connexa.co.nz>
Sent: Monday, May 6, 2024 11:40 AM
To: Nicole Wihongi <NicoleWihongi@waitangi.org.nz>; hamawaitangi@gmail.com
Cc: ngatikawat@gmail.com; hama.waitangi@gmail.com; Sunrise Archaeology <jj@sunarc.co.nz>
Subject: Re: Introducing Connexa and the proposal for Waitangi

Kia ora Nicole
I hope your leave was great and sorry for stalking you whilst you away from work!

Yes the site visit progressed and Ngati Kawa and Albie attended. Not everything was completed and we are working through that detail.

Thanks so much for following up.

Nga mihi
Caitlin

Get Outlook for iOS

From: Nicole Wihongi <NicoleWihongi@waitangi.org.nz>
Sent: Monday, May 6, 2024 11:32:35 AM
To: Caitlin Metz <Caitlin.Metz@connexa.co.nz>; hamawaitangi@gmail.com <hamawaitangi@gmail.com>
Cc: ngatikawat@gmail.com <ngatikawat@gmail.com>; hama.waitangi@gmail.com <hama.waitangi@gmail.com>; Sunrise Archaeology <jj@sunarc.co.nz>
Subject: RE: Introducing Connexa and the proposal for Waitangi

Kia ora Caitin,

Just catching up on emails after 10 days leave, did this take place? Apologies if I held anything up with being away.

Ngā mihi

<image020.png>
<image021.png>
<image022.png>NicoleWihongi@waitangi.org.nz
<image023.png>027 641 3918 <image024.png>202 Tau Henare Drive, Waitangi, Bay of Islands, New Zealand

<image025.png>

<image026.jpg>
<image027.jpg>
<image028.jpg>

<image029.png>
<image030.jpg>

From: Caitlin Metz <Caitlin.Metz@connexa.co.nz>
Sent: Wednesday, April 24, 2024 4:11 PM
To: hamawaitangi@gmail.com; Nicole Wihongi <NicoleWihongi@waitangi.org.nz>
Cc: ngatikawat@gmail.com; hama.waitangi@gmail.com; Sunrise Archaeology <jj@sunarc.co.nz>
Subject: RE: Introducing Connexa and the proposal for Waitangi
Importance: High

Kia ora kourua e Albie me Nicole

Justin Maxwell the archaeologist has confirmed that he can visit the proposed cell site location on Wednesday 1 May at 10.30 am. This is to compete the archaeology assessment of the area. Could we please have permission to visit the proposed site location, and could you please provide any specific instructions the team need to follow.

I have also asked our engineer to visit on this day to complete hand augers to ascertain the ground conditions and for Entelar (our build partner) to attend to complete the ground penetrating radar to investigate for existing underground services. The team on site will be;

1. Justin Maxwell – Sunrise Archaeology – phone 021 088 31418
2. Joseph Byron-Joyce – Miyamoto - phone 027 337 1452
3. Igi Miranda – Entelar Group – phone 021 403 121

Could you please respond to confirm the site visit.

Ngā mihi
Caitlin

<image013.png> **Caitlin Metz**
Engagement Manager

<image014.jpg>

P: 0800 661 266
www.connexa.co.nz
Level 2, 34 Sale Street
Auckland 1010, New Zealand

<image015.png>

From: hamawaitangi@gmail.com <hamawaitangi@gmail.com>
Sent: Monday, April 15, 2024 4:22 PM
To: Caitlin Metz <Caitlin.Metz@connexa.co.nz>
Cc: ngatikawat@gmail.com; hama.waitangi@gmail.com; Nicole Wihongi <NicoleWihongi@waitangi.org.nz>
Subject: Re: Introducing Connexa and the proposal for Waitangi

Kiaora Caitlin,

I appreciate the dialogue. Thank you.

Cheers

Albie

> On 15/04/2024, at 4:08 PM, Caitlin Metz <Caitlin.Metz@connexa.co.nz> wrote:
>
> Kia ora Albie
> I have heard from our engineer, and he estimates that a 6m x 6m x 1.2m deep concrete foundation slab would be appropriate for this tower and location. Once we know the soil types this can be designed accordingly. Based on what we currently know the excavation will likely be 1.5 metres deep.
>
> However, if poor soil types are present then it may require a pile foundation. A pile foundation is typically 1.2 metres in diameter and is required to be drilled to 8 – 10 metres.
>
> These details will be finalised when the full set of engineering drawings are completed. At this early stage of the project life cycle, we do not have the appropriate information to determine with full certainty what will be required. However, after we complete the archaeological assessment, agree the lease, agree with you we can proceed, apply for resource consent, then the next steps are to test the soil types and complete the full engineering drawings.
>
> Ngā mihi
> Caitlin
>
> <image001.png>
> <image002.jpg>
>
> **Caitlin Metz**
> **Engagement Manager**
> **P:** 0800 661 266
> **www.connexa.co.nz**
> Level 2, 34 Sale Street
> Auckland 1010, New Zealand
>
> <image003.png>
>
>
>
> ---
>
> **From:** Caitlin Metz
> **Sent:** Monday, April 15, 2024 3:20 PM
> **To:** hamawaitangi@gmail.com
> **Cc:** ngatikawat@gmail.com; hama.waitangi@gmail.com; Nicole Wihongi <NicoleWihongi@waitangi.org.nz>
> **Subject:** RE: Introducing Connexa and the proposal for Waitangi
>
> Tēnā koe Albie
> Thank you for your email and for our phone conversation this morning. The bullet points below are based on our phone conversation and the additional

information we discussed. If I have interpreted anything incorrectly, please let me know.

1. Albie and Ngati Kawa have discussed the proposal. Albie's response and involvement is on behalf of both Albie and Ngati Kawa with all correspondence to be copied to both.
2. As a result of our conversation Albie, Connexa has engaged Sunrise Archaeology, Dr Justin Maxwell, to prepare an archaeological assessment of the cell site location. I will advise you all when Justin requires to be on site to complete the assessment. Connexa would like to locate underground services at the cell site location, ahead of finalising engineering drawings, so we will try to co-ordinate this work with Justin's site visit.
3. I spoke to Bill Edwards at Heritage NZ after discussing the matter with Albie. Bill agrees with Connexa obtaining an archaeological assessment as this will provide a clear process. This report will determine if an "application to modify" with Heritage NZ is required for the cell site location.
4. A kaitiaki monitor for the earthworks will be required when the project gets to that stage. Depending on the archaeological assessment outcome, Justin Maxwell may be required to monitor works also.
5. Connexa are to provide detail about the foundation for the cell site, including how deep the foundation will be. I am working on this and will provide it when I have sourced the information.

Thank you for your guidance, Albie. I will provide the additional information as it comes to hand.

Ngā mihi
Caitlin Metz

<image001.png>
<image002.jpg>

Caitlin Metz
Engagement Manager
P: 0800 661 266
www.connexa.co.nz
Level 2, 34 Sale Street
Auckland 1010, New Zealand

<image003.png>

From: hamawaitangi@gmail.com <hamawaitangi@gmail.com>
Sent: Thursday, April 11, 2024 12:30 PM
To: Caitlin Metz <Caitlin.Metz@connexa.co.nz>
Cc: ngatikawat@gmail.com; hama.waitangi@gmail.com; Nicole Wihongi <NicoleWihongi@waitangi.org.nz>
Subject: Re: Introducing Connexa and the proposal for Waitangi

Tena Koe Caitlin,

Finally got to respond to your email dated 3 March 2024.

Personally I have experienced poor cellphone coverages in certain parts of Waitangi.

My biggest concern will be around emergencies, health and safety.

Reading what been proposed and the significant of the area further information is required.

Heritage NZ Pouhere Taonga office in Kerikeri will be able to assist you with historical and archaeological records.

Kind regards

Albie Apiata.

On 18/03/2024, at 4:52 PM, Caitlin Metz <Caitlin.Metz@connexa.co.nz> wrote:

Tēnā kourua Ngati Kawa me Albert
Nicole Wihongi has kindly provided me with your email contacts. My name is Caitlin Metz, Engagement Manager for Connexa. Our company has been in discussion with the Waitangi Treaty Grounds Trust regarding a much-needed cell site in the area around Waitangi. The Trust are now happy in principle with the proposal and have asked Connexa to consult on the proposal with the hapū. I would be very happy to come and meet with you to discuss this proposal in detail.

Connexa is a tower company, we look after the cell site infrastructure, the pole, cabinets, foundation and literally the nuts and bolts of the cell site. We also manage the lease arrangement for any cell site. More can be found about us at **www.connexa.co.nz**

The need for a cell site at Waitangi
A new cell site is needed in the area to improve coverage across the whole of the Bay of Islands. The new cell site will add much needed capacity into the network which will off load the traffic from the existing cell sites across the Bay of Islands. On the left-hand side, the existing cell sites are shown at Russell, Paihia South (a recent Connexa cell site), Haruru and the Paihia Exchange. The four cell sites work in together to provide coverage across the wider area. Waitangi is shown as the area within the black box. You may know from experience that the cell service can be patchy at Waitangi at times – especially hosting events with may people in the area.

The right-hand side of the diagram (Planned Coverage) shows the addition of the proposed Waitangi cell site which will bring capacity closer to the users at Waitangi, improving service not only at Waitangi but also freeing up capacity at the other cell sites listed – hence improving coverage across the whole area.

<image004.png>

The proposal for Waitangi
Both Spark and One NZ have a requirement to improve capacity through the proposed new cell site at Waitangi. Therefore, Connexa has designed a cell site that can take antennas for both Spark and One NZ. The advantage is that the one cell site can improve the services for Spark and One NZ customers. The pole is also capable of taking antenna from 2degrees when their network requires this additional capacity. The Waitangi Trust has asked if a UHF Repeater could also be installed on the cell site to assist with the Treaty Grounds radio network.

The cell site location chosen is the corner of the Waitangi carpark that backs on to the golf course. The site plans **are attached** and below is a *digital representation* of the proposed structure in the chosen location for your consideration. This shows the cell site arranged with the full sets of antennae from Spark and One NZ.

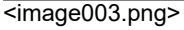
<image007.jpg>

Next steps in
Could you please let me know if you would like me to meet with you, or if I should present to your marae / hapū committee about

the proposal. I would be happy to travel to Waitangi to do so, or if you prefer, I can join a hui via Teams or Zoom. I can be contacted on mobile **021 033 1116** if you would like to discuss the next steps or ask any questions. I look forward to hearing from you.

Ngā mihi nui
Caitlin Metz

Caitlin Metz
Engagement Manager
P: 0800 661 266
www.connexa.co.nz
Level 2, 34 Sale Street
Auckland 1010, New Zealand



<230689 NWGI Tau Henare Drive-GF-SL-Rev 3.pdf>

Appendix F

Landscape Assessment

PHOTO DETAILS
Date: 19/11/2022
TIme: 08:36am
Camera: Panasonic Lumix G85
Lens: LEICA DG 12-60/F2.8-4.0
Focal length: 12mm
Field of View: 50°
Distance to site: 45m
Reading Distance: 350mm

Waitangi Mobile Phone Site

26 Tau Henare Drive Waitangi

Viewpoint 1

Carpark
Existing Photo

CONNEXA

FOR CONSULTATION

20 May 2024

Revision 02

Drawn L Burn, J Oliver

Reviewed S Bray

Scale - N/A
Print @ A3

Sheet 1

Spark_WaitangiVisSim_24-05-20

www.wayfinder.nz
shannon@wayfinder.nz

WAYFINDER
Landscape Planning & Strategy

PHOTO DETAILS
Date: 19/11/2022
TIme: 08:36am
Camera: Panasonic Lumix G85
Lens: LEICA DG 12-60/F2.8-4.0
Focal length: 12mm
Field of View: 50°
Distance to site: 45m
Reading Distance: 350mm

Note:
This Visualisation is a technical representation that demostrates the proposed mast in its proposed location at the correct scale, based on information provided by SPARK NZ. It does not represent an assessment of effects.

Waitangi Mobile Phone Site

26 Tau Henare Drive Waitangi

Viewpoint 1

Carpark
Light Colour Visualisation

CONNEXA

FOR CONSULTATION

20 May 2024

Revision 02

Drawn L Burn, J Oliver

Reviewed S Bray

Scale - N/A
Print @ A3

Sheet 2

Spark_WaitangiVisSim_24-05-20

www.wayfinder.nz
shannon@wayfinder.nz

WAYFINDER
Landscape Planning & Strategy

PHOTO DETAILS
Date: 19/11/2022
TIme: 08:36am
Camera: Panasonic Lumix G85
Lens: LEICA DG 12-60/F2.8-4.0
Focal length: 12mm
Field of View: 50°
Distance to site: 45m
Reading Distance: 350mm

Note:
This Visualisation is a technical representation that demostrates the proposed mast in its proposed location at the correct scale, based on information provided by SPARK NZ. It does not represent an assessment of effects.

Waitangi Mobile Phone Site

26 Tau Henare Drive Waitangi

Viewpoint 1

Carpark
Dark Colour Visualisation

CONNEXA

FOR CONSULTATION

20 May 2024

Revision 02

Drawn L Burn, J Oliver

Reviewed S Bray

Scale - N/A
Print @ A3

Sheet 3

Spark_WaitangiVisSim_24-05-20

www.wayfinder.nz
shannon@wayfinder.nz

WAYFINDER
Landscape Planning & Strategy

PHOTO DETAILS
Date: 23/11/2022
Time: 02:38pm
Camera: Panasonic Lumix G85
Lens: LEICA DG 12-60/F2.8-4.0
Focal length: 25mm
Field of View: 30°
Distance to site: 445m
Reading Distance: 605mm

Waitangi Mobile Phone Site

26 Tau Henare Drive Waitangi

Viewpoint 2

1 Te Araroa Trail Existing Photo

CONNEXA

FOR CONSULTATION

20 May 2024

Revision 02

Drawn L Burn, J Oliver

Reviewed S Bray

Scale - N/A

Print @ A3

Sheet 4

Spark_WaitangiVisSim_24-05-20

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WAYFINDER
Landscape Planning & Strategy

PHOTO DETAILS
Date: 23/11/2022
Time: 02:38pm
Camera: Panasonic Lumix G85
Lens: LEICA DG 12-60/F2.8-4.0
Focal length: 25mm
Field of View: 30°
Distance to site: 445m
Reading Distance: 605mm

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Waitangi Mobile Phone Site

26 Tau Henare Drive Waitangi

Viewpoint 2

1 Te Araroa Trail
Light Colour Visualisation

CONNEXA

FOR CONSULTATION

20 May 2024

Revision 02

Drawn L Burn, J Oliver

Reviewed S Bray

Scale - N/A
Print @ A3

Sheet 5

Spark_WaitangiVisSim_24-05-20

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WAYFINDER
Landscape Planning & Strategy

PHOTO DETAILS
Date: 23/11/2022
Time: 02:38pm
Camera: Panasonic Lumix G85
Lens: LEICA DG 12-60/F2.8-4.0
Focal length: 25mm
Field of View: 30°
Distance to site: 445m
Reading Distance: 605mm

Note:
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Waitangi Mobile Phone Site

26 Tau Henare Drive Waitangi

Viewpoint 2

1 Te Araroa Trail
Dark Colour Visualisation

CONNEXA

FOR CONSULTATION

20 May 2024

Revision 02

Drawn L Burn J Oliver

Reviewed S Bray

Scale - N/A
Print @ A3

Sheet 6

Spark_WaitangiVisSim_24-05-20

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WAYFINDER
Landscape Planning & Strategy

PHOTO DETAILS
Date: 23/11/2022
Time: 11:36am
Camera: Panasonic Lumix G85
Lens: LEICA DG 12-60/F2.8-4.0
Focal length: 12mm
Field of View: 50°
Distance to site: 200m
Reading Distance: 350mm

Waitangi Mobile Phone Site

26 Tau Henare Drive Waitangi

Viewpoint 3

26 Tau Henare Drive Existing Photo

CONNEXA

FOR CONSULTATION

20 May 2024

Revision 02

Drawn L Burn J Oliver

Reviewed S Bray

Scale - N/A
Print @ A3

Sheet 7

Spark_WaitangiVisSim_24-05-20

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WAYFINDER
Landscape Planning & Strategy

PHOTO DETAILS
Date: 23/11/2022
Time: 11:36am
Camera: Panasonic Lumix G85
Lens: LEICA DG 12-60/F2.8-4.0
Focal length: 12mm
Field of View: 50°
Distance to site: 200m
Reading Distance: 350mm

Note:
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Waitangi Mobile Phone Site

26 Tau Henare Drive Waitangi

Viewpoint 3

26 Tau Henare Drive Visualisation

CONNEXA

FOR CONSULTATION

20 May 2024

Revision 02

Drawn L Burn, J Oliver

Reviewed S Bray

Scale - N/A
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Sheet 8

Spark_WaitangiVisSim_24-05-20

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WAYFINDER
Landscape Planning & Strategy

PHOTO DETAILS
Date: 23/11/2022
Time: 11:30am
Camera: Panasonic Lumix G85
Lens: LEICA DG 12-60/F2.8-4.0
Focal length: 12mm
Field of View: 50°
Distance to site: 185m
Reading Distance: 350mm

Waitangi Mobile Phone Site

26 Tau Henare Drive Waitangi

Viewpoint 4

Te Rau Aroha Museum Existing Photo

CONNEXA

FOR CONSULTATION

20 May 2024

Revision 02

Drawn L Burn J Oliver

Reviewed S Bray

Scale - N/A
Print @ A3

Sheet 9

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WAYFINDER
Landscape Planning & Strategy

PHOTO DETAILS
Date: 23/11/2022
Time: 11:30am
Camera: Panasonic Lumix G85
Lens: LEICA DG 12-60/F2.8-4.0
Focal length: 12mm
Field of View: 50°
Distance to site: 185m
Reading Distance: 350mm

Note:
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Waitangi Mobile Phone Site

26 Tau Henare Drive Waitangi

Viewpoint 4

Te Rau Aroha Museum Visualisation

CONNEXA

FOR CONSULTATION

20 May 2024

Revision 02

Drawn L Burn J Oliver

Reviewed S Bray

Scale - N/A
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WAYFINDER
Landscape Planning & Strategy

PHOTO DETAILS
Google street view image
Date: 5/2023

Waitangi Mobile Phone Site

26 Tau Henare Drive Waitangi

Viewpoint 5

Waitangi Bridge Visualisation

CONNEXA

FOR CONSULTATION

20 May 2024

Revision 02
Drawn L Hosford Reviewed S Bray

Scale - N/A
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Sheet 11

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WAYFINDER
Landscape Planning & Strategy

PHOTO DETAILS
Google street view image
Date: 5/2023
Tower located & depicted in image via use of 3d modeling and matching up of existing site elements such as, street signs, road edge & building pad.

Note:
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Waitangi Mobile Phone Site

26 Tau Henare Drive Waitangi

Viewpoint 5

Waitangi Bridge Visualisation

CONNEXA

FOR CONSULTATION

20 May 2024

Revision 02
Drawn L Hosford Reviewed S Bray

Scale - N/A
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