

**BOARD OF INQUIRY
HAUAURU MA RAKI WIND FARM PROPOSAL**

In the matter of the Resource Management Act 1991
And
In the matter of resource consent applications by Contact Wind Limited in respect of the
Hauāuru mā raki Wind Farm Proposal
And
In the matter of notices of requirement and resource consent application by Contact
Energy Limited for transmission infrastructure related to the Hauāuru mā
raki Wind Farm Proposal

STATEMENT OF EVIDENCE OF STEPHEN BROWN

Introduction

1. My name is Stephen Kenneth Brown. I hold a Bachelor of Town Planning degree and a post-graduate Diploma of Landscape Architecture. I am a Fellow of the New Zealand Institute of Landscape Architects, an Affiliate Member of the New Zealand Planning Institute, and have practised as a landscape architect for 26 years.
2. During that period I have specialised in landscape assessment and planning. This has included undertaking the evaluation of the landscape effects associated with a wide variety of development proposals, including assessment of: various Waitemata Harbour crossing options, the Marsden Point port development, Eden Park for the Rugby World Cup 2011, the Sylvia Park commercial centre, and various other commercial, residential and infrastructure developments. Of more direct relevance to this application, my experience includes assessing the effects of, and/or providing evidence in relation to, the following wind farm projects :
 - Genesis Energy's wind farm at Awhitu, on behalf of the Auckland Regional Council;
 - Project West Wind for the NZ Wind Energy Association;

- Project Hayes in Central Otago on behalf of Meridian Energy Ltd;
 - WEL's proposed Te Hauhiko O Wharauroa Wind Park near Raglan in the western Waikato;
 - The proposed Turitea Wind Farm for Mighty River Power;
 - the proposed Sidonia Hills Wind Farm in west-central Victoria for Hydro Tasmania and Roaring 40s;
 - the proposed Allandale East Wind Farm in South Australia for Acciona Energy; and
 - Project Central Wind for Meridian Energy Ltd.
3. I was also engaged by both the Franklin and Waikato District Councils in 2008 to peer review Contact's proposals for the Hauāuru mā raki Wind Farm, prior to that process being effectively 'overtaken' by its referral to the Board of Inquiry.
 4. More strategically, I have undertaken and participated in many landscape assessments aimed at identifying landscape values at the district and regional levels. This has included undertaking assessments of the Auckland Region's landscape (from 1982 – 1984), Auckland's urban coastlines (1995), eastern Manukau City (1995), North Shore City (1997 - 2000), Waitakere City's Northern Strategic Growth Area Study (2000), the Mahia Peninsula and Wairoa District (2003), the Kawhia and Aotea Harbour catchments (2006), the Thames Coromandel District (2006/7) and Otorohanga District (2008) – among others. I was a key participant in the recent assessment and identification of the Auckland Region's outstanding landscapes (2002 - 2005) and in 2006 I was part of a team under the 'umbrella' of Urbis Ltd that was awarded the (UK) Landscape Institute's Strategic Planning Award for the "*Landscape Value Mapping Study of Hong Kong*" for the Hong Kong Government. My contribution included development of an assessment method and evaluation criteria that were employed in that study.
 5. I was also employed by Franklin District council in 2001 and 2002 to undertake an assessment of the District's landscapes values, constraints and 'opportunities'. The main objectives of that assessment, as part of the wider preparation for a Rural Plan Change, were to help more clearly define appropriate urban growth limits and to provide direction in relation to future rural-residential development.
 6. Appendix A to my statement provides a more detailed outline of my experience and major projects that I have been associated with.
 7. In relation to the current Board of Inquiry proceedings, I appear on behalf of David and Pamela Walter, who live at 241 Nolan Rd in Wairamarama, some 11kms east of the Tasman Coast and 13kms south-west of Onewhero. Mr Water's own statement describes his farm, its 378 hectare mixture of steep farmland and pockets of remnant forest, and his long family association with their property. He also explains that current proposals for Contact's transmission line corridor involve it running across the southern half of their farm,

while Mr Gavin Lister's intervisibility analysis suggests that Mr and Mrs Walter would be exposed to as many as 160 of the proposed wind farm turbines.

8. I have been asked to assess the severity of the impacts associated with both the transmission corridor and turbines. In particular, I have been requested to focus on the landscape and amenity effects of the proposals, with reference to both the Walter's residential environment and the wider qualities of their farm. I have not, however, been asked, nor have I attempted, to address the wider, more strategic, ramifications of the Hauāuru mā raki Wind Farm – despite my previous involvement with the overall development proposal on behalf of Franklin and Waikato District Councils. Indeed, it appears that the wind farms' configuration has evolved somewhat since I last looked at it in that respect.
9. As will therefore become clear, the main focus of my statement is upon the quite exceptional effects that the proposed wind farm would generate in relation to Mr and Mrs Walter, and the desirability of addressing these in terms of section 7(c) of the Resource Management Act through careful reconfiguration and realignment of some components of the Hauāuru mā raki proposal. I am not about to suggest that either the whole wind farm, or even a significant part of it, should be denied resource consent in response to the effects that I will describe.
10. I have read the Environment Court's Code of Conduct for expert witnesses contained in the Environment Court Consolidated Practice Note 2006 and agree to comply with it. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions that I express, and that this evidence is within my area of expertise.

Introduction

11. I have reviewed the Hauāuru mā raki Wind Farm proposal and don't believe that it is necessary or appropriate for me to retrace 'ground' that is thoroughly traversed in both the application and evidence – on behalf of Contract Energy – before the Board. However, my attached Annexure 1 shows the location of the proposed transmission corridor and Group A, C, D1 and D2 Turbines in relation to the Walter residence at 241 Nolan Rd (extracted from Exhibit GCL of Mr Gavin Lister's evidence). These components of the proposal, especially the Group C turbines and the proposed transmission route, are matters of particular concern to Mr and Mrs Walter, as outlined in David Walter's statement to the Board of Inquiry.
12. He also describes his family's historic connections with their farm and the general locality, dating back to 1897. In many respects, the farm is typical of many on the Wairamarama area, with its paddocks – for

both cattle and sheep – etched out of steeply dissected terrain underlain by both clays and more deep seated limestone regolith. As a result, while approximately 340has of the property is actively employed for farming, approximately 40has remain in remnant stands of bush. This includes two blocks of remnant forest closer to Nolan Rd, and extending down to a central stream corridor, that are subject to QEII covenants. One of these contains now increasingly rare Swamp Maire or Tawaki (*Szygium maire*). The interaction of the farm's open pasture with remnant bush is even more apparent within its southern 'half' – in a valley that the Kaawa Stream flows through – where the farm is enclosed by an almost continuous band of native 'bush' coincides with the farm's limits. This extensive and apparently quite cohesive block of bush contains both kahikatea dominated wetland species, near the aforementioned stream, and – rolling across a sequence of ridges to the west in the direction of Limestone Downs and the Waikato Waikeretu Rd – mixed broadleaf forest. Indeed, Section 2.3 of the Ecological Scoping Study prepared for Contact Energy by Kessels & Associates acknowledges the importance of the Te Umukaraka Bush (W8 - Limestone Downs), covering some 785has within the 'Waikawau Zone'. Parts of this block of forest are also apparent in views from around the Walter's farm house towards the west coast, with a series of ridges unfolding that display a 'patchwork quilt' of open pasture intermixed with more sporadic pockets of forest and remnant shrubland, together with some pine woodlots.

13. Much closer to the farmhouse, a wool shed and stockyards sit on a shelf just below and immediately north-west of the dwelling and its curtelage. That curtelage – running down a narrow north-south aligned ridge – is occupied by a driveway, garage and tennis court, together with an implements shed. However, unlike many farms, all of these elements are enclosed and separated from one another by mature ornamental plants and trees that merge with more semi-mature natives at the driveway entrance, as well as near the wool and implements sheds. The result (Annexure 2), is an exceptionally verdant, well defined and attractive entrance to the farm and residence, which opens out into semi-enclosed areas of lawn around the house. These are augmented by decking along the western side of the farmhouse which makes the most of elevated views in the direction of the west coast and Tasman Sea (Annexure 3A. Note: Annexure 14 shows the location of all Annexure vantagepoints). From within an upstairs sewing room and bedrooms, distant views of the sea are actually apparent (Annexure 3B), while Sam Walter's bedroom faces directly to the south (Annexure 4A).
14. The orientation of the house, its decks, upstairs rooms and even outside lawn areas, emphasise direct connection with the main body of the farm. Of more relevance to the current application, they also make the most of views towards the sea and main valley immediately south of the elevated farmhouse (Annexure 4B) – looking directly towards many of the proposed wind farm turbines and the transmission corridor route respectively. Mr Lister's Exhibit GCL 61a (a supplementary exhibit), showing the proposed turbines from the ground level deck at the back of the Walter residence and his Viewpoint 40 images, looking towards the proposed transmission line route from the south side of the house, confirm this.

The Local Landscape & its Values

15. I have visited and photographed the Walter's farm and also travelled down nearby Brien and Wairamarama Onewhero Rd in order to help explore both the wider physical setting that their farm lies within and to explore its landscape values. I am also familiar with the landscape around the farm, as I travelled through it repeatedly both in the course of becoming familiar with the original Contact proposal and my previous (2001 / 2002) landscape assessment for Franklin District Council. Much of the farmland around Brien and Wairamarama Onewhero Rd is similar to that found on the Walter property, revealing hard won pasture that runs across steep sided ridges and gullies. Few stream corridors are demarcated by much more than the actual water area and eroded banks, while native bush remnants, especially pockets of mature forest, are typically quite sporadic. Pine woodlots are a regular feature of much of the local area, in places helping to stabilise exceptionally steep and erosion prone slopes. To the north and south of Nolan Rd, limestone columns are also intermittently visible on the sides of some of the locality's more steep sided valleys. These, together with the pockets of remnant bush, lend a layer of 'naturalness' to an environment that might otherwise be characterised as a working rural landscape.
16. However, this is not entirely the situation, with larger sequences of bush / forest and limestone outcrops apparent north of Limestone Downs, focusing upon the twin peaks of Kotekaraka and Te Umukaraka west of both Nolan Rd and the Walter property, and – more remotely – the steep cliffed coastal environment immediately south of Port Waikato.
17. Unfortunately, however, there has been no substantive or detailed analysis of local landscape values that I have been able to uncover. I have therefore evaluated the landscape in the very immediate vicinity of the Walter farm with reference to relevant case law and my own experiences in the field of strategic landscape assessment.

Outstanding Landscapes

18. I am familiar with the Outstanding Landscape criteria or factors identified in the *Pigeon Bay Aquaculture Limited v Canterbury Regional Council* case¹ and subsequent *Wakatipu Environmental Society Inc v Queenstown Lakes District Council* cases². These have become well known as the "modified Pigeon Bay criteria":

1. *Natural science factors - geological, topographical, ecological and dynamic components of the landscape.*
2. *Aesthetic values including memorability and naturalness.*

¹ *Pigeon Bay Aquaculture Ltd and others v Canterbury Regional Council C32/1999*

² *Wakatipu Environmental Society Inc. and others v Queenstown-Lakes District Council C180/1999*

3. *Expressiveness (legibility): how obviously the landscape demonstrates the formative processes leading to it.*
4. *Transient values: occasional presence of wildlife; or its values at certain times of the day or of the year.*
5. *Whether the values are shared and recognised.*
6. *Its value to tangata whenua.*
7. *Its historical associations.*

(Wakatipu Environmental Society Inc. and others v Queenstown-Lakes District Council C180/1999: pp. 46 – 47)

19. I am also very familiar with both the substantive body research into public attitudes to different landscape types undertaken by Prof. Simon Swaffield and John Fairweather of Lincoln University in various parts of New Zealand since 1997, having assisted with the Auckland Regional Landscape Assessment (2002 - 5) that they also participated in³.
20. Swaffield and Fairweather have identified two main paradigms that help to explain most New Zealanders' responses to landscape and their assignment of values to different types of landscape. The '*wild nature*' paradigm, repeatedly identified in their research, is strongly correlated with the native endemic character of landscape scenes and the predominance of natural elements and patterns within them. The second, 'cultured nature' paradigm, is more accepting of exotic vegetation and productive rural uses, but again shows a strong aversion to obvious signs of development and buildings in the landscape. This testing and analysis has led to the identification of a number of key landscape 'traits' that consistently correlate with high preference, including:
 - Naturalness - correlated with apparent levels of development or lack of development
 - Endemic Values / 'NZness' (related to sense of place)
 - Strong Landscape Structure - related to landform & the interaction of land with sea / water
 - Strong Landscape Patterns - typically related to vegetation and land uses
 - Visual Drama (memorability)
 - Visual Diversity

³ *Public Perceptions of Outstanding natural Landscapes In The Auckland Region, Research Report No. 273, John R Fairweather, Simon R Swaffield, David G Simmons. 2004*

Understanding Visitors' Experiences In Kaikoura Using Photographs Of Landscapes & Q Sort. Report No. 5. John R Fairweather, Simon R Swaffield, David G Simmons. 1998

Understanding Visitors' And Locals' Experiences Of Rotorua Using Photographs Of Landscapes & Q Sort. Report No. 13. John R Fairweather, Simon R Swaffield, David G Simmons. 2000

Visitors' And Locals' Experiences Of Westland, New Zealand. Report No.23. John Fairweather, Bronwyn Newton, Simon R Swaffield, David G Simmons. 2001

Public Perceptions Of Natural And Modified Landscapes Of The Coromandel Peninsula, New Zealand. Research Report No. 241. John R Fairweather, Simon R Swaffield. October 1999

21. Many of these factors – derived from the wider community's '*shared values*' – correlate with the *natural science, aesthetic* (including naturalness and memorability), and *expressiveness* (legibility) factors identified by the Environment Court. Other 'modified Pigeon Bay' factors, however, go well beyond the Swaffield / Fairweather paradigms and require research that is much more targeted: *transient values, tangata whenua values* and *historical associations*. In my experience, it is not always easy, or even possible, to include all of these 'criteria' in any assessment of landscape values, as to do so often transgresses boundaries designed to protect the custodianship of some values, especially those of importance to tangata whenua, while any evaluation of transient values is necessarily very time consuming.
22. It is also important to appreciate that while the presence of landscape components (such as native forest or distinctive landforms) is critical to the determination of landscape values, the threshold for identification of Outstanding Landscapes involves additional evaluation as to whether or not a landscape or feature is self evident, conspicuous, eminent or otherwise clearly well beyond the mundane.

Amenity

23. The Resource Management Act defines amenity values as being "*those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes*". Thus, the concept of "amenity" is often bound up in the identification and maintenance of values that have even more to do with qualities and dynamics experienced at the local or location specific level, than "landscape". For instance, whereas the concept of landscape may pertain to a wide ranging mixture of open pasture, remnant bush, hill backdrop and farm buildings that create a certain bucolic imagery and distinctive sense of place, amenity values may relate to the outlook to a single hill, ridge, stand of trees, stream course or other feature that is of little significance to the wider community.
24. Consequently, amenity tends to be associated more strongly with locally 'known' and appreciated elements and features, and a more subtle array of landscape patterns. In the rural domain, such values often coalesce to create the very essence of rural character, ie. a balance of natural elements, productive uses (typically expansive as opposed to intensive) and structures, which is underpinned by the enduring dominance of non man-made elements.
25. Residential amenity is inevitably a core component of the amenity spectrum as it lies at the very heart of most New Zealander's quality of life. In addition to being fundamental to the lifestyles that most of us enjoy, it affects our social status and spills over into our economic well-being simply because houses are

most New Zealander's single most important investment. In the case of New Zealand's farming communities and rural settlements such amenity often relates to the outlook or views beyond either an urban periphery or the farm yard to key natural features, such as mountain ranges, rivers, lakes and countryside. These are effectively 'borrowed' to enhance the experience of living either in such settlements or farmhouses.

26. The essence of all amenity landscapes, however, regardless of their underlying nature (rural, peri-urban, coastal, montane, etc) and related audiences, is an existing character that is 'glued together' by a certain cohesion of expression and unity of elements that gives rise to it being 'pleasant', 'aesthetically cohesive' and having cultural or recreational appeal. The essence of maintaining such values is usually the retention of the status quo, or at least the maintenance of the major building blocks that contribute most to a locality's present-day appearance and imagery.

The 'Nolan Rd Landscape'

27. Applying these criteria and interpretations to the landscape around the Walter Farm, I have concluded that:
- The Te Umukaraka Bush (Annexure 5) and its immediate margins might well be considered an Outstanding Landscape or Feature. Although largely a cut-over stand of remnant forest, it now displays sufficient wealth of canopy species, visual cohesion and physical integrity to stand apart from the great bulk of its farmland surrounds. I have also referenced some of the images employed in the identification of Outstanding Landscapes within the Auckland Region north of the Waikato River ("Auckland Regional Landscape Assessment Q Sort Study", 2004: contributing to proposed Change 8 to the Auckland Regional Policy Statement) – as shown in Annexure 6. In addition to enclosing the southern end of the Walter's farm it is a key element astride the sequence of ridges visible from around their farmhouse and its grounds.
 - Around the edges of the Te Umukaraka Bush and Kaawa Stream at its southern entry point to the Walter property, as well as in the vicinity of the two QEII covenanted stands of bush closer to Nolan Rd (Annexure 7), the interplay of bush and pasture also creates attractive localised Amenity Landscapes, although their limited scale and interaction with the surrounding farm landscape (that has amore functional character) would make them difficult to define at much more than the very immediate, farm scale.
 - Similarly, the unfolding sequence of bush and pasture covered ridges visible west of the farm – in the direction of Kotekaraka Peak and the Tasman Sea – have very clear amenity value, although the incursion of pine woodlots, pockets of degraded scrub and earthworks on a neighbouring farm make the delineation of an actual Amenity Landscape problematic.

28. In my opinion, the rest of the Walter's farm, including that part through which the proposed transmission corridor would physically run, are too modified and lacking in structure, definition, naturalness and cohesion to qualify as any more than a working rural landscape. Having said this, it is equally clear that this and other parts of the farm still have a fundamentally rural character. The farm house, tennis court, wool shed and even implements shed are all surprisingly recessive, and even though earthworks on a neighbouring farm at the very end of Nolan Rd have left an indelible mark on the landscape for the present, the only structural elements of note on most of the Walter property are stock fences and gates. Even the farm airstrip simply comprises a sloping area of pasture flanked by fencing, while the ornamental planting around the farmhouse and wool shed ensures that they remain quite recessive components of the wider landscape.
29. In essence, therefore, the bulk of the farm is exactly what one might expect, a functional rural environment dominated by pasture and the rearing of sheep and cattle. However, some of its more marginal parts, both in the sense of usability and its cadastral boundaries display elevated landscape value because of the interaction with, and retention of, blocks of native bush. Thus, the outlook from the farmhouse and across other parts of the farm retains a very marked rural, in places bucolic, character that is frequently augmented by elevated natural character or 'naturalness' because of this interaction.
30. In addition, views from around the eyrie like location of the Walter's farmhouse – accentuated by the design of that building and its decks – emphasise the other key landscape / amenity quality associated with the property: its westerly and (to a lesser degree) southerly aspects. These emphasise its outlook over a rural domain that stretches towards both the Kaawa and Waikeretu Stream Valleys, in the south to south-west, and the twin peaks of Te Umukaraka and Kotekaraka, more directly to the west. The westerly perspective is also important as it affords a sense of connection to the Tasman Sea, especially when viewed from the farmhouse's upper floor. It also provides the frame for each day's setting sun.

Statutory Considerations

31. 241 Nolan Rd lies within the Onewhero Ward of Franklin District. Planning Map 32, attached to the Operative Franklin District Plan shows the farm and its surrounds covered by the Rural Zone, without any other notations. Objectives and policies in relation to landscape are notable mainly for their absence from the district plan, while those focusing upon Amenity – particularly within the Rural Zone – mainly address the difficulty of maintaining clear differentiation between 'town and country' near Auckland's southern Metropolitan Urban Limits and reverse sensitivity issues associated with the co-location of productive

farms and lifestyle blocks. Although Part 17 (Objectives, Policies and Methods Rural) contains the following objective and policy, which come closest to addressing rural amenity issues, Schedule 5A does not address any locations near Nolan Rd, such as the Te Umukaraka Bush, and the area around the Walter Farm is clearly not part of the coastal environment:

17.2.6 OBJECTIVE - RURAL AMENITIES

To avoid or minimise the adverse effects of activities on outstanding natural features and significant habitats, and manage other effects on rural landscape and amenities for the benefit of the District.

Policies:

1. *That buildings and structures be so sited and designed that they do not visually compromise outstanding natural features or the values of significant habitats of indigenous fauna as identified in Schedule 5A, or the natural character of the coastal environment.*

32. Proposed Rural Plan Change 14 adds little to this contextual situation, with its concentration upon that part of the District north of the Waikato River and emphasis upon the management of future urban, rural-residential and village growth. Nevertheless, the Plan Change's objectives and policies do include the following:

Objectives for Sustainability of the Natural and Physical Environment

1. *Recognise and provide for enhancement of those landscape values that contribute to the sense of enjoyment and appreciation of living in rural and coastal areas.*
3. *Preserve and enhance remaining indigenous ecological resources and enhance their contribution to biodiversity, landscape and amenity values.*
4. *Protect natural character, outstanding landscape features and values.*

17.2.5.1 DESCRIPTION OF SOUTHERN RURAL MANAGEMENT AREA

This Management Area encompasses all of the District southwest of Onewhero, and Pukekawa, south of the Waikato River and south of the Central Rural Management Area. It is predominantly rugged hill country, sparsely populated with few settlements presenting an attractive and diverse landscape. The majority of the area is in sheep and beef farming with concentrations of country and village living near Glen Murray, Naike and Waikaretu. Some bush remnants, wetlands and stands of kahikatea remain.

33. However, very few of the objectives and policies for the Southern Rural Area actually address landscape management or the protection of rural character and amenity other than through management of 'lifestyle reverse sensitivity' issues, and promotion of ecological protection and enhancement. The only policy directly applicable to the current wind farm proposal is that in proposed section 17.2.5.4 (Southern Rural Management Area Policies), which states:

"5. Ensure all subdivision, use and development is designed in such a way that landscape and ecological values are maintained or enhanced."

34. Consequently, as indicated in the Landscape Baseline Study prepared in 2007 by Isthmus Group for Contact Energy, there is little in the Operative Plan or even Plan Change 14 that offers any real guidance

in relation to the District's landscape values or features and core amenity values, especially south of the Waikato River.

35. On the other hand, Rule 15.1.2.8 of the district plan lists as a discretionary activity "*Electricity generation which is not a permitted activity or prohibited activity under Part 15.3.*", and in assessing the proposed wind farm as a discretionary activity it is subject to appraisal in terms of the following generic criteria:

23.9.1.2 Buildings and landscape

1. General:

- *The height, location, design and external appearance and colour of buildings and other structures, including signs;*
- *Landscape design and general site layout.*

In particular, that buildings and structures will not:

- *visually detract from the amenity of dwellings on neighbouring properties. Where necessary, landscaping and screen planting should be located, constructed and maintained to achieve this; or*
- *visually compromise major ridgelines or the natural character of the coastal environment.*

Effects

The Proposed Turbines

36. It is clear from looking at the intervisibility mapping prepared by Isthmus Group, the photomontage Exhibit GCL 61a and the images for Viewpoint 40 that pertain to the proposed transmission corridor that the Walter property would be subject to a major transformation in terms of both their outlook and the general character of their property should the Hauāuru mā raki Wind Farm proceed as currently envisaged. Just as clearly, Isthmus Group's photomontages lack the scale, breadth (in respect of views towards the south especially) and visual acuity or detail to convey the full extent of visual exposure that would arise in relation to the proposal. This is hardly surprising: light and weather conditions continually change, so that turbines can rapidly go from being semi- recessive to being quite blatantly silhouetted at different times of the day, year and in different climatic conditions. Furthermore, Appendix B contains an article drawn from a Scottish Natural Heritage 2003 workshop on wind farm assessment mentions research by Ian Macaulay [of the Macaulay Institute in Edinburgh] which suggests that: "*if the contrast for a real observer in the field is 1000:1, then the contrast available in a digital image on a computer monitor is only 100:1 and in a printed image only 10:1*".
37. Hardly surprising then, whereas Isthmus's intervisibility analysis suggests that the Walter family could be exposed to as many as 160 turbines in looking towards the Tasman Sea (Annexure 8), the GCL 61a images indicates that only 9 turbines would be clearly visible (Turbines C4-C12). Yet the Walter's residence sits at

approximately 210m asl, and the great majority of Group A - D2 turbines alone would sit on ground levels that are above 100m asl. While Te Umukaraka and Kotekaraka Peaks, rising to 300m and 310m respectively, would therefore be likely to screen some of the Group A and D1 turbines from the direction of Nolan Rd, the terrain south of those two high points descends to a more typical 150 – 200m asl across most of the Te Umukaraka Bush area. Even allowing for the lower ground level of many of the turbines in Groups E1 - J, their 150m turbine height (to the tip of their blades) still suggests a much higher level of exposure than the somewhat truncated Exhibit GCL 61a otherwise implies (Annexure 9).

38. More over, in all likelihood, Turbines C13, 14 and 16-20, immediately south of both C11 and the end of Isthmus Group's GCL 61a frame, would have a similar level of exposure to that of Turbines C4-C12: even though they would become progressively less elevated as the sequence of turbines moves southwards towards C20, they would still sit atop the main ridgeline immediate south of Te Umukaraka and then would run across the ridgetops that also carry the upper mantle of Te Umukaraka Bush. The following table indicates the relative ground levels of these turbines (as indicated in Mr Chris James' Exhibit CDJ14) and distance from the Walter residence (measured using Beca Carter's interactive TatukGIS Viewer aerial map of the C Group turbine area, which includes a distance measuring function).

<i>Turbine:</i>	<i>Elevation (asl):</i>	<i>Maximum Elevation of Turbine Nacelle:</i>	<i>Distance to Walter Residence (kms):</i>
C4	260	360	3.75
C5	300	400	3.61
C6	300	400	3.52
C7	280	380	3.39
C8	270	370	3.08
C9	250	350	4.27
C10	280	380	4.15
C11	260	360	4.14
C12	290	390	3.74
C13	220	320	3.68
C14	220	320	3.86
C16	200	300	4.37
C17	170	270	4.59
C18	170	270	4.15
C19	180	280	3.97
C20	170	270	4.01

39. Even if one were to just look at Exhibit GCL 61a and disregard the wider field of view available from the Walter residence, it is clear that Turbines C4-12, in particular, would leave an indelible mark on the much more immediate landscape. Yet, in effect, Exhibit GCL 61a very significantly under-represents the visibility

of the proposed wind farm from the Walter's farmhouse, as C13-20 would continue to wrap around the south-western 'corner' of the main viewing plane from that dwelling and its immediate curtelage.

40. The real effects engendered by this situation therefore revolve around the very obvious, and in all likelihood, highly intrusive, presence of at least 16 turbines in the middle distance of key views from the Walter's main area of residential activity and socialising. In my assessment, far more than just being a notable or prominent feature of the modified skyline, this string of turbines – all elevated well above the Walter residence and the viewing plane from it – would be visually dominant. This situation is clearly accentuated by the proposed location of the turbines either directly on, or as close as possible, to the main ridgelines around and south of Kotekaraka and Te Umukaraka, effectively the highest points on the horizon west of Nolan Rd (Annexures 3A, 3B & 9).
41. Importantly, the turbines would traverse across the entire area of outlook towards the Tasman Sea from the Walter property and related viewshafts to the sea itself. There would be no relief from this visual 'enclosure' and intrusion, with all of the south-western to western horizon occupied by turbines. In fact, on a clear day, it is even possible that all 28 turbines of the Te Hauhiko O Wharauoa Wind Farm atop the Te Uku Ridge, south-east of Raglan and east of Mt Karioi, would also be visible. This situation would give rise to a quite exceptional level of intrusion in relation to the general outlook from the Walter property and residence and would be manifestly obstructive in relation to views towards, and of, the Tasman Sea.
42. Just as significant, however, the turbines – together possibly with areas of track clearance and earthworks – would sit atop and cut through the Te Umukaraka Bush that is a key feature of the middle distance outlook from the Walter property. At present, that swathe of bush, and its coverage of part of the series of ridges west of the Walter residence, contributes very appreciably to the natural and aesthetic qualities of the more immediate outlook from the farm. I consider it to be a significant feature in its own right, while its interplay with pasture across the ridges visible from the Walter's residence and around the southern margins of the farm is also critical to the amenity presently experienced by Mr and Mrs Walter. The wholly dominant location of the Group C turbines across the top of that area of remnant forest, combined with the likelihood of tracks and clearings within it that may also be partially visible, would very appreciably erode the integrity of the Te Umukaraka Bush. It would emerge as much more fragmented entity and would be rendered entirely subservient to the wholly man-made, in some respects industrial, profile of the new wind farm and its Group C turbines in particular.
43. Consequently, the array of both near field turbines and less obvious, but far more numerous, 'background' turbines (Groups A and D1 – J) would have a profound impact on the relative naturalness of the landscape visible from the Walter property, its overall composition and rural character. The array of turbines on a very prominent and extensive horizon would totally change the balance between man-made

and natural components of the landscape around 241 Nolan Rd and would introduce a level of incursion which, in turn, means that the Hauāuru mā raki Wind Farm would have a quite exceptional impact on both the farm and wider landscape currently experienced by the Walter family.

44. In my experience, it is not uncommon for individual residents and families to be directly exposed to say 3 or 4 turbines at relatively close range (within 2 – 3kms), as has happened in relation to Project West Wind and the settlement of the Makara Valley, or a much larger number of turbines over a commensurately larger viewing distance – as in relation to views across the Maniototo (of between 11 and 30kms) to Project Hayes. However, it is quite unusual to find a situation in which some 16 turbines would totally dominate the middle distance of key views from a residential property, with another 140 odd, more distant turbines in a ‘supporting role’.

The Transmission Route

45. In this case, however, the situation that I have just described would be compounded by the likely presence and effects of the transmission corridor from the existing Limestone Downs sub station running – again – through the Te Umukaraka Bush and across the southern half of the Walter farm. I acknowledge that two options for the transmission corridor remain ‘available’ at present. However, this does not resolve the situation in relation to the Walter’s farm; it merely complicates it.
46. The worst case scenario remains one in which the line would run across the main slopes of a valley wall (Annexures 4A, 4B, 10A & 10B) that faces directly towards the Walter’s residence – north of Wairamarama Onewhero Rd – with up to 6 towers clearly visible within 500-600m of the house. This route would also cross the Kaawa Stream, bisecting the valley within the southern ‘arm’ of the Walter farm, and cut across / through the northern end of the Te Umukaraka Bush (Annexure 11). A second ‘alternative’ would see this corridor avoid the valley immediately south of the farmhouse, instead running across part of the adjacent Harford property. Should that occur, as depicted in Mr Lister’s Viewpoint montages for the Transmission Route, then at least one of the proposed towers would be partly obscured by an intervening ridgeline (the top of the valley immediately south of the Walter residence). However, the more northern towers and line would still climb onto the ridge crest within 600-700m of the farmhouse and would be clearly visible on the southern skyline. Indeed, far from just being visible, they would be highly prominent and – as with most of the Group C turbines – potentially dominant.
47. Either transmission route would therefore generate a significant level of visual incursion in relation to both the Walter’s residential environs and the farm as a whole. Again, the fundamental character of their property would be quite obviously affected by the tower and lines. Furthermore, sections of both routes would physically bisect that part of the farm which is more closely associated with the Kaawa Stream and

the Te Umukaraka Bush. The latter feature, especially, is an important repository of remnant endemic values within the immediate locality, as I have already stated. Yet, it appears inevitable that the transmission corridor, including construction and maintenance tracks, would cut a clearly visible swathe through that part of the Bush directly abutting, and exposed to, the Walter property. Even without such physical degradation, the visual contrast between the industrial profile and structures of the transmission line and the mature canopy that they would over-top could not help but have a profound impact on the perceived integrity of the Te Umukaraka Bush.

48. Undoubtedly, those direct effects would spill over into appreciation of the wider amenity of the farm, due to the manner in which either route would traverse the scenic valley enclosed by that forest, then the more modified, but still significant Kaawa Stream course. Although the valley immediately south of the Walter residence remains a 'working landscape', the intrusion and changes to landscape character associated with the transmission corridor either across or above this part of the farm would exacerbate its transformation from a landscape almost entirely dominated by rural and natural elements into one that is significantly redefined by the transmission corridor (in either location). Even though the 'Harford property option' is slightly more distant in a physical sense, its greater potential for silhouetting would simply change the nature of effects generated by the proposal, rather than their degree of impact.

Cumulative Effects

49. The combination of the proposed turbines and transmission route would, in combination, have a massive impact on the landscape character, rural amenity and values of the Walter property. In effect, the farmhouse would be hemmed in on two sides by wind farm components. Significantly, those two sides – facing west and south – are the main avenues for views from the residential part of 241 Nolan Rd. The Walter's appreciation of their rural, coastal, and, in part, natural domain is wholly reliant upon the outlook in both quarters, and the impact of up to 160 turbines, 8 transmission towers and lines cannot be overstated. It would circumscribe the most important part of the landscape setting for both their house and farm, and would erode many of the qualities currently derived from its remote, rural location.
50. Short of removing most of the turbines described and shifting the transmission corridor well to the south, it is difficult to see the resulting, combined, effect of both wind farm components being less than severe. In relation to the Discretionary Activity criteria for 'Buildings and Landscape' (23.9.1.2), it is clear that the location / layout, height, design and external appearance of both the proposed turbines and transmission corridor would very significantly 'detract from the amenity of dwellings on neighbouring properties' and would also compromise 'major ridgelines' in the Wairamarama area.

51. Additionally, with reference to Franklin District Plan's Rural Amenities Objective 17.2.6, and Plan Change 14 Objectives for Sustainability of the Natural and Physical Environment, it is my opinion that the Group C turbines and proposed transmission corridors (either through the Harford property or not) would impact on a landscape feature that is arguably outstanding, and a significant habitat – if only because it is such a major remnant within an area dominated by working farms.

Mitigation

52. Clearly the magnitude of the proposed development goes well beyond the ability to effectively mitigate such effects via 'landscaping and screen planting' (23.9.1.2). However, I also accept that the bulk of concerns that I have raised essentially relate to one residential property and – for the most part – a range of amenity effects, and these have to be balanced against another Section 7 'matter', that which addresses the issue of "*the benefits to be derived from the use and development of renewable energy*".
53. On balance, it is my opinion that the effects on the Walter family should not be discounted: they are quite exceptional in my experience and need to be addressed with reference to section 7(c). However, as stated at the beginning of my statement, it is not my contention that the entire wind farm should be denied consent. However, short of Contact Energy resolving the effects in relation to Mr and Mrs Walter by buying their property, I contend that three issues need to be addressed for mitigation to be effective:
- The Group C turbines should be relocated and reconfigured, with some turbines either moved well to the west – beyond the physical apron of Kotekaraka and Te Umukaraka Peaks – or deleted from the proposal altogether. Taking into account the main viewshafts from the vicinity of the Walter residence (directly westward towards the Tasman Sea) and the slightly lower profile of the more southern Group C turbines, it is my opinion that Turbines C4-8 should be effectively deleted and 12, 13, 19 and 20 should either be deleted or moved well to the west, away from the same residential viewshafts.
 - The transmission line through the Te Umukaraka Bush should be relocated so as to enter the Walter's southern farm valley via the Kaawa Stream, instead of cutting (both physically and figuratively speaking) through the main body of that forest block (Annexure 12).
 - The next stage of the transmission route should also be shifted slightly southwards, so that it rides though the valley that carries part of Wairamarama Onewhero Rd and avoids both the slopes directly exposed to the Walter residence and the ridge skyline immediately above those same slopes (Annexure 13).

Conclusions

54. These measures would by no means resolve all of the issues that I have identified in the course of this statement, but they would at least reduce them to a level where Mr and Mrs Walter are not left carrying a quite exceptional burden of affects for the sake of the wider community. This is one of those unfortunate situations where the effects in relation to one 'corner' of the catchment around a wind farm site were not originally identified in the course of the project's gestation. Mr Lister's Exhibit GCL 46 shows a number of "Worst Case Viewpoints", but none of them relate to Nolan Rd or the Walter property.

55. Yet it is my assessment that the level of impact likely to be visited upon that property and its inhabitants would be both severe and, as I have already stated, quite exceptional. Accordingly, I consider it incumbent upon Contact Energy to address the matters that I have raised via a range of measures that are entirely feasible, without compromising the larger Hauāuru mā raki Wind Farm project. I also consider that such measures accord with the rather limited expectations of the Operative Franklin District Plan and reflect an appropriate balancing of the interests implicit in sections 7(c) and (j) in the Act.

Stephen Brown

BTP, Dip LA, Fellow NZILA, Affiliate NZPI

April 2009

Appendix A.

Stephen Kenneth Brown

Academic

Qualifications: Bachelor of Town Planning 1978 (Auckland University)
Diploma of Landscape Architecture 1981 (Lincoln University)

Professional

Qualifications: Fellow & Past Vice President of the NZ Institute of Landscape Architects
Affiliate of The NZ Planning Institute

Professional

Experience: Auckland Regional Authority 1982 - 84
Travers Morgan Planning (London) 1984 - 86
Brown Woodhouse Landscape Architects (owner) 1987 - 88
LA4 (part owner & director) 1988 - 98
Stephen Brown Environments Ltd 1999 onwards

Awards:

Landscape Value Mapping of Hong Kong (2001 – 5): development of the methodology and assessment criteria for the 'landscape values and sensitivity mapping' of Hong Kong undertaken by Urbis Ltd for the Hong Kong Government – awarded the Strategic Planning Award by the (UK) Landscape Institute in 2006.

Project Impact Assessments:

Allandale East Wind Farm (2008): evaluation of the landscape and amenity effects of a proposed 50 turbine wind farm near Mt Gambier and Port MacDonnell in South Australia – for Acciona Ltd

Sidonia Hills Wind Farm (2008): assessment of the landscape and amenity implications of a proposed 52 turbine wind farm in the Macedon Hills Shire of Victoria – for Hydro Tasmania Consulting & Roaring 40s.

Project Central Wind (current): evaluation of the landscape, natural character and amenity effects of a proposed 51 turbine wind farm proposed for the southern margins of the North Island's Volcanic Plateau near Taihape and SH1, including a sub-regional assessment of alternative locations – for Meridian Energy Ltd

Project Hayes (2007): evaluation of the regional and sub-regional landscape setting (from Dunedin to Lake Dunstan and the Waitaki River to the Clutha River) for the proposed wind farm and assessment of the potential to employ alternative sites for a project similar in scale to Project Hayes – for Meridian Energy Ltd

Project West Wind (2006): assessment of the strategic, regional implications, of the Project West Wind wind farm relative to the Wellington region and the southern halves of the Wairarapa and Manawatu coastlines – for the NZ Wind Energy Association

Turitea Wind Farm (2006 – 8): preliminary assessment of the landscape and amenity effects of a proposed 80 turbine wind farm on the Tararua Ranges near Palmerston North – for Might River Power

Awhitu Wind Farm (2005): evaluation of the strategic landscape and natural character effects of a 21 turbine wind farm proposed by Genesis Energy for the coastal margins of the Tasman Sea and Awhitu Peninsula near Waiuku, south of Auckland – for the Auckland Regional Council

Eden Park (2001 Redevelopment 2006-7): assessment of the anticipated visual / landscape / streetscape effects of the partial and complete redevelopment of Eden Park and the stadium surrounds, particularly in relation to Mt Eden's residential amenity and heritage values - for the Eden Park Trust Board.

Matiatia Village (2003-4): evaluation of the landscape, natural character and amenity effects associated with a comprehensive commercial village development (18,000m²), together with car parking and transport interchange at the 'gateway' to Waiheke Island - for Waitemata Infrastructure Ltd.

- Waitemata Harbour Crossing Options Assessment (2002/3):** Evaluation of the visual and amenity effects of 9 harbour crossing options, including bridges, tunnels, submerged tubes, reclamations, ventilation and service structures, trenches and motorway interchanges - for Opus International and Transit NZ
- Coca Cola Amatil Plant Expansion (2005):** assessment of the amenity effects associated with an \$80 million expansion of Coca Cola Amatil's plant at Mt Wellington, abutting two arterial roads and a large residential community - for Coca Cola Amatil.
- Weiti River Crossing Review (2000):** review of the effects of a proposed bridge over the Weiti Estuary and the coastal environment - for the Auckland Regional Council.
- ALPURT B2 Waiwera River Crossing Review (1999):** review of the effects of a proposed bridge and related roading developments on the Waiwera and Puhoi Estuary coastal environs - for the Auckland Regional Council.
- Sylvia Park Commercial Centre Assessment (1999):** detailed assessment of the implications of a plan change to accommodate 150,000 sq metres of retail, office, and residential development at Mt Wellington, including community facilities, a railway station and new access road - for Kiwi Property Management Ltd.
- Marsden Point Port Impact Assessment (1997 & 2002):** responsible for assessment of the visual and amenity implications of a major new port facility covering some 37 ha.s and associated infrastructure development - including preparation of proposals for amelioration & enhancement around Blacksmith's Creek, followed by assessment of the effects of additional berths in 2002 - for the Northland Port Corporation / Northport.
- Southdown Power Station Assessment (1995):** detailed assessment of the likely visual and amenity implications of a co-generation power station within the industrial/coastal environment of Southdown – for Mercury Energy / Transalta.
- Dominion Rd Transport Designation Assessment (2000):** detailed analysis of the amenity and visual implications of proposed transport corridor designations, including road widening and LRT corridor deviations off Dominion Rd - for Auckland City.
- Glenfield Rd Designations Review (2004):** review of the effects of implementation of three Outline Plans Of Work and resource consent applications related to the widening of Glenfield Rd, an arterial route within North Shore City, including evaluation of impacts in respect of amenity, streetscape and open space values - for North Shore City .
- Lake Rd Designations Assessment (2002):** detailed analysis of the effects associated with widening of Lake Rd, including impacts upon residential amenity, streetscape and open space values; and appraisal of mitigation measures - for North Shore City .
- Omokoroa Roading Options Study (2001):** evaluation of route options and effects as part of an Assessment of Environmental Effects (in association with Beca Carter Tauranga) - for Western bay of Plenty D. C.
- Tauranga Northern Arterial Review & Arbitration (2000):** evaluation of the proposed northern arterial's implications utilising assessments prepared by LA4 and Priest Mansergh, followed by site visits, and provision of recommendations to Transit NZ, the Bay of Plenty Regional Council and Western Bay of Plenty District Council about the landscape mitigation measures that should be employed in conjunction with development of the arterial corridor - for Transit NZ, the BOP Regional Council and WBOP District Council.
- Eastcliffe On Orakei (Bastion Point) Housing Project Assessment (current):** analysis of the visual and amenity implication of an 86 unit housing development next to Takaparawha reserve at Bastion Point & development of landscape concepts / detailing as part of the overall development proposal – for Protac Investments & Ngati Whatua.
- Eden Park Floodlighting & North Stand Assessment (1996/7):** evaluation of a proposal for floodlighting of the No.1 ground and a new north stand; and design of landscape treatment in front of the north stand - for the Eden Park Trust Board.
- Spencer On Byron Hotel (1998):** assessment of the visual effects of a 22 storey hotel proposal for Byron Ave in Takapuna – for Manawanui Trust.
- St Josephs Convent Redevelopment Assessment (1995/6; 2001):** analysis of the visual implications of replacing an existing convent with a combined retirement home / convent / chapel in St Marys Bay, including development of landscape concept for the main grounds and courtyards - for Little Sisters of the Poor.
- Brightside Hospital Assessment (1995/6):** analysis of the visual and amenity implications of replacing an existing hospital with a new hospital facility in central Epsom, including development of landscape proposals for the historic grounds - for Southern Cross.
- South-western Interceptor Assessments (1992; 1996-7):** detailed assessment of the proposed route for the South-western Interceptor AEE - covering a route from Homai Stream to Puhinui Rd (the eastern airport Access road) via the Matukutururu Stonefields, Puhinui Inlet and Puhinui Reserve - for the AEE. Followed up in late 1996 with development of an amelioration strategy - for WaterCare Services Ltd
- North Harbour Gas Pipeline (1995-6):** three stages of involvement in the planning process covering: evaluation of broad 'corridor' options for routing of the pipeline and identification of three preferred routes; detailed assessment of the landscape and amenity implications of the preferred route option; and preparation and presentation of evidence about the proposal and its effects for the North Shore City Council hearing - for Enerco.
- Auckland International Airport Eastern Accessway Impact Assessment (1989 / 1991):** appraisal of a new entry route and bridge options across Pukaki Inlet for Mangere International Airport and development of broad guidelines for the design of the entry road and its immediate surrounds - for the Auckland International Airport Company Ltd.

- A.R.C. Reservoir / Bulk Water Supply Options Study (1988):** responsible for detailed evaluation of eight different dam and/or river extraction options for supplying Auckland with water into the 21st century - for the Water Dept of the Auckland Regional Authority.
- Sky Tower Assessment (1991):** assessment of the Sky Tower proposal for upper Symonds St, Grafton, and presentation of evidence at the Planning Tribunal in relation to its effects - for Auckland City Council & the Auckland Regional Council.
- Mt Ruahine Mast assessment (1999):** evaluation of the effects of a proposed 24 metre mast and shed on top of Mt Ruahine at the southern end of Great Barrier Island - for the Maritime Safety Authority.
- Light Rail transport Evaluation (1990):** evaluation of the visual and aesthetic implications of a light rail system running into and through central Auckland and providing recommendations for its integration into Queen St - for NZ Railways.
- Bayswater Marina ,Okahu Bay Marina & Goldsworthy Bay Marina and Tourism Development Studies (1987-90):** evaluation of all 3 marina proposals and presentation of design recommendations for each - for Wilkins & Davies Ltd, Beca Carter Hollings & Ferner Ltd and L. Sutherland.
- Pine Harbour Marina Extension Assessment (1990):** visual impact appraisal of a 250 berth extension at Pine Harbour - for the Department of Conservation.
- Site Selection Studies for P.W.R. Stations at Trawsfynydd and Wylfa - North Wales (1984-6):** evaluation of a wide range of different siting options for two power stations proposed for North Wales based on landscape/visual impact criteria - for the (U.K.) Central Electricity Generating
- Channel Tunnel Railway Connections Study (1986):** evaluation of route options and landscape impacts associated with provision of railway connections to the Channel Tunnel immediately north-west of Folkestone - for the United Kingdom Department of Transport.

Peer Reviews of Impact Assessments:

- Orakei Point (2008):** peer review of a mixed use residential / commercial / transport hub development on the edge of the Orakei Basin and Hobson Bay in Auckland, involving up to 8 storey development and footprint of up to 88,000m² of residential floor space, together with another 20,000m² of commercial floor area, in conjunction with creation of a pedestrian plaza and recreation areas on the edge of both water areas – for the Auckland Regional Council.
- Waikato Wind Farm Project (2008):** review of the landscape, natural character and amenity implications of a 235 turbine wind farm proposed for the Tasman Sea's coastal hinterland between Port Waikato and Raglan, covering a site some 34kms long and up to 8kms wide – for the Waikato and Franklin District Councils.
- Te Uku Wind Park (2007):** peer review and assessment of the landscape, amenity and natural character effects of a 28 turbine wind farm proposed for the Te Uku Ridge / Wharauoa Plateau by WEL Networks – for Waikato District Council.
- Te Arai Coastal Community Review (2005 - 2006):** evaluation of the landscape and natural character effects of a proposed 1400 lot development at northern Pakiri Beach (north-eastern Rodney District), incorporating a commercial / community centre, golf course, wetlands / lakes and coastal reserve - for the Auckland Regional Council.
- St Emilion Comprehensive Housing Development (2005 - 2006):** evaluation of the landscape and amenity implications of a 'gated community housing project, containing 144 residential units and a recreation centre - for Rodney District Council.
- Swanson Structure Plan (2005):** analysis and review of Waitakere City's proposed Swanson Structure Plan for an area on the margins of both metropolitan Auckland and the Waitakere Ranges, as the basis for an Environment Court Appeal - for the Auckland Regional Council.
- Project West Wind (2005):** detailed peer review of the West Wind proposal and Peter Rough Associates' assessment of the proposal's landscape and visual effects - for Meridian Energy Ltd.
- Awhitu Wind Farm (2004 - 2005):** evaluation of the strategic landscape and natural character effects of Genesis Energy's proposed wind farm at the southern end of the Awhitu Peninsula - for the Auckland Regional Council.
- Millbrook Quarry Review (2005):** assessment of the landscape effects of a proposed 30 year expansion to the current Wharehine Quarry near Mt Tamahunga and southern Pakiri (north-eastern Rodney District) - for Rodney District Council.
- Mountain Landing Coastal Residential development (2004-5):** assessment of the landscape effects of a proposed 40 lot subdivision, involving extensive ecological restoration, next to Marsden Cross in the northern Bay Of Islands - for Blue Water Holdings and The Environmental Defence Society.
- Tairua Marina (2002 - 5):** review of the natural character, landscape and amenity effects of a proposed marina (150 berths) at Tairua on the Coromandel Peninsula, as the basis for hearing recommendations , then appeal evidence - for Environment Waikato,
- The Warehouse Gisborne (2003):** one of four commissioners responsible for hearing the resource consent application into a proposed 10,500 sq m / 372 car park development proposal for Gisborne city's Amenity Commercial zone - for Gisborne District Council.
- Tairua Marina (2002 / 3):** detailed review / analysis of the natural character implications of three marina proposals for Tairua Harbour and recommendations - for Environment Waikato.

Telstra Clear Telecommunications Network Review (2002): evaluation of the assessments undertaken as part of 4 applications for the staged 'roll out' of an overhead cable network within Auckland City - for Auckland City Council.

277 Broadway Review (2002-3): responsible for reviewing the visual and urban design components of proposal for the redevelopment of the "277" sites in Newmarket - for City Planning.

88 The Strand (1999): independent review of the visual effects of the proposed twin tower residential development at 88 The Strand, Parnell - for Auckland City.

Weiti River Crossing Review (2000): review of the effects of a proposed motorway bridge over the Weiti Estuary and the coastal environment - for the Auckland Regional Council.

ALPURT B2 Waiwera River Crossing Review (1999): review of the effects of a proposed bridge and related roading developments on the Waiwera and Puhoi Estuary coastal environs - for the Auckland Regional Council.

O'Shea Subdivision Review - Great Barrier Island (1999 - 2000): evaluation of a proposal for a 17 lot subdivision at Awana on the basis of protection of a Special Environmental Feature leading to participation in the Council hearing and current Environment Court proceedings - for Auckland City Gulf Islands.

McGintys Visitor Accommodation Review - Waiheke Island (1998-9): appraisal of proposals for redevelopment of the McGintys' hotel site on Onetangi Beach - including the development of a restaurant / bar and 46 residential units resulting in participation in the Council hearing and in Environment Court proceedings - for Auckland City Gulf Islands.

Environmental Impact Audits: Sandspit, Whitianga, Paihia and Okahu Landing Marina Proposals (1988-91): auditing of visual impact assessments to ensure the technical adequacy of each assessment and to independently evaluate their findings - for the Dept. of Conservation, Northland Regional Council and Americas Cup Planning Authority.

Strategic Assessments:

Otorohanga District Landscape Assessment (2008): identification of Outstanding Natural Features and Landscapes, Amenity Landscapes and parts of the District's coastline – together with lake and river / stream margins – that display high Natural Character values – for Otorohanga District Council.

Thames Coromandel Landscape Review (2007 / 2008): peer review of the Thames Coromandel landscape assessment leading to a complete re-assessment of the Peninsula, identification of its Outstanding and Amenity Landscapes, as well as coastal environments displaying high to outstanding natural character values – for Thames Coromandel District Council.

Kawhia Aotea West Coast Assessment (2006): assessment of the landscape and natural character values of the catchments around Kawhia and Aotea Harbours, including the identification of the area's outstanding landscapes, visual amenity landscapes and parts of the coastline displaying high natural character – for Environment Waikato and the Waikato, Waipa and Otorohanga District Councils.

Whangarei District Landscape review / Assessment (2005): assessment of landscape values across Whangarei District to identify its Outstanding Landscape and Visual Amenity Landscapes, involving use of past public preference research, public consultation, identification of natural character values, landscape heritage values - in conjunction with Beca Carter Hollings & Ferner Ltd for Whangarei District Council.

Assessment of the Auckland Region's Landscape (2001-4): responsible for a review of landscape assessment methodologies appropriate for re-assessment of the Auckland Region's landscape, including literature search and organisation of workshops to review theoretical options - designed to address identification of Auckland's outstanding / iconic landscapes; followed by Q-Sort testing of public attitudes to landscape, and mapping of the Auckland Region's Outstanding Landscapes - for the Auckland Regional Council.

Hauraki Gulf Islands District Plan - Plan Change Reviews (2003): detailed reviews of Plan Changes 23 (Subdivision), 24 (Earthworks), 25 (Indigenous Vegetation Clearance) & 26 (Lot Coverage) involving detailed assessment of the Waiheke and Great Barrier Island landscapes in respect of their capacity to accommodate changes to the relevant thresholds for permitted and discretionary activities and assessment criteria leading to recommendations in relation to each Plan Change - for Auckland City.

Auckland Urban Coastline Assessment:

Waiheke Island Coastal Landscape Assessment:

Great Barrier Island Coastal Landscape Assessment:
(1993-5): Assessment of the VALUE, VULNERABILITY and overall SENSITIVITY of each of these coastal areas - involving their breakdown into landscape units, description and discussion of landscape character types and preparation of preliminary policies for landscape management - for the Auckland Regional Council.

Hawkes Bay Region Landscape Assessment:

East Manukau Assessment:

Whangarei District Landscape Assessment

Far North District Landscape Assessment:
(1993-6): responsible for managing / overseeing assessment of the VALUE, VULNERABILITY and overall SENSITIVITY of each of these strategic landscape studies - involving their breakdown into landscape units, description and discussion of

landscape character types and preparation of preliminary policies for landscape management - for the Hawkes Bay Regional Council, Manukau City Council, Whangarei & Far North District Councils.

Mahia Peninsula / Wairoa Coastal Strategy (2003): assessment of the landscape and natural character values of the Mahia Peninsula and nearby coastal areas, including Mahanga and Opoutama, to provide input on both conservation and strategic development strategies for the Wairoa District Coastal Strategy Study - for Beca Carter Hollings & Ferner and Wairoa District Council.

North Shore City Significant Landscape Features Assessment (1998-2001): identification, analysis and description of all significant landscape features within the Albany, Greenhithe, Paremoremo and Long Bay / Okura parts of North Shore City - for North Shore City Council.

East Tamaki Catchment Management Study (2001): analysis of landscape and open space values in the East Tamaki catchment leading to recommendations in relation to future open space provision and park acquisition - for Beca Carter & Manukau City Council.

Whangarei District Coastal Management Study (2003): assessment of the landscape values and 'carrying capacity' of settlement areas down the eastern Whangarei coastline leading to recommendations about future development and conservation strategies - in relation to: Oakura, Moureeses Bay, Woolleys Bay, Matapouri, Pataua South & North, Ocean Beach, Urquharts Bay, Taurikura, Reotahi and McLeods Bay - for Beca Carter & Whangarei District Council.

Waitakere City Northern Strategic Growth Area Study (2000 - 2001 & 2003): Analysis of existing landscape features, character areas and resources within the Whenuapai / Hobsonville / Brighams Creek catchment as the basis for evaluation of future growth options. This work includes the identification of key landscape sensitivities within the catchment, the identification of development constraints and opportunities in relation to the local landscape and the preliminary assessment of effects associated with shifting Auckland's MUL in the subject area - for URS New Zealand Ltd and Waitakere City Council (Eco Water). In 2003 this work was extended to cover Herald Island and the Red Hills area - for Landcare Research.

Franklin District Rural Plan Change Study (current): responsible for re-evaluating most of Franklin District - in relation to landscape values, sensitivities and residential development potential / appeal - to determine areas that present opportunities for residential growth, rural areas that should be specifically excluded from rural-residential development and generic features that should be conserved throughout the District - for Franklin District Council.

Assessment of the Auckland Region's Landscape (1983-4): region-wide appraisal of both the aesthetic quality and the visual absorption capability of different parts of Auckland's extra-urban landscape (covering 425,000 has). This study involved breaking the Region down into 633 landscape units and incorporated a public preference study with over 1100 public participants. It has enabled planners to come to terms with both public perceptions of landscape value and the relative vulnerability of different parts of the Region to development - for the ARC.

Whangarei District North-eastern Coastal Settlements Assessment (1996): assessment of key landscape features and elements that should be conserved to help define the margins of urban growth around Whangarei District's north-eastern coastline - from Ocean Beach in the south to Oakura and Whangaruru - for Whangarei District Council.

Volcanic Cone Sightlines Review (1997 - 2003): appraisal of current sightlines to Auckland's volcanic cones leading to suggestions about the addition, deletion and location of sightlines, and the specification of controls in relation to each - for the ARC and Auckland City Council.

Structure Planning:

Lincoln Village (2007 / 8): preparation of development concepts for a 130ha major residential extension to Lincoln Township, connected to Lincoln University, including a commercial / entertainment centre, town-housing, conventional and large lot residential development built around an extensive network of ponds, streams, open spaces and recreation areas – for Ngai Tahu Properties & Lincoln University.

Remarkables Park: development of concepts for the residential, retail, school and reserve components of a wider master plan that includes a new village centre and conference centre, in conjunction with landscape concepts and detailing for all components of the Remarkables Park development – for Remarkables Park Ltd.

Omaha Park Development (2006): preparation of concepts and development strategies for the development of 650ha.s of rural land on the Takatu Peninsula near Tawharanui Regional Park and Omaha South, including accommodation of: a medium / high density seaside village with up to 850 residential units (apartments to semi-detached houses) and a commercial centre; a golf course and 31 independent houses in clusters; a 200 bed hotel; a 50 bed lodge; 11 rural lifestyle lots; areas for water supply and effluent disposal, and nearly 240ha.s of conservation land - for H. Hauser & the Porter Group

Cardona Village (2006-7): development of concepts for a comprehensive village development, including visitor accommodation, commercial and residential development, a pedestrian 'main street', plazas & integration with both the Cardrona River & historic pub – for Brooklynne Properties

Pebble Bay (2006 -): site analysis of 250ha near Ruby Bay in Tasman District, leading to preparation of concepts for 7 coastal large lot properties, a coastal village (44 units), a 10,000m² conference centre and commercial development set among lakes and a

native wetland forest (to be re-established), a hotel and visitor village (62 units), a country village (38 units, 80ha vineyard and winery - for A Trent.

Cardrona Village (2006 -): development of concepts for a 15ha alpine village and residential development, incorporating a pedestrian mainstreet flanked by 2 - 4 storey hotels, apartment and commercial development, connections to the historic Cardrona Pub, a riverside promenade, provisions for over 500 car parks and development of a nearby residential community (220 units) across Soho St - for Brooklynne Holdings Ltd.

Weiti Forest Park (2005): detailed land analysis and preparation of structure plan concepts to provide the basis for determining future planning strategies for a 900ha block of forest covered coastal land near the Weiti River and Hauraki Gulf; also providing the basis for land compensation costings in relation to a future road link across the Weiti Estuary to the Whangaparaoa Peninsula - for Rodney District Council

Matiatia Village Development (2002 & 2004): development of concepts for the development of a new maritime village 'gateway' to Waiheke Island, incorporating three main plazas, a coastal promenade and connections with the Waiheke ferry terminal, two to three storey retail development, potential visitor accommodation and conference centre, education facility, parking (the majority under the village core) for up to 500 vehicles, and an extensive wetland area combined with stormwater ponds, revegetation and recreation areas - for Waitemata Infrastructure Ltd.

Long Bay Structure Planning & Design (1998 - 2005): design team leader for preparation of development concepts for approx. 400 ha.s of land that is to be urbanised – encompassing: residential development designed to accommodate approximately 2000 households, a commercial / community centre, a comprehensive roading network, walkways, connection with & extension of Long Bay Regional Park, new reserves, and an extensive stormwater management system – for the Long Bay Structure Plan Group (representing North Shore city Council, the Auckland Regional Council, Durafort Investments & other local landowners).

Whangarei District Coastal Management Study (1996 & 2003): assessment of the landscape values and 'carrying capacity' of settlement areas down the eastern Whangarei coastline leading to structure planning recommendations in relation to future development and conservation strategies - for: Oakura, Moureeses Bay, Woolleys Bay, Matapouri, Pataua South & North, Ocean Beach, Urquharts Bay, Taurikura, Reotahi and McLeods Bay - for Beca Carter & Whangarei District Council.

Rotokauri Structure Plan (2001): Appraisal of the landscape features, character areas and resources found within the Rotokauri area (in the north-western corner of Hamilton City's boundaries) contributing to the development of different urban growth scenarios for this area. This work includes the design / preparation of those scenarios, including the identification of areas appropriate for different forms and density of residential, commercial and open space development, together with roading and a comprehensive stormwater management network _for Beca Carter Hollings & Ferner and Hamilton City Council

Albany, Greenhithe and Okura Structure Plans (1996-8): detailed analysis of the landscape character and values of all three catchments providing input about development constraints and opportunities for each, as a foundation for structure plan options; involvement in the development of more detailed neighbourhood unit plans addressing land use distribution, roading, reserve and stormwater management networks – for North Shore City Council.

Patumahoe North Structure Plan (1997-8): preparation of land use development scenarios for discussion with town residents as a basis for expansion to the town's urban limits and provision of a range of housing and lifestyle options – for Franklin District Council

Katikati & Omokoroa Structure Plans (1999): responsible for the development of an urban design framework to guide future urbanisation at both locations – incorporating a range of residential densities and housing types (from multi-unit to large lot), commercial and industrial development, community facilities, roading, stormwater reserves and recreation reserves – for Western Bay of Plenty District Council.

Harbour View Development (1993-2000): responsible for preparation of concept plans for the development of 106 ha.s of land overlooking the Waitemata Harbour - incorporating residential development, restoration of a major wetland on coastal flats, reserves & open spaces - for Surelight Development Ltd (Hong Kong / China). In 1997 engaged by Waitakere Properties Ltd to prepare detailed design for the streets and open spaces of Stages 1 to 5.

Weiti Station Development (1996- 1999): preparation of a structure plan and concept for rural-residential development on a 400 ha farm in southern Rodney District, including the identification of areas for a community centre, and equestrian centre, cluster housing (approx 160 units), roading & walkways, stormwater ponds and wetlands, re-vegetation and retention of some grazing - for Green & McCahill Ltd.

East Tamaki Catchment Management Plan (2000 -1): assessment of landscape values throughout future urban catchment & identification of potential open space nodes, evaluation of potential open space corridors and preparation of indicative costings for rehabilitation of those corridors - in conjunction with Beca Carter Hollings & Ferner for Manukau City Council.

Albany Civic Centre Development (1997-8): development of design concepts for staged development of the Civic Centre Lake Reserve area and Civic Crescent, incorporating multiple lakes and water features, pedestrian plazas and terraces, recreation areas, parkland, and potential civic and commercial development sites - for North Shore City Council.

Viaduct Basin Development Concepts (1989 - 94): preparation (with Clinton Bird) of the initial concepts for the Viaduct Basin including reformation of the existing basin, rearrangement of the fishing fleet berthage, two international hotels, 20,000 sq metres of space for retailing, entertainment, commercial activity, accommodation, plazas and a park: providing the basis for the special zone applied to the Viaduct Basin area - for the Ports of Auckland Company, Fletcher Challenge Developments and Turners and Growers Ltd; Auckland City Council in 1993-4.

Appendix B

The following summary from a 2003 Scottish Natural heritage workshop summarises landscape practitioners' views in relation to a number of technical issues - including the visibility of wind farms in printed material, and the use of photography - that are relevant to the Hauāuru mā raki Wind Farm assessment:

(Scottish Natural Heritage)

SHARING GOOD PRACTICE: Visual Analysis of Windfarms

Concluding summary Of Workshop:

Viewpoints

For viewpoints we have heard how some should be selected to be representative, and others to be specific viewpoints identified as of special importance. In the afternoon there was some discussion over whether viewpoints which are unaffected or little affected should be included in the visual information set, with views on both sides, and I think this may need a little further thought – if the set of viewpoints is intended to be representative than it seems right that unaffected views should be represented too, but clearly one does not want to waste undue space within an ES simply to demonstrate there is no effect.

Visualisations

For visualisations, again the guidance has adopted a simple principle that the aim of photomontages is to provide a best representation of what a windfarm will look like. That may seem simple, but it is a principle which has been the subject of debate before, because such images may not provide the clearest information on turbine location. Our speakers have argued that this is a role which is better performed by wireline diagrams which can make that detail very clear.

In practice there are technical limitations in replicating what a windfarm will look like, due to the limitations of resolution on-screen and in photographs, and most importantly in terms of the limitations in contrast – remember Ian Macaulays' guide, that if the contrast for a real observer in the field is 1000:1, then the contrast available in a digital image on a computer monitor is only 100:1 and in a printed image only 10:1. This brings me to what I was doing on Sunday morning – trying as a novice with a digital camera to print out a photograph taken on a dull day on an inkjet printer, and finding great difficulty in getting enough contrast. The photo was perfectly acceptable on screen, but became a drab, faded photo when printed. To match the monitor to the contrast available in the photo I had to turn down the brightness and contrast on the monitor – by a remarkably long way. So I can understand what Ian is saying about the relatively limited contrast available in the printed output.

But that leads to the question of whether any 'doctoring' of photos is permissible. Ian's answer is that as the mediums – particularly printed outputs - have deficiencies then it is appropriate to use some adjustment to overcome these deficiencies. A touch of sharpening, some enhancement of contrast, some leadening of the sky, some colour rebalancing may all be helpful. He didn't exactly mention a sprinkle of salt and pepper, but he emphasised that such adjustments should be minor and all with the aim of ending up with the most realistic representation on the printed page.

Ian and Caroline did an excellent job of debunking some myths – for example on viewing distance. If the aim is to reproduce reality, then the printed image has to be just as far away as required to make the angle of view the same as you would see in the field – so you either need a big image far away or a smaller image closer to the eye. Typically they indicate that 350-500mm are most appropriate for viewing printed material; people do not normally look at pictures as closely as 300mm.

They also debunked the myth that camera lenses of differing focal lengths change the perspective in the photo – and I for one came here thinking that they did. So choice of lens is a matter of the level of detail you want to record, and how many photos you need to cover the field.

However they did make clear that choice of the field of view to be portrayed in a visualisation is very much something to be decided according to the actual view. The set of illustrations with the chevrons in the foreground show very clearly that a view can either be framed and within a narrow field, or expansive and of wide field, and that these two views may be from locations quite close together; much depends on the precise viewpoint and its relationship with local landform or trees. [my emphasis].