Proposed Horowhenua District Plan

Rural Environment

Hearing: 13 – 14 May 2013

Officer Right of Reply and Response to Commissioners Questions

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We have considered the evidence presented by submitters at the hearing on 13th-14th May 2013. In addition, we have considered the questions and comments from the Commissioners raised during the hearing. Below we respond to the evidence presented and questions/comments. In responding to the matters raised, we have ordered them into the following topics to align with the Section 42A Report:

- Open Space
- Reverse Sensitivity and Productive Capacity
- Aggregate Extraction
- Number of Residential Dwellings/Farm Worker Accommodation
- Building Setbacks
- Plantation Forestry and Shelterbelts
- Noise
- Odour
- National Grid Corridor
- Miscellaneous

Open Space

Open space was raised as an issue by a few submitters, principally Horowhenua Farmers' Ratepayers Group/Bruce and Christine Mitchell and Horticulture NZ. Policy 2.1.21 was highlighted which encourages the creation of an integrated network of local open spaces and connections. Concern was expressed about the lack of clarity of this policy and potential negative effects on the ability to farm safely. The Horowhenua Farmers' Ratepayers Group sought clarity on where esplanade strips are proposed, with a hypothetical subdivision in Muhunoa West Road used as an example.

To clarify the esplanade reserve/strip requirements, as noted in the Section 42A Report (section 4.2), Policy 2.1.21 is to be applied in conjunction with the provisions of Chapter 4: Open Space and Access to Waterways (particularly Section 4.2 of the Proposed Plan). The rules and standards which implement the policies in Section 4.2 of the Proposed Plan as predominantly listed in Rule 24.2.5 'Esplanade Reserves/Strips' of the Proposed Plan. In Rules 24.2.5 (a) – (d) it uses the word "shall", which means an esplanade reserve or strip 'will' be required if the subdivided lot is less than 4 hectares and is adjacent to the waterbodies listed in Schedule 12 in the Proposed Plan. Whether the esplanade is a reserve or strip and the width depends on whether the waterbody is listed as a 'Group 1' or 'Group 2' waterbody in Schedule 12 as set out in Rule 24.2.5. The length of the esplanade reserve or strip would be for the full length of the lot adjacent to the waterbody.

Other requirements set out in Rule 24.2.5 where esplanade reserve/strips 'may' be created, as well as where the requirements in (a) – (d) can be reduced or waived. Under Rule 24.2.5, no access strips 'will' be required (i.e. this rule uses the word 'may'). Any new access strip

would only be created where the landowner agrees to it, such as the circumstances set out in the rule.

Therefore, turning to the Muhunoa West Road example, the Ohau River is listed in Group 1 in Schedule 12. However, as no lot adjacent to the Ohau River is less than 4 hectares (i.e. the balance lot is much larger), no esplanade reserve would be required. However, the landowner could choose to provide an esplanade reserve for the larger lot adjacent to the Ohau River. If so, Council would be required to pay compensation to the landowner for this esplanade reserve as per Rule 24.2.5(f). In addition, no access strip would be required providing access or connection between Muhunoa West Road and the Ohau River. However, again, if the landowner proposed to create an access strip, Council would have the discretion to consider such as proposal under Rule 24.2.6.

The Resource Management Act (RMA) sets out the process and requirements for creating esplanade reserves and strips (Sections 229 – 237H). For any new esplanade reserve/strip, the purpose needs to be determined (e.g. conservation values, public access and/or recreation use). Depending on the purpose, access must be provided and/or restricted as detailed in Schedule 10 of the RMA.

In terms of the request that esplanade strips are 'dog-free' zones, this requirement could be imposed on a case-by-case basis. Under Section 232 of the RMA, the esplanade strip instrument can include "other matters", including consideration of "the use of the strip and adjoining land by the owner and occupier". Therefore, if it was determined dogs in the esplanade strip could create a nuisance, the esplanade strip instrument could include a restriction on dogs.

Given the above, it is considered the issues raised and clarification sought by the Horowhenua Farmers' Ratepayers Group is effectively addressed in the provisions in the Proposed Plan. Therefore, no amendments are considered necessary to Policy 2.1.21 or other provisions in the Proposed Plan and submission points 65.02 and 66.02 be rejected.

Horticulture NZ and Federated Farmers reiterated their concerns with Policy 2.1.21 and no consideration on the impacts on primary production activities and relationship to the meaning of 'open space'. At the hearing, Horticulture NZ and Federated Farmers acknowledged the comment in the Section 42A Report that all relevant matters including primary production activities would be considered when creating new open space connection in the Rural Zone. However, Horticulture NZ and Federated Farmers still sought explicit reference to this matter in the policy. Having further considered this matter, I am still of the opinion that explicit reference to protection of primary production activities and not taking land out of rural production is not required. The listed bullet points in Policy 2.1.21 are the outcomes sought in creating new open spaces and connections, rather than the impacts of the new connections. I consider the impacts of subdivisions, including creating any new open spaces and connections as part of a subdivision, would effectively consider the impacts of new open space connections (i.e. apply policies 2.1.1 – 2.1.20). In addition, I do not consider amending the definition of 'open space' is appropriate for the reasons outlined the Section 42A Report: Definitions. Accordingly, I recommend submission points 98.09 and 516.02 be rejected.

Reverse Sensitivity and Productive Capacity

Reverse sensitivity effects was one of the key issues raised during the hearing, particularly by Horticulture NZ and Federated Farmers. A series of provisions were commented on in evidence and at the hearing which are responded to below.

Firstly, in the Section 42A Report on definitions, it is recommended to add a new definition to the Proposed Plan (Chapter 26: Definitions) for reverse sensitivity as follows:

> ***Reverse sensitivity*** *is the vulnerability of an existing lawfully established activity to complaints from new activities in the vicinity which are sensitive to the adverse environmental effects being generated by the existing activity, thereby creating the potential for the operation of the existing activity to be constrained.*

Secondly, various comments and requests from a number of submitters were made on Objective 2.5.1. While support was expressed for the general direction and outcomes expressed in the objective on reverse sensitivity, some submitters considered splitting the objective into two separate objectives would better provide for the different components. In particular, Horticulture NZ expressed concern that the recommended amendment to the objective implied that primary production activities should be avoiding, remedying or mitigating the reverse sensitivity effects.

Having further considered the evidence and request to split the objective, I am still of the opinion a single objective is the most appropriate way to express this matter to achieve the purpose and principles of the RMA in response to the significant resource management issues (rural land use activities). I consider there is relationship between all activities (primary production, rural based land uses and sensitive activities) which contribute to the efficient and effective functioning of the Rural Zone and the character and amenity of the rural environment. In addition, reverse sensitivity issues can arise between the different types of activities and this issue is not limited to conflicts between sensitive activities and primary production activities. However, it is acknowledged the conflict between new sensitive activities and existing primary production activities is the most common.

Furthermore, splitting the objective and applying the wording proposed by Horticulture NZ is not considered to fully encompass the outcomes sought for the Rural Zone. For example, reference to 'maintaining and enhancing character and amenity values' would need to be added to the first proposed objective and 'function efficiently and effectively' to the second proposed objective to express the outcomes sought. In adding these words, the two objectives result in a degree of duplication.

Notwithstanding the above, to address the cause and effect relationship issue raised by Horticulture NZ, it is recommended the reference to 'inappropriately located sensitive activities' be replaced with 'caused by new activities on existing activities'. This wording is considered to be within the scope of the submission points (32.08, 72.01, 99.01 and 101.05) which are recommended to be accepted in part. It is recommended that the submission point from Horticulture NZ (98.13) is rejected.

The other requested amendment to Objective 2.5.1 sought by a few submitters was adding refererence to 'productive capacity' or similar. In response to the Section 42A Report which commented this matter was already addressed in Objective 2.2.1 on fragmentation of the soil resource, submitters contended 'productive capacity' was wider than versatile soils and included land and water resources. This point is acknowledged. However, inserting reference to productive capacity is not considered consistent with the purpose and principles of the RMA and the effects based regime of controlling any actual or potential effects of the use, development, or protection of land. Productive capacity is not one of the purposes or principles which the RMA seeks to achieve. Accordingly, it is not recommended Objective 2.5.1 be amended to refer to productive capacity or similar.

In relation to the policies for achieving Objective 2.5.1, submitters sought further amendments to more explicitly recognise reverse sensitivity issues. There were differing views on the relationship and/or duplication between policies in relation to reverse sensitivity

issues. Having considered the evidence presented, I consider the amendments recommended to the policies appropriately address reverse sensitivity effects for the reasons given in the Section 42A Report. However, I now consider a further amendment to Policy 2.5.11 is appropriate, in that separation distances are only one method for managing reverse sensitivity effects. Other methods include no complaints covenants, screening/bunding (noise and visual) and acoustic insulation. Therefore, it is recommended submission points (96.13, 500.17 and 506.07) be accepted in part and Policy 2.5.11 be amended as below.

Recommended Amendment:
Amend Objective 2.5.1 as follows:

"To enable primary production activities and other ~~associated~~ rural based land uses to function efficiently and effectively in the Rural Zone, while avoiding, remedying or mitigating the adverse effects of activities, including reverse sensitivity effects caused by new activities on existing activities, in a way that maintains and enhances the, character and amenity values of the rural environment."

Amend Policy 2.5.11 as follows:

"Manage potential reverse sensitivity conflict between primary production activities and sensitive activities through appropriate separation distances and other measures, while giving priority to existing lawfully established activities."

Aggregate Extraction

The expert evidence received from Higgins was responded to in the Supplementary Section 42A Report. At the hearing, further evidence was presented by Higgins on the nature and location of their existing aggregate extraction activities in the Horowhenua, as well as the contribution of aggregates to the economic and social wellbeing of the district and New Zealand generally.

Having considered the further evidence and the submitter's responses to questions at the hearing, I am now of the view that the Proposed Plan should include specific recognition of aggregate extraction activities. I consider the addition of a specific policy in Chapter 2: Rural Environment is the most appropriate provision to provide for this recognition. In addition, I recommend that a specific rule (restricted discretionary activity) be added to manage the establishment and operation of new aggregate extraction activities. Accordingly, it is recommended submission points (77.06, 77.02 and 77.03) be accepted in part and new provisions are recommended below.

In relation to introducing a buffer zone (i.e. dwelling setback) for the existing aggregate extraction sites in Hoggs Road and Gladstone Road, I have considered the further evidence presented at the hearing. This further evidence confirmed the existing operations did not experience significant reverse sensitivity issues with only one complaint noted for the Gladstone Road site. Case law (Winstone Aggregates Ltd v Matamata-Piako District Council W055/04) has established key principles when considering introducing buffer zones for reverse sensitivity effects. These key principles are:

- Activities should internalise their effects unless it is shown, on a case by case basis, that they cannot reasonably do so;
- There is a greater expectation of internalisation of effects of newly established activities than of older existing activities;
- Total internalisation of effects within the site boundary will not be feasible in all cases;

- To justify imposing any restrictions on the use of land adjoining an effects emitting site, the industry must be of some considerable economic or social significance locally, regionally, or nationally.

In reviewing the District Plan, it is considered the appropriate opportunity to introduce buffer zones to avoid potential reverse sensitivity issues arising in the future. In applying the above principles to Higgins' two sites, at this time based on the evidence presented, it is unknown whether they can internalise their effects. However, it is understood aggregate extraction has been undertaken for many years from these two sites are part of flood mitigation works, the two sites are located close to property boundaries therefore total internalisation may not be feasible, the aggregate extraction activities are recognised as of local economic and social significance.

Given the above, it is considered some form of buffer zone is appropriate. Given the lack of specific evidence (noise) for the two sites, other District Plans have been reviewed that apply buffer zones. The Quality Planning website guidance note for the aggregate and quarry industry refers to the Waipa and Waikato District Plans as example of buffer zones (dwelling setbacks). A 200m setback is applied where no blasting is undertaken and a 500m setback is applied where blasting is used. As it is understood no blasting is undertaken for the two Higgins operations, the 200m setback is considered appropriate. In addition, a 200m setback is not considered to unduly restrict adjoining properties with areas available for siting a new dwelling outside the 200m buffer. Therefore, it is recommended a 200m dwelling setback apply from the banks of the Ohau River and extent of the aggregate work sites as shown on the maps attached to this report. It is recommended a new policy, rule and planning maps amendments are added to the Proposed Plan, and that submission points (77.08 and 77.09) be accepted in part.

Recommended Amendment:
Add a new Policy 2.5.X as follows:

Manage the establishment and operation of aggregate extraction activities recognising this type of activity is constrained by the location of the resource, while ensuring the adverse effects on the environment are avoided, remedied or mitigated.

Add a new Rule 19.3.X (Restricted Discretionary Activity) as follows:

19.3.X Aggregate Extraction

(a) Aggregate extraction activities not within Outstanding Natural Features and Landscapes (Refer Rule 19.8.X)

Add a new Rule 19.8.X (Matters of Discretion) as follows:

19.8.X Aggregate Extraction not within Outstanding Natural Features and Landscapes (Refer Rule 19.3.X)

(a) Matters of Discretion

(i) The location, extent, duration (life span) and hours of operation of the activity.
(ii) The character and values of the site and surrounding area, including the location of the resource and proximity to existing dwellings.
(iii) The site layout, including location and extent of the extraction areas, processing facilities and stockpiles
(iv) The effects on traffic safety and movements

(v) The effects of noise, lighting and vibration, with particular consideration of crushing (if proposed)
(vi) The effects on character and amenity values
(vii) The effects on any significant site or feature, including but not limited to, the natural character of the river and their margins, areas of significant indigenous vegetation and significant habitats of indigenous fauna, sites of significance to tangata whenua, and historic heritage.
(viii) The effects from the storage, use and transportation of hazardous substances.
(ix) The effects on public access when located adjacent to a waterbody
(x) The rehabilitation of the site
(xi) Measures to avoid, remedy or mitigate the adverse effects.

Add a new Discretionary Activity rule:

19.4.X Aggregate Extraction

(a) Aggregate extraction activities within Outstanding Natural Features and Landscapes

Add a new definition for 'aggregate extraction activities' to Chapter 26 as follows:

Aggregate Extraction Activities means the use of land, buildings and plant for the excavation, processing (crushing, screening, washing and blending), storage and distribution of aggregate (rock, gravel and sand).

Amend the definition of 'primary production activities' in Chapter 26 as follows:

Primary Production Activity includes any agricultural, horticultural, floricultural, arboricultural, plantation forestry or intensive farming activity but does not include aggregate extraction, mineral extraction or mineral processing or the harvesting clearance or modification of indigenous vegetation.

Add a new Policy 2.5.X as follows:

Recognise the existence of aggregate extraction activities in two locations on the Ohau River and protect them from reverse sensitivity effects by managing the establishment of new dwellings nearby.

Amend Rule 19.6.4(b) by adding the following:

(iv) 200 metres from existing aggregate extraction activities on the Ohau River (area shown on the Planning Maps).

Amend Planning Maps 7, 8, 33, 34 and 35 by adding a new line indicating the extent of the 200m buffer around the two existing aggregate extraction activities on the Ohau River (see maps in Appendix 1).

Number of Residential Dwellings/Farm Worker Dwellings

Federated Farmers and the Horowhenua Farmers' Ratepayer Group seek the provision for additional farm worker accommodation. As detailed in the Section 42A Report, it is recognised larger farming operations can require on-site farm worker accommodation. It is also recognised some farms may not be made up of multiple Certificates of Title, or that the

vacant Certificates of Title (i.e. no existing dwelling) may not be appropriate for any additional farm worker accommodation. Therefore, it is considered appropriate to make explicit provision for additional farm worker accommodation. However, this provision needs to be tailored to avoid creating a potential 'loophole' where additional farm worker dwellings can be used to justify additional subdivision rights. In addition, the provision should not provide for a density which could detract from the character and amenity of the rural environment.

In setting the appropriate thresholds (i.e. number of farm worker accommodation units and size of properties), consideration has been given to the information presented by the submitters, responses to questions at the hearing, the subdivision standards, and an evaluation of the size and configuration of larger farms in the Horowhenua. Based on this information and evaluation, it is recommended additional number of dwellings be provided for on larger properties, being two dwellings on properties 40 hectares in size and three dwellings on properties over 100 hectares in size. Therefore, the various related submission points are recommended to be accepted or accepted in part and amendments to the plan provisions as follows:

Reporting Officer's Recommendation

Policy 2.5.9 (Section 4.29 of the Section 42A Report)

Sub. No	Further Sub. No.	Submitter Name	Further Submitter Position	Officer's Recommendation
32.13		NZ Pork Industry Board		Reject
	517.08	Horticulture NZ	Oppose	Accept
	522.04	Poultry Industry Association of New Zealand (PIANZ) & Egg Producers Federation of New Zealand (EPFNZ)	In-Part	Accept In-Part
96.11		Federated Farmers of New Zealand		Accept In-Part
	522.08	Poultry Industry Association of New Zealand (PIANZ) & Egg Producers Federation of New Zealand (EPFNZ)	Oppose	Accept In-Part
98.17		Horticulture NZ		Accept

Rule 19.4.2(a) – Discretionary Activity (Residential Dwellings) (Section 4.48 of Section 42A Report)

Sub. No	Further Sub. No.	Submitter Name	Further Submitter Position	Officer's Recommendation
83.09		Ross Hood & Margaret Hood		Accept In-Part
108.12		HDC (Planning Department)		Accept In-Part

Rule 19.6.1 – Permitted Activity Condition (Residential Dwelling Units and Family Flats) (Section 4.52 of Section 42A Report)

Sub. No	Further Sub. No.	Submitter Name	Further Submitter Position	Officer's Recommendation
65.03		Horowhenua Farmers' Ratepayer Group		Accept In-Part

66.03		Bruce & Christine Mitchell		Accept In-Part
96.32		Federated Farmers of New Zealand		Accept In-Part

Recommended Amendment:
Amend Explanation and Principal Reasons for Objective 2.5.1 to read as follows:

"There are various pressures on the character and amenity values of the rural environment from the wide range of activities. Buildings and structures are associated with most activities and they have a variety of forms and functions and contribute to the effective use and development of land. It is recognised additional dwellings for farm worker accommodation may be required on larger rural properties. However, the location, scale and density of buildings can adversely affect rural character and amenity values. Typically, rural character and amenity values are where buildings and structures are at a relatively low non-urban density with generous setbacks from external property boundaries and where the height, scale, density and number of buildings do not dominate the landscape and spacious and open space qualities of the rural environment are maintained."

Amend Rule 19.1(b) as follows:

(b) ~~Residential activities.~~ One residential dwelling unit and one family flat per site on sites up to 40 hectares.

(c) Two residential dwellings units and one family flat per site on sites between 40 hectares up to 100 hectares.

(d) Three residential dwelling units and one family flat per site on sites 100 hectares and over.

Amend Rule 19.6.1(a) as follows:

~~(a) One residential dwelling unit per site.~~
~~(b)(a) One f~~Family flat…

Amend Rule 19.4.2(a) as follows:

(a) Two or more residential dwelling units or family flats per site on sites up to 40 hectares.

(b) Three or more residential dwellings units or family flats per site on sites between 40 hectares up to 100 hectares.

(c) Four or more residential units or family flats per site on sites 100 hectares and over.

Building Setbacks

Two submitters spoke to the building setback rules at the hearing. Horticulture NZ sought a 30m setback for residential dwellings from any property used for primary production activities. Sophie Campbell sought a 10m setback for all buildings in the Rural Zone.

This matter was evaluated in Section 4.53 of the Section 42A Report (Rule 19.6.4). As noted in the Section 42A Report, contrasting submissions were received on the building setbacks, some seeking larger setbacks whilst others sought smaller setbacks. Reasons for seeking

larger setbacks including avoiding or minimising potential for reverse sensitivity issues, privacy, outlook, building dominance and visual amenity generally. Reasons for seeking smaller setbacks are more efficient use of land and reducing the area of useable land.

Having considered the evidence of Horticulture NZ, I do not consider a 30m setback for dwellings from existing primary production activities is an effective or efficient rule to achieve the Rural Zone objectives. Whilst I accept a larger setback would reduce the potential for conflict between adjoining activities (residential occupation in the dwelling and adjoining activity), I consider a 30m setback is too large in the Horowhenua context and would unduly limit the use of land. In addition, I consider the submitted wording of applying the setback to 'any property where existing primary production activities are undertaken' as problematic in terms of certainty for administration purposes. In the majority of the rural environment, I consider this situation used in the wording would apply (i.e. the majority of the land is used in some form for primary production activities). However, uncertainty could arise in determining whether land is used for primary production activities, such as where land is not regularly/currently grazed (i.e. vacant land), storage areas and access. This uncertainty makes the rule ineffective.

Having considered the evidence of Sophie Campbell, we acknowledge and recognise the 3m setback for lots less than 5,000m^2 could result in a degree of reduced privacy and visual amenity for adjacent properties. We have re-considered these thresholds, particularly the comments about the nature and character of the Rural Zone and expectants of rural and rural-lifestyle residents. Applying a 10m setback for all buildings (including dwellings) on properties of all sizes (i.e. removing the smaller side and rear yard setback for lots less than 5,000m^2) is considered to unduly constrain smaller properties, including some within the Strathnaver subdivision. Given the subdivision thresholds which previously applied to much of the Rural Zone (i.e. minimum lot size of 2,000m^2), there are a number of vacant properties with a size of 2,000m^2 – 5,000m^2. Given the size and configuration of these vacant properties, a 10m side and rear yard setback would significantly impact on the siting of buildings. Potentially, a number of properties could not site a complying building due to the setbacks, therefore resource consent would be required.

It is acknowledged the resource consent process would provide the opportunity for adjoining neighbours to be consulted and potentially participate in the process, including measures to mitigate adverse effects on privacy and visual amenity. However, the costs (time, financial, uncertainty) of this process are considered to outweigh the benefits (case-by-case assessment and response, adjoining properties participation). Furthermore, the costs of restricting the use and development of these smaller properties are considered to outweigh the benefits of providing a greater degree of privacy and visual amenity to adjacent properties.

Therefore, the original recommendations in the Section 42A Report for building setbacks remain unchanged.

Plantation Forestry and Shelterbelts

Two matters were raised during the hearing in relation to plantation forestry and shelterbelts. Firstly, the recommended restriction on harvesting around Waitarere Beach; and secondly setbacks for new plantings.

In relation to harvesting (Section 4.35 of the Section 42A Report), Rayonier presented evidence on the implications and basis for the recommended rule restricting harvesting within 500m of Waitarere Beach urban area. Having considered the evidence presented and following further discussions with Council's Community Assets Department, it is considered

further investigations are required into the cause of the stormwater issue raised by the submitters. Until these investigations are completed, it is now considered inappropriate to introduce the rule originally recommended. Therefore, it is recommended that the submission points requesting a new rule be rejected and the further submission from Rayonier be accepted, and no new rule is recommended.

In relation to setbacks for plantation forestry (Section 4.60 of the Section 42A Report), a few submitters presented evidence on this matter at the hearing. Submitters generally supported the recommendation in the Section 42A Report to apply the setbacks to properties in separate ownership and not within properties. The Horowhenua Farmers' Ratepayers Group sought larger setbacks for plantation forest of 20m (instead of 10m) from any boundary and 100m (instead of 25m) from any existing dwelling. The primary concern raised by the submitter was shading caused by plantation forestry, with other concerns including debris (e.g. pine needles and falling branches).

Having considered the evidence presented, we recognise and understand the concerns expressed by the submitter. However, trees in a variety of forms and patterns are considered part of the rural environment. Whilst greater setback distances would reduce the impact of shading on adjoining properties and dwellings, the distances requested are considered excessive and would unduly limit the use of land. We have researched other District Plans to check how comparable the Proposed Plan setbacks are to other districts. In addition, we have further checked the Proposed National Environmental Standard (NES) for Plantation Forestry. Most District Plans apply a 10m setback from property boundaries and 30m setback from existing dwellings. The Proposed NES released in September 2010 also required a 10m setback from adjoining properties and 30m setback from dwellings and other buildings. It is understood a variety of submissions were received on this aspect of the Proposed NES (i.e. seeking larger and shorter setbacks), and in the information booklet released in May 2011 with a revised Proposed NES the setbacks remained unchanged. At this time, any future development or approval of the Proposed NES is unknown with no detail available on the Ministry for the Environment website.

Given the above, it is considered the 10m setback from adjoining properties is appropriate, and the dwelling setback is recommended to be changed from 25m to 30m to align with the proposed NES. Accordingly, the submission points listed below are recommended to be accepted, or accepted in part.

Reporting Officer's Recommendation

Updated Table from Section 4.35 of the Section 42A Report

Sub. No	Further Sub. No.	Submitter Name	Further Submitter Position	Officer's Recommendation
9.00		Lynn & Anthony Straugheir		Reject
	513.40	Rayonier New Zealand Ltd	Oppose	Accept
12.00		Daina Parlovskis		Reject
	513.41	Rayonier New Zealand Ltd	Oppose	Accept
15.00		Charles Wallis		Reject
	513.42	Rayonier New Zealand Ltd	Oppose	Accept
23.00		Cheryl Mangin		Reject

	513.43	Rayonier New Zealand Ltd	Oppose	Accept

Updated Table from Section 4.60 of the Section 42A Report

Sub. No	Further Sub. No.	Submitter Name	Further Submitter Position	Officer's Recommendation
65.04		Horowhenua Farmers' Ratepayer Group		Accept In-Part
	506.46	Ernslaw One Ltd	Oppose	Accept In-Part
	513.47	Rayonier New Zealand Ltd	Oppose	Accept In-Part
66.04		Bruce and Christine Mitchell		Accept In-Part
	506.00	Ernslaw One Ltd	Oppose	Accept In-Part
	513.45	Rayonier New Zealand Ltd	Oppose	Accept In-Part
96.36		Federated Farmers of New Zealand		Accept In-Part
	506.20	Ernslaw One Ltd	In-Part	Accept In-Part
	513.17	Rayonier New Zealand Ltd	In-Part	Accept In-Part
	517.33	Horticulture NZ	In-Part	Accept In-Part
98.44		Horticulture NZ		Reject
	506.53	Ernslaw One Ltd	In-Part	Accept In-Part
	513.24	Rayonier New Zealand Ltd	Support	Reject
50.07		Rayonier NZ Ltd		Reject
	506.77	Ernslaw One Ltd	Support	Reject
74.07		Ernslaw One Limited		Reject
	513.33	Rayonier New Zealand Ltd	Support	Reject
50.08		Rayonier NZ Ltd		Accept In-Part
	506.78	Ernslaw One Ltd	Support	Accept In-Part
74.08		Ernslaw One Limited		Reject
	513.34	Rayonier New Zealand Ltd	Support	Reject
74.09		Ernslaw One Limited		Reject
	513.35	Rayonier New Zealand Ltd	Support	Reject
50.09		Rayonier NZ Ltd		Reject
	506.79	Ernslaw One Ltd	Support	Reject
74.10		Ernslaw One Limited		Reject
	513.36	Rayonier New Zealand Ltd	Support	Reject

Recommended Amendments to the Plan Provisions

No recommended amendments to the rules as per Section 4.35 of the Section 42A Report.

Amend Rule 19.6.15 as follows:

19.6.15 Planting Setbacks for Plantation Forestry and Shelterbelt Planting

(a) No plantation forest shall be planted within 10 metres from any ~~site~~ boundary of site under separate ownership or road.

(b) No plantation forest shall be planted within ~~25~~ 30 metres from any existing residential dwelling unit of a site under separate ownership.

(c) Vegetation planted to form a shelterbelt for more than 20 metres in length shall not exceed 6 metres in height from ground level within 10 metres horizontal distance from any ~~site~~ boundary of a site under separate ownership or road.

(d) No plantation forest or shelterbelt shall be planted or allowed to grow in any position which could result in any icing of any public road carriageway as a result of shading of the road between 10.00am and 2.00pm on the shortest day.

Amend Rule 19.6.4(b) be adding the following new condition:

(b) All residential dwelling units and sensitive activities shall comply with the following additional setbacks and separation distances:

....

(iv) 30 metres from the edge of an existing plantation forest under separate ownership.

Noise

The principal issue raised at the hearing on the noise provisions was the exemption for "mobile" sources associated with primary production activities. Horticulture NZ sought this exemption be extended to apply to "temporary or intermittent activities" and Federated Farmers sought all noise associated with primary production activities be excluded. This matter was evaluated in Section 4.56 of the Section 42A Report.

Firstly, in terms of the request from Federated Farmers, it is considered there is no basis for exempting all noise from primary production activities from the noise limits in the Rural Zone. To exclude the predominant activity in the rural environment from complying with the noise limits with significantly undermine the objectives for the rural environment and could create significant adverse effects on amenity and conflict between activities.

Secondly, the request from Horticulture NZ and issues raised highlight there are some activities associated with primary production activities which do occur irregularly and can cause louder noise. Generally, such irregular activities and louder noise are seen as part of the rural environment and are tolerated by most rural residents. However, if these irregular activities become more frequent or the noise is excessive, they can cause a nuisance or be unreasonable for rural residents.

As highlighted in the Section 42A Report and discussion at the hearing, defining the terms "temporary or intermittent activities" is difficult, given the range of activities or works associated with primary production activities and potential for excessive noise. However, it is considered appropriate to provide for typical primary production activities which may not involve mobile machinery or equipment. The Operative District Plan contains the following exemption for the Rural Zone noise limits:

> *The noise limits shall not apply to temporary activities required by normal agricultural practice, such as cropping and harvesting, provided that any such activity complies with the duty to avoid unreasonable noise in accordance with the provision of Section 16 of the Resource Management Act 1991.*

While this wording also includes reference to 'temporary activities', when read as a whole, it is considered it provides sufficient certainty. Therefore, it is recommended the above wording is used in the Proposed Plan with reference added to 'horticulture' and 'mobile sources associated with primary production activities'. Accordingly, it is recommended the submission points are accepted in part as detailed below.

Reporting Officer's Recommendation

Updated Table from Section 4.56 of the Section 42A Report

Sub. No	Further Sub. No.	Submitter Name	Further Submitter Position	Officer's Recommendation
96.33		Federated Farmers of New Zealand		Accept In-Part
	506.18	Ernslaw One Ltd	Support	Accept In-Part
	517.27	Horticulture NZ	Support	Accept In-Part
5.06		Elaine Gradock		Accept
95.29		New Zealand Defence Force (NZDF)		Accept
98.40		Horticulture NZ		Accept
98.41		Horticulture NZ		Accept In-Part
	516.20	Federated Farmers of New Zealand	Support	Accept In-Part
118.00		Peter & Susan Webb		Reject
	517.28	Horticulture NZ	Oppose	Accept

Recommended Amendments to the Plan Provisions

Amend Rule 19.6.7 as follows:

19.6.7 Noise

……

(d) Except the noise limits in Rule 19.6.7 (a) and (b) shall not apply to:

....

(iii) Mobile sources associated with primary production activities and temporary activities required by normal agricultural and horticulture practice, such as cropping and harvesting

---

Odour

Two submitters (Horizons and Horticulture NZ) presented evidence on the odour provisions in the Proposed Plan (Policy 2.5.14 and Rule 19.6.9). These two provisions were evaluated in Sections 4.23 and 4.58 of the Section 42A Report respectively. Horizons supported the recommended amendments in the Section 42A Report to these provisions, whilst Horticulture NZ sought the Proposed Plan provisions clearly define odours relating to land use matters and not discharges to air.

Having considered the evidence presented, it is considered the recommended amendments in the Section 42A Report appropriately reflect the respect responsibilities between the Regional Council and District Council in relation to odour. In response to the matters raised at the Urban Environment hearing, it is recommended further amendments are made to Rule 19.6.9 to provide greater clarity on determining what constitutes an 'offensive or objectionable odour'. These further amendments are considered within the scope of the Horizons submission point 27.26. All recommendations in the Section 42A Report therefore remain unchanged, except for revised wording to Rule 19.6.9 as detailed below.

Recommended Amendments to the Plan Provisions

Amend Rule 19.6.9 as follows.

(a) No activity shall give rise to offensive or objectionable odours able to be detected at the boundary of any adjoining property.

Note: For the purpose of this condition, an offensive or objectionable odour is that odour which can be detected and is considered to be offensive or objectionable by at least two independent observers; including at least one Council officer. In determining whether an odour is offensive or objectionable, the "FIDOL factors" may be considered (the **frequency**; the **intensity**; the **duration**; the **offensiveness** (or character); and the **location** of the odour). Section 14.2 of the Proposed One Plan as well as the Good Practice Guide for Assessing and Managing Odour in New Zealand (Ministry for the Environment, 2003) contains further guidance.

National Grid Corridor

In relation to the wording of Rule 19.6.14 the Hearing Panel invited submitters Transpower, Horticulture NZ and Federated Farmers to provide a joint memorandum on the wording of this rule, noting that at the hearing there was largely a consensus on the wording however there were still some minor points of difference (i.e. crop support structures and crop protection structures). A joint memorandum of the above parties has been signed regarding the issues relating to Rule 19.6.14. This memorandum (dated 27 May 2013) has been attached as Appendix 2. The memorandum sets out agreed wording between these parties for Rule 19.6.14 in the Proposed Plan.

In response to the presentation of Mr Page on this matter, the Hearing Panel issued a minute to Transpower seeking a response to a number of matters raised by Mr Page. The response from Transpower (dated 20 May 2013) is attached as an Appendix 3.

I note from the response provided by Transpower the following matters:

- The National Grid Corridor (and associated rules) in the Proposed Plan will not replace the mandatory requirement to comply with NZECP34:2001. Even if Rule 19.6.14(a) was deleted, landowners would still need to comply with NZECP34:2001 and incur the costs associated with this.

- The corridor widths from NZECP34:2001 are based on the 95th percentile span. Where a span is longer than the 95th percentile span NZECP34:2001 may impose more restrictions than Rule 19.6.14(b). Conversely, where the span is short, NZECP 34:2001 would permit buildings directly beneath a line, provided they comply with the minimum distance requirements below conductors and minimum distance requirements to the side of conductors.

It was acknowledged that NZECP34:2001 as in the case of Mr Page's property where the span was over 1000 metres, it could require landowners to setback buildings further than the distances in Rule 19.6.14(b) and that this would be the case regardless of whether Rule 19.6.14 contains a requirement to comply with NZECP34:2001.

It was also acknowledged that the exemptions to Rule 19.6.14(b) do not apply to Rule 19.6.14(a). This is because a district plan provision cannot create an exemption to the need to comply with NZECP34:2001.

Transpower contends that the impact on landowners of compliance with Rule 19.6.14(a) is no greater than the impact of compliance with NZECP34:2001 itself. I disagree with this point as I consider the costs to a landowner to physically measure a 10 or 12 metre setback to be considerably less than obtaining a calculation by a suitably qualified electrical engineer who is required to determine compliance with NZECP 34:2001.

Mr Page commented that there is potential for Council to incur significant costs enforcing Rule 19.6.14(a), and I consider that these costs would be an unnecessary cost to Council and would duplicate the compliance costs with NZECP34:2001.

I consider that it would be appropriate for Rule 19.6.14(a) to be deleted from the Proposed Plan for the following reasons:

The rule (19.6.14(a)) would be a duplication of the NZECP34:2001 which is mandatory regardless of a rule being included in the Plan.

The submitter has referred to the potential for NZECP to permit buildings closer than the corridor setbacks in the proposed rule. Where the NZECP34:2001 would enable development to occur closer than the setbacks set out in Rule 19.6.14(a), a consent would still be required to take advantage of the exemption, as the way the rule is currently structured it requires compliance with (a) and (b).

While including the NZECP within Rule 19.6.14(a) it could be seen to be user friendly as it brings the information and setback requirements together in one place. However, the reality is that NZECP is mandatory and any person carrying out work (not all of which would be addressed by the District Plan or would require users to refer to the District Plan) on or near overhead electric lines must comply with NZECP34:2001. I do not consider it the role of the District Plan or the Council to ensure compliance with NZECP34:2001. Inclusion of the

NZECP would potentially create a duplication of processes for landowners where they may not be able to satisfy the requirements of NZECP34:2001 as the inclusion of the NZECP in Rule 19.6.14(a) would require consent from Council as well as the compliance process under the NZECP.

In terms of giving effect to the NPSET, I consider that Rule 19.6.14(b) and the proposed new (c) would adequately give effect to this NPS. Transpower acknowledges that in some instances these rules, in particular the setback requirements go further than the requirements of NZECP34:2001.

Based on the above assessment and taking into account the wording of the rule contained in the joint memorandum signed by Transpower, Federated Farmers and Horticulture New Zealand I recommend that Rule 19.6.14 read as follows:

(The underlining and strikethrough text represent the changes recommended to my recommendation contained in the Supplementary Section 42A Report (Rural Environment) Response to Expert Evidence).

19.6.14 National Grid Corridor

~~(a) All buildings within a National Grid Corridor (as set out by the distances in (b)(i),(ii) and (iii) below shall comply with New Zealand Electrical Code of Practice of Electrical Safety Distances (NZECP 34:2001).~~

(b) No building or sensitive activity shall be located closer than:

(i) 10 metres either side of the centreline of any high voltage (110kV) transmission line shown on the Planning Maps.

(ii) 12 metres either side of the centreline of any high voltage (220kV or more) transmission line shown on the Planning Maps.

(iii) 12 metres from the outer edge of any support structure of any high voltage transmission line shown on the Planning Maps.

The following are exempt from the setback requirements in Rule 19.6.14(b):

- Fences up to 2.5 metres in height
- Mobile machinery and equipment
- Utilities within a road or rail corridor and electricity infrastructure
- Crop support structures and crop protection structures that meet the requirements of New Zealand Electrical Code of Practice of Electrical Safety Distances (NZECP 34:2001) for minimum distance beneath conductors and are 12 metres from the support structure of high voltage transmission lines.
- <u>Crop support structures and crop protection structures (including any connected catenary or support cables or wires) that are at least 8 metres from</u>

the outer edge of a pole (not tower) support structure of high voltage transmission line and that:

meet the requirements of New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) for minimum distance beneath conductors: and

are no more than 2.5 metres high; and

are removable or temporary, to allow a clear working space 12 metres from the pole when necessary for maintenance purposes; and

allow all weather access to the pole and a sufficient area for maintenance equipment, including a crane.

- Non-habitable buildings associated with primary production (excluding milking sheds) that meet the requirements of New Zealand Electrical Code of Practice of Electrical Safety Distances (NZECP 34:2001) for minimum distance beneath conductors and are 12 metres from the support structure of high voltage transmission lines.

(c) Earthworks

(i) Earthworks around Poles shall be:

(a) no deeper than 300mm within 2.2 metres of a transmission pole support structure or stay wire; and

(b) no deeper than 750mm between 2.2 to 5 metres from a transmission pole support structure or stay wire.

Except that:

Vertical holes not exceeding 500mm diameter beyond 1.5 metres from the outer edge of a pole support structure or stay wire are exempt from (c)(i)(a) and (c)(i)(b) above.

(ii) Earthworks around Towers shall be:

(a) no deeper than 300mm within 6 metres of the outer visible edge of a transmission tower support structure; and

(b) no deeper than 3 metres between 6 to 12 metres from the outer visible edge of a transmission tower support structure.

(iii) Earthworks 12m either side of a high voltage transmission line shall not:

(a) create an unstable batter that will affect a transmission support structure; and/or

(b) result in a reduction of the existing conductor clearance distances as required by NZECP34:2001.

The following activities are exempt from (c)(i), (c)(ii) and (c)(iii) above:

- Earthworks undertaken by a Network Utility operator; or
- Earthworks undertaken as part of agricultural or domestic cultivation, or repair, sealing or resealing of a road, footpath or driveway.

Miscellaneous - Policy 2.5.6 (Section 4.17 of the Section 42A Report)
Commissioners queried the recommended amended wording of Policy 2.5.6 in terms of whether it is grammatically correct and clear. In response to this question, revised wording for Policy 2.5.6 is recommended below and is not considered to change the meaning, evaluation or recommendation on submission points in the Section 42A Report.

Recommended Amendments to the Plan Provisions
Amend Policy 2.5.6 as follows:

"Ensure that all activities within the rural environment manage and dispose of wastes in a manner that does not create a nuisance and that avoids, remedies or mitigates adverse effects on amenity values."

Miscellaneous - Policy 2.5.15 (Section 4.24 of the Section 42A Report)

The written statement from the Poultry Industry Association of New Zealand (PIANZ) and the Egg Producers Federation of New Zealand (EPFNZ) supports the recommended amendments to Policy 2.5.15 but suggests minor changes. These minor changes are supported as they better express the intent of the policy in recognising a key type of adverse effect (i.e. reverse sensitivity) and that the separation distances apply to all activities. Accordingly, it is recommended the submission points be accepted and accepted in part as detailed below and the policy wording be revised as recommended below.

Reporting Officer's Recommendation

Sub. No	Further Sub. No.	Submitter Name	Further Submitter Position	Officer's Recommendation
27.03		Horizons Regional Council		Accept
	522.01	Poultry Industry Association of New Zealand (PIANZ) & Egg Producers Federation of New Zealand (EPFNZ)	Oppose	Accept In-Part
32.15		NZ Pork Industry Board		Accept

Recommended Amendments to the Plan Provisions
Amend Policy 2.5.15 as follows:

"Maintain separation distances between residential activities and intensive farming activities and effluent storage, treatment and disposal systems so as to minimise adverse effects (including reverse sensitivity effects) for all ~~both~~ activities."

Miscellaneous - Principal Reasons and Explanation Objective 2.5.1 (Section 2.3 and 3.2 of the Supplementary Section 42A Report)

I recommended amendments to paragraph 2 of the Principal Reasons and Explanation (Objective 2.5.1) in the Supplementary Section 42A Report for the Rural Environment. In re-reading these recommended amendments, I suggest further changes to improve the wording of these amendments as detailed below.

Recommended Amendments to the Plan Provisions
Amend paragraph 2 of the Principal Reasons and Explanation (Objective 2.5.1) as follows:

"Many other activities (e.g. vegetable and fruit packing, rural contractors yard) are appropriate in a rural setting and can establish and operate without compromising the core primary production activities in the rural areas. In addition, other activities can rely on a rural location as this is where the resource is located (e.g. infrastructure, electricity generation, quarries and gravel extraction), and/or due to its linear nature and the need to traverse districts and regions (e.g. transmission lines, roads and rail). Minimum standards are also applied to these other activities to ensure their adverse effects are avoided, remedied or mitigated."

Miscellaneous - Rule 19.6.4 (Section 4.53 of the Section 42A Report)

Horizons sought Rule 19.6.4(b) be amended to include setbacks for effluent storage and treatment facilities. In the Section 42A Report this submission point was recommended to be rejected as it was considered the relief sought was already achieved through the provisions of the Proposed One Plan and resource consents issued by Horizons. In evidence, Horizons acknowledge this situation as being essentially correct, except where new facilities are being constructed outside a consent process. Having considered the evidence presented by Horizons, I remain of the view that the effects associated with the location of new effluent storage and treatment facilities can be effectively managed under the provisions of the Proposed One Plan and associated resource consent process. I understand only small-scale and contained effluent storage and treatment facilities are permitted activities, meaning all other facilities require a resource consent which can consider the location of these facilities. Accordingly, the recommendations in the Section 42A Report stand.

Miscellaneous - Rule 19.6.17 (Section 4.62 of the Section 42A Report)

Commissioners queried the wording of Clause (a) in Rule 19.6.17, specifically the relationship between the wording "generated or stored" and "collected, treated and disposed of" and whether this wording was clear. Having reviewed this wording and sought opinion from other planners, it is considered the wording is clear and certain. Therefore, no changes are recommended to the wording in the Section 42A Report.

Miscellaneous - Rule 19.6.19 (Section 4.63 of the Section 42A Report)

The Horowhenua Farmers' Ratepayers Group presented evidence seeking clarification on Rule 19.6.19 on surfacewater disposal, specifically around application of this rule. This rule has been rolled over from the Operative District Plan and is to ensure all stormwater is managed on-site and does not adversely affect properties downstream. This rule is typically applied where new activities create large areas with impervious surfaces (e.g. carpark or glasshouse) to ensure stormwater does not adversely affect other properties. As a general principle, Council seeks developments to achieve 'hydraulic neutrality' meaning surfacewater

runoff from a property pre-development shall be the same post development. This assessment is typically made through the building consent or resource consent process. Having considered the evidence presented by the submitter, no changes to Rule 19.6.19 are recommended and no changes to the recommendations in the Section 42A Report.

At the Land Transport and Subdivision/Development hearing, Horizons advised they agreed with the recommendation to retain Rules 24.1.5 and 24.2.4 (surface water disposal), but sought minor wording changes to the advice note under Rule 24.2.4(a)(ii). These changes effectively clarified the note on the requirements of the Proposed One Plan in relation to stormwater. I concur with the request to amend the advice note as it better expresses the requirements under the Proposed One Plan. Accordingly, I now recommend submission point 27.29 be accepted in part and that a new advice note be added to Rule 19.6.19 as below.

Recommended Amendment:
Amend Rule 19.6.19 by adding an Advice Note as follows:

> *Note: Discharge of stormwater to land or drainage systems is also regulated by the Proposed One Plan and may require resource consent from Horizons Regional Council.*

Miscellaneous - Chapter 19 General Matters (Section 4.72 of the Section 42A Report)

Subdivision provisions and the application of the Land Use Classification (LUC) were raised by a few submitters at the hearing, notably Bill Huzziff and Katrina Barber on behalf of the late Colin Easton.

In relation to the subdivision provisions, as outlined in the Section 42A Report and explained at the hearing, District Plan Change 20 notified in 2009 and recently made operative significantly changed the subdivision policies and rules. It is considered many of the concerns expressed by the submitters in relation to the nature and intensity of subdivision have been addressed by Plan Change 20, notably a significant increase in the minimum lot size in many parts of the district and a restriction on the number of new lots that can be created as of right. By way of example, the area north of Ridge Road is within the 'Foxton Dunefields Domain' where the minimum size of a property that can be subdivided must be at least 10 hectares and only one additional lot can be created. If a property is over 20 hectares in size, only two additional lots can be created as of right. These thresholds contrast with the previous subdivision requirements where the only threshold was each lot had to have a minimum lot size of 2,000m^2 (i.e. ½ acre) with no limit on the number of new lots or existing size of the property.

With regard to the use of the Land Use Classification (LUC) system, this matter was carefully considered through the Plan Change 20 process. It was recognised this classification has some shortcomings in terms of the broad-scale of the mapping which may mean small areas of land may be incorrectly classified (i.e. classified as highly versatile soils when they are not, or vice versa). In addition, it was recognised with advancements in farming practices, some inherent natural limitations in land classification (e.g. water deficits or poor drainage) can be addressed resulting in land classified as less versatile as having the potential to be highly productive. Notwithstanding these shortcomings, it was considered the LUC system provides a useful basis to manage subdivision where there is highly versatile land (Class 1 and 2) as this land has no inherent natural limitations to be used for productive purposes.

While the points made by the submitters on rural subdivision are acknowledged and understood. They are considered outside the scope of the provisions open for submission on

the Proposed Plan. Lastly, as noted at the hearing, a few matters are proposed to be revisited from Plan Change 20, such as the Rural Subdivision Design Guide. A future plan change will provide an opportunity to incorporate some of the matters raised by these submitters. Accordingly, the recommendations in the Section 42A Report remain unchanged.

Miscellaneous - Chapter 26 Definitions (Section 4.77 of the Section 42A Report)

The Rural Environment Section 42A Report (Section 4.77) contained an evaluation of definitions which directly related to rules in the Rural Zone (i.e. intensive farming and primary production activity). A further Section 42A Report specifically on 'Definitions' completes the evaluation on all other relevant definitions used in the Proposed Plan.

Evidence presented on the definition of 'intensive farming' (Horizons and NZ Pork) supported the recommended amendments in the Section 42A Report. Evidence presented on the definition of 'primary production activities' generally supported the definition, but relationships with other definitions were highlighted. Federated Farmers sought the definition of primary production activities to include agricultural and horticultural earthworks. For the reasons outlined in the Section 42A Report, it is not considered appropriate to include this reference as earthworks is separately defined in the Proposed Plan. As outlined in the Section 42A Report, any exclusions from the earthworks rules have been assessed for each rule (e.g. Flood Hazard Area rule). Therefore, having considered the evidence presented at the hearing, there are no changes to the recommendations in the Section 42A Report relating to definitions.

Response prepared by Hamish Wesney and David McCorkindale

Dated 28th May 2013

Appendix 1 – Gravel Extraction Buffer Aerial Photographs and Amended Planning Maps

Appendix 2 – Transpower Response (Dated 27 May 2013)

Appendix 3 – Transpower Response (Dated 20 May 2013)

Horowhenua DISTRICT COUNCIL

PROPOSED HOROWHENUA DISTRICT PLAN

RURAL

Planning Map 7

Scale 1 : 50,000

N W E S

SEE SHEET 23 HOKIO BEACH

SEE SHEET 24 LEVIN

SEE SHEET 25 LEVIN

SEE SHEET 26 LEVIN

SEE SHEET 27 LEVIN

SEE SHEET 28 LEVIN

SEE SHEET 29 LEVIN

SEE SHEET 30 LEVIN

SEE SHEET 32 LEVIN

SEE SHEET 34 OHAU

SEE SHEET 35 OHAU

SEE SHEET 36 WAIKAWA BEACH

TASMAN SEA

LAKE HOROWHENUA

LAKE PAPAITONGA

Hokio Stream

Waiwiti Stream

Ohau River

Waikawa Stream

HOKIO BEACH ROAD

HOKIO SAND ROAD

KUKU BEACH ROAD

KUKU EAST ROAD

MUHUNOA WEST ROAD

MUHUNOA EAST ROAD

MUHUNOA EAST ROAD RESERVE

PAPAITONGA LAKE ROAD

BUTLER ROAD

BRUCE ROAD

DD FARM ROAD

TOGGS ROAD

ARAPAEPAE ROAD

KIMBERLEY ROAD

LINDSAY ROAD

KAWIU ROAD

KOPUTAROA ROAD

TE WHANGA

FLORIDA ROAD

TANGIMOANA ROAD

SH 1

KIMBERLEY RESERVE

D135 D122 D95 D164 D119 D167 D81 D80 D83 D92 D79 D84 D82 D1 D12 H34

NT20 NT21 NT16 NT14 NT15

Aggregate Extraction Dwelling Setback
Refer Rule 19.6.4(b)(iv)

LEGEND

ZONES

- Commercial Zone
- Industrial Zone
- Residential Zone
- Rural Zone
- Proposed Commercial Zone
- Proposed Greenbelt Residential Zone (part of PC 21)
- Proposed Greenbelt Residential Deferred Zone (part of PC 21)
- Proposed Industrial Zone
- Proposed Open Space Zone
- Proposed Residential Zone
- Proposed Residential Zone (part of PC 21)
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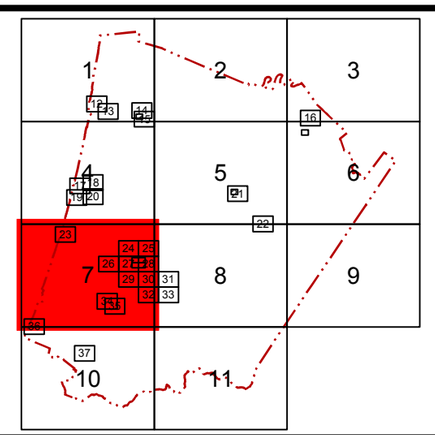
- Proposed Rural Zone

OVERLAYS

- Proposed Greenbelt Residential Waitarere Rise (part of PC 21)
- Proposed Low Density Area (part of PC 21)
- Proposed Medium Density Area
- Proposed Large Format Retail Area
- Proposed Town Centre Heritage/Character Area
- Proposed Foxton Tourism Area
- Proposed Pedestrian Area
- Proposed Coastal Natural Character and Hazard Area (1:50,000 Rural Maps Only)
- Proposed Flood Hazard Area (1:50,000 Rural Maps Only)
- Moutoa Floodway (1:50,000 Rural Maps Only)
- Versatile Land (LUC Class I & II Soil)

FEATURES

- Notable Tree
- Historic Heritage Building, Structure or Site
- Designation
- Road



Date: 27/05/2013 Version: 1.8

Horowhenua DISTRICT COUNCIL

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SEE SHEET 22 MANGAORE

SEE SHEET 31 LEVIN

SEE SHEET 33 LEVIN

ET 25 N

ET 28 N

ET 30 N

ET 32 N

Aggregate Extraction Dwelling Setback
Refer Rule 19.6.4(b)(iv)

KOPUTAROA ROAD
HEATHERLEA EAST ROAD
TAYLOR ROAD
TAWSTOCK ROAD
SH 57
WALLACE ROAD
ARAPAEPAE ROAD
WAIHOU ROAD
POTTS ROAD
HEIGHTS ROAD
PRETORIA ROAD
MANGAORE ROAD
MANGAHAO ROAD
Tokomaru River
Mangaore Stream
GLADSTONE ROAD
ROADS ROAD
Otaki River
FLORIDA ROAD
STRATTON ROAD
RESERVE
LEY RESERVE

D1 D7 D21 D73 D74 D121 D140

NT2 NT4 NT5 NT6 NT7 NT8 NT12 NT13 NT16

N W E S

Scale 1 : 50,000

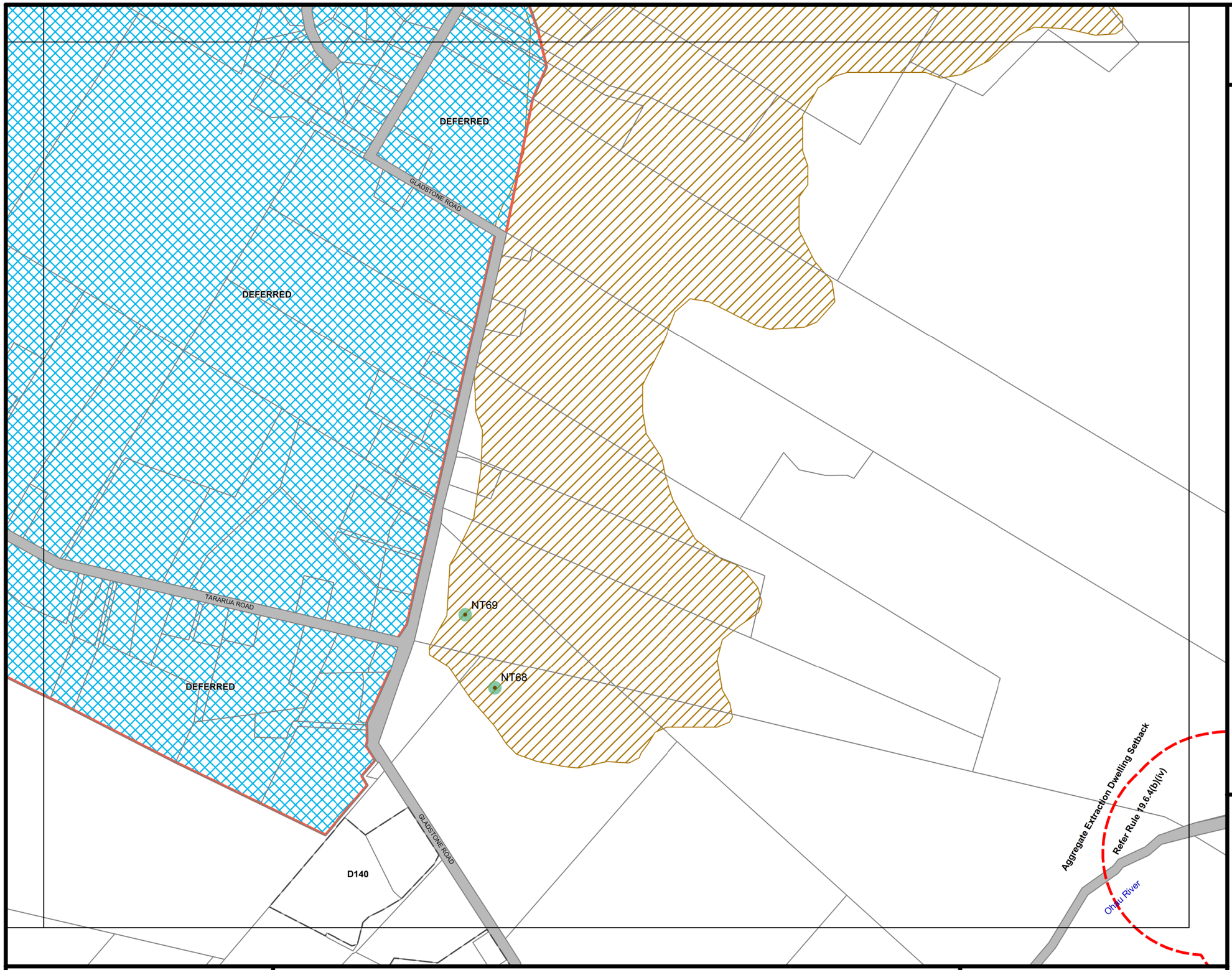
PROPOSED HOROWHENUA DISTRICT PLAN

RURAL

Planning Map 8

1 2 3 4 5 6 7 8 9 10 11

Date: 27/05/2013 Version: 1.8



Horowhenua DISTRICT COUNCIL

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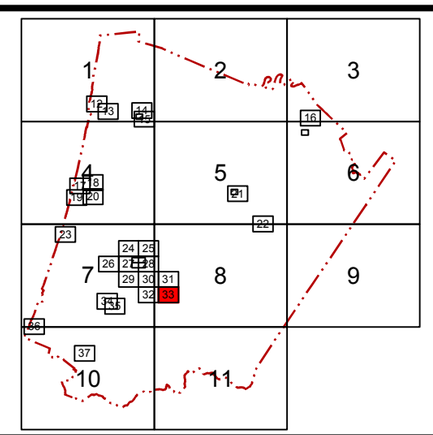

N W E S

Scale 1 : 7,500

PROPOSED HOROWHENUA DISTRICT PLAN

LEVIN

Planning Map 33

Date: 27/05/2013 Version: 1.8

Horowhenua
DISTRICT COUNCIL

LEGEND

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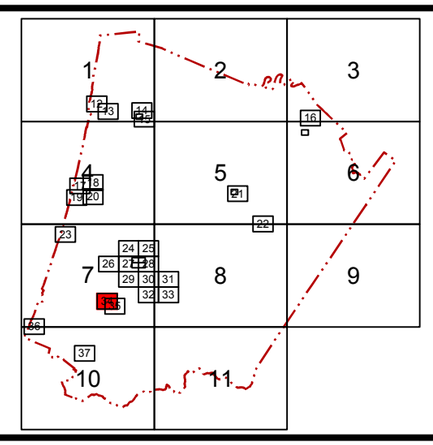

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PROPOSED HOROWHENUA DISTRICT PLAN

OHAU

Planning Map 34

Date: 27/05/2013 Version: 1.8

Horowhenua DISTRICT COUNCIL

LEGEND

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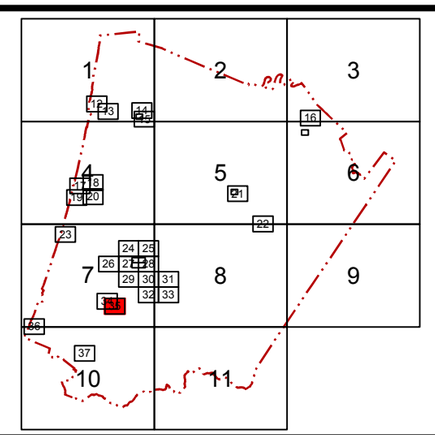
- Designation
- Road



N W E S

Scale 1 : 7,500

PROPOSED HOROWHENUA DISTRICT PLAN

OHAU

Planning Map 35

Date: 24/05/2013 Version: 1.8

Before a Hearing Panel in Levin

under: the Resource Management Act 1991

in the matter of: the Proposed Horowhenua District Plan – Rural Environment

between: **Horowhenua District Council**
Local Authority

and: **Transpower New Zealand Limited**
Submitter

and: **Federated Farmers of New Zealand**
Submitter

and: **Horticulture New Zealand Incorporated**
Submitter

Joint memorandum of the parties regarding issues relating to Rule 19.6.14 raised during the Rural Environment Hearing

27 May 2013

REFERENCE: John Hassan (john.hassan@chapmantripp.com)
Nicky McIndoe (nicky.mcindoe@chapmantripp.com)

Chapman Tripp
T: +64 4 499 5999
F: +64 4 472 7111

10 Customhouse Quay
PO Box 993, Wellington 6140
New Zealand

www.chapmantripp.com
Auckland, Wellington,
Christchurch

CHAPMAN TRIPP

JOINT MEMORANDUM OF THE PARTIES REGARDING ISSUES RELATING TO RULE 19.6.14 RAISED DURING THE RURAL ENVIRONMENT HEARING

INTRODUCTION

1 On 13 May 2013, Transpower New Zealand Limited (*Transpower*), Horticulture New Zealand Incorporated (*HortNZ)* and Federated Farmers of New Zealand (*FF)* presented evidence and submissions in support of their submissions on the Rural Environment chapters of the Proposed Horowhenua District Plan (*Proposed Plan*).

2 During these presentations, the Hearing Panel advised that, if Transpower, HortNZ and FF could all agree on possible wording for Rule 19.6.14, this agreed wording could be provided by way of a joint memorandum lodged by 27 May 2013, and would be considered by the Hearing Panel when undertaking their deliberations.

AGREED TEXT FOR RULE 19.6.14

3 **Appendix A** to this memorandum sets out a revised version of Rule 19.6.14. With the exception of new text relating to crop protection structures and crop support structures near poles, all aspects of this rule were agreed between the parties, and had the support of the Reporting Officer, at the time the parties presented their cases on 13 May 2013.

4 The revised rule in Appendix A is effectively the rule which was contained in Transpower's legal submissions of 13 May 2013, with all tracked changes accepted and highlighting removed. The amendments recommended by the Officer in the Supplementary Officer Report have been made. New suggested edits are shown using underlining. These new edits are agreed by all parties to this memorandum.

27 May 2013

Nicky McIndoe
Counsel for Transpower New Zealand Limited

Chris Keenan
For Horticulture New Zealand Incorporated

Rhea Dasent

Rhea Dasent
For Federated Farmers of New Zealand

Geeta Negi
(GEETA NEGI)

Signed on behalf of Chris Keenan
For Horticulture New Zealand Incorporated

Rhea Dasent
For Federated Farmers of New Zealand

APPENDIX A – REVISED RULE 19.6.14

19.6.14 National Grid Corridor

(a) All buildings and structures within a National Grid Corridor (as set out by the distances in (b)(i), (ii) and (iii) below) shall comply with New Zealand Electrical Code of Practice of Electrical Safety Distances (NZECP 34:2001);

(b) No building, structure or sensitive activity shall be located closer than:

(i) 10 metres either side of the centreline of any high voltage (110kV) transmission line shown on the Planning Maps.

(ii) 12 metres either side of the centreline of any high voltage (220kV or more) transmission line shown on the Planning Maps.

(iii) 12 metres from the outer edge of any support structure of any high voltage transmission line shown on the Planning Maps.

The following are exempt from the setback requirements in Rule 19.6.14(b):

- Fences up to 2.5 metres in height
- Mobile machinery and equipment
- Utilities within a road or rail corridor and electricity infrastructure
- Crop support structures and crop protection structures that meet the requirements of New Zealand Electrical Code Of Practice for Electrical Safe Distances (NZECP 34:2001) for minimum distance beneath conductors and are 12 metres from the outer edge of the support structure of high voltage transmission line.
- Crop support structures and crop protection structures (including any connected catenary or support cables or wires) that are at least 8 metres from the outer edge of a pole (not tower) support structure of high voltage transmission line and that:
    - meet the requirements of New Zealand Electrical Code Of Practice for Electrical

Safe Distances (NZECP 34:2001) for minimum distance beneath conductors; and

- are no more than 2.5 metres high; and
- are removable or temporary, to allow a clear working space 12 metres from the pole when necessary for maintenance purposes; and
- allow all weather access to the pole and a sufficient area for maintenance equipment, including a crane.

- Non-habitable buildings and structures associated with primary production (excluding milking shed buildings) that meet the requirements of New Zealand Electrical Code Of Practice for Electrical Safe Distances (NZECP 34:2001) for minimum distance beneath conductors and are 12 metres from the outer edge of the support structure of high voltage transmission line.

(c) Earthworks

(i) Around Poles shall be:

A. no deeper than 300mm within 2.2 metres of a transmission pole support structure or stay wire; and

B. no deeper than 750mm between 2.2 to 5 metres from a transmission pole support structure or stay wire.

Except that:

Vertical holes not exceeding 500mm diameter beyond 1.5 metres from the outer edge of a pole support structure or stay wire are exempt from (c)(i)(A) and (c)(i)(B) above.

(ii) Earthworks Around Towers shall be:

A. no deeper than 300mm within 6 metres of the outer visible edge of a transmission tower support structure; and

B. no deeper than 3 metres between 6 to 12 metres from the outer visible edge of a transmission tower support structure.

(iii) Earthworks 12m either side of a high voltage transmission line shall not:

A. create an unstable batter that will affect a transmission support structure; and/or

B. result in a reduction of the existing conductor clearance distances as required by NZECP34:2001.

The following activities are exempt from c (i), c(ii) and c (iii) above:

- Earthworks undertaken by a Network Utility operator; or
- Earthworks undertaken as part of agricultural or domestic cultivation, or repair, sealing or resealing of a road (including a farm access track), footpath or driveway.

Before a Hearing Panel in Levin

under: the Resource Management Act 1991

in the matter of: the Proposed Horowhenua District Plan – Rural Environment

between: **Horowhenua District Council**
Local Authority

and: **Transpower New Zealand Limited**
Submitter

Memorandum of counsel for Transpower New Zealand Limited clarifying issues raised during Rural Environment Hearing

20 May 2013

REFERENCE: John Hassan (john.hassan@chapmantripp.com)
Nicky McIndoe (nicky.mcindoe@chapmantripp.com)

Chapman Tripp
T: +64 4 499 5999
F: +64 4 472 7111

10 Customhouse Quay
PO Box 993, Wellington 6140
New Zealand

www.chapmantripp.com
Auckland, Wellington,
Christchurch

CHAPMAN TRIPP

MEMORANDUM OF COUNSEL FOR TRANSPOWER NEW ZEALAND LIMITED CLARIFYING ISSUES RAISED DURING RURAL ENVIRONMENT HEARING

INTRODUCTION

1 On 13 May 2013, Transpower New Zealand Limited (*Transpower*) presented evidence and legal submissions in support of its submissions on the Rural Environment chapters of the Proposed Horowhenua District Plan (*Proposed Plan*). This memorandum provides information in response to the following issues which arose during the hearing:

1.1 During Transpower's presentation, Transpower agreed to provide further information on exceptions to the suggested earthworks rules; and

1.2 After Transpower's presentation, the Hearing Panel Chair issued a Minute dated 14 May 2013 requesting Transpower respond to matters raised by Mr John Page.

CLARIFICATION OF EARTHWORKS EXCEPTION

2 Transpower's submission and evidence supports particular rules restricting earthworks around poles and towers (support structures). The suggested rules contain the following exception for earthworks around poles:

> Except that:
>
> Vertical holes not exceeding 500mm diameter beyond 1.5 metres from the outer edge of a pole support structure or stay wire are exempt from (c)(i)(A) and (c)(i)(B) above.

3 During the hearing, Hearing Panel Chair Chrystal asked whether a similar exception should apply to the restrictions to earthworks around towers, and if not, why not.

4 Transpower's submission sought that the exception apply only to earthworks around poles. The rules reflect the requirements of the New Zealand Code of Practice for Electrical Safe Distances (*NZECP34:2001*) which landowners must comply with regardless of the provisions in the Proposed Plan. This is explained in the evidence of **Mr Spargo.**[1] The exception quoted in paragraph 2 above is based on clause 2.2.2 of NZECP34:2001.

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[1] Spargo, paras 58-60.

5 NZECP34:2001 does not provide any explanation as to why the exception applies to earthworks around poles, but not around towers.

6 Transpower supports the earthworks provisions suggested in its submission, for the reasons given in **Mr Spargo's** evidence,[2] and in particular because consistency between the Proposed Plan and NZECP34:2001 will simplify compliance for landowners.

ISSUES RAISED BY MR JOHN PAGE

7 The Hearing Panel's Minute of 14 May 2013 notes that the submitter Range View Ltd and MJ Page presented in relation to Rule 19.6.14 on 13 May 2013, after Transpower had presented its case. The Minute asks Transpower to respond to the following questions:

7.1 Does the Corridor Management Policy referred to in Mr Warburton's email of 7 October 2010 still apply?

7.2 Are the setbacks proposed in Rule 19.6.14(b) intended to be absolute setbacks or minimum setbacks? In particular, how will the requirement to comply with NZECP34:2001 in Rule 19.6.14(a) operate with respect to the setbacks in 19.6.14(b).

Transpower's Corridor Management Policy

8 As noted in **Mr Taylor's** evidence,[3] Transpower has been seeking corridor provisions in district plans since 1996, but is continually looking for ways to improve its corridor management approach. The refinements to the rules suggested by Transpower which have arisen out of discussions with stakeholders as recently as the last few weeks are evidence of this.

9 The Corridor Management Policy referred to in Mr Warburton's email is no longer current. **Mr Taylor's** evidence[4] explains Transpower's current approach to corridor management. This approach applies nationally, but Transpower takes into account the particular circumstances of its lines and the relevant district characteristics, when seeking to implement it.

Setbacks and references to NZECP34:2001

10 Mr Page's evidence (and attachments) refers to his subdivision of land in the vicinity of three transmission lines in approximately 2010. Transpower understands (based on the Minute) that Mr Page opposes Rule 19.6.14(a) because:

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2 Spargo, paras 58-60.

3 Taylor, paras 31-34.

4 Taylor, paras 29-39.

10.1 This could require landowners to set back their buildings and structures further than the setbacks in 19.6.14(b);

10.2 The exemptions to 19.6.14(b) will not apply to 19.6.14(a);

10.3 The impact of NZECP34:2001 compliance on landowners is not clear;

10.4 It can be very expensive for landowners to determine what is needed to comply with NZECP34:2001; and

10.5 There will be significant costs for the Council to determine whether compliance with NZECP34:2001 (and therefore Rule 19.6.14(a)) is achieved.

11 As explained in the evidence of **Mr Taylor**,[5] the National Grid Corridor (and associated rules) in the Proposed Plan will not replace the requirement to comply with NZECP34:2001, as this is mandatory. All people carrying out work on or near overhead electric lines (and other equipment covered by NZECP34:2001) must comply with NZECP34:2001, regardless of any district plan provisions. Even if Rule 19.6.14(a) was deleted, landowners would still need to comply with NZECP34:2001, and incur the costs associated with this.

12 Rule 19.6.14, as suggested by Transpower, in some respects mirrors and/or complements the requirements of the Code, and will raise awareness of it. However, simply relying on NZECP34:2001 will not give effect to the National Policy Statement on Electricity Transmission (*NPSET)*,[6] and so Rule 19.6.14 in some instances goes further than the requirements of NZECP34:2001, where this is necessary in order to give effect to the NPSET (e.g. by regulating sensitive activities).

13 NZECP34:2001 is also very detailed, and so could not easily be directly incorporated into a district plan. For example, mobile plant (e.g. forklifts) are regulated by NZECP34:2001, and have the potential to compromise the operation of the National Grid (relevant for the purposes of giving effect to Policy 10 of the NPSET). However, Transpower has not sought rules regulating mobile plant near transmission lines, because these are not usually regulated by district plans, and so rules are unlikely to be effective or efficient.

14 **Mr Youngman's** evidence[7] explains how the corridors in Rule 19.6.14(b)(i) and (ii) were calculated. The corridor widths were calculated based on the wind conditions when maintenance

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5 Taylor, para 44.

6 See Taylor, paras 40-45 and Youngman, paras 77-86.

7 Youngman, paras 87-93.

work would be undertaken ("everyday" conditions), assumed ambient temperature, load and conductor type. The width of the corridor is determined by the swing of the 95th percentile span and access requirements for maintenance purposes.

15 As the corridor is based on the 95th percentile span (distance between support structures), 5% of spans will be longer than this. If the Proposed Plan corridors were based on the longest span in the country (or district), this would result in the corridors being unnecessarily wide in almost all locations. The 95th percentile span is considered to capture the majority of spans throughout the country and district, without imposing more land use restrictions than are necessary.

16 Where a span is longer than the 95th percentile span, NZECP34:2001 may impose more restrictions than Rule 19.6.14(b). For example, for a span over 375m (the span described in the email of Mr Warburton attached to Mr Page's email was over 1000m), NZECP34:2001 requires that engineering advice be obtained in order to determine the minimum safe distance from conductors.[8]

17 Conversely, where a span is short, NZECP34:2001 would permit buildings to be closer than the corridor setbacks in Rule 19.6.14(b)(i) and (ii). For example, NZECP34:2001 permits buildings directly beneath a line, provided they comply with the minimum distance requirements below conductors, and minimum distance requirements to the side of conductors.[9]

18 Accordingly, Mr Page is correct that NZECP34:2001 could require landowners to set back buildings further than the distances in Rule 19.6.14(b). This is the case regardless of whether Rule 19.6.14(a) contains a requirement to comply with NZECP34:2001.

19 Similarly, NZECP34:2001 could permit some buildings that would be within the National Grid Corridor in the Proposed Plan. This is why Transpower agrees to the exemptions to the setback requirements in Rule 19.6.14(b) – where these buildings and structures comply with NZECP34:2001 Transpower is comfortable that they can be permitted (as they will not give rise to any NPSET reverse sensitivity and sensitive activity issues).

20 Mr Page is also correct that the exemptions to Rule 19.6.14(b) do not apply to Rule 19.6.14(a). This is because a district plan provision cannot create an exemption to the need to comply with NZECP34:2001. The exemptions in 19.6.14(b) will, however,

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[8] See Table 2 and clause 3.3.1 of NZECP34:2001, attached as **Appendix A.**

[9] See Table 2 and clause 3.3.1 of NZECP34:2001.

operate to permit those activities which both fit within the exemption and comply with the requirements of NZECP34:2001.

21 The impact on landowners of compliance with Rule 19.6.14(a) is no greater than the impact of compliance with NZECP34:2001 itself. Accordingly, Rule 19.6.14(a) will not create any compliance costs over and above those already created by NZECP34:2001. The costs of landowners determining compliance with Rule 19.6.14(a) are costs which the landowner would have incurred in any event, in order to determine compliance with NZECP34:2001.

22 There is the potential for the Council to incur costs enforcing Rule 19.6.14(a), but these costs will be no greater than those incurred by the Council in enforcing any part of the Proposed Plan. The Council has a discretion as to any enforcement proceedings it chooses to bring. Further, any person (including Transpower) may choose to enforce the Proposed Plan provisions,[10] and if they choose to do so, will incur the costs of seeking any enforcement order.

23 Should the Hearing Panel wish to reconvene the Rural Hearing in order to hear more evidence and/or submissions on this issue, Transpower would be happy to appear to provide further explanation.

20 May 2013

Nicky McIndoe
Counsel for Transpower New Zealand Limited

[10] See section 316 of the Resource Management Act 1991.

APPENDIX A – NZECP34:2001

NZECP 34:2001 ISSN 0114-0663

NEW ZEALAND ELECTRICAL

CODE OF PRACTICE

for

ELECTRICAL SAFE DISTANCES

NZECP 34:2001

NEW ZEALAND ELECTRICAL CODE OF PRACTICE

for

ELECTRICAL SAFE DISTANCES

Issued by:
Manager, Standards and Safety,
Ministry of Consumer Affairs,
Wellington, New Zealand

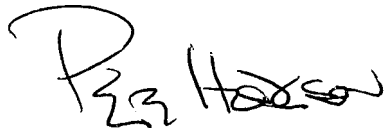
THE ELECTRICITY ACT 1992

Approval of the New Zealand Electrical Code for Practice for Electrical Safe Distances 2001 *(NZECP 34:2001)* and the revocation of the New Zealand Electrical Code of Practice for Electrical Safety Distances 1993 *(NZECP 34:1993)*

Pursuant to section 38 of the Electricity Act 1992, I hereby revoke the New Zealand Electrical Code of Practice for Electrical Safety Distances 1993 *(NZECP 34:1993)* and approve the New Zealand Electrical Code of Practice for Electrical Safe Distances 2001 *(NZECP 34:2001)*.

The New Zealand Electrical Code of Practice for Electrical Safe Distances 2001 *(NZECP 34:2001* was published by the Manager, Standards and Safety, Ministry of Consumer Affairs, acting under delegated authority *(pursuant to section 41 of the State Sector Act 1988)* from the Chief Executive, Ministry of Economic Development on the 3rd day of August 2001.

Dated this 21st day of December 2001.



Minister of Energy

COMMITTEE REPRESENTATION

This Code of Practice was prepared by the Ministry of Consumer Affairs, in consultation with the following:

The Building Industry Authority
Transpower New Zealand Ltd
Electricity Engineers' Association of NZ (Inc)
Institution of Professional Engineers NZ
Tranz Rail Ltd
Telecom NZ Ltd
Telstra Saturn

REVIEW

This Code of Practice will be revised as occasions arise. Suggestions for improvements of this Code are welcome. They should be sent to the Manager, Standards and Safety, Ministry of Consumer Affairs, PO Box 1473, Wellington.

CONTENTS

TABLES

FIGURES

INTRODUCTION

This Electrical Code of Practice (Code) sets minimum safe electrical distance requirements for overhead electric line installations and other works associated with the supply of electricity from generating stations to end users.

The minimum safe distances have been set primarily to protect persons, property, vehicles and mobile plant from harm or damage from electrical hazards. The minimum distances are also a guide for the design of electrical works within substations, generating stations or similar areas where electrical equipment and fittings have to be operated and maintained.

The Code has been designed to include, in its various sections, requirements that were previously contained in the Electricity Regulations 1997 (the Regulations). Compliance with this Code is mandatory.

- **Section 1** is a general section, including this Code's scope, interpretation and glossary.
- **Sections 2** and **3** cover the safe distance requirements for building works and excavation near overhead electric line support structures. It also covers the construction of buildings and other structures near conductors and the installation of conductors near existing buildings and similar structures.
- **Section 4** covers the requirements for maintaining safe distances between conductors and the ground and water, including restrictions on material being deposited under or near conductors.
- **Section 5** covers the responsibilities of parties who work or operate mobile plant near overhead electric lines and other electrical works.
- **Sections 6 – 8** cover the requirements for safe design and installation of overhead electric and telecommunications systems and other electrical works and controls on access to conductors.
- **Section 9** covers minimum safe approach distance requirements for persons working near exposed live parts.
- **Section 10** covers the responsibilities of owners of electricity supply works for inspection and maintaining records.

SECTION 1
SCOPE, INTERPRETATION, GLOSSARY AND GENERAL

1.1. SCOPE

1.1.1 This Code covers safety issues, in so far as they relate to safe distances to overhead electric lines, telecommunication lines, line equipment and fittings, and personnel working on or near to such lines equipment.

1.1.2 This Code sets out minimum requirements in respect of the following matters:

(a) Excavations or construction near overhead electric line supports;
(b) Limits for construction near conductors;
(c) Limits for the installation of conductors near existing buildings and similar structures;
(d) The separation and height of conductors above ground etc;
(e) The separation of overhead telecommunications lines and conductors;
(f) Overhead electric line access, supports and stays;
(g) Limits on material deposited or placed under or near an overhead electric line;
(h) Operation of mobile plant near conductors;
(i) Safe distances for the design of substations, switchyards and switchboards;
(j) Minimum approach distances to exposed live parts; and
(k) Inspection and records.

1.1.3 The content of this Code does not exempt any person from compliance with any statutory requirements in respect of the matters in clause 1.1.2.

1.1.4 This Code does not apply to:

(a) Distance limits for large loads (e. g. buildings and over-dimension loads) travelling down roads.
(b) Optical fibre ground wire or optical fibre cables that are contained in or wrapped around any conductor.
(c) Hazards from trees.

1.2. INTERPRETATION

The Electricity Act 1992 and the Electricity Regulations 1997 contain definitions that are to be used in conjunction with this Code. These include: associated equipment; direct contact; electrically safe; exposed conductive part; fittings; high voltage; indirect contact; insulated; live or alive; live part; low voltage, and works.

In this Code, unless the context otherwise requires:

1.2.1 **Bare conductor** - means a conductor without covering or not insulated.

1.2.2 **Competent employee** – means an employee who can demonstrate to their employer, at any time, that they have the necessary knowledge, skills and experience to carry out electrical or telecommunications work in the vicinity of overhead electric lines, or exposed live metal, safely and to the standards used by the employer.

1.2.3 **Conductor** – means a wire, cable or form of metal designed for carrying electric current but does not include the wire of an electric fence.

1.2.4 **Distance** (for conductors) - unless otherwise specified, means the distance under the worst case

combination of maximum sag, load current, solar radiation, climatic conditions, etc, and in which the conductor creep process is complete (in the case of a line crossing another line, the worst case is that which results in the minimum spacing between the two lines).

1.2.5 **Mobile plant** - means cranes, elevating work platforms, tip trucks or similar plant, irrigation booms, any equipment fitted with a jib or boom and any device capable of being raised and lowered.

1.2.6 **Overhead electric line** – means conductors and support structures.

1.2.7 **Telecommunication line** - means any overhead wire or wires or conductors of any kind (including a fibre optic cable) used or intended to be used for the transmission or reception of signs, signals, impulses, writing, sounds or intelligence of any nature by means of any electromagnetic system. It includes any pole, insulator, casing, fixture, or other equipment used or intended to be used for supporting, enclosing, surrounding, or protecting any such wire or conductor; and also includes any part of a line.

1.2.8 **Traction systems** - means any overhead conductor or fitting for any train, locomotive, tram, trolley bus or electric overhead travelling crane.

1.3. GLOSSARY OF ABBREVIATIONS USED IN THIS CODE

a.c.	Alternating current
d.c.	Direct current
LV	Low voltage
kV	Kilovolts
m	Metres
mm	Millimetres
V	Volts

SECTION 2
MINIMUM SAFE DISTANCES FOR EXCAVATION AND CONSTRUCTION NEAR OVERHEAD ELECTRIC LINE SUPPORTS

2.1 GENERAL

2.1.1 This section outlines the requirements for building or excavation near overhead electric line support structures (towers, poles and stay wires). The minimum safe distances are designed to limit the chance of damage or hazards being created by the building or excavation. The minimum distances also ensure that the support structures can be accessed for inspection and maintenance.

2.1.2 Excavations and other works near overhead electric line supports can compromise the structural integrity of the overhead electric line.

2.1.3 Metallic or conducting paths near overhead electric line supports can transfer voltage potentials that could create step and touch currents during earth fault conditions.

2.1.4 Any consent and associated conditions given under this section shall be reasonable, and shall not be unreasonably withheld.

2.2 EXCAVATION NEAR OVERHEAD ELECTRIC LINE SUPPORTS

2.2.1 Subject to clause 2.2.2, prior written consent of the pole owner shall be obtained for any excavation or other interference with the land near any pole or stay wire of an overhead electric line where the work:

(a) is at a greater depth than 300mm within 2.2 m of the pole or stay wire of the line; or

(b) is at a greater depth than 750 mm between 2.2 m and 5 m of the pole or stay wire; or

(c) creates an unstable batter.

2.2.2 Clause 2.2.1 does not apply to vertical holes, not exceeding 500 mm diameter, beyond 1.5 m from a pole or stay wire.

2.2.3 Prior written consent of the tower owner shall be obtained for any excavation or other interference with the land near any tower supporting an overhead electric line where the work:

(a) is at a greater depth than 300 mm within 6 m of the outer edge of the visible foundation of the tower; or

(b) is at a greater depth than 3 m between 6 m and 12 m of the outer edge of the visible foundation of the tower; or

(c) creates an unstable batter.

2.2.4 Nothing in clauses 2.2.1 - 2.2.3 applies in respect of normal agricultural cultivation or the repair, sealing, or resealing of the existing surface of any road, footpath, or driveway.

2.2.5 Figures 1 and 2 provide a quick reference to the minimum safe distances for excavation near overhead electric line supports.

2.3 INSTALLATION OF CONDUCTIVE FENCES NEAR OVERHEAD ELECTRIC LINE SUPPORTS

2.3.1 Fences of conductive materials shall not be attached to any tower or conductive pole of a high voltage overhead electric line.

2.3.2 Fences of conductive materials should not be constructed within 2.2 m of any tower or conductive pole of a high voltage overhead electric line between 1 kV - 50 kV.

2.3.3 Except with the prior written consent of the overhead electric line owner, fences of conductive

materials shall not be constructed within 5 m of any tower or conductive pole of a high voltage overhead electric line of 66 kV or greater. As part of the consent, the overhead electric line owner may prescribe the design of any such fence to be constructed within this 5 m distance.

2.3.4 Where the construction of an overhead electric line would cause a contravention of the principles of clause 2.3.3, the line owner shall, at the line owner's cost, carry out an engineering study and undertake such remedial work as is necessary to maintain electrical safety.

2.3.5 Figures 1 and 2 provide a quick reference to the minimum safe distances for installation/ construction of conductive fences near overhead electric line supports.

2.4 CONSTRUCTION OF BUILDINGS AND SIMILAR STRUCTURES NEAR OVERHEAD ELECTRIC LINE SUPPORTS

2.4.1 Except with the prior written consent of the overhead electric line owner, no building or similar structure shall be erected closer to a high voltage overhead electric line support structure than the distances specified in Table 1. The distances in Table 1 are to be measured from the closest visible edge of the overhead electric line support foundation, and the nearest part of the outermost part of the building. Refer to section 3 of this code for minimum safe distances between buildings (and other structures) and conductors.

TABLE 1 MINIMUM SAFE DISTANCES BETWEEN BUILDINGS AND OVERHEAD ELECTRIC LINE SUPPORT STRUCTURES

Circuit Voltage	Pole	Tower (pylon)
11 kV to 33 kV	2 m	6 m
Exceeding 33 kV to 66 kV	6 m	9 m
Exceeding 66 kV	8 m	12 m

2.4.2 Figures 1 and 2 provide a quick reference to the minimum safe distance requirements for the construction of buildings and other structures near overhead electric line supports.

FIGURE 1 MINIMUM SAFE DISTANCES FOR EXCAVATION AND CONSTRUCTION NEAR POLES OR STAY WIRES

ANY WORKS
Prior written consent from line owner required for excavation or interference with any land near a pole or stay wire of an overhead electric line where the work creates an **unstable batter**.

Section 2.2.1 (c)

ANY WORKS
Prior written consent from line owner required for excavation or interference with any land at a greater depth than **750mm between 2.2m and 5m** of a pole or stay wire of an overhead electric line*

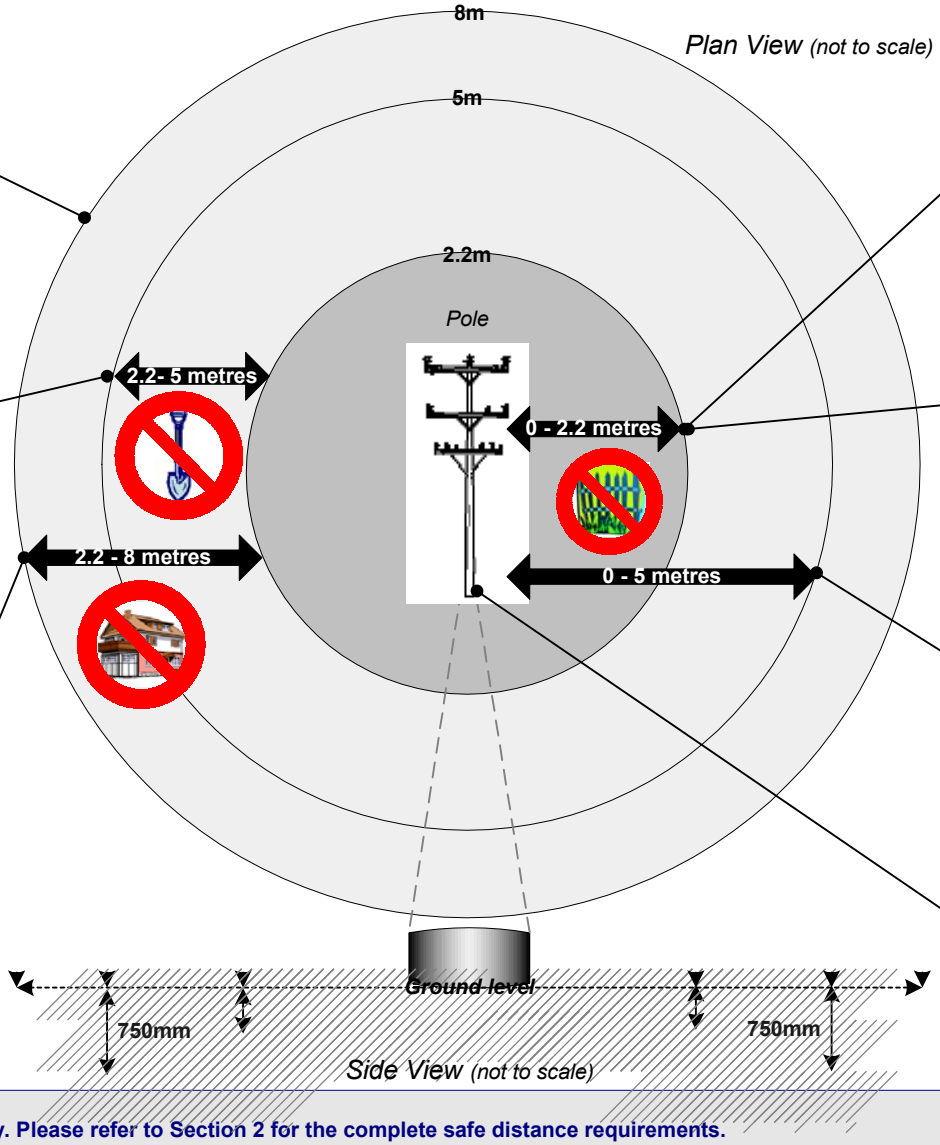
Section 2.2.1 (b)

CONSTRUCTION
Except with the prior written consent of the line owner, no building or similar structure shall be erected closer to a pole or staywire than:

- **2.2m** (11 kV- 33 kV lines)
- **6m** (33 kV - 66 kV lines)
- **8m** (Exceeding 66 kV)

Distances to be measured from closest visible edge of an pole foundation, and the nearest part of the outer most part of the building.

Section 2.4.1 Table 1



ANY WORKS
Prior written consent from pole owner required for excavation or interference with any land at a greater depth than **300mm within 2.2m** of the pole or stay wire of an overhead electric line*

Section 2.2.1 (a)

Conductive fences should not be constructed within **2.2m** of any conductive pole of a high voltage overhead electric line between **1 kV - 50 kV**

Section 2.3.2

FENCES
Prior written consent from line owner required to construct conductive fences within **5m** of a conductive pole of a high voltage overhead electric line of **66 kV** or greater. The line owner may prescribe the design of such a fence

Section 2.3.3

FENCES
Conductive fences shall not be attached to any conductive pole of a high voltage overhead electric line.

Section 2.3.1

Notes
- **This diagram is for quick reference only. Please refer to Section 2 for the complete safe distance requirements.**
- Nothing in clauses 2.2.1 - 2.2.3 applies in respect of normal agricultural cultivation or the repair, sealing, or resealing of the existing surface of any road, footpath, or driveway (Section 2.2.4).

* Clause 2.2.1 does not apply to vertical holes, not exceeding 500 mm diameter, beyond 1.5m from the pole or stay wire.

FIGURE 2 MINIMUM SAFE DISTANCES FOR EXCAVATION AND CONSTRUCTION NEAR TOWERS

ANY WORKS
Prior written consent from tower owner required for excavation or interference with any land near any tower supporting an overhead electric line where the work is at a greater depth than **300mm** within **6m** of the outer edge of the visible foundation of the tower

Section 2.2.3(a)

ANY WORKS
Prior written consent of the tower owner required for any excavation or other interference with the land near any tower supporting an overhead electric line where the work is at a greater depth than **3m**, between **6 - 12m** of the outer edge of the visible foundation of the tower

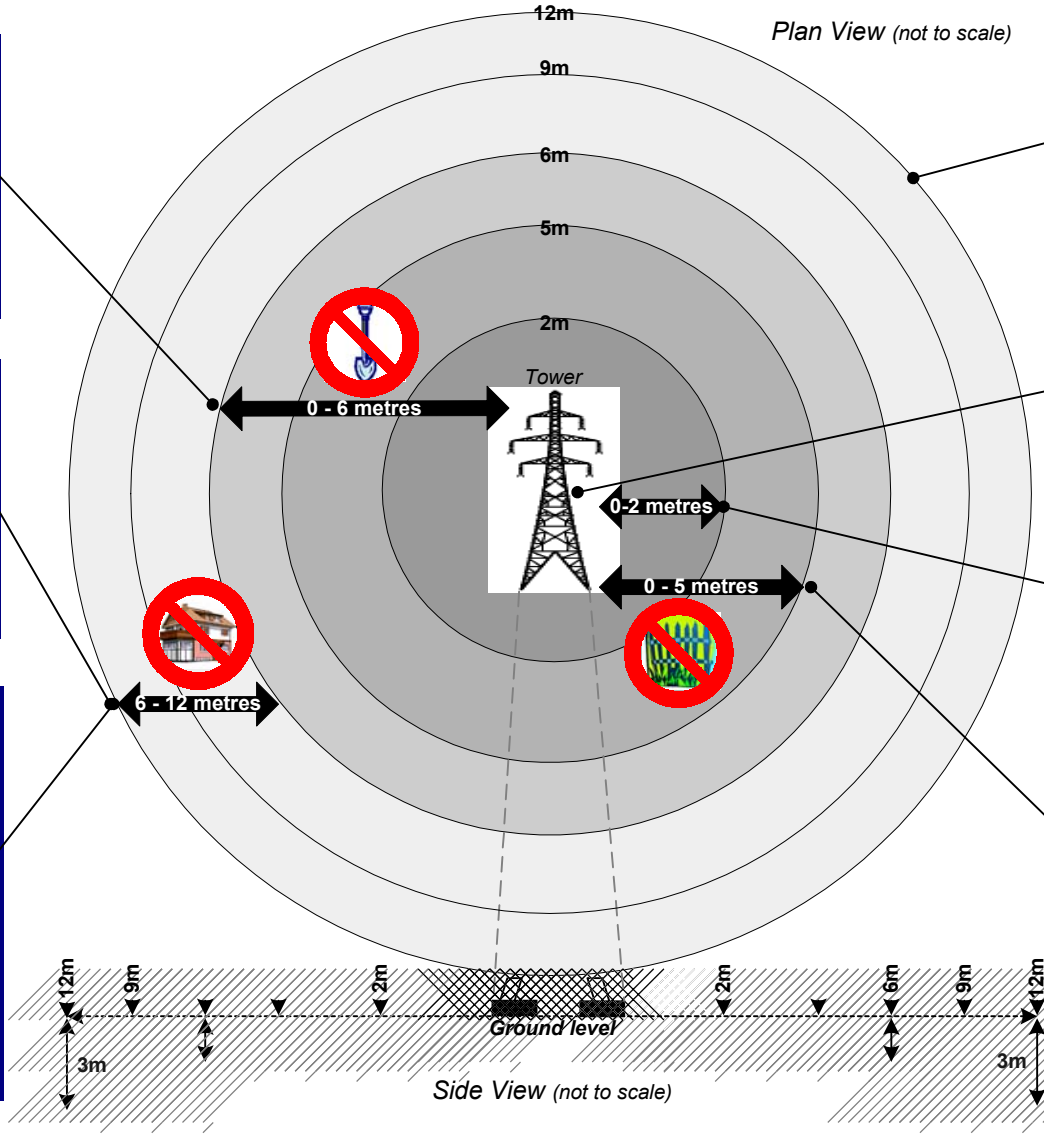
Section 2.2.3(b)

CONSTRUCTION
Except with the prior written consent of the line owner, no building or similar structure shall be erected closer to a tower of an overhead electric line than:

- **6m** (11 - 33 kV lines)
- **9m** (33 - 66 kV lines)
- **12m** (Exceeding 66 kV)

Distances to be measured from the closest visible edge of a tower, and the nearest part of the outermost part of the building

Section 2.4.1 Table 1



ANY WORKS
Prior written consent of the tower owner required for any excavation or other interference with the land near any tower supporting an overhead electric line where the work creates an **unstable batter**

Section 2.2.3(c)

FENCES
Conductive fences shall not be attached to any tower of a high voltage overhead electric line

Section 2.3.1

FENCES
Conductive fences should not be constructed within **2m** of any tower of a high voltage overhead electric line between **1 kV - 66 kV**

Section 2.3.2

FENCES
Prior written consent from line owner required to construct conductive fences within **5m** of any tower of a high voltage overhead electric line of **66 kV or greater.**
The line owner may prescribe the design of such a fence

Section 2.3.3

- **This diagram is for quick reference only. Please refer to Section 2 for the complete safe distance requirements.**
- Nothing in clauses 2.2.1 - 2.2.3 applies in respect of normal agricultural cultivation or the repair, sealing, or resealing of the existing surface of any road, footpath, or driveway (Section 2.2.4).

SECTION 3
SAFE DISTANCE REQUIREMENTS BETWEEN CONDUCTORS AND BUILDINGS (AND OTHER STRUCTURES)

3.1 GENERAL

3.1.1 This section sets safe distance requirements for the construction of buildings and other structures near existing conductors, to prevent inadvertent contact with or close approach to conductors. At higher voltages, contact may be made via a power discharge across the gap.

3.1.2 This section also sets safe distance requirements for the location and construction of conductors near existing buildings and other structures.

3.1.3 The construction of buildings, scaffolding and other structures shall be in accordance with the Building Code.

3.1.4 This section does not apply to telecommunications lines.

3.2 PROCESS FOR ESTABLISHING SAFE DISTANCES

3.2.1 Prior to any planned construction, the following process must be undertaken to comply with the Code. The landowner/ building owner shall:

3.2.1.1 Establish, if necessary with the assistance of the overhead electric line owner, whether the proposed building/structure is at a greater distance from the conductor than the recommended distances for new buildings from conductors under normal conditions specified in Table 2.

3.2.1.2 If the proposed building/structure is at a greater distance, then no further action is required by the building owner to comply with this section of the Code with regard to conductor distances.

3.2.1.3 If the proposed building/structure does not (or may not) comply with the requirements of Table 2, then the overhead electric line owner shall be consulted. A specific engineering study must be carried out by a competent person, to establish actual distances in accordance with the requirements of Table 3 (refer section 3.3). Table 3 sets out the minimum safe distances (which are closer than those specified in Table 2) under worst case conditions.

3.2.1.4 Based on the outcome of the engineering study, which shall be provided by the landowner/building owner, the overhead electric line owner will advise whether:-

(i) the proposed building/structure complies with Table 3 and construction can proceed without restriction; or

(ii) temporary arrangements during building construction need to be made, with the written agreement of the overhead electric line owner, to restrain conductor movement or to provide suitable insulation that will allow closer approach to conductors than those specified in Table 2. As part of the written agreement, the overhead electric line owner may prescribe reasonable conditions for the temporary arrangements; or

(iii) the proposed building/structure does not comply with Table 3 requirements, and therefore construction is prohibited.

3.2.2 For any overhead electric line owner planning to build a new conductor near to an existing building, a similar process to that set out in clause 3.2.1 must be followed, the costs of any

necessary engineering study being borne by the line owner.

3.3 SAFE DISTANCES FROM CONDUCTORS WITHOUT ENGINEERING ADVICE

3.3.1 Table 2 sets out the safe distances from conductors under normal conditions without engineering advice for conductor spans up to 375 m with supporting structures at equal elevation.

TABLE 2 SAFE DISTANCES FROM CONDUCTORS WITHOUT ENGINEERING ADVICE

Circuit voltage	Maximum span length (m)	Minimum distance beneath conductors under normal conditions (m)	Minimum distance to the side of conductors under normal conditions (m)
Not exceeding 1 kV	50	4	3.5
Exceeding 1 kV but not exceeding 11kV	80	5.5	5
Exceeding 11 kV but not exceeding 33 kV	125	7	8.5
Exceeding 33 kV but not exceeding 110 kV	125	7.5	9.5
Exceeding 110 kV but not exceeding 220 kV	125	8.5	11
275 kV d.c. & 350 kV d.c.	125	8.5	7.5
Not exceeding 33 kV	250	8	12
Exceeding 33 kV but not exceeding 110 kV	250	8.5	12.5
Exceeding 110 kV but not exceeding 220 kV	250	10	14
275 kV d.c. & 350 kV d.c.	250	10	11
Not exceeding 33 kV	375	9.5	20.5
Exceeding 33 kV but not exceeding 110 kV	375	10	21
Exceeding 110 kV but not exceeding 220 kV	375	11	22.5
275 kV d.c. & 350 kV d.c.	375	10.5	18
For all other spans		Engineering advice required	

(voltages are a.c. except where specified as d.c.)

NOTES

(a) Observance of potential conductor motion is required to ensure safe distances during construction.

(b) Where supporting structures are not located on equal elevations, a specific engineering study may be required to ensure distances are in accordance with Table 3.

3.4 MINIMUM SAFE DISTANCES OF CONDUCTORS FROM BUILDINGS AND OTHER STRUCTURES WITH SPECIFIC ENGINEERING ADVICE

3.4.1 Table 3 sets out the minimum safe distance of distances for conductors from buildings and other structures where a detailed engineering assessment has been carried out.

3.4.2 The minimum safe distances from a conductor of an overhead electric line to any structure, building or line support *(other than a support for the line under consideration or any line crossing the line under consideration)* shall not be less than those specified in Table 3.

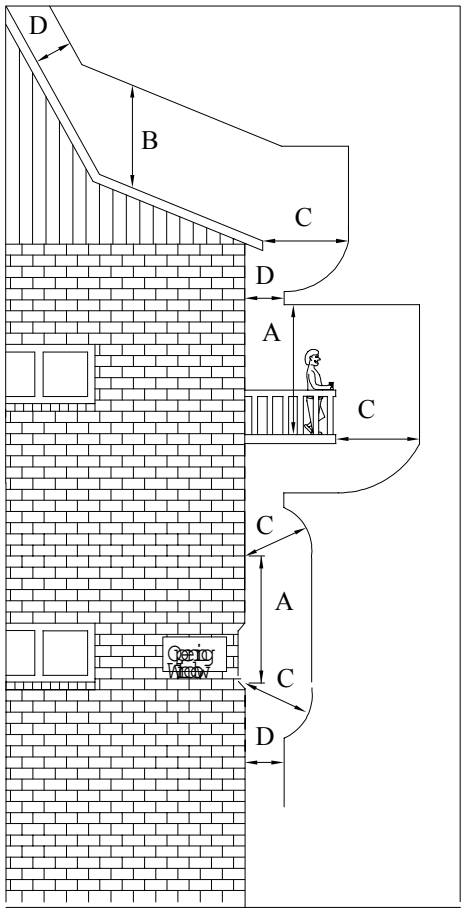
3.4.3 The Table 3 distances do not apply to insulated conductors or cables supported along the façade of a structure or building.

3.4.4 Figures 3 and 4 illustrate the application of the Table 3 to a particular building. The letters A to D refer to the distances A to D as set out in Table 3.

3.4.5 The distances specified in A and B of Table 3 shall also be maintained above an imaginary horizontal line extending outward for the distance specified in C.

3.4.6 For Figure 4, the greater distance of either A, or B (from Table 3) plus the height of the balcony, shall apply, as this latter calculation may result in a distance greater than A.

FIGURES 3 AND 4 BUILDING ELEVATION AND BALCONY SECTION



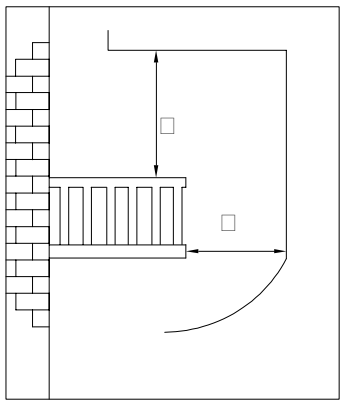


TABLE 3 MINIMUM SAFE DISTANCES OF CONDUCTORS FROM BUILDINGS AND OTHER STRUCTURES WHERE SPECIFIC CALCULATION OF CONDUCTOR MOVEMENT HAS BEEN CARRIED OUT

Safe distance conditions	Not exceeding 1 kV			Exceeding 1 kV		Exceeding 1 kV but not exceeding 33 kV	Exceeding 33 kV but not exceeding 110 kV	Exceeding 110 kV but not exceeding 220 kV	Exceeding 220 kV a.c. or d.c.
	Insulated m	Bare neutral m	Bare active m	Insulated with earthed screen m	Insulated without earthed screen m	Bare or covered m	Bare m	Bare m	Bare m
A Vertically above those parts of any structure normally accessible to persons	2.7	2.7	3.7	2.7	3.7	4.5	5	6.5	7
B Vertically above those parts of any structure not normally accessible to persons but on which a person can stand	0.1	2.7	2.7	0.1	2.7	3.7	4.5	6	6.5
C In any direction (other than vertically above) from those parts of any structure normally accessible to persons, or from any part not normally accessible to persons but on which a person can stand	0.1	0.9	1.5	0.1	1.5	2.1	3	4.5	5
D In any direction from those parts of any structure not normally accessible to persons	0.1*	0.3*	0.6*	0.1	0.6	1.5	2.5	3.5	4
E In any direction from the ground	Refer to Table 4								

* This distance can be further reduced to allow for termination at the point of attachment

SECTION 4
SAFE DISTANCES OF CONDUCTORS FROM THE GROUND AND WATER

4.1 GENERAL

4.1.1 This section sets the minimum safe clearance distances for conductors from the ground and water, including minimum safe distances for any excavations or other alterations.

4.1.2 Unless specifically identified, the requirements of this section do not apply to traction system conductors or to telecommunications lines, substations and generating stations.

4.2 MINIMUM SAFE DISTANCES OF CONDUCTORS FROM THE GROUND AND POOLS

4.2.1 Conductors of any overhead electric line, including any switching connections and transformer connections mounted on poles or structures, shall have distances from the ground not less than specified in Table 4.

4.2.2 Table 4 does not apply to existing overhead electric line conductors, or their replacement, where those conductors complied with the Regulations in existence at the time of their installation.

4.2.3 Conductors shall not be installed less than 5 m above the water level of any swimming pool.

4.3 MATERIAL DEPOSITED UNDER OR NEAR OVERHEAD ELECTRIC LINES

4.3.1 No material shall be deposited under or near an overhead electric line so as to reduce the conductor distance to ground to less than the distances required by Table 4 of this Code.

TABLE 4 MINIMUM SAFE DISTANCES OF CONDUCTORS FROM THE GROUND

Circuit voltage	Vertical distance to ground (m)			Radial distance (m)
	Across or along roads or driveways	Any other land traversable by vehicles (including mobile plant) but excluding across or along roads or driveways	Any land not traversable by vehicles (including mobile plant) due to its inaccessibility (e.g. steepness or swampiness)	In any direction other than vertical on all land
Not Exceeding 1 kV and insulated	5.5	4.0	2.7	2
Not Exceeding 1 kV	5.5	5.0	4.5	2
Exceeding 1 kV but not exceeding 33 kV	6.5	5.5	4.5	2
Exceeding 33 kV but not exceeding 110 kV	6.5	6.5	5.5	3
Exceeding 110 kV but not exceeding 220 kV	7.5	7.5	6.0	4.5
Exceeding 220 kV a.c. or d.c.	8.0	8.0	6.5	5

NOTES:

(a) Voltages are a.c. except where specified as d.c.

(b) The term ground includes any unroofed elevated area accessible to plant or vehicles.

(c) Distances specified in Table 4 are for conductors that have fully undergone mechanical creep (permanent elongation). This is deemed to have occurred after 10 years in service.

4.4 SAFE DISTANCES OF CONDUCTORS OVER NAVIGABLE WATERWAYS AND BOAT RAMPS

4.4.1 The height of conductors over a navigable waterway shall be determined in consultation with the Maritime Safety Authority of New Zealand (MSA). The booklet titled "New Zealand System of Buoys and Beacons", produced by MSA, shall be used as a guide.

4.4.2 Where conductors are installed over a boat ramp, suitable notices shall be provided on either side of the ramp, to provide a warning of the conductors' presence and an indication of the conductors' height and voltage.

4.4.3 No overhead conductors shall be installed within 9 m in any direction of a boat ramp.

4.4.4 Overhead conductors installed between 9 and 12 m of a boat ramp shall be insulated.

4.4.5 No boat ramp shall be constructed within 9 m in any direction of an overhead electric line without prior written consent of the electric line owner.

4.5 SAFE DISTANCES OF CONDUCTORS OVER RAILWAY TRACKS

4.5.1 The safe distances above rail level at the crossing of the railway for all overhead electric line conductors, when at maximum sag, shall not be less than those specified in Table 5. Where electric traction is in use, refer also to clause 6.2.2.

TABLE 5 MINIMUM DISTANCES VERTICALLY ABOVE RAILWAY TRACKS

Conductors	Distance (m)
Earthed conductors	5.5
Stay wires	5.5
Conductors up to and including 33 kV	6.5
Conductors above 33 kV but not exceeding 220 kV	7.5
Conductors above 220 kV a.c. or d.c.	8

SECTION 5
SAFE DISTANCES FOR THE OPERATION OF MOBILE PLANT NEAR CONDUCTORS

5.1 GENERAL

5.1.1 This section does not apply to live line work or to any conductor forming part of the mobile plant or any collector wire, insulated cable, or flexible cord used for the purpose of supplying electricity to the mobile plant.

5.1.2 Mobile plant working near an electric overhead electric lines can damage the line and be hazardous for the plant operator, the mobile plant and people in the vicinity.

5.1.3 Conductors can be displaced from their normal position by wind or temperature change. This requires special consideration by mobile plant operators.

5.1.4 This section does not apply while mobile plant is in transit on a road and the relevant requirements of the Traffic Regulations 1976 are observed.

5.2 MINIMUM APPROACH DISTANCE

5.2.1 The distance between any live overhead electric line and any part of any mobile plant or load carried shall be **"AT LEAST 4.0 METRES"**, unless the operator has received written consent from the overhead electric line owner allowing a reduced distance.

5.2.2 When an approval has been obtained pursuant to clause 5.2.1, and subject to clause 5.5.1, the minimum approach distance between a conductor and any mobile plant shall not be less than specified in Table 6.

5.2.3 Figure 5 provides a quick reference guide to the minimum safe distances for use of mobile plant near conductors of overhead electric lines.

5.3 WORKING ABOVE OVERHEAD ELECTRIC LINES

5.3.1 Mobile plant or any load carried shall not operate above the conductors of any overhead electric line unless the operator has received written consent from the overhead electric line owner to work above the overhead electric line.

5.3.2 The use of helicopters above overhead electric lines is governed by the Civil Aviation Rules.

5.4 CONSENT FOR REDUCED MINIMUM APPROACH DISTANCES

5.4.1 The application for written consent from the overhead electric line owner shall be made with reasonable notice.

5.4.2 The overhead electric line owner's written consent shall advise:

(a) The voltage of the overhead electric line and the minimum approach distance to be observed, which shall not be less than the requirements of Table 6; and

(b) Any other reasonable conditions to be observed while working in proximity to, or above, the overhead electric line.

(c) The section of line to which the consent applies.

TABLE 6 REDUCED MINIMUM APPROACH DISTANCES
(where written consent has been obtained)

Circuit voltage	Minimum approach distance (m)
Not exceeding 1 kV – insulated conductor	0.15
Not exceeding 1 kV – conductor not insulated	1.0
Exceeding 1 kV but not exceeding 66 kV	1.0
Exceeding 66 kV but not exceeding 110 kV a.c. or d.c.	1.5
Exceeding 110 kV but not exceeding 220 kV a.c. or d.c.	2.2
Exceeding 220 kV d.c. but not exceeding 270 kV d.c.	2.3
Exceeding 270 kV d.c. but not exceeding 350 kV d.c.	2.8
Exceeding 350 kV d.c. or 220 kV a.c.	4

5.5 REDUCED MINIMUM APPROACH DISTANCES FOR COMPETENT EMPLOYEES

5.5.1 Where the operator of any mobile plant is a competent employee working on, or in the proximity of, an overhead electric line, the approach distances may be reduced in accordance with the safety practices determined by the overhead electric line owner.

5.5.2 Direct contact of insulated elevating work platform with live conductors shall be acceptable only under approved live working procedures. Whenever a special reduced minimum approach distance is applied, the maximum practicable clearance from conductors shall be maintained.

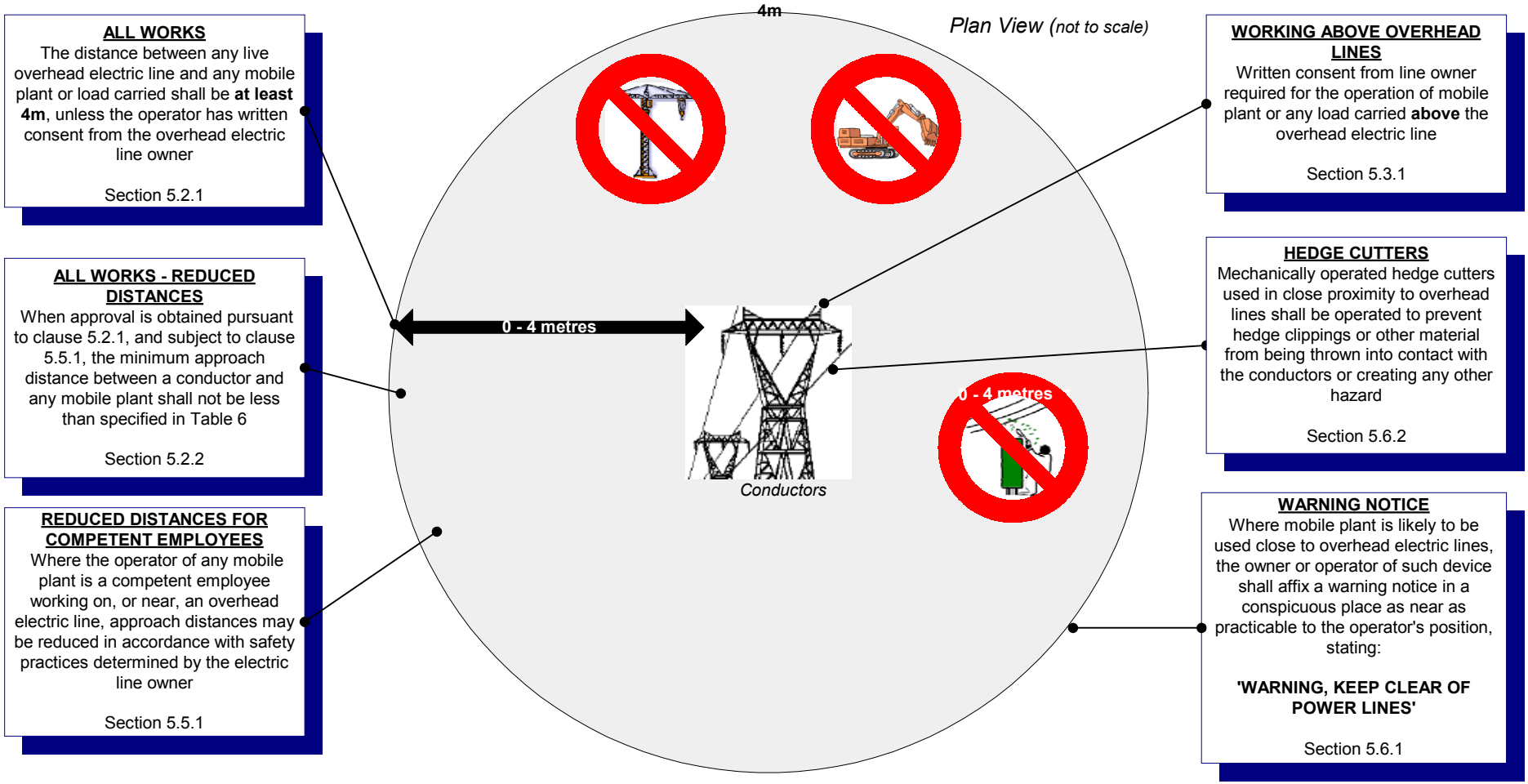
5.6 OTHER REQUIREMENTS

5.6.1 Where any mobile plant is likely to be used at any time in the proximity of overhead electric lines, the owner or operator of such device shall affix an approved warning notice in a conspicuous place as near as practicable to the operator's position. The notice shall be maintained in a legible condition and shall state:

"WARNING, KEEP CLEAR OF POWER LINES".

5.6.2 Any mechanically operated hedge cutter used under or in close proximity to any overhead electric line shall be operated to prevent hedge clippings or other material being thrown into contact with the conductors or creating any other hazard.

FIGURE 5 MINIMUM SAFE DISTANCES FOR THE OPERATION OF MOBILE PLANT NEAR CONDUCTORS



ALL WORKS
The distance between any live overhead electric line and any mobile plant or load carried shall be **at least 4m**, unless the operator has written consent from the overhead electric line owner

Section 5.2.1

ALL WORKS - REDUCED DISTANCES
When approval is obtained pursuant to clause 5.2.1, and subject to clause 5.5.1, the minimum approach distance between a conductor and any mobile plant shall not be less than specified in Table 6

Section 5.2.2

REDUCED DISTANCES FOR COMPETENT EMPLOYEES
Where the operator of any mobile plant is a competent employee working on, or near, an overhead electric line, approach distances may be reduced in accordance with safety practices determined by the electric line owner

Section 5.5.1

WORKING ABOVE OVERHEAD LINES
Written consent from line owner required for the operation of mobile plant or any load carried **above** the overhead electric line

Section 5.3.1

HEDGE CUTTERS
Mechanically operated hedge cutters used in close proximity to overhead lines shall be operated to prevent hedge clippings or other material from being thrown into contact with the conductors or creating any other hazard

Section 5.6.2

WARNING NOTICE
Where mobile plant is likely to be used close to overhead electric lines, the owner or operator of such device shall affix a warning notice in a conspicuous place as near as practicable to the operator's position, stating:

'WARNING, KEEP CLEAR OF POWER LINES'

Section 5.6.1

Notes

- **This diagram is for quick reference only. Please refer to Section 5 for the complete minimum safe distance requirements.**
- Mobile Plant includes cranes, loaders, excavators, drilling or pile driving equipment or other similar device.
- The provisions of Section 5 do not apply to live line work or to any conductor forming part of the mobile plant or any collector wire, insulated cable, or flexible cord used for the purpose of supplying electricity to the mobile plant (section 5.1.1) or while mobile plant is in transit on a road and the relevant requirements of the Traffic Regulations 1976 are observed (section 5.1.4).

SECTION 6
MINIMUM SAFE DISTANCES BETWEEN CONDUCTORS OF DIFFERENT CIRCUITS, TELECOMMUNICATION LINES AND STAY WIRES

6.1 GENERAL

6.1.1 This section sets minimum safe distances for overhead electric lines to prevent conductors contacting other conductors, or stay wires, or approaching sufficiently close to cause a fault condition. This section also applies to telecommunications lines.

6.1.2 The requirements of this section do not apply to substations and generating stations and unless specifically identified, traction system conductors.

6.1.3 The distances specified in Table 7 do not apply where the conductors of all relevant circuits are insulated. In the case of any of the insulated conductors operating at a voltage in excess of 1 kV, the conductor, or bundle of conductors, shall include an earth screen.

6.1.4 Where two circuits of different voltage cross each other, are attached to the same support, or share spans, the conductors of the higher voltage circuit should be placed above those of the lower voltage circuit. Earth wires may be above power circuits.

6.1.5 Telecommunications lines shall always be below power circuits.

6.2 CONDUCTORS OF DIFFERENT CIRCUITS ON DIFFERENT SUPPORTS *(UNATTACHED CROSSINGS)*

6.2.1 Under still air conditions, the vertical distance between any conductor or telecommunications line of the lower circuit at minimum sag and any point to which a higher circuit conductor may sag under the influence of short time overload current and solar radiation shall not be less than specified in Table 7.

6.2.2 The minimum vertical distance to a traction system is 2 m.

TABLE 7 MINIMUM VERTICAL DISTANCES BETWEEN CONDUCTORS
(unattached crossings)

Higher voltage of either circuit	Minimum distance between conductors (unattached crossing) (m)
Below 1 kV a.c.	0.6
1 kV to 33 kV a.c.	1.2
Exceeding 33 kV but not exceeding 66 kV a.c.	1.8
110 kV a.c.	2.4
220 kV and 270 kV d.c.	2.8
350 kV d.c.	4

6.3 CONDUCTORS *(SAME OR DIFFERENT CIRCUITS)* ON THE SAME SUPPORT *(ATTACHED CROSSINGS)* INCLUDING SHARED SPANS

6.3.1 Where a detailed engineering study of the over-voltages and the conductor motion has not been undertaken, the distances between conductors of different circuits at any point on the same support under normal working conditions shall not be less than specified in Table 8.

TABLE 8 MINIMUM SAFE DISTANCES BETWEEN CONDUCTORS *(attached crossings)*

Higher voltage of either circuit	Lower voltage of either circuit	Distance between circuits (m)
Not exceeding 33 kV a.c.	Less than 1 kV	1.0
	Greater than 1 kV	1.2
Exceeding 33 kV but not exceeding 110 kV a.c.	Less than 1 kV	1.5
	Greater than 1 kV	2.0
Exceeding 110 kV a.c. or d.c.	All	2.5

6.3.2 The distances in Table 8 may be reduced if a detailed engineering study of the maximum probable over-voltages and conductor motion establishes that there will be no adverse effects from a shorter distance.

6.3.3 Where lines operate at less than 1 kV, adequate measures should be taken to protect against unacceptable voltage rise between the lower voltage line and any structure energised due to the occurrence of a fault on the higher voltage line.

6.3.4 Where conductors are taken down a pole or other support to or from a transformer or other fittings, the distance between any conductors *(not being insulated to full working voltage)* shall be not less than the following:

(a) 600 mm between any line of low voltage and a line of 11 kV.

(b) 750 mm between any line of low voltage and a line of 22 kV.

(c) 900 mm between any line of low voltage and a line of 33 kV.

6.3.5 A reduced distance may be used at or near the terminals of any such transformer or other fittings where those terminals have a lesser distance between them than the minimum distance specified.

6.4 TELECOMMUNICATION LINES NEAR CONDUCTORS AND STAY WIRES

6.4.1 Subject to clauses 6.4.2 and 6.4.3, the minimum distance at any time between any telecommunication line *(including traction communication lines or signal wires)* and a conductor or stay wire shall not be less than the distances specified in Table 7.

6.4.2 Notwithstanding the distance specified in Table 7, at a shared support, the minimum distance of:

(a) a telecommunications line from a high voltage conductor that is not insulated shall not be less than 1.6 m; and

(b) a bare telecommunications line from a bare low voltage conductor shall not be less than 1.2 m.

(c) a covered telecommunications line from a bare low voltage conductor shall not be less than 0.6 m.

(d) For insulated conductors, and/or covered low voltage conductors, and covered telecommunications conductors, the distance shall not be less than 300 mm. This distance also applies to shared spans.

6.4.3 The minimum distance requirements specified in Table 7 between conductors and telecommunication lines do not apply to fibre optic cables that are:

(a) bound to a live conductor for support; or

(b) contained inside the lightning protection or earth conductor.

6.4.4 A bare catenary wire supporting a telecommunication line is deemed not to be bare for the purpose of this sub-section if the catenary is earthed at not less than every 10th pole in straight runs and at every pole when a cross-over or tee junction occurs.

SECTION 7
DESIGN AND INSTALLATION REQUIREMENTS FOR SUPPORTS AND STAY WIRES OF OVERHEAD ELECTRIC LINES, AND CONTROL OF ACCESS

7.1 SUPPORTS

7.1.1 All supports *(including stay wires, stay anchors, and other supporting equipment)* for conductors shall be so located as to avoid undue obstruction to pedestrian or vehicular traffic.

7.1.2 Poles or other supports shall not be erected closer than 4 m to the centre of the nearest railway track *(being measured horizontally from the centre of the nearest two rails to the nearest face of the pole or other support)* unless by agreement with the owner of the railway.

7.1.3 Live conductive parts less than 4.5 m above ground level, and attached to any pole or other support, shall be protected in such a manner as to prevent any accidental contact in reasonably foreseeable circumstances.

7.1.4 Any metal attached to a pole or other support, that is placed less than 2.5 m above ground level and that could become accidentally charged, shall be in direct contact with the earth, earthed or else adequately protected to prevent human contact.

7.2 STAY WIRES

7.2.1 Any stay wire less than 2.5 m from the ground in any direction that is likely to be a hazard shall be conspicuously marked.

7.2.2 Stay wires that are less than 2.5 m from the ground shall be earthed unless they are in direct contact with the earth. Alternatively, an insulator having a wet flashover value not less than that of the overhead electric line shall be inserted in the stay in a suitable position.

7.2.3 Stay wires that are erected across the part of any public road used by vehicular traffic shall have a minimum vertical distance above the ground of 5.5 m.

7.2.4 Stay wires shall not be less than 300 mm from any bare telecommunications line.

7.3 CONTROL OF ACCESS

7.3.1 Every conductor of an overhead electric line shall be so erected that it is not readily accessible to any person without the use of a climbing device.

7.3.2 Climbing steps on overhead electric line support structures shall not be placed at a height of less than 3 m above ground level.

SECTION 8
SAFE DISTANCES FOR THE DESIGN OF SUBSTATIONS, GENERATING STATIONS, SWITCHYARDS AND SWITCHROOMS

8.1 GENERAL

8.1.1 Safe distances in substations, generating stations, switchyards and switch-rooms where access to electricity supply works is required for operation, maintenance and installation activities, undertaken by competent employees, shall be suitable for the activities being undertaken and shall allow safe and unobstructed egress in emergency situations.

8.2 METALCLAD SWITCHGEAR

8.2.1 At the front of any low voltage and high voltage metalclad switchgear, there shall be a clear and unobstructed passageway at least 1 m wide and 2.5 m high.

8.2.2 Where frequent access is required for work at the sides or rear of any metalclad switchgear, there shall be clear and unobstructed passageways at least wide 1 m wide and 2.2 m high.

8.3 BARE CONDUCTORS WITHIN EARTHED ENCLOSURES

8.3.1 This subsection does not apply to bare conductors on or within panels or within fenced enclosures within buildings.

8.3.2 Any passageway at the side of or under any earthed enclosure containing bare conductors shall be clear and unobstructed and at least 800 mm wide and 2.2 m high.

8.4 BARE CONDUCTORS IN SUBSTATIONS, SWITCHYARDS, GENERATING STATION BUILDINGS AND OTHER LOCATIONS

8.4.1 In substations, switchyards, generating station buildings and other locations where there are bare conductors, the design and layout of the conductors shall be such that persons can carry out work without hazard.

8.4.2 Safety to persons shall be maintained by the provision of adequate distances to live parts for maintenance, vehicular access and pedestrian access, and if necessary to barriers or fences.

8.4.3 In fenced or other enclosed areas where access is restricted to situations where all conductive parts have been de-energised, distances may be reduced below those required by clauses 8.4.1 and 8.4.2, in accordance with a specific engineering design.

8.4.4 The distance from any bare conductor to any boundary fence or wall or similar enclosure boundary shall not be less than specified in Table 3.

8.4.5 The distances specified in Table 3 are generally applicable for bare conductors adjacent to substation buildings or other structures. These distances do not apply for situations where conductors are supported on buildings or other structures and may be reduced with a specific engineering design.

SECTION 9
MINIMUM SAFE APPROACH DISTANCE LIMITS FOR PERSONS WORKING NEAR EXPOSED LIVE PARTS

9.1 GENERAL

9.1.1 This section sets out minimum safe approach distances limits for persons working near exposed live parts.

9.1.2 Minimum safe distances limits are provided for non-competent persons. Reduced safe distances are provided for where;

(a) the owner of the live parts gives written permission; and

(b) competent employees are working near exposed live parts.

9.1.3 Minimum safe distances from exposed live parts shall be maintained at all times. Where necessary, insulating barriers shall be used to maintain minimum safe approach distances.

9.1.4 This section does not apply to work near conductors of extra-low voltage, or live line or live substation work.

9.1.5 Figure 6 illustrates the measurement of minimum safe approach distances from exposed live parts.

9.2 MINIMUM APPROACH DISTANCE LIMITS FOR NON-COMPETENT PERSONS WORKING NEAR EXPOSED LIVE PARTS

9.2.1 For non-competent persons working near exposed live parts, where written consent from the owner of the live parts has not been obtained, the minimum safe approach distances limits are:

(a) For circuit voltages 110 kV and below - 4 m.

(b) For circuit voltages above 110 kV - 6 m.

9.2.2 Where written consent from the owner of the live parts has been obtained, the minimum safe approach distance limits for non-competent persons working near exposed live parts shall not be less than those specified in Table 9.

TABLE 9 MINIMUM SAFE APPROACH DISTANCE LIMITS FOR PERSONS FROM EXPOSED LIVE PARTS (*Where consent from the owner of the live parts has been obtained)*

Circuit Voltage	Distance Limits (m)
Below 1 kV	0.5
11 kV	1.5
22 kV	2.0
33 kV	2.5
66 kV	3.0
110 kV	4.0
220 kV and above	6.0

9.3 MINIMUM SAFE APPROACH DISTANCE LIMITS FOR COMPETENT EMPLOYEES FROM EXPOSED LIVE PARTS

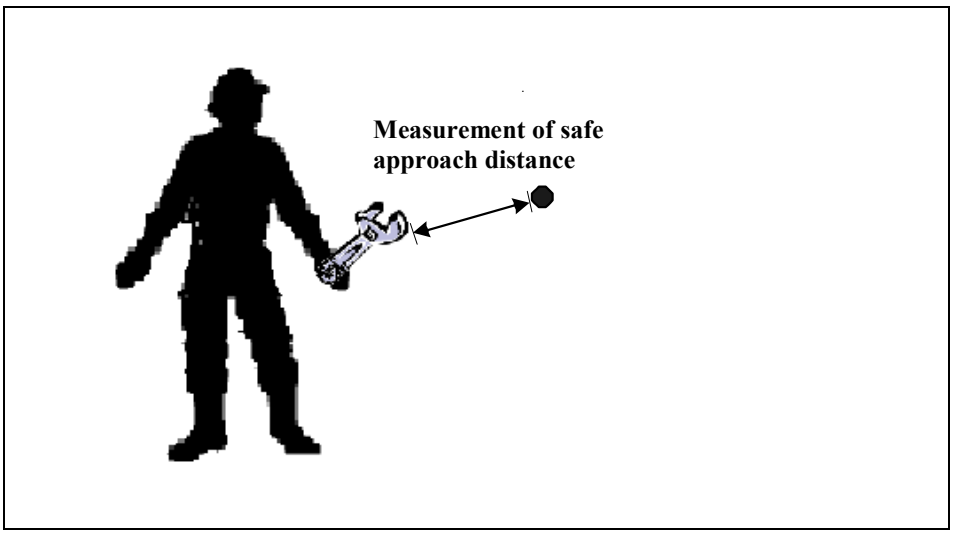
9.3.1 The minimum safe approach distance limits for competent employees carrying out electrical or telecommunications work near exposed live parts shall not be less than those set out in Table 10.

9.3.2 The minimum safe approach distance for competent employees shall be maintained by keeping all parts of the body, clothing and any hand held tools (except those tools designed for contact with live parts) beyond the safe distances set out in Table 10.

TABLE 10 MINIMUM SAFE APPROACH DISTANCE LIMITS FOR COMPETENT EMPLOYEES FROM EXPOSED LIVE PARTS

Nominal Voltage	Distance Limits (m)
Not exceeding 1 kV a.c. or d.c.	0.15
Exceeding 1 kV but not exceeding 6.6 kV a.c. or d.c.	0.25
Exceeding 6.6 kV but not exceeding 11 kV a.c. or d.c.	0.3
Exceeding 11 kV but not exceeding 22 kV a.c. or d.c.	0.45
Exceeding 22 kV but not exceeding 33 kV a.c. or d.c.	0.6
Exceeding 33 kV but not exceeding 50 kV a.c. or d.c.	0.75
Exceeding 50 kV but not exceeding 66 kV a.c. or d.c.	1
Exceeding 66 kV but not exceeding 110 kV a.c. or d.c.	1.5
Exceeding 110 kV but not exceeding 220 kV a.c. or d.c.	2.2
Exceeding 220 kV d.c. but not exceeding 270 kV d.c.	2.3
Exceeding 270 kV d.c. but not exceeding 350 kV d.c.	2.8
Exceeding 220 kV a.c or 350 kV d.c.	4

FIGURE 6 MEASUREMENT OF MINIMUM SAFE APPROACH DISTANCES



SECTION 10
REQUIREMENTS FOR INSPECTION AND RECORDS

10.1 INSPECTION

10.1.1 The owners of electrical works shall inspect and review overhead electric line installations at intervals not exceeding five years to ensure that the requirements of sections 2 to 8 have not been compromised by changed circumstances.

10.2 RECORDS

10.2.1 The following records shall be maintained to ensure that safe minimum distances are not compromised and to provide information to other parties:

(a) Asset register;

(b) Results of periodic inspections; and

(c) Dispensations or justifications for reduced distances (where applicable).