BEFORE THE HEARING PANEL

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of Proposed Plan Change 9 to the Operative Hamilton City District Plan

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STATEMENT OF REBUTTAL EVIDENCE OF LAURA JANE GALT

(PLANNING – BUILT HERITAGE and HISTORIC HERITAGE AREAS)

Dated 9 August 2024

LACHLAN MULDOWNEY
BARRISTER

P +64 7 834 4336 **M** +64 21 471 490
Office Panama Square, 14 Garden Place, Hamilton
Postal PO Box 9169, Waikato Mail Centre, Hamilton 3240
www.lachlanmuldowney.co.nz

INTRODUCTION

1. My full name is Laura Jane Galt.

2. My qualifications and experience are as set out in paragraphs 1 to 4 of my primary statement of evidence dated 1 September 2023 (**primary evidence**).

3. I reconfirm that I have read and am familiar with the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2023 and I agree to comply with it.

PURPOSE AND SCOPE OF EVIDENCE

4. The purpose of this rebuttal statement of evidence, which is provided on behalf of Hamilton City Council (**HCC**) as the proponent of Plan Change 9 (**PC9**) to the Hamilton City Operative District Plan (**District Plan**), is to respond to matters raised in planning expert evidence in relation to the PC9 Built Heritage topic, specifically built heritage items. It also addresses the outstanding HHA matters raised by two submitters, noting neither relates to planning expert evidence.

RESPONSE TO SUBMITTER EVIDENCE – BUILT HERITAGE

New Zealand Police - Ngā Pirihimana o Aotearoa: Hamilton Central Police Station

5. Mr Grant Eccles provides supplementary planning evidence[1] on behalf of New Zealand Police – Ngā Pirihimana o Aotearoa (**NZ Police**). Mr Eccles' evidence addresses the proposed inclusion of 12 Anzac Parade, the Hamilton Central Police Station (**Police Station**), as a B ranked building in Schedule 8A of the District Plan under PC9.

[1] Supplementary Statement of Evidence of Grant Eccles dated 24 July 2024.

6. Mr Eccles relies in large part on expert cultural and heritage evidence provided on behalf of NZ Police by Mr Stanley Rahui Papa and Mr Adam Wild to conclude that it is inappropriate for the Police Station to be scheduled.

7. In respect of the built heritage value of the Police Station, I have considered Ms Caddigan's expert assessment that the Police Station meets the built heritage threshold to be scheduled. However, in light of the new cultural evidence provided on 24 July 2024 by Mr Papa, I concur with the conclusion reached by Mr Eccles that it is inappropriate to include the Police Station in Schedule 8A of the District Plan.

8. I have reviewed the s32 assessment set out by Mr Eccles in his evidence. I agree that in respect of the Police Station Mr Papa's evidence brings to light a tension between two matters of national importance under s6, being s6(e) which requires decision-makers to recognise and provide for the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga, and s6(f) which requires decision-makers to recognise and provide for the protection of historic heritage from inappropriate subdivision, use, and development. In weighing the competing interests, I agree that the scheduling of the Police Station as a built heritage item is not the most appropriate means of achieving the purpose of the RMA in light of the cultural matters raised in Mr Papa's evidence.

9. On this basis, I confirm that the scheduling of the Police Station is longer pursued by HCC and note that Waikato-Tainui has been advised of this. HCC seeks to work in partnership with Waikato-Tainui and it looks forward to working with Waikato-Tainui outside of the PC9 process to address how the heritage values of the building can be reflected in its development aspirations for the site.

WEL Networks Ltd: Claudelands substation

10. Ms Sara Brown has provided planning evidence on behalf of WEL Networks Limited (**WEL Networks**) in support of its further submission opposing the submission of Waikato Heritage Group (**WHG**) to include the Claudelands substation on the corner of Grey Street and Claudelands Road (732 Grey Street) as a Category B Built Heritage item in Schedule 8A. To be clear, there are two buildings located on the site known as the 'Claudelands Substation', one single-level building and one two-level building. It is only the two-level building located near the northern boundary of the site (**substation building**) which WHG seeks to include in Schedule 8A.

11. I rely on Ms Caddigan's expert heritage evidence that the substation building meets the threshold for inclusion in Schedule 8A, including her recommendation of the mapped extent of place.

12. Before addressing the central issue raised in Ms Brown's evidence relating to the designation of the substation site, I note that WEL Networks has not provided any expert heritage evidence to support its further submission. I further note that Mr Richard Knott, HCC's expert on Historic Heritage Areas (**HHA**), recommends that a new Claudelands Commercial HHA be included in the District Plan in response to the submission by Antana Procuta (#307). The Claudelands substation site is included in that HHA and is specifically identified in the description of the buildings and streetscape elements in the HHA statement. WEL Networks has not made a submission or filed evidence in relation to the Claudelands Commercial HHA. I note also that Ms Brown has referred to s193A of the RMA in her evidence which relates to the seeking of a heritage order. I consider that s193A has no application to this process.

13. Ms Brown correctly identifies that the Claudelands substation is subject to an existing designation in the Operative District Plan: K74 – Electricity

Substation. WEL Networks is the requiring authority (**RA**). Ms Brown states that, as the substation is subject to a designation, WEL Networks is able to "do anything that is in accordance with our designation"[2]. As WEL Networks proposes to demolish the two-level building Ms Brown considers that its inclusion in Schedule 8A would be redundant.

14. I have reviewed the Notice of Requirement for the designation and the designation conditions which are appended to my evidence as **Attachments A** and **B**. Notably, the heritage values of the substation building were not identified at the time the designation was sought nor when it was included in the District Plan. I do not consider that the designation precludes the scheduling of the substation building under PC9 for the reasons that follow.

15. Ms Brown refers to various Part 2 matters that she considers to be relevant, including s7(b) the efficient use and development of natural and physical resources and s7(ba) the efficiency of the end use of energy. I agree that those are matters to which the Panel are required to "have particular regard". However, Ms Brown has not referred to s 6(f) which requires the Panel to "recognise and provide for…the protection of historic heritage from inappropriate subdivision, use and development" as a matter of national importance.

16. By not listing the substation building in Schedule 8A which has been assessed by two heritage experts as having met the significance threshold for scheduling, HCC would fail to achieve s6(f). However, if the building is scheduled, it does not follow that there will be a failure with respect to the s7 matters identified by Ms Brown, nor that it will prevent or hinder the ability of WEL to carry out the work for which the site is designated. As explained below, it is possible to achieve both the s 6(f) requirement through scheduling the substation building, while still meeting the s 7

[2] Paragraph 5.3.

requirements and allowing WEL to continue to operate an electricity substation from the site and develop the site as it intends.

17. Under s 176 of the RMA:

    a) Section 9(3), which (relevantly) provides that land may not be used in a manner that contravenes a district plan rule, does not apply to the public work under designation; and

    b) The provisions of a district plan or proposed plan apply in relation to designated land only to the extent that the land is used for a purpose other than the designated purpose.

18. The effect of s 176 in this case would be that, if included in Schedule 8A, WEL Networks would not be required to obtain a resource consent to carry out works on the substation building, including for demolition. However, the designation is one which will require an Outline Plan to be submitted to HCC under s176A before any construction works occur on the site.[3] That process allows HCC to request changes to the outline plan before any works commence. The matters the outline plan must include are set out in s176A(3)(a)-(f). Of particular relevance is s176(f) "any other matters to avoid, remedy, or mitigate any adverse effects on the environment." In my view, under 'other matters to avoid, remedy or mitigate any adverse effects', WEL Networks would be required to show how the outline plan addresses the adverse effects of any proposed works on the heritage values of the substation building.

19. For the reasons set out above, I disagree with Ms Brown that the scheduling of the substation would be redundant because of the designation that applies to the site and WEL's future development aspirations. HCC has a positive obligation to protect the heritage values identified. As outlined above, I consider that that obligation can be met if

[3] The designation does not meet the criteria in s 176A(2).

the substation building is included in Schedule 8A, and that doing so will not hinder the designated works or offend other relevant Part 2 matters. Accordingly, I recommend that the substation be included in Schedule 8A while recognising the designation by including a hash symbol which will link to the following note 5 within Schedule 8A:

> ID# with a hash (#) identifies this item is subject to Designation K74.

Ray and Wendy Pickett: 13 Hammond Street

20. Mr Ray and Wendy Pickett, the landowners of 13 Hammond Street, have submitted in opposition to the proposed scheduling of the dwelling at that property. The Picketts have provided a lay statement which discusses expert heritage evidence provided by Mr Adam Wild and two desktop technical assessments appended to their statement. Ms Caddigan addresses Mr Wild's evidence in her evidence. I rely on her expert conclusion that the dwelling has high significance and support its inclusion in Schedule 8A.

21. We have undertaken an internal review of the technical assessments within the HCC Building Unit. Appended to my evidence as **Attachment C** is a memorandum from Mr Alister Arcus, HCC's Principal Building Advisor, which confirms that the reports are "desktop" and are not sufficient to verify the full extent of any actual geotechnical or structural issues. On that basis, I consider that the reports have limited value in determining the true extent of works and costs associated with those works.

22. Mr Pickett raises a concern about costs associated with listing an item in Schedule 8A. He refers to HCC's heritage fund which I note is no longer available. I note also that HCC generally does not provide heritage rebates or waivers of resource consent fees for heritage related applications.

23. The issue of costs to landowners is not unique to 13 Hammond Street. I recognise that there are potential costs associated with identifying historic

heritage in the District Plan. However, there is also public and private benefit in protecting historic heritage for the community. I note that the s42A report considers the costs issue and observes that measures like the heritage fund, while beneficial for landowners of heritage items, create a burden on ratepayers. In any event, these measures are matters for elected member decision-making which sits outside of this process.[4] I agree with those comments. I consider that the potential costs of scheduling 13 Hammond Street are outweighed by the private and public benefit of preserving its historic heritage values for future generations. I support Ms Caddigan's recommendation that 13 Hammond Street be included in Schedule 8A of the District Plan.

RESPONSE TO SUBMITTER EVIDENCE – HISTORIC HERITAGE AREAS

24. No expert planning evidence has been provided on behalf of any party in respect of the HHA Topic for Hearing 3. Further expert heritage evidence has been provided on behalf of Kainga Ora. HCC has not filed any further expert heritage evidence and relies on the evidence filed in relation to this topic which I have set out in my statement of evidence dated 3 July 2024 at paragraph 5. I comment briefly on the lay statement provided by the Frankton East Residents Group (**FERG**) below.

Frankton East Residents Group: Frankton East HHA

25. Kristina McCalman has provided a statement on behalf of FERG supporting the Frankton East HHA. FERG seeks amendments to the Frankton East HHA Statement. Having conferred with Mr Knott regarding FERG's request, I am comfortable with the specific drafting amendments that they propose.

Laura Jane Galt

9 August 2024

[4] Planning Report and Recommendations – 27 October 2023 - Section 4.3.1, pages 29-30.

ATTACHMENT A

NOTICE OF REQUIREMENT for the CLAUDELANDS SUBSTATION

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Notice of Requirement within Hamilton City

WEL Networks Ltd's ("WEL") is proposing to designate the Claudelands substation. The substation was constructed in the 1930's to provide electricity to the Claudelands, Hamilton East, Fairfield and CBD areas. Due to the age of the substation it was not designated for electricity substation purposes.

Accordingly WEL gives notice of a requirement for designation ("NOR") of the Claudelands substation.

This report has been prepared in accordance with the requirements of the Resource Management Act 1991 ("RMA"), in particular the provisions set out in section 168 of the RMA.

To this end, this report contains the following information:

- A description of the established site and surrounding locality;
- Description of the proposal;
- An analysis of the proposal against the provisions of the RMA; and
- An assessment of effects.

1.2 Requirement for the Designation

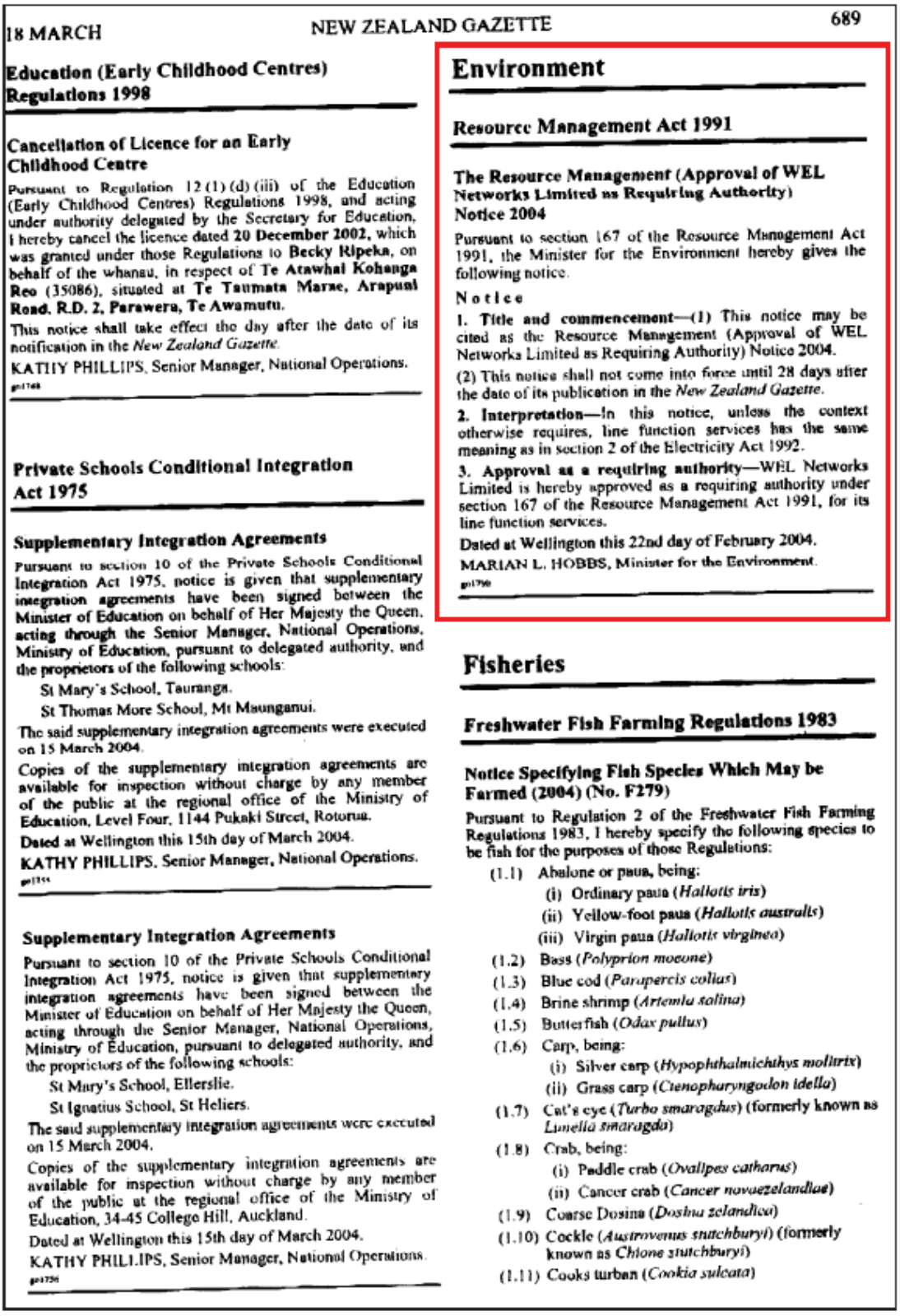
As part of the review of the Hamilton City Proposed District Plan ("PCP"), Hamilton City Council ("Council") have indicated that they are looking at building the city up instead of out, Council envisage that by 2041 the city will have grown by 85,000 people to a total population of 225,000. As such it seems reasonable to assume that WEL's existing network utility infrastructure within the city may need to be upgraded or additional equipment be added.

The majority of WEL's substation and switching station sites are not designated. The absence of designation status puts WEL in a vulnerable position in terms of future upgrades. That is future development of the city will in time require an increase in electricity outputs and this type of upgrade may potentially require resource consent which could delay the availability of electricity. Secondly WEL's equipment is not protected by the designation overlay which prevents site advances from other requiring authorities and other adjacent uses which may not be compatible.

For these reasons WEL seek to designate the Claudelands substation within Hamilton for electricity substation purposes.

1.3 Requiring Authority Status

WEL is a Requiring Authority approved under section 167 of the RMA. WEL's Requiring Authority approval was advertised in the Gazette as a Notice on the 18th of March 2004; Gazette Reference 30/689.



18 MARCH NEW ZEALAND GAZETTE 689

Education (Early Childhood Centres) Regulations 1998

Cancellation of Licence for an Early Childhood Centre

Pursuant to Regulation 12 (1) (d) (iii) of the Education (Early Childhood Centres) Regulations 1998, and acting under authority delegated by the Secretary for Education, I hereby cancel the licence dated **20 December 2002**, which was granted under those Regulations to **Becky Ripeka**, on behalf of the whanau, in respect of **Te Atawhai Kohanga Reo** (35086), situated at **Te Taumata Marae, Arapuni Road, R.D. 2, Parawera, Te Awamutu.**

This notice shall take effect the day after the date of its notification in the *New Zealand Gazette*.

KATHY PHILLIPS, Senior Manager, National Operations.

gn1748

Private Schools Conditional Integration Act 1975

Supplementary Integration Agreements

Pursuant to section 10 of the Private Schools Conditional Integration Act 1975, notice is given that supplementary integration agreements have been signed between the Minister of Education on behalf of Her Majesty the Queen, acting through the Senior Manager, National Operations, Ministry of Education, pursuant to delegated authority, and the proprietors of the following schools:

St Mary's School, Tauranga.

St Thomas More School, Mt Maunganui.

The said supplementary integration agreements were executed on 15 March 2004.

Copies of the supplementary integration agreements are available for inspection without charge by any member of the public at the regional office of the Ministry of Education, Level Four, 1144 Pukaki Street, Rotorua.

Dated at Wellington this 15th day of March 2004.

KATHY PHILLIPS, Senior Manager, National Operations.

gn1755

Supplementary Integration Agreements

Pursuant to section 10 of the Private Schools Conditional Integration Act 1975, notice is given that supplementary integration agreements have been signed between the Minister of Education on behalf of Her Majesty the Queen, acting through the Senior Manager, National Operations, Ministry of Education, pursuant to delegated authority, and the proprietors of the following schools:

St Mary's School, Ellerslie.

St Ignatius School, St Heliers.

The said supplementary integration agreements were executed on 15 March 2004.

Copies of the supplementary integration agreements are available for inspection without charge by any member of the public at the regional office of the Ministry of Education, 34-45 College Hill, Auckland.

Dated at Wellington this 15th day of March 2004.

KATHY PHILLIPS, Senior Manager, National Operations.

gn1756

Environment

Resource Management Act 1991

The Resource Management (Approval of WEL Networks Limited as Requiring Authority) Notice 2004

Pursuant to section 167 of the Resource Management Act 1991, the Minister for the Environment hereby gives the following notice.

Notice

1. Title and commencement—(1) This notice may be cited as the Resource Management (Approval of WEL Networks Limited as Requiring Authority) Notice 2004.

(2) This notice shall not come into force until 28 days after the date of its publication in the *New Zealand Gazette*.

2. Interpretation—In this notice, unless the context otherwise requires, line function services has the same meaning as in section 2 of the Electricity Act 1992.

3. Approval as a requiring authority—WEL Networks Limited is hereby approved as a requiring authority under section 167 of the Resource Management Act 1991, for its line function services.

Dated at Wellington this 22nd day of February 2004.

MARIAN L. HOBBS, Minister for the Environment.

gn1750

Fisheries

Freshwater Fish Farming Regulations 1983

Notice Specifying Fish Species Which May be Farmed (2004) (No. F279)

Pursuant to Regulation 2 of the Freshwater Fish Farming Regulations 1983, I hereby specify the following species to be fish for the purposes of those Regulations:

(1.1) Abalone or paua, being:
- (i) Ordinary paua (*Haliotis iris*)
- (ii) Yellow-foot paua (*Haliotis australis*)
- (iii) Virgin paua (*Haliotis virginea*)

(1.2) Bass (*Polyprion moeone*)

(1.3) Blue cod (*Parapercis colias*)

(1.4) Brine shrimp (*Artemia salina*)

(1.5) Butterfish (*Odax pullus*)

(1.6) Carp, being:
- (i) Silver carp (*Hypophthalmichthys molitrix*)
- (ii) Grass carp (*Ctenopharyngodon idella*)

(1.7) Cat's eye (*Turbo smaragdus*) (formerly known as *Lunella smaragda*)

(1.8) Crab, being:
- (i) Paddle crab (*Ovalipes catharus*)
- (ii) Cancer crab (*Cancer novaezelandiae*)

(1.9) Coarse Dosina (*Dosinia zelandica*)

(1.10) Cockle (*Austrovenus stutchburyi*) (formerly known as *Chione stutchburyi*)

(1.11) Cooks turban (*Cookia sulcata*)

Figure 1 *– Gazette Notice confirming WEL as a Requiring Authority.*

2 SITE AND AREA DESCRIPTION

2.1 Location

The Claudelands substation is located at 730/732 Grey Street, Hamilton and has the following legal descriptions:

- Lot 1 Deposited Plan 15048, contained in Computer Freehold Register SA610/293 and has an area of 137m².
- Lot 2-3 Deposited Plan 15048, contained in Computer Freehold Register SA1017/195 and has an area of 273m².
- Lot 2 Deposited Plan 3726, contained in Computer Freehold Register SA241/45 and has an area of 683m².

The total area of the substation site is 1093m².

The Computer Freehold Registers are attached as **Appendix C.**

The Claudelands substation is located within a commercial environment with commercial development located to the north, west and south of the site. The landuse directly to the east consists of offices, with residential properties to the south-east. The majority of land within the vicinity of the substation site is zoned suburban centre which allows the nearby residents to have access to facilities without the need to visit the CBD. The land to the east of the site is zoned residential.

The site is directly bordered by Grey Street to the west, Claudelands Road to the north and Palmer Street to the east.

The site is located near a busy intersection to the north-west, which links this part of the Claudelands area to the CBD.

2.2 Established Substation Site

2.2.1 *Established Infrastructure*

The outdoor infrastructure onsite consists of two 33kV/11kV outdoor transformers.

The site contains two buildings which are attached, the first building (*being the southern building*) is located near the southern boundary of the site, as illustrated in **Figures 3 and 4**, and contains 11kV switchgear, communication panels, and a ring main unit.

The second building (*being the northern building*) has two levels and is located near the northern boundary of the site. The ground floor is used mainly for storage purposes, where the first floor was once used to accommodate a substation operator and contains kitchen and bathroom facilities and several bedrooms, as illustrated in **Figure 5 and 6.**

The site contains a small aerial attached to the southern building. The aerial is illustrated in **Figure 14.**

An aerial layout of the substation site is illustrated in **Appendix A.**

The buildings and infrastructure onsite have the following areas:

Southern Building– 265.2m² (approx)

Northern Building– 128m² (approx)

Transformer bunds– 128.4m² (64.2m² each, approx)

Accordingly the site coverage is approximately 521.6m².

The transformers are located within a secure locked fence, which is approximately 2m high, as illustrated in **Figure 9 and 10**. The site has four access points (one gate, two shed roller doors and one door). The gate is located on the eastern boundary and is padlocked as illustrated in **Figure 8**.

The first roller door is located near the northern boundary and has direct access into the northern building, as illustrated in **Figure 12**. The second roller door is located near the western boundary and has direct access into the southern building, as illustrated in **Figure 3**.

Pedestrian access to the site is via the southern building as illustrated in **Figure 3**. The entrance to the building is fitted with a door alarm which is activated when the door opens, WEL's control room is alerted when the door is opened.

There is a storage area within the south-eastern portion of the site. Currently the storage area contains two transformers and two radiators for transformers. This storage area is illustrated in **Figure 13.**

2.2.2 *Parking and Entrances*

There are existing vehicle entrances on the northern and western boundaries of the site which allows vehicle access from Grey Street and Claudelands Road.

Parking spaces are available on the western side of the site outside the southern building, this area is sealed with asphalt and grassed in some areas and is large enough to contain three vehicles as well as onsite manoeuvring.

The site is accessed 3-4 times a month mainly for maintenance purposes.

There is further parking space for numerous vehicles and manoeuvring within the security fence, accessed via the security gate on the eastern boundary.

The existing entrances and parking spaces are illustrated in **Figures 11 and 12.**

2.2.3 *Signs*

The substation site contains information and safety signs near the three access points to the site. The signs advise visitors to the site of the name of the site and inform that only authorised personal may enter.

2.2.4 *Lighting*

The substation site contains lighting which has been designed to be directed away from adjacent properties and the road. Night lighting is only used in emergencies and is no brighter than that of a typical residential dwelling.

2.2.5 *Oil Containment*

Both the transformers onsite have existing interceptor and bund systems which allow for the drainage of stormwater and in the event of an oil spill the interceptor will contain the oil, as illustrated in **Figures 9 and 10.**

There will be no stormwater discharge of oil because an automated isolation valve (triggered by the presence of oil) is installed on the bunds. A copy of WEL's Oil Containment and Spill Policy Mitigation is attached as **Appendix D.**

Transformers are protected from overloading and faults by protection equipment (i.e. relays and circuit breakers) fitted with monitoring devices which alert WEL to operating conditions that would lead to a fire or oil spill so that WEL are able to prevent such an event. None of WEL's substations have had a major oil leak.

However in the event of a spill the substation keeps and maintains approved industry standard oil spill containment kits and procedures on site in accordance with WEL's Oil Containment and Spill Policy Mitigation.

2.2.6 *Stormwater, Water and Wastewater*

Given the size and large amount of permeable surfaces within the site, stormwater is disposed of via ground soakage and soak holes. The site has a connection to Council reticulated wastewater and water supply.

Figure 2 - *Location of the Claudelands substation (within boundary (red line)).*

Figure 3 - *Existing southern building (front view), which contains control and communication panels, 11kV switchgear and a ring main unit.*

Figure 4 *– Existing southern building (back view), which contains control and communication panels, 11kV switchgear and a ring main unit.*

Figure 5 *– Existing northern building (front view), which contains control and communication panels, 11kV switchgear and a ring main unit.*

Figure 6 *– Existing northern building (back view), ground floor used for storage, first floor was once used to accommodate a substation operator.*

Figure 7 *– Existing 11kV indoor switchgear with protection relays.*

Figure 8 *– Existing 2m security fence around the perimeter of the site – overlooking Palmer Street and gate (shown within red line). Photo taken from outside office at Palmer Street.*

Figure 9 *- Existing outdoor 33/11kV transformer, with bund underneath to capture oil in the event of an oil leak.*

Figure 10 *– Existing 33/11kV transformers (looking west).*

Figure 11 *– Existing entrance off Grey Street.*

Figure 12 *– Existing entrance off Claudelands Road (front of the northern building).*

Figure 13 *– Equipment temporary being stored onsite.*

Figure 14 *– Existing antennae on the attached to the roof of the existing southern building.*

3 CONSIDERATION OF ALTERNATIVE SITES

In accordance with section 171(1)(b) when considering a requirement, a territorial authority must consider the effects on the environment of allowing the requirement, having particular regard to (amongst other things) whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work if the requiring authority does not have an interest in the land sufficient for undertaking the work.

The purpose of the designation is to allow for future alterations, additions, upgrades, maintenance and provide protection of an existing substation site. As discussed in section 1 above, the absence of designation status puts WEL in a vulnerable position in terms of future upgrades as WEL's equipment is not protected by the designation overlay which prevents site advances from other requiring authorities and other adjacent uses which may not be compatible.

Any alternative sites considered by WEL would not be practical as the site is established and plays an important role of providing electricity to the Claudelands, Hamilton East, Fairfield and CBD areas.

Additionally any consideration of alternatives is considered unnecessary as the site is owned by WEL and the effects will be less than minor.

4 THE DESIGNATION IS REQUIRED TO ACHIEVE THE OBJECTIVES OF THE REQUIRING AUTHORITY

Claudelands substation performs an extremely important function for people, local communities and industry.

A designation prevents a person from doing anything on a site that would prevent or hinder a project or operation to which the designation relates, without written consent of the requiring authority. Designating the site will allow WEL to continue the operation of the site without interruptions which may adversely affect the operation of the essential public work.

Designating the site will allow WEL to apply for outline plan approval for maintenance and upgrading to meet future increases in electricity load (demand) in the area. Maintenance and upgrades are essential functions which occur as a result of replacing equipment at the end of life or increasing the load of equipment to cope with increasing demand for electricity. The outline plan procedure under section 176A of the RMA provides WEL with a degree of certainty that it can conduct essential maintenance and where necessary minor upgrades, when needed, into the future. It also provides WEL and Council with an effective and efficient means for communicating and regulating activities and for ensuring compliance with the RMA.

For the reasons above, designating the Claudelands substation will ensure that WEL can meet its objectives as an electricity distribution company to provide a secure and reliable supply of electricity to the Claudelands, Hamilton East, Fairfield and CBD areas. A secure and reliable supply of electricity will enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety to meet the foreseeable needs of future generations.

5 CONSULTATION

The substation site was constructed in the 1930's and therefore the effects associated with the activity are established. The assessment of environmental effects in section 8 of this report concludes that all potential effects of the ongoing operation of the substation will be no more than minor. Furthermore an assessment of the notification provisions within the RMA in section 6 of this report concludes that the NOR can be processed on a non notified basis.

Overall due to the nature of the site, consideration of the assessment of effects and notification provisions of the RMA, I deem that no consultation is required as no parties are considered affected.

6 STATUTORY CONSIDERATIONS

6.1 Designations

6.1.1 *Section 168 Requirements*

In accordance with section 166 a designation means a provision made in a district plan to give effect to a requirement made by a requiring authority under section 168 or section 168A.

168 Notice of requirement to territorial authority

(2) A requiring authority for the purposes approved under section 167 may at any time give notice in the prescribed form to a territorial authority of its requirement for a designation—

(a) for a project or work; or

(b) in respect of any land, water, subsoil, or airspace where a restriction is reasonably necessary for the safe or efficient functioning or operation of such a project or work.

A site can only be designated after a NOR is issued by a requiring authority in accordance with section 168. Under section 168(2), a requiring authority can at any time give notice to a territorial authority of its requirement to designate a site or route. WEL is a requiring authority in accordance with section 167 of the RMA and proposes to designate the Claudelands substation site for electricity substation purposes.

6.1.2 *Section 169 Requirements*

If a territorial authority is given notice of a requirement under section 168, under section 169 it must decide whether to notify under sections 95 to 95F of the RMA.

169 Further information, notification, submissions, and hearing for notice of requirement to territorial authority

(1) If a territorial authority is given a notice of requirement under section 168, the territorial authority must decide whether to notify the notice under sections 95 to 95F, which apply with all necessary modifications and as if—

(a) a reference to a resource consent were a reference to the requirement; and

(b) a reference to an applicant were a reference to the requiring authority; and

(c) a reference to an application for a resource consent were a reference to the notice of requirement; and

(d) a reference to a consent authority were a reference to the territorial authority; and

(e) a reference to an activity were a reference to the designation.

(2) Unless the territorial authority applies section 170, sections 92 to 92B and 96 to 103 apply to the notice of requirement with all necessary modifications and—

(a) with the modifications described in subsection (1); and

(b) as if a reference to a decision on the application for a resource consent were a reference to a recommendation by the territorial authority under section 171.

It is WEL's opinion that the NOR for Claudelands substation can be undertaken through the non-notified process given that the site was constructed in the 1930's and therefore the effects associated with the activity are established. This is discussed in further detail in section 6.2 below.

6.1.3 ***Section 171 Requirements***

Section 171 provides the framework for consideration of a NOR. Section 171 states the following:

171 Recommendation by territorial authority

(1) When considering a requirement and any submissions received, a territorial authority must, subject to Part 2, consider the effects on the environment of allowing the requirement, having particular regard to—
- *(a) any relevant provisions of—*
  - *(i) a national policy statement:*
  - *(ii) a New Zealand coastal policy statement:*
  - *(iii) a regional policy statement or proposed regional policy statement:*
  - *(iv) a plan or proposed plan; and*
- *(b) whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work if—*
  - *(i) the requiring authority does not have an interest in the land sufficient for undertaking the work; or*
  - *(ii) it is likely that the work will have a significant adverse effect on the environment; and*
- *(c) whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought; and*
- *(d) any other matter the territorial authority considers reasonably necessary in order to make a recommendation on the requirement.*

(2) The territorial authority may recommend to the requiring authority that it—
- *(a) confirm the requirement:*
- *(b) modify the requirement:*
- *(c) impose conditions:*
- *(d) withdraw the requirement.*

(3) The territorial authority must give reasons for its recommendation under subsection (2).

In accordance with section 171(2), Council can make recommendations to the requiring authority and impose conditions on the requirement. In performing these duties Council must, subject to Part 2, consider the:

- Effects on the environment of allowing the requirement, having particular regard to the relevant provisions in the relevant planning instruments (see section 7);

- Whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work (see section 3);
- Whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought (see section 4); and
- Any other matter the territorial authority considers reasonably necessary in order to make a recommendation on the requirement.

The matters listed above have been addressed throughout this report.

6.2 Notification

6.2.1 *Section 95D*

When considering the application for public notification under section 95A, the territorial authority is required to decide under section 95D whether the activity will have or is likely to have adverse effects on the environment that are more than minor. Section 95D states:

"A consent authority that is deciding, for the purpose of section 95A(2)(a), whether an activity will have or is likely to have adverse effects on the environment that are more than minor—

(a) must disregard any effects on persons who own or occupy—

(i) the land in, on, or over which the activity will occur; or

(ii) any land adjacent to that land; and

(b) may disregard an adverse effect of the activity if a rule or national environmental standard permits an activity with that effect; and

(c) in the case of a controlled or restricted discretionary activity, must disregard an adverse effect of the activity that does not relate to a matter for which a rule or national environmental standard reserves control or restricts discretion; and

(d) must disregard trade competition and the effects of trade competition; and

(e) must disregard any effect on a person who has given written approval to the relevant application.

An assessment of the potential environmental effects has been undertaken in section 8 of this report. Section 8 has confirmed that any potential adverse effects from the continued operation of the substation site are less than minor. No persons are deemed affected by the proposal.

6.2.2 ***Section 95A***

Section 95A of the Act provides the ability for a consent authority in its discretion to publicly notify an application. It also sets out when a consent authority must publicly notify an application. Section 95A states:

(1) A consent authority may, in its discretion, decide whether to publicly notify an application for a resource consent for an activity.

(2) Despite subsection (1), a consent authority must publicly notify the application if—

(a) it decides (under section 95D) that the activity will have or is likely to have adverse effects on the environment that are more than minor; or

(b) the applicant requests public notification of the application; or

(c) a rule or national environmental standard requires public notification of the application.

(3) Despite subsections (1) and (2)(a), a consent authority must not publicly notify the application if—

(a) a rule or national environmental standard precludes public notification of the application; and

(b) subsection (2)(b) does not apply.

(4) Despite subsection (3), a consent authority may publicly notify an application if it decides that special circumstances exist in relation to the application.

WEL does not request that this application be notified. There are no rules or national environmental standards that require (or preclude) public notification and no special circumstances exist that warrant notification. As noted in section 8 of this report, the existing operation of the substation site will not have adverse effects on the environment that are more than minor.

6.2.3 ***Section 95B***

Should Council agree that public notification is not necessary, the application may be notified using *limited* notification. Section 95B allows for such notification and states:

(1) If a consent authority does not publicly notify an application for a resource consent for an activity, it must decide (under sections 95E and 95F) if there are any affected persons or affected order holders in relation to the activity.

(2) The consent authority must give limited notification of the application to any affected person unless a rule or national environmental standard precludes limited notification of the application.

(3) The consent authority must give limited notification of the application to any affected order holder even if a rule or national environmental standard precludes public or limited notification of the application.

6.2.4 ***Section 95E***

Section 95E sets out the way in which Council determines if a person is affected. The section states:

(1) A consent authority must decide that a person is an affected person, in relation to an activity, if the activity's adverse effects on the person are minor or more than minor (but are not less than minor).

(2) The consent authority, in making its decision,—

(a) may disregard an adverse effect of the activity on the person if a rule or national environmental standard permits an activity with that effect; and

(b) in the case of a controlled or restricted discretionary activity, must disregard an adverse effect of the activity on the person that does not relate to a matter for which a rule or national environmental standard reserves control or restricts discretion; and

(c) must have regard to every relevant statutory acknowledgement made in accordance with an Act specified in Schedule 11.

(3) Despite anything else in this section, the consent authority must decide that a person is not an affected person if—

(a) the person has given written approval to the activity and has not withdrawn the approval in a written notice received by the authority before the authority has decided whether there are any affected persons; or

(b) it is unreasonable in the circumstances to seek the person's written approval.

An assessment of the potential environmental effects has confirmed that the ongoing operation of the substation site will be less than minor, for this reason and the site being established for many years it is deemed that no persons are affected by the proposal to designate the site.

As discussed in section 8 of this report any potential effects of the continued operation of the substation will be less than minor given the commercial environment in which the site is located.

Therefore there are no parties considered to be affected, and limited notification is not required.

7 PLANNING DOCUMENTS

7.1 Waikato Regional Policy Statement

The Operative Waikato Regional Policy Statement 2000 ("RPS") provides an overview of the significant resource management issues for the Waikato Region and sets out objectives, policies and methods to achieve integrated management of the region's natural and physical resources. A number of issues contained within the RPS are relevant to the proposed works and designation. These include:

- Soil contamination;
- Hazardous substances;
- Energy and efficient energy use; and
- Infrastructure.

The following objectives and policies of the RPS are considered to be of particular relevance to this proposal.

Relevant Objectives and Policies	Comments
3.3 – Land and soil **Objective 3.3.7:** Net reduction in the effects of accelerated erosion and those effects where practicable. **Policy - Avoid , Remedy or Mitigate Accelerated Erosion** Ensure that land users; avoid where practicable, practices that cause accelerated erosion; and remedy or mitigate the adverse effects of accelerated erosion if it occurs. **Objective 3.3.8**: Soil Contamination - The range of existing and foreseeable uses of soil resource not reduced as a result of contamination of soils. **Policy - Soil contamination shall be avoided, remedied or mitigated** Discharges of contaminants into or onto land shall be carried out in a manner designed to avoid any adverse effects on the soil resource.	Any future earthworks will be managed in a way to ensure there are no accelerated erosion effects. Furthermore outline plan approval will be sought with future proposed earthworks. Mitigation measures are in place to prevent the discharge of contaminants into the soil.

Relevant Objectives and Policies	Comments
3.10 – Hazardous Substances **Objective 3.10.3:** No significant risk of adverse environmental and human health effects deriving from the storage, transport, use and disposal of hazardous substances. **Policy – Use of Hazardous Substances** Hazardous substances are to be used in a manner that is designed to avoid adverse effects. Where these effects are unable to be completely avoided they will be remedied or mitigated. **Policy - Hazardous Substances Disposed of Safely** Hazardous substances are to be disposed of in ways that are designed to avoid adverse effects on human health and the environment.	The proposal is consistent with this objective and the associated policies. The transformers are fitted with a number of devices that detect any irregular activity and to set off an alarm at WEL's control room in the event of unscheduled events. Transformer oil is recycled and waste oil is disposed of in a legally compliant manner. All HSNO requirements are complied with.
3.12 – Energy **Objective 3.12.2:** Efficient use of energy within the Waikato Region. **Policy - Energy Efficiency and Conservation** To promote efficiency and conservation in the production, transmission and consumption of energy.	The substation enables the distribution of electricity to buildings and infrastructure and designating the site will enable communities to meet their future, social, economic and cultural needs.
3.13 – Infrastructure **Objective 3.13.2:** The continued operation of regionally significant infrastructure (including network utilities) maintained or enhanced. **Policy - Maintenance of Infrastructure** Avoidance of significant adverse effects on the safe and efficient operation of regionally significant infrastructure.	The proposal is consistent with this objective and the relevant policy. The substation ensures the continued operation of, and secure electricity supply to the Claudelands, Hamilton East, Fairfield and CBD areas.

7.2 Waikato Regional Plan

The Waikato Regional Plan 2007 ("Regional Plan") is partly operative and is intended to provide direction regarding the use, development and protection of natural and physical resources in the Waikato Region.

The proposed works are considered a permitted activity under the provisions of the Regional Plan due to compliance with the following relevant rule:

- Rule 6.1.9.1(21) permitted activity general rule for the release of energy, including light from sources of electromagnetic radiation, including radio and television transmitters and other telecommunications facilities, cell phones, transmission lines and generators.

The following objectives and policies of the Regional Plan are considered to be of particular relevance to this proposal.

Relevant Objectives and Policies	Comments
3.5 – Water Discharges **Objective 3.5.2:** Discharges undertaken in a manner that should not contaminate soils, does not have adverse effects on aquatic habitats, surface water quality or ground water quality and which avoids significant adverse effects on the relationship that tangata whenua as Kaitiaki have with their taonga. **Policy 3.5.3:** Ensure discharge of contaminants onto or into land maximises the reuse of nutrients and water contained in the discharge.	The site is consistent with this objective and associated policy as any event which may potentially cause an oil spill will be identified by WEL's control room. Stormwater is discharged within the site via ground penetration and soakholes.
5.1 – Land and Soil accelerated erosion **Objective 5.1.2:** Reduction of accelerated erosion across the region. **Policy 5.1.3:** Manage activities that cause or have the potential to cause accelerated erosion.	Any future earthworks undertaken onsite will be managed to prevent accelerated erosion.

5.2 – Discharges onto or into land **Objective 5.2.2:** Discharges of wastes and hazardous substances onto or into land in a manner that: a) Does not contaminate soil to levels that present significant risks to human health or the wider environment. b) Does not have adverse effects on aquatic habitats, surface water quality or ground water quality that are inconsistent with the water management objectives. c) Does not have adverse effects related to particulate matter, odour or hazardous substances that are in consistent with the air quality objectives. d) Is not inconsistent with the objectives in 5.1.2. e) Avoids significant adverse effects on the relationship that tangata whenua as Kaitiaki have with their taonga such as ancestral lands, water and waahi tapu. f) Remedies and mitigates cumulative adverse effects on the relationship that tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water and waahi tapu. **Policy 5.2.3(1):** Enable through permitted activity rules and non-regulatory methods, the discharge of contaminants onto or into land where: a) Hazardous substances present in the discharge, or produced as a consequence of the breakdown of the contaminants from the discharge: i) Are not environmentally persistent. ii) Will not bio-accumulate to a level that has acute or chronic toxic (carcinogenic, teratogenic or mutagenic) effects on humans or other non target species. b) The discharge of these contaminants pathogens accumulating in soil or pasture to levels that would render the soil unsafe for agricultural or domestic use. c) The discharge is not inconsistent with the policies in 5.1.3. d) The discharge will not result in any effect on water quality or aquatic ecosystems that is inconsistent with the purpose of the water management classes as indentified by the policies in Section 3.2.3. e) The discharge will not result in any effects on air quality that is inconsistent with the policies in Section 6.1.3. f) The discharge will not damage archaeological sites, waahi tapu or other identified sites of importance to tangata whenua as Kaitiaki.	The site is consistent with this objective and the associated policy. Any potential oil spills would be prevented as WEL's transformers are protected from overloading and faults by protection equipment (i.e. circuit breakers) fitted with monitoring devices which alert WEL to operating conditions that would lead to a fire or oil spill so that WEL are able to prevent such an event. Stormwater is discharged into the ground via soakholes.

7.3 Hamilton City Proposed District Plan 2001

The Claudelands substation site is located in the Suburban Centre Zone (Map 11a) of the PCP. The site is not located within any policy or structure planning areas.

7.3.1 *Objectives and Polices*

The following objectives and policies of the PCP are considered to be of particular relevance to this proposal.

Relevant Objectives and Policies	Comments
Objective 4.2.2 – Access: To ensure that the location and distribution of access points for activities along roads do not adversely affect the safe and efficient functioning of the transport network. **Policy 4.2.2(a):** Ensure that access onto and off roads where the primary function is to provide for through traffic does not adversely affect the safe and efficient functioning of the road.	The access points (entrances) for the substation site are existing (from Grey Street and Claudelands Road). As a result of designating the site or any future works, the vehicle movements to and from the site will remain very low and no different to the current traffic volume using the access. The proposal is consistent with this objective and the relevant policy.
Objective 4.2.3 – Parking and Loading: To ensure that sufficient and accessible off-street parking, loading and manoeuvring areas are provided as part of a development without adverse effects on traffic flows, amenity values or public safety. **Policy 4.2.3(a):** Require a minimum number of parking spaces for motor vehicles, bicycles, and motorcycles and for vehicles used by people with disabilities to meet the normal needs of the site or building use. **Policy 4.2.3(b):** Require on-site loading and unloading areas to meet the needs of the site or building use. **Policy 4.2.3(c):** Ensure that access, parking, loading and manoeuvring areas do not create a nuisance or detract from the amenity values of the site or adjoining properties, or the traffic functions of the adjoining street.	Onsite parking will be available for numerous vehicles near the western boundary and within the security fence. This will provide enough onsite parking spaces required for the activity. Any future works will not increase the vehicle movements to and from the site. The site has sufficient on-site loading space during normal use and maintenance. The onsite manoeuvring space will allow for vehicles to access and leave the site front ways. Overall the proposal is consistent with this objective and the relevant policies.

Relevant Objectives and Policies	Comments
Objective 4.3.1 – Provision for Network Utilities: To accommodate network utilities throughout the city in a manner which enables the community to meet its needs while minimising adverse effects on the environment. **Policy 4.3.1(a):** Control network utilities in a manner which matches the degree of control to the level of likely effect of the activity on the amenity values or environmental values of the surrounding area. **Policy 4.3.1(b):** Manage network utilities that generate electromagnetic and radio frequency radiation in accordance with accepted and operative national and international standards. **Policy 4.3.1(c):** Ensure that where technically feasible and economically possible network utilities are placed underground. **Policy 4.3.1(d):** Ensure that visual effects of network utilities and structures associated with the generation, storage and transmission of network utilities are no more than minor with respect to the scale of local buildings and the sensitivity of the environment in which they are located.	The likely effects of designating the substation site have been assessed as being less than minor. As such it is considered the proposal is consistent with this objective and the relevant policies. Electro-magnetic fields emitted from the substation equipment easily comply with the ICNIRP guidelines which are the recognised New Zealand standard. The proposal is consistent with policy 4.3.1(b). As the substation is existing it would not be economically, technically or practically feasible to relocate the entire substation underground. Subsequently it is considered that proposal is not inconsistent with policy 4.3.1(c). The substation was designed to take into consideration the surrounding commercial environment. The effects of the substation on character are considered to be less than minor. It is considered the proposal is consistent with policies 4.3.1(a)(d).
Objective 6.6.1 – Hazardous Substances: To allow for the continued use of hazardous substances while ensuring the adverse environmental effects of the use, storage, disposal or transportation of hazardous substances are avoided, remedied or mitigated. **Policy 6.6.1(a):** Control activities involving the use or storage of single or multiple hazardous substances in a manner which reflects the level of risk posed by the substances to the community and the environment. **Policy 6.6.1(b):** Control the establishment of facilities and activities which use or store hazardous substances in a manner which reflects the level of risk they pose relative to the sensitivity of the surrounding population and environment. **Policy 6.6.1(d):** Ensure that appropriate facilities are in place to avoid the pollution of soil, groundwater, watercourses and air in the event of accidents (such as spills, gas escapes, etc) involving hazardous substances.	WEL's transformers are protected from overloading and faults by protection equipment (i.e. switchgear) fitted with monitoring devices which alert WEL to operating conditions that would lead to a fire or oil spill so that WEL are able to prevent such an event. The potential adverse effects in relation to the transformer oil on site has been assessed as less than minor due to the mitigation measures in place. Appropriate facilities will be in place to manage an oil spill to prevent any adverse environmental effects. Given the above measures, it is considered that the proposal is consistent with this objective and the relevant policies.

Relevant Objectives and Policies	Comments
Objective 6.2.2 Suburban Commercial Development To ensure suburban centres maintain accepted commercial amenity values while minimising impacts on the surrounding residential neighbourhoods. **Policies** a) Ensure that adequate provision is made to accommodate car access and parking in suburban centres within compromising pedestrian safety and convenience. c) Ensure that the scale of buildings in suburban centres is compatible with the surrounding development and does not unduly detract from local residential amenity values.	The substation was constructed in the 1930's for the purpose of supplying electricity to the developing Claudelands, Hamilton East, Fairfield and CBD areas. The site is located within a commercial environment, except to the south east where there is some residential development. The site contains two commercial type buildings which are consistent with the surrounding commercial buildings. The outdoor utility equipment consists of two outdoor transformers and a storage area of utility equipment. This equipment being typical of a substation site. The existing outdoor transformers are screened from the view of Grey Street due to the location of the existing buildings. The equipment can be viewed from Claudelands Road and Palmer Street however the existing 2m high security fence obstructs a majority of the view of the equipment. The transformers, buildings and security fence are of a colour which is sympathetic of the surrounding commercial environment and to the residential areas to the south east. The site has sufficient offsite carparking to accommodate a number of cars as well as sufficient entrances. There is enough area onsite to accommodate onsite manoeuvring. The site does not compromise pedestrian safety due to the small number of visits to the site and the ability for the site to contain parking and manoeuvring. Accordingly it is considered that the proposal is consistent with this objective and the relevant policies.
Objective 7.3.1 – Glare and Lighting: To avoid adverse effects of glare from lighting and reflected glare from buildings or building material. **Policy 7.3.1(a):** Ensure that artificial lighting is installed and utilised so as not to generate adverse light effects on adjoining properties, particularly those that are glare sensitive, and roads.	Lights fitted on WEL's substations are directed away from adjacent businesses and the road. Night lighting is only used in emergencies and is no brighter than that of a typical residential dwelling. It is considered the proposal is consistent with this objective and the relevant policy.

Relevant Objectives and Policies	Comments
Objective 7.4.1 – Noise: To protect the accepted ambient noise environment of residential areas from the adverse effects of noise arising from non-residential activities. **Policy 7.4.1(a):** Ensure that noise emissions from commercial, industrial and community activities received at the boundary of residential properties are consistent with the existing ambient noise environment. **Policy 7.4.1(b):** Control the noise emissions of non-residential activities, including home occupations, in residential areas to protect residential amenity values.	Current noise emissions from the substation meet the permitted activity standards in the PCP. Any future works will comply with the noise emission provisions. It is considered that the proposal is consistent with this objective and the associated policies.
Objective 7.4.2 – Inter-Activity Noise: To minimise adverse noise effects between different activities and properties to protect the amenity values of people in neighbouring properties. **Policy 7.4.2(d):** Encourage the mitigation of noise emanating from construction, maintenance or demolition work to reduce the adverse effects on the surrounding neighbourhood and adjoining activities.	For any future works (which will be described in an outline plan), contractors on site will be required to comply with the New Zealand Construction noise standards. Compliance with this standard will ensure that noise effects relating to works are less than minor. It is considered that the proposal is consistent with this objective and the relevant policy.
Objective 7.5.1 – Provision for Signs: To ensure that signs do not have an adverse impact on the amenity values of their location or affect public safety. **Policy 7.5.1(a):** Restrict the location, size and number of signs within residential, community and future urban areas to avoid adverse effects on the amenity values of the surrounding environment.	The existing signs erected on site comply with the sign provisions for a permitted activity in the PCP.

7.3.2 *Rules and Zoning*

While WEL are seeking to designate the Claudelands substation, it is worthwhile to consider the relevant rules for this activity from the PCP. The table below outlines such rules and comments whether compliance can be achieved.

Rule	Compliance
Rule 3.1.3(b) Signs in the Commercial Service, City Centre, Suburban Centre or Industrial Zone i) No limits on the size of a sign where the sign is affixed to, painted on, or otherwise incorporated into the face of the building (subject to Rule 3.1.3 a) iii)). ii) One directional sign can be displayed at each vehicular entrance to the site provided that it does not exceed 1.2m² in area and it has no part higher than 2m above the adjacent ground level (see Figure 3.1-1). iii) Any sign associated with an activity on the site which projects from the face of the building shall be restricted to: · One double sided sign for each road frontage subject to the area of each face of the sign not exceeding 1m² for every metre of site frontage and the sign being not more · than 3m in width · A maximum sign height equal to the building height associated with the underlying zone. · iv) Any sign associated with an activity on the site which is free standing from the building, shall be restricted to: · One double sided sign for each road frontage subject to the area of each face of the sign not exceeding 1m² for every metre of site frontage. · A maximum sign height equal to the building height associated with the underlying zone.	The site contains existing information and safety signs attached to the building and gates to the site. The signs do not exceed 1m², therefore are considered to comply with Rule 3.1.3(b).
Rule 3.2.1(a) Hazardous Facilities Any hazardous facility or sub-facility which has been assessed as having a Quantity Ratio which is below or equal to the Consent Status Indices for Permitted Activities in the Consent Status Matrix (Refer Appendix 3.2-I)	This activity is not subject to the HFSP as it is contained within a 'manufactured article' (the transformer) and therefore is not subject to the HFSP.
Rule 3.3.1(a) Permitted Activities Network Utilities located below ground.	The site contains extensive underground cabling which is considered a permitted activity in accordance with Rule 3.3.1(a).

<table>
<tr><th colspan="3">Rule</th><th>Compliance</th></tr>
<tr><td colspan="3">Rule 3.3.2(a)(i)
Any Network Utility shall not exceed the following threshold capacities:
· the generation of electricity exceeding 500 MW
· the transmission or conveyance of electricity at a voltage exceeding 33 Kv
· the storage or treatment of water or sewage exceeding 50m³ per day
· the transmission, storage or distribution of natural gas at a gauge pressure exceeding 2000 kilopascals
· The recommended non-occupational exposure levels in NZS 2772.1:1999 Radiofrequency Fields Part 1: Maximum exposure levels 3 kHz – 300 GHz (‘the New Zealand Standard’) where any member of the public can lawfully approach the facility.</td><td>The site does not generate electricity.

The substation conveys electricity up to but not exceeding 33kV.

The substation does not result in the recommended non-occupational exposure levels in NZS 2772.1:1999 Radiofrequency Fields Part 1: Maximum exposure levels 3 kHz – 300 GHz (‘the New Zealand Standard’) being exceeded where any member of the public can lawfully approach the facility.

No other points are applicable.</td></tr>
<tr><td colspan="4">Rule 3.3.2(a)(ii) Pole or Mast</td></tr>
<tr><td>Maximum Height</td><td>In the Residential Zone, Suburban Centre Zone, Commercial Service Zone (excluding the High Rise Area), Industrial Amenity Protection Area, Community Facilities Zone, Recreation Environment Zone, Recreation General Zone and Future Urban Zone</td><td>15m</td><td rowspan="3">The substation does not contain any masts.</td></tr>
<tr><td>Maximum Height</td><td>In the Industrial Zone (excluding the Amenity Protection Area), Commercial Service Zone (in the High Rise Area), Major Facilities Zone, Recreation Major Zone (except Hamilton Gardens) and City Centre Zone*</td><td>20m</td></tr>
<tr><td>Maximum Cross-Section</td><td>In the Residential Zone, Suburban Centre Zone, Commercial Service Zone (excluding the High Rise Area), Industrial Amenity Protection Area, Community Facilities Zone, Major Facilities Zone, Recreation Environment Zone, Recreation General Zone, Recreation Major</td><td>700mm</td></tr>
</table>

Rule			**Compliance**
	Zone and Future Urban Zone		
Maximum Cross-Section	In the Industrial Zone (excluding the Amenity Protection Area), Commercial Service Zone (in the High Rise Area) and City Centre Zone*	1,300mm	
Minimum Separation Distance between individual poles and masts	In all Zones	15m	
Minimum Separation Distance between individual poles and masts at the intersection of two or more roads	In all Zones	5m	
Rule 3.3.2(a)(ii) Aerial or Dish			
Maximum Boom Length	In all Zones	6m	The substation is located within the suburban centre zone. The site does not contain any masts, however there is a small aerial attached to the southern building, which is capable of complying with the relevant rules.
Maximum Area of any Panel or Element	In any Industrial or Commercial Zone	10.75m²	
Maximum Area of any Panel or Element	In any other Zone	1.77m²	
Maximum Diameter of any Dish	In any Industrial or Commercial Zone	4m	
Maximum Diameter of any Dish	In any other Zone	1.2m	
Maximum Height at which the Dish, Panel or Element is attached to a pole or mast	In the Residential Zone, Suburban Centre Zone, Commercial Service Zone (excluding the High Rise Area), Industrial Amenity Protection Area, Community Facilities Zone, Major Facilities Zone, Recreation Environment Zone, Recreation General Zone, Recreation Major	15m	

Rule			**Compliance**
	Zone and Future Urban Zone		
Maximum Height at which the Dish, Panel or Element is attached to a pole or mast	In the Industrial Zone (excluding the Amenity Protection Area), Commercial Service Zone (in the High Rise Area) and City Centre Zone*	20m	
Maximum Height above a building that a Dish, Panel or Element can protrude	In all Zones	5m	
Maximum Cross-Section of an associated Pole	In the Residential Zone, Suburban Centre Zone, Commercial Service Zone (excluding the High Rise Area), Industrial Amenity Protection Area, Community Facilities Zone, Major Facilities Zone, Recreation Environment Zone, Recreation General Zone, Recreation Major Zone, and Future Urban Zone	700mm	
Maximum Cross-Section of any associated Pole	In the Industrial Zone (excluding the Amenity Protection Area), Commercial Service Zone (in the High Rise Area) and City Centre Zone*	1,300mm	
Rule 4.2.1(d) Non-Complying activities The following activities are Non-Complying Activities: Any activity not provided for.			The existing operation of the substation site is not an activity provided for in Rule 4.2.1(d), therefore the activity is considered non-complying.
Rule 4.2.2(a) Development Intensity i) Maximum Floor Area Ratio (ratio of gross floor area to net site area) – 1:1 ii) Maximum site coverage – 100%			The site has an area of 1093m². The buildings onsite have a total area of approximately 521.6m², therefore the site coverage can easily comply with Rule 4.2.2(a).

Rule	Compliance
Rule 4.2.2(b) Building Height i) Maximum Building Height: · 10m where the net site area is 1ha or less · 15m where the net site area exceeds 1ha ii) Where the site adjoins a Residential Zone, no part of any building shall penetrate a height Control Plane rising at an angle of 45 degrees commencing at an elevation of 3m above the boundary.	The transformers and existing buildings do not exceed a height of 10m (northern building 9.19m). The site does not adjoin a residential zone. Therefore the activity is considered permitted in accordance with Rule 4.4.2(b).
Rule 4.2.2(c) Building Setback Minimum Setback from the front boundary: · 5m from the front boundary with a major arterial road · 5m for any adjoin Residential Zone boundary · 5m from any boundary where the height of the building exceeds 10m · On Lot 1 DPS 32102 within area 'B' (as shown on Appendix 4.2-1) the minimum building setback adjoin area 'AA' as shown on Appendix 4.2-1 is 5m.	The eastern, northern and western boundaries adjoin local roads. The southern boundary adjoins suburban centre zoned land. The heights of the buildings do not exceed 10m. Accordingly the rules set out in Rule 4.2.2(c) are not applicable.
Rule 4.2.2(d) Service Areas Any building shall be provided with one or more service area as follows: · The total service area shall be not less than 10m2 or 1% of the gross floor area of the building whichever is the greater provided that any individual service area shall be not less than 5m2 with a minimum dimension of 2.5m · A service area may be located within a building provided that it is separately partitioned with an exterior door directly accessible by service vehicles. · Any outdoor storage area shall be maintained with an all weather dust free surface · Any service area and vehicular access thereto may not be located within a shopping frontage.	There are several areas within the site that could be used as service areas including a large area of bare land within the security fence. It is considered that the site will comply with Rule 4.4.2(d).

Rule	Compliance
Rule 5.1.1(b) Maximum Noise Levels Activities (excluding residential activities but including home occupations), in any zone except the Recreation Environment Zone, Recreation General Zone, Recreation Major Zone and Major Facilities Zone shall not exceed the following noise levels when measured at any point at or within the boundary of any site in the Residential Zone. **Monday to Saturday** / **Noise levels measured in L10** / **Noise levels measured in Lmax** 0600hr – 0700 hr / 45 dBA / - 0700hr – 2000 hr / 50 dBA / - 2000hr – 2300 hr / 45 dBA / - 2300hr – 0600 hr / 40 dBA / 75 dBA **Sunday & public holidays** 0700hr – 2300 hr / 45dBA / - 2300hr – 0700 hr / 40dBA / 75 dBA	The transformers do not produce noise greater than 40dBA at the boundary of any residential site. Therefore the activity is considered permitted in accordance with Rule 5.1.1(b).
Standards 5.2.1 and Table 5.2.3 for Parking Loading and Access.	The PCP does not specify the number of car spaces or the requirements for entrances for network utility activities. However the site has existing entrances and carparking which have been operational since the substation was first established. The proposed equipment will not increase the vehicle movements to and from the site.
Rule 5.4.1 (b) Glare and Lighting For Any Activity in All Other Zones Use of artificial lighting shall comply with the following: i) The spill of light onto any other site within the zone or any zone other than those specified in Rule 5.4.1.b.ii) does not exceed 10 lux (horizontal and vertical) when measured at or within the boundary of any other site. ii) The spill of light onto any site in the Residential, Recreation Environment, Recreation General, Community Facility or Future Urban Zones does not exceed 3 lux (horizontal and vertical) when measured at or within the boundary of any other site so zoned. iii) Artificial lighting shall not result in illumination on roads which may dazzle or distract road users or interfere with any traffic aids or signals. iv) The restriction of light spill in this Rule 5.4.1.b) shall not apply to any light which is a street light, navigation light or traffic signal.	The spill of light onto other sites does not exceed 10 lux (horizontal or vertical) when measured at or within the boundary of another site. All existing lighting is directed downwards to avoid any glare which could affect road users. Lighting may be installed on the building to contain the 11kV switchgear equipment, this lighting will be designed to comply with the PCP requirements. Therefore the activity is considered permitted.

Rule	Compliance
Rule 5.5.1 Dust and Odour **a) Dust** Activities must not create a dust nuisance. A dust nuisance will occur if: There is visible evidence of suspended solids in the air beyond the site boundary; and/or There is visible evidence of suspended solids traceable from a dust source settling on the ground, building or structure on a neighbouring site or water. Dust nuisance will be determined by a warranted enforcement officer taking into account the frequency, intensity, duration, nature and location of the dust nuisance and any previously validated dust nuisance complaints relating to the same site. **b) Odour** Activities must not produce an objectionable odour discernible beyond the boundary of the site from which the odour emanates. Objectionable odour will be determined by a warranted enforcement officer taking into account the frequency, intensity, duration, nature and location of the odour and any previously validated odour complaints relating to the same site.	In future any works may require small scale earthworks for cable installation. These earthworks will be small scale, so dust emissions will be minimal. However during construction a water source will be available to water down the exposed soil if required. The proposed works will comply with this rule.

7.3.3 ***Summary***

Overall if a resource consent application was made for the substation it would be considered a non-complying activity due to the non-compliances with the following rules:

- Rule 3.3.2(a)(ii) Maximum Volume and Maximum Dimension
- Rule 4.2.1(d) Non-Complying activities

However I note that the substation has been lawfully established since the 1930's and once the site is designated, any future maintenance or upgrading activities which are not permitted activities will be provided for by submission of an outline plan.

8 ASSESSMENT OF ENVIRONMENTAL EFFECTS

The provisions listed below identify the potential environmental effects and potentially affected environments that need to be given particular regard when considering this NOR.

8.1 Positive Effects

8.1.1 *Social and economic well being and health and safety*

Designating the Claudelands substation for electricity substation purposes will ensure that this essential public network utility is protected from site advances and incompatible development which may have adverse effects on the operation of the site. Furthermore designating the site will provide for upgrades to accommodate increases in electricity demand as a result of further development and avoid the need to create further network utility sites.

The provision of a secure supply of electricity to the Claudelands, Hamilton East, Fairfield and CBD areas will enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety to meet the foreseeable needs of future generations.

It addition to the above, designating the site for electricity purposes will ensure the regionally significant site is protected from site advances and incompatible development which may have adverse effects on the operation of the site.

8.2 Consideration of Long-term Effects

8.2.1 *Visual*

Claudelands substation has been operational since the 1930's. The site was established prior to a majority of the surrounding development and subsequently the site is an established fixture in the environment in which it is located.

Claudelands substation is surrounded mainly by local roads to the east, north and west. The environment is dominated by commercial development, particularly to the south of the site which contains a large vehicle supplies warehouse.

The site itself contains two commercial type buildings which have access to Grey Street and Claudelands Road. Other than the two buildings the site contains two outdoor transformers and equipment which is being stored onsite. The majority of the site is bare and covered with grass.

It is deemed that any potential long term effects of the continued operation of the substation site are no more than minor for the following reasons:

- The existing transformers cannot be viewed from Grey Street.

- The existing 2m high fence obstructs a majority of the view of the transformers when viewing the site from Claudelands Road and Palmer Street.

- The transformers, buildings and security fence are of a colour which is sympathetic to the surrounding commercial environment and residential properties to the south east.

- There is sufficient space onsite to provide for a number of car parking spaces and onsite manoeuvring.

- The substation site was developed prior to the residential development to the south east of the site; in fact the substation was developed by Hamilton City Council to provide electricity to the developing Claudelands area at that time.

- The substation complies/is consistent with all the relevant rules and policies which directly relate to visual amenity, except for the rules for maximum volume and dimension for network utilities with which the transformers cannot comply, however this non-compliance is standard for every substation site.

- While the appearance of the substation is not directly consistent with the visual character of the residential development to the south east, it is noted the subject site is within the Suburban Centre Zone, not the Residential Zone. Further the substation is more visually compatible with residential activity than the commercial development directly adjacent to the residential activity.

- Any upgrades or maintenance undertaken in future are likely to improve the sites visual appearance.

Given the items discussed above and the fact that the site was established in the 1930's and is consistent with the surrounding commercial environment, any potential visual effects of the ongoing operation are deemed to be no more than minor.

8.2.2 ***Noise Emissions***

The substation is located within an area of commercial services, where the land to the south-east is residential zoned and occupied by residential dwellings.

Given the substations proximity to the residential zone a noise report has been prepared by Hegley Acoustics and is attached to this report as **Appendix G**.

Noise measurements of the substation were taken at the closest residential dwellings boundary to the south-east of the site. The noise level at the closest residential dwelling boundary was 28dBA L10, well below the background noise which was measured at 39dBA.

Noise measurements were also taken at the closet residential zone boundary on the opposite side of Palmer Road (which has a commercial use). The noise measurement taken at this boundary was below the background sound in the area, which was 39dBA.

Overall the noise report concluded that the noise levels around the Claudelands substation are all within the PCP noise limits. Accordingly any adverse noise effects associated with the operation of the substation are considered to be no more than minor.

8.2.3 *Light Spill and Glare*

Inappropriately located night lighting or reflective materials have the potential to create safety hazards in terms of driver distraction.

All existing lighting illuminates downwards and is directed away from the road. The lighting is only used for emergencies during the hours of darkness.

Any further lighting additions to the site will be designed to comply with the PCP lighting provisions.

It is considered the lighting levels are less in magnitude and frequency to levels of light spill emanating from a typical residential dwelling located on the roadside. As such it is considered that the effects from the use of night lighting on the site are less than minor.

Proposed Condition

The luminance of the site lighting installations shall not exceed 10 lux (lumens per square meter) spill (horizontal or vertical) of light.

8.2.4 *Traffic*

The site adjoins Grey Street, Claudelands Road and Palmer Street which are all local roads.

The site has two entrances, the first from Grey Street and second from Claudelands Road. The site contains three parking spaces at the western side the site (from Grey Street) and these parking spaces are used 3-4 times a month for maintenance, and when necessary for emergency purposes. There is further carparking within the security fence which can accommodate a number of vehicles as well as onsite manoeuvring.

With onsite parking being provided and the very low vehicle movements it is considered that any effects of road or traffic obstruction are *de minimis* or nil.

8.2.5 *Health and Safety*

Transformer oil is classed as a hazardous substance in the Hazardous Substances and New Organisms Act 1996. Accordingly if not managed properly it could potentially contaminate the soil in the vicinity of the transformers. Other potential health and safety effects include fire due to a fault or a member of the public entering the substation site, both of which can cause harm to the environment and public safety.

WEL's transformers are protected from overloading and faults by equipment (i.e. circuit breakers) fitted with monitoring devices which alert WEL to operating conditions that would lead to a fire or oil spill.

The substation is located within a secure locked fence approximately 2m high and signs warn the public to stay out of the site. The main entrance to the site is fitted with a door alarm which is activated when the door opens, WEL's control centre is alerted when the door is opened. Furthermore the roller doors and gate are all padlocked.

With the mitigation measures in place and the proposed condition suggested below, it is considered that any adverse effects are less than minor.

Proposed Condition

The substation shall be operated in accordance with WEL Networks Limited procedures for 'Oil Containment and Spill Mitigation' (document No M-04, Issue: F, dated September 2001).

8.2.6 *Electric and Magnetic Field Emissions*

The substation does not exceed the limits for electric and magnetic fields as set out in the International Commission for Non-ionising Radiation Protection ("ICNIRP") guidelines endorsed by the National Radiation Laboratory, New Zealand Ministry of Health. Specifically the table on page 12 of the guideline, attached as **Appendix E**, sets out the restrictions and reference levels for public exposure to electric and magnetic fields. These are 5kV/m for electric fields and 100 microtesla or 1000 milligauss for magnetic fields. Page 6 of the document then states that substations generally produce electric fields of 0.1kV/m and magnetic fields of 0.1 microtesla or 1 milligauss at 5m. As illustrated the electric and magnetic fields produced by a substation are well below the guidelines recommended for general public by the National Radiation laboratory, New Zealand Ministry of Health.

Based on the compliance with the relevant guidelines and the expert advice provided by IT Medical in the attached frequently asked questions relating to EMF provided in **Appendix F** it is considered that effects on health and safety as a result of electric and magnetic fields are nil.

Proposed Condition

Exposures to extremely low frequency electric and magnetic fields at the boundary of the site and at all publicly accessible areas within the site, shall comply with the guidelines recommended by the International Commission on Non-Ionising Radiation protection in 1998.

9 PART II RESOURCE MANAGEMENT ACT 1991

9.1 Section 5

The overriding purpose of the RMA is 'to promote the sustainable management of natural and physical resources'. This is defined in section 5(2) as meaning:

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

Section 5(2)

Providing a secure and efficient supply of electricity to the Claudelands, Hamilton East, Fairfield and CBD areas will clearly enable people and communities to provide for their social, economic and cultural well being and their health and safety in all areas of their lives now and in the future.

Section 5(2)(a)

The distribution of a secure supply of electricity help to sustain the potential of natural and physical resources to meet the reasonably foreseeable needs of future generations, in particular the existing distribution network in the Claudelands, Hamilton East, Fairfield and CBD areas.

Section 5(2)(b)

The mitigation measures and the proposed designation conditions detailed in the assessment of environmental effects will ensure the life supporting capacity of ecosystems and soil is safeguarded.

Section 5(2)(c)

Taking into account the mitigation measures and proposed designation conditions, the consideration of environmental effects concludes that the existing operation of the substation site is conducted in a manner that effectively avoids, remedies and mitigates any adverse effects on the environment.

The provision of a secure supply of electricity to the Claudelands, Hamilton East, Fairfield and CBD areas enables people and communities to provide for their social, economic, and cultural wellbeing and their health and safety to meet the foreseeable needs of future generations. The avoidance, mitigation and remediation measures associated with the proposal safeguard the life-supporting capacity of air, water, soil, and ecosystems (section 5(2)).

9.2 Section 6

Section 6 of the RMA requires that a number of matters of national importance shall be recognised and provided for. In this case I do not consider there to be any matters that are relevant to the proposed designation.

9.3 Section 7

Section 7 of the RMA refers to a number of matters to which particular regard should be given.

The following matters are considered relevant to this proposal:

(b) The efficient use and development of natural and physical resources.

(c) The maintenance and enhancement of amenity values.

(f) Maintenance and enhancement of the quality of the environment.

Section 7(b)

It is considered that the proposal will result in the efficient use and development of natural and physical resources. It is proposed to designate the Claudelands substation to facilitate the efficient distribution of electricity. Furthermore, designating the site will ensure that WEL can continue to utilise the existing infrastructure located at this site, which represents an efficient use of the physical resources of the site.

Section 7(c) and Section 7(f)

It is proposed to designate an established substation site which has been operational since the 1930's. Being established prior to a majority of the surrounding industrial businesses the site is a common fixture in the environment in which it is located. Accordingly it is considered that the activity is not contrary to section 7(c) and (f).

9.4 Section 8

Section 8 of the RMA requires the principles of the Treaty of Waitangi (Te Tiriti o Waitangi) to be taken into account in the consideration of any NOR. I consider that there are no relevant matters with respect to this proposal.

10 CONCLUSIONS AND REQUEST

WEL Networks Limited, as a requiring authority, gives notice of its requirement for a designation of the Claudelands substation, 730/732 Grey Street, Hamilton for the purposes of an electricity substation.

There are no potential or existing effects on the environment that are considered to be more than minor.

The proposal is not inconsistent with the relevant matters in the regional policy statement and the plans and district plan in accordance with section 171(1)(a).

As the substation is an established site any alternatives considered by WEL would not be practical as the site plays an important role of providing electricity to the Claudelands, Hamilton East, Fairfield and CBD areas.

The designation is necessary for achieving the objectives of the requiring authority in accordance with section 171(1)(c).

The proposal is consistent with the relevant matters in sections 6, 7 and 8 of the RMA.

Overall the proposal will meet the requirements of section 171(1) and it will promote the sustainable management of natural and physical resources in accordance with section 5 of the RMA.

Appendix A – Site Layout

Appendix B – Designation Conditions

DESCRIPTION OF WORKS

A. The designation applies to the area of land comprised of the following lots:

   a. Lot 1 Deposited Plan 15048, contained in Computer Freehold Register SA610/293.

   b. Lot 2-3 Deposited Plan 15048, contained in Computer Freehold Register SA1017/195.

   c. Lot 2 Deposited Plan 3726, contained in Computer Freehold Register SA241/45.

B. The terms and conditions described herein apply to the designation for the Claudelands substation, specifically for operation, maintenance, replacement, repair, upgrading of, addition to and entrance to and exit from a substation, and parts of, and works for, or relating to, electricity transformation and distribution.

CONDITIONS

General

1. The designation of the Claudelands substation shall be generally in accordance with the information submitted by WEL Networks Limited in support of the NOR and subject to any amendments required by the conditions that follow.

Archaeological

2. If during site works any urupa, traditional sites, taonga (significant artefacts), koiwi (human remains), or other archaeological sites are exposed, the following procedures shall apply:

   a. All site works in the immediate vicinity shall cease immediately;

   b. The site supervisor shall immediately secure the area in a way that ensures that any artefacts or remains are not further disturbed;

   c. If any finds of organic material are uncovered from waterlogged or impervious mud or clays, these shall be kept wet to prevent aerobic degradation until appropriate actions, such as conservation treatment, is determined, and

   d. The site supervisor shall notify local iwi, the New Zealand Historic Places Trust, the Department of Conservation, the Hamilton City Council, and in the case of human remains, the New Zealand Police, that an archaeological or traditional site has been exposed, so that appropriate action can be taken. This includes such persons being given reasonable time as determined by the Hamilton City

Council to record and recover archaeological features discovered, before work may recommence on the site.

Hazardous Substances

3. The substation shall be operated in accordance with WEL Networks Limited procedures for 'Oil Containment and Spill Mitigation' (document No M-04, Issue: F, dated September 2001).

Electric and Magnetic Fields

4. Exposures to extremely low frequency electric and magnetic fields at the boundary of the site and at all publicly accessible areas within the site, shall comply with the guidelines recommended by the International Commission on Non-Ionising Radiation Protection in 1998.

Lighting

5. All lighting shall be directed away from Grey Street to prevent any glare towards traffic.

6. The luminance of the site lighting installations shall not exceed 10 lux (lumens per square meter) spill (horizontal or vertical) of light.

Advice Notes:

A. WEL Networks Limited must comply with the legal threshold for inducted voltage in New Zealand as per Regulation 58 of the Electricity Act 1992.

B. WEL Networks Limited shall be responsible for ensuring that all appropriate authorisations under the Building Act, Resource Management Act and other relevant legislation, are obtained prior to works commencing on site.

Appendix C – Computer Freehold Register

Appendix D – WEL's Oils Procedures

Appendix E – Electric and Magnetic Fields and your Health

Appendix F – Electric and Magnetic Fields – Frequently Asked Questions

Mains Electricity Substations and EMFs – Frequently Asked Questions

Complied by Dr Moyra Black MSc PhD for WEL

WHAT DOES A SUBSTATION DO?

Electrical substations transform power from one voltage to another. The Claudelands substation converts electricity supplied by the National Grid at 33 kilovolts (kV), to 11kV for distribution to local transformers which will further step-down the voltage to 400V/230V for use in homes and businesses in the area. The substation contains two 33kV/11kV transformers. Electricity will both enter and leave the station carried by overhead lines.

WHAT ARE EMFS?

EMFs (electric and magnetic fields) are found everywhere and are produced whenever electricity is used. Electric fields are generated when a conductor (any material that can carry an electric current, such as metal or wet living tissue) is charged. They are present even when there is no current flowing. The strength of an electric field is measured in volts (V) or kilovolts (kV) per metre (V m^{-1} or kV m^{-1}).

Magnetic fields are generated by moving electric current. The strength of a magnetic field depends on the amount of current flowing and is measured in amperes per metre (A m^{-1}).

In practice, of most interest for potential health effects is the density of the magnetic field strength (magnetic flux density). The modern unit used for magnetic flux density is the Tesla, and in practice fields usually encountered are in millionths of this (microTesla abbreviated as µT).

DO SUBSTATIONS GIVE OFF RADIATION?

No. There is no significant radiation of any type from a substation. Electric and magnetic fields at the frequency of mains electricity (50 Hz) fields are not the same as radiation. Radiation is a phenomenon which occurs at much higher frequencies when electric and magnetic fields combine to form a wave. This effect is utilised in radio technology and also as a means of transferring energy locally such as in microwave heating. Radiation is generally not considered at electricity frequencies below 3 kHz (i.e. 3000 Hz; 60 times higher than mains electricity).

HOW FAR OUT DO EMF FIELDS EXTEND? WILL THEY CROSS THE BOUNDARIES OF MY PROPERTY?

Electric fields can be effectively screened using shielding with electrically conductive materials. In an electricity substation, electric fields can be contained through shielding of the underground cables, the design of the transformers and of the substation construction. No significant electric fields are found outside the boundaries of a substation property.

Magnetic fields cannot be shielded in the same way. However, magnetic field strength falls off rapidly with distance from a conductor. Therefore, due to the inherent design of a substation, magnetic fields will be relatively contained in the facility and only very low levels, if any, would be expected at the property boundaries.

WHAT GUIDELINES ARE THERE FOR SAFE LEVELS OF EMFS?

There are two broad families of Standards for protection of public health and safety from EMFs; those derived from the International Commission for Non-Ionising Radiation Protection (ICNIRP) Guidelines[1] and those derived from the IEEE (Institute of Electrical and Electronics Engineers) Standard[2]. Scientists from these groups have extensively reviewed the vast body of published scientific literature relating to EMFs in order to determine practical, evidence-based thresholds for public health protection.

These guidelines include large margins for safety, to ensure that even the most vulnerable members of the public are protected. As a result, they have become the foremost international resource for EMF Standards.

WHAT DOES THE NZ GOVERNMENT SAY?

New Zealand and Australia have not formally adopted standards for exposure to low frequency fields although both countries have published standards for radio frequency fields, above 3 kHz. However, the ICNIRP Guideline has been adopted by the New Zealand Ministry of Health. This gives a limit of 100 µT for magnetic flux density and 5000 V m^{-1} for electric field strength. Below these levels there are no established health effects.

WHAT LEVELS OF EMFS ARE EXPECTED AROUND A SUBSTATION?

The magnetic field exposure levels to the community from a substation are miniscule. In fact, at a standard substation, the levels are predicted to be at least 10 times lower than the general public limits in the ICNIRP Guideline. Both electric and magnetic fields from substations are not usually detectable outside the property boundary. In general, higher levels would be more likely

[1] ICNIRP, *Guideline for limiting exposure to time-varying electric, magnetic and electromagnetic field (up to 300 GHz).* Health Physics, 1998. **74**(April 1998): p. 4.

[2] IEEE, *IEEE Standard for Safety Levels with Respect to Human Exposure to Electromagnetic Fields, 0-3 kHz*, in *Standard*. 2002, IEEE: New York, USA.

to occur from occasional proximity to electrical wiring in houses, for example, in a situation where a person is sleeping adjacent to a wall which carried a main power conductor.

COULD THE EMFS FROM A SUBSTATION HARM ME OR MY FAMILY?

No. All substations built and operating in New Zealand easily comply with the electric and magnetic field limits stated in the ICNIRP guidelines. These guidelines provide a large margin of safety. As a result, even the more "vulnerable" members of the public such as children, the elderly and pregnant women will be protected.

WHAT ABOUT EMFS AND CHILDHOOD CANCER?

There is a substantial volume of literature on the topic of extra low frequency magnetic fields and childhood leukaemia. However, despite this, no causative link has been proven between electricity and this rare childhood disease. Instead, the results have been inconsistent and inconclusive. As a result, the matter has never been entirely settled. However, the extent of the effect, if any, is of a magnitude such that, even if it were to be confirmed, it probably would not alter the way in which electricity is used on a cost benefit basis[3].

IS IT SAFE TO HAVE SCHOOLS, DAYCARES AND KINDERGARTENS NEAR SUBSTATIONS?

Yes. The levels of electric and magnetic fields on properties adjacent to and near to electricity substations are no higher than those found in and around the community. In fact, a child is more likely to experience higher levels of exposure to magnetic fields from electrical wiring and appliances in their own home than they would from an electricity substation.

[3] World Health Organisation, *Electromagnetic fields and public health: extremely low frequency fields and cancer.* Fact Sheet No: 263, 2001.

Appendix G – Noise Report

ATTACHMENT B

Claudelands Substation (Grey Street)

Designation Reference Numbers:
2012 Operative District Plan - 105
2017 Operative District Plan - K74

DESCRIPTION OF WORKS

A. The designation applies to the area of land comprised of the following lots: Lot 1 Deposited Plan 15048 contained in Computer Freehold Register SA610/293; Lots 2-3 Deposited Plan 15048 contained in Computer Freehold Register SA1017/195; Lot 2 Deposited Plan 3726 Computer Freehold Register SA241/45.

B. The terms and conditions described herein apply to the designation for the Claudelands substation at Grey Street, specifically for operation, maintenance, replacement, repair, upgrading of, addition to and entrance to and exit from a substation, and parts of, and works for, or relating to, electricity transformation and distribution.

CONDITIONS

General

1. Activities within the designated land shall be conducted generally in accordance with the information submitted by WEL Networks Limited in support of the Notice of Requirement, and subject to any amendments required by the conditions that follow.

Archaeological

2. If, during any future site works, any urupa, traditional sites, taonga (significant artefacts), koiwi (human remains), or other archaeological sites are exposed, the following procedures shall apply:
   a. All site works in the immediate vicinity shall cease immediately;
   b. The site supervisor shall immediately secure the area in a way that ensures that any artefacts or remains are not further disturbed;
   c. If any finds of organic material are uncovered from waterlogged or impervious mud or clays, these shall be kept wet to prevent aerobic degradation until appropriate actions, such as conservation treatment, is determined, and
   d. The site supervisor shall notify local iwi, the New Zealand Historic Places Trust, the Department of Conservation, the Hamilton City Council, and in the case of human remains, the New Zealand Police, that an archaeological or traditional site has been exposed, so that appropriate action can be taken. This includes such persons being given reasonable time as determined by the Hamilton City Council to record and recover archaeological features discovered, before work may recommence on the site.

Construction Works

3. Sediment control measures shall be installed around earthworks activities and temporary stockpiles to prevent discharge, run-off and dust emissions during any maintenance or upgrade works.

4. Within two weeks of earthworks being completed in the even of maintenance or upgrade works, areas of the site that are not forming the sealed or metalled yard or access to the site shall be planted, re-grassed or otherwise stabilised where earth has been disturbed.

5. Any planned future construction works at the substation site shall be restricted to the following hours: Monday to Saturday: 7am to 6pm.

Noise

6. Noise emissions from activities on the site shall not exceed an L10 level of 40dBA at any point within the boundary of any site in the Residential Zone. Noise levels shall be measured in accordance with NZS 6801:1999 Acoustics – 'Measurement of Environmental Sound' and assessed in accordance with NZS 6802:1991 'Assessment of Environmental Sound.'

7. In the event that any maintenance or upgrade work is undertaken in the site, noise from temporary construction and maintenance activities shall not exceed the limits recommended in, and shall be measured and assessed in accordance with, the requirements of NZS 6803:1999 'Acoustics – Construction Noise'.

Hazardous Substances

8. The substation shall be operated in accordance with WEL Networks Limited procedures for 'Oil Containment and Spill Mitigation' (document No M-04, Issue: F, dated September 2001).

Electric and Magnetic Fields

9. Exposures to extremely low frequency electric and magnetic fields at the boundary of the site and at all publicly accessible areas within the site, shall comply with the guidelines recommended by the International Commission on Non-Ionising Radiation Protection in 1998.

Lighting

10. All lighting shall be directed away from adjacent roads to prevent any glare towards traffic.

11. The luminance of the site lighting installations shall not exceed 10 lux (lumens per square meter) spill (horizontal or vertical) of light.

Signage

12. Other than the necessary warning signage, all additional signage on the site shall comply with the signage rules of the Hamilton City Proposed District Plan August 2011 (Operative in Part Version), or a resource consent be obtained.

Redevelopment

13. In the event that the site is redeveloped in the future in accordance with the designation, the facades of the buildings shall be designed to be compatible with the surrounding commercial and residential environment.

Advice Notes:

A. WEL Networks Limited must comply with the legal threshold for inducted voltage in New Zealand as per Regulation 58 of the Electricity Act 1992.

B. WEL Networks Limited shall be responsible for ensuring that all appropriate authorisations under the Building Act, Resource Management Act and other relevant legislation, are obtained prior to works commencing on site.

C. In the event that works are undertaken on the site, the requiring authority should consider the conversion of the fencing around the northern and eastern edges of the site to a style which is more consistent with that of the adjacent residential neighbourhood. In addition, appropriate landscaping should be planted and maintained where practical, to retain screening but to soften the view of the site from the surrounding residential areas.

ATTACHMENT C

Internal memo

Address: 13 Hammond Street, Hamilton

Legal Description: Pt lot 56 DP 11512

Subject: Plan Change 9: Review of Engineering and Geo-tech reports

Date: 6 August 2024

As requested by Jess Orr on 2 August 2024, this memo is a review of the Structural Condition Assessment, numbered AB-AS-RP-010801-Rev C, dated 25 July 2024 and;

Site Investigation and Assessment of Possible Building Settlement at No 13 Hammond Street, Hamilton J5545.1 dated 23 July 2024

These reports were obtained by the owner Mr Ray Pickett

Review Comments

This is a desktop review of the reports listed above, by a Territorial Authority Officer, not a chartered professional engineer. This memo doesn't represent a peer review, rather a compliance review.

Site Investigation and Assessment of Possible Building Settlement

- The report looks to have accurately summarised the likely historic soil conditions based on existing knowledge of the geography of the region, as general guidance only
- The geo-tech engineer has carried out some on-site investigative bore holes outside the building footprint, to give an indication of the likely soil conditions that will exist under the existing footing. This is a standard investigation tool that is used to identify the location of "bearing" ground and at what depth this is located. This gives a general indication but not usually definitive until excavation takes place. In this instance, this would be difficult to do without some type of destructive testing
- A discussion was undertaken with a local Geo-Tech Engineer to obtain advise on what would likely be a minimum test requirement for this type of assessment:
  -A minimum of 4 boreholes, 1 at each corner -best to be a machine bores if possible with full soil samples to provide a good assessment of likely soil structures
  -Test pits to dig down the side of the foundation, at key locations to confirm footing depth and assess the soil conditions under

-Consideration of carrying out Cone Penetration Testing (CPT) to investigate and analyse soil conditions at greater depths
-An analysis of the soils and organic materials in the location where large trees were removed near the building foundation

Structural Condition Assessment

- The structural Condition Assessment is essentially a desk top exercise which is not an in-depth assessment of the structure
- The engineer has carried out a site visit(s) with visual inspections noted within the report. This has observed foundation cracks, out of level floors and deterioration of the structure/envelope due to ingress of water through the roof
- The report makes some general assumptions as to what may have caused the subsidence of the structure although no definitive conclusion(s) is/are made
- A discussion was undertaken with a local Structural Engineer to obtain advice on what would likely be a minimum test requirement for this type of assessment:
  More in-depth assessment should be undertaken to better understand the failures of structural performance. The most appropriate mechanism could be a Detailed Seismic Assessment (DSA) which is a little more intrusive and could involve the following:
  -Design assumptions in line with building age (if known)
  -Consideration of the likely soil conditions under the building based on a more accurate geo-tech report (as above);
  -X-ray of existing structure to determine structure type if there are structural records;
  -An assessment of bracing capacity based on more accurate information obtained;
  -Percentage of structure based on the new building standard (NBS) to give a score
  -Likely failure mechanisms identified

This is not a full and final assessment of the reports supplied but the general views of the author

With Thanks

Alister Arcus (he/him)
Principal Building Advisor

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