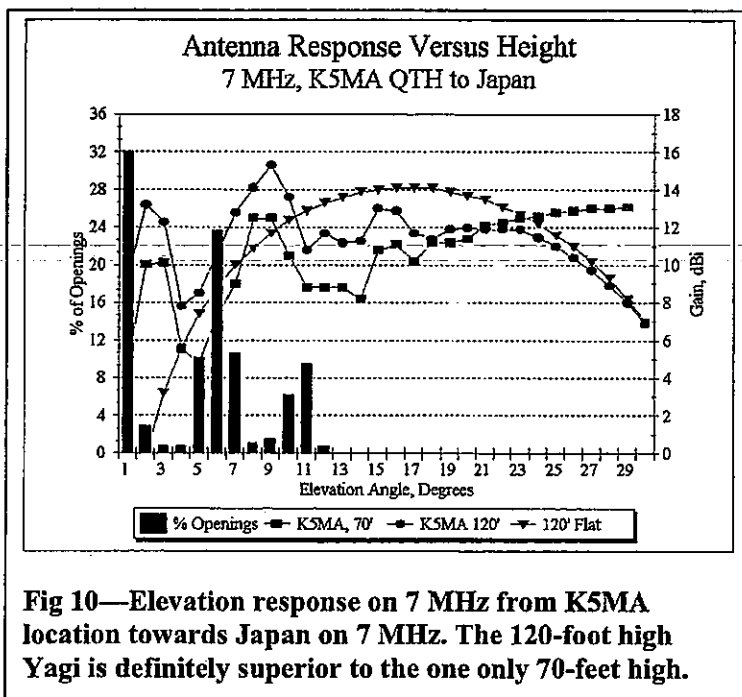


Fig 10 shows the situation for the same Cape Cod location, but now for 7 MHz. Again, it is clear that the 120-foot high Yagi is superior by at least 3 dB (equivalent to twice the power) to the 70-foot high antenna at the statistical elevation angle of 6°. However, the response of the real-world 120-foot high antenna is still up some 2 dB from the response for an identical antenna over flat ground at this angle. On this frequency, the local terrain has helped boost the gain at the medium angles more than a similar antenna 120 feet over flat ground. The gain is even greater at lower angles, say at 1° elevation, where most signals take off, statistically speaking. Putting the antenna up higher, say 150 feet, will help the situation at this location, as would adding an additional Yagi at the 70-foot level and feeding both antennas in phase as a vertical stack.

Although the preceding discussion has been in terms of the transmitting antenna, the same principles apply when the antenna is used for reception. A high antenna will receive low-angle signals more effectively than will a low antenna. Indeed, amateur operators know very well that “If you can’t hear them, you can’t talk to them.” Stations with tall towers can usually hear far better than their counterparts with low installations.

The situation becomes even more difficult for the next lowest amateur band at 3.5 MHz, where optimal antenna heights for effective long-range communication become truly heroic! Towers that exceed 120 feet are commonplace among amateurs wishing to do serious 3.5-MHz long-distance work.



The 3.5 and 7-MHz amateur bands are, however, not always used strictly for long-range work. Both bands are crucial for providing communications throughout a local area, such as might be necessary in times of a local emergency. For example, earthquakes, tornadoes and hurricanes have often disrupted local communications—because telephone and power lines are down and because local police and fire-department VHF/UHF repeaters are thus knocked out of action. Radio amateurs often will use the 3.5 and 7-MHz bands to provide communications out beyond the local area affected by the disaster, perhaps into the next county or the next metropolitan area. For example, an earthquake in San Francisco might see amateurs using emergency power providing communications through amateurs in Oakland across the San Francisco Bay, or even as far away as Los Angeles or Sacramento. These places are where commercial power and telephone lines are still intact, while most power and telephones might be down in San Francisco itself. Similarly, a hurricane that selectively destroys certain towns on Cape Cod might find amateurs in these towns using 3.5 or 7.0 MHz to contact their counterparts in Boston or New York.

However, in order to get the emergency messages through, amateurs must have effective antennas. Most such relatively local emergency situations require towers of moderate height, less than about 100 feet tall typically.

Antenna Height and Interference

Extensive Federal Regulations cover the subject of interference to home electronic devices. It is an unfortunate fact of life, however, that many home electronic devices (such as stereos, TVs, telephones and VCRs) do not meet the Federal standards. They are simply inadequately designed to be resistant to RF energy in their vicinity. Thus, a perfectly legal amateur-radio transmitter may cause interference to a neighbor's VCR or TV because cost-saving shortcuts were taken in

the design and manufacture of these home entertainment devices. Unfortunately, it is difficult to explain to an irate neighbor why his brand-new \$1000 stereo is receiving the perfectly legitimate transmissions by a nearby radio operator.

The potential for interference to any receiving device is a function of the transmitter power, transmitter frequency, receiver frequency, and most important of all, the proximity of the transmitter to the potential receiver. The transmitted field intensity decreases as the inverse square of the distance. This means that doubling the height of an antenna from 35 to 70 feet will reduce the potential for interference by 75%. Doubling the height again to 140 feet high would reduce the potential another 75%. Higher is better to prevent interference in the first place!

Recently enacted Federal Regulations address the potential for harm to humans because of exposure to electromagnetic fields. Amateur-radio stations rarely have problems in this area, because they use relatively low transmitting power levels and intermittent duty cycles compared to commercial operations, such as TV or FM broadcast stations. Nevertheless, the potential for RF exposure is again directly related to the distance separating the transmitting antenna and the human beings around it. Again, doubling the height will reduce potential exposure by 75%. The higher the antenna, the less there will any potential for significant RF exposure.

THE WORLD IS A VERY COMPLICATED PLACE

It should be pretty clear by now that designing scientifically valid communication systems is an enormously complex subject. The main complications come from the vagaries of the medium itself, the Earth's ionosphere. However, local terrain can considerably complicate the analysis also.

The main points of this paper may be summarized briefly:

The radiation elevation angle is the key factor determining effective communication distances beyond line-of-sight. Antenna height is the primary variable under control of the station builder, since antenna height affects the angle of radiation.

In general, placing an amateur antenna system higher in the air enhances communication capabilities and also reduces chances for electromagnetic interference with neighbors.

An Optimum Height for an Elevated HF Antenna

*What is the best height for your antenna?
The author considers factors that can help you decide.*

There are two ways to think about antenna and propagation problems in linear media: in transmit mode and in receive mode. By the reciprocity theorem both methods will predict the same performance. We will view the problem of finding an optimum height for HF antennas in receive mode rather than in transmit mode, because this reveals very interesting insights. For example, the field-strength at the receiving location is the result of an interference pattern between waves that arrive by a direct path added to the wave reflected from the earth's surface. The addition of these two waves results in a standing wave versus height for the field strength at the receiving location. Because this vertical standing wave has peaks and can have deep nulls, there is an optimum placement for an antenna. In the equivalent transmit mode point of view, far-field transmit patterns are calculated as an interference pattern between the direct wave and a ground reflected wave, but as *The ARRL Antenna Book* explains, that point of view obscures the physical meaning of "take-off" angle, so we can't directly appreciate what happens when an antenna is elevated.¹ By viewing the problem in receive mode, however, we see, among other things, that waves arriving from the lowest arrival angle do not always result in the best link margin to a DX station. We can also see that low antennas can work surprisingly well for DX, and that the best height for vertically polarized antennas is not the same as for horizontally polarized antennas.

With this analysis it is easy to show that the optimum antenna height depends on frequency, polarization, properties of the earth at the reflection point, and on the arrival angle from the wave source in the ionosphere. While surface roughness is considered, there is also a terrain dependence, which for simplicity will not be considered here; see Dean Straw's terrain analysis program HFTA in the 21st edition of *The ARRL Antenna Book*. Furthermore, since the apparent wave earth reflection point is usually distant from the antenna, it is not important what the earth looks like directly under an elevated antenna. What is important is the earth's properties at the reflection point — typically hundreds to thousands of meters distant from the tower. This is an idealized problem where we allow for surface roughness, but we assume an earth that is smooth enough so that we can apply spherical earth geometry.

We begin by laying a foundation based on a spherical earth geometry for the propagation of waves to the receiving location. The reflection properties of ground and sea water are shown to affect how the

reflected wave combines in constructive and destructive interference with the direct wave. Optimum heights are found for desired ranges of arrival angles and for multiple bands. Finally, path link margins are estimated for multi-hop propagation. We discover that a range of "take-off" angles must be accommodated for optimum performance.

Spherical Earth Geometry

Because we are dealing with distances that approach the earth's horizon, we calculate the direct and earth-reflected paths using spherical-earth reflection geometry. The solution to the spherical earth geometry given in Chapter 2 of M. I. Skolnik's *Radar Handbook* involves a cubic equation to find the arc distance G_b to the reflection point.²

$$2G_b^3 - 3GG_b^2 + [G^2 - 2a_e(h_{ant} + h_i)]G_b + 2a_e h_{ant}G = 0 \quad [\text{Eq 1}]$$

where:

h_{ant} is the height at the receiving antenna,

a_e is the earth's radius,

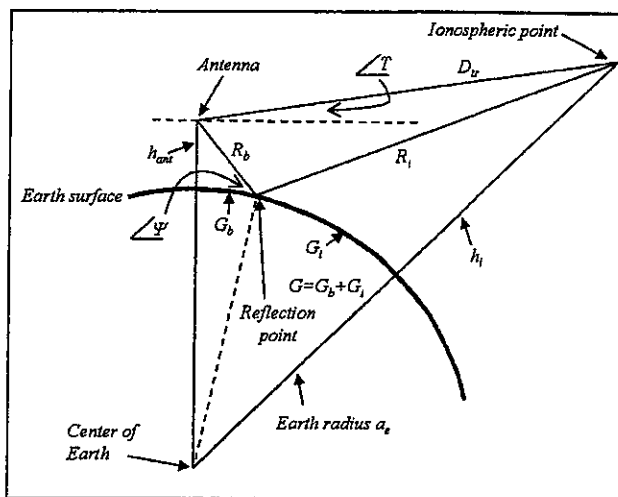


Figure 1 — Spherical earth geometry, shown with an exaggerated height dimension. Source: based on information from *Radar Handbook* (see Note 2).

¹Notes appear on page 38.

and the distances G and G_b are functions of the angle T between the local horizon and the direction to the wave source point at height h_i in the ionosphere. Figure 1 shows the spherical earth reflection geometry and identifies all of the parameters.

The angle T is also called the "take off angle" and the "local elevation angle." See the ARRL website files update to *The ARRL Antenna Book*.³ The direct wave arrives along path D_d , and the reflected path includes distance R_i from the ionosphere to the earth reflection point and R_b from the reflection point to the receiving location. The reflection occurs at the arc distance G_b from the base of the antenna tower, and as the direct wave arrival angle T decreases, then the arc distance to the reflection point increases. Our chief concern is with the difference in the path lengths,

$$\Delta R = (R_b + R_i - D_d) \quad [\text{Eq 2}]$$

and with the surface reflection coefficient at the reflection point because these determine the nature of the field variation versus height, h_{ant} .

Reflection Coefficients and Combined Waves

The plane wave reflection coefficients Γ_H for horizontal and Γ_V for vertical polarization are used to find the reflection from land or sea on a spherical earth. (See Chapter 6 of *Radiowave Propagation and Antennas for Personal Communications*.)⁴ The reflection coefficient is modified by the divergence factor D and surface roughness S_r factor. The wave divergence factor is:

$$D = \left[1 + \frac{2G_b G_i}{a_e G \sin \psi} \right]^{-1/2} \quad [\text{Eq 3}]$$

where ψ is the angle of incidence on the earth's surface. The surface roughness factor is:

$$S_r = \exp(-r) I_0(r); \quad r = 2(kh_{sd} \sin(\psi))^2 \quad [\text{Eq 4}]$$

where:

I_0 is the modified Bessel function

$k = 2\pi f / c$ is the wave number

f is the signal frequency in Hz

c is the speed of light in m/s.

The roughness factor for the reflected wave is based on a roughness factor originally derived for a ratio of rough-sea to smooth-sea reflection, and is applied here generally to an earth reflection. The surface roughness parameter h_{sd} is the standard deviation of the surface height distribution in the reflection region. The complete reflection coefficients are thus $\Gamma_H S_r D$ and $\Gamma_V S_r D$ for a rough spherical earth. The reflected term fields are also multiplied by $d = D_d / (R_b + R_i)$ to account for the difference in free space loss due to the differential distance between the direct and reflected waves.

For this study we will assume that horizontally polarized power is added to vertically polarized power in a ratio, P_{HV} . For substantially horizontally polarized waves, P_{HV} is chosen here to be between 10 and 20, and for substantially vertically polarized waves, P_{HV} is between 0.005 and 0.01. The polarization impurity primarily results in a slight reduction of the depths of nulls in the vertical standing wave patterns. The two polarization components are added as power because the polarization is decomposed by the ionosphere into elliptical polarization, (see *Ionospheric Radio Propagation*)⁵ and reflections from a rough surface are generally random and time-variable. The expression for the signal power, P normalized to the free space value, of the combined waves at the receiving height, h_{ant} is:

$$P = \frac{P_{HV} [1 + \exp(-jk\Delta R) \Gamma_H S_r D d]^2 + [1 + \exp(-jk\Delta R) \Gamma_V S_r D d]^2}{1 + P_{HV}} \quad [\text{Eq 5}]$$

The unity terms in each of the brackets represent the direct wave amplitude, and the remaining terms are the reflected wave, each in ratio to the free space value. The phase difference, $k\Delta R$, along with the phase of the reflection coefficients conspire to produce the vertical standing wave pattern of the field strength at the receiving location. *This is before any antenna is placed at the receiving location.* Since the earth's radius is large compared with the height of the ionosphere, angles T and ψ are nearly the same value, despite the exaggerated view in Figure 1. Since antenna free space elevation patterns for a level antenna are essentially symmetrical in elevation about the local horizontal plane, the direct wave entering the antenna from angle T above the horizontal plane is weighted by the same antenna pattern gain value as the reflected wave entering the antenna from angle ψ below the horizontal plane. Note also that the earth's horizon is *slightly below* the elevated antenna horizontal plane.

Expected Angles of Arrival

We will be optimizing our solution over a desired range of arrival angles. Expected arrival angles T for waves from the ionosphere for HF Propagation are available in *The ARRL Antenna Book* product notes files on the ARRL website for HF (see Note 3). For example, the combined 80 m to 10 m arrival angle statistics between Florida (FL) or Massachusetts (MA) and all regions of the World are shown in Figure 2.

Those statistics show that half the arrival angles are less than 6°, and that 90% of the arrival angles are smaller than 16°. So for HF cases, we will confine our interest to arrival angles between 2° to 16°. Viewed in transmit mode, this is the *range* of "take-off" angles that must be accommodated. Similar curves may be derived for 6 m band sporadic-E propagation. Notably, in the July and August 2009 "World Above 50 MHz" *QST* column, Gene Zimmerman, W3ZZ, comments on the work of Joe Kraft, CT1HZE, suggesting that arrival angle probabilities for 6 m band sporadic-E are bimodal, with one peak at ~5° and another at ~10° with very little below 3° or 4° or above ~13° or 14°. Thus, arrival angles of 3° to 14° emerge as a range of interest for 6 m sporadic-E operations. Also see my article, "Optimum Height for an Elevated Communications Antenna," in *DUBUS* magazine.⁶ While different from HF in the specifics, the angle ranges of interest are similar, and justify the range between 2° and 16°.

Location of the Reflection Point

The distance G_b to the reflection point on the earth's surface is solved by Equation 1 as a function of receiving point height. There is only a very

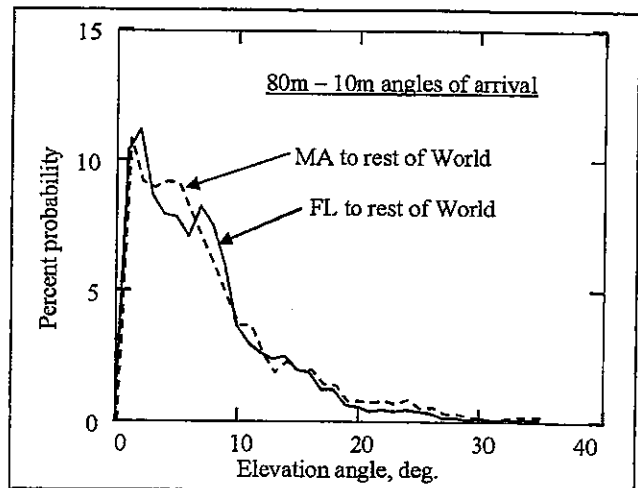


Figure 2 — Composite probability of arrival angles.

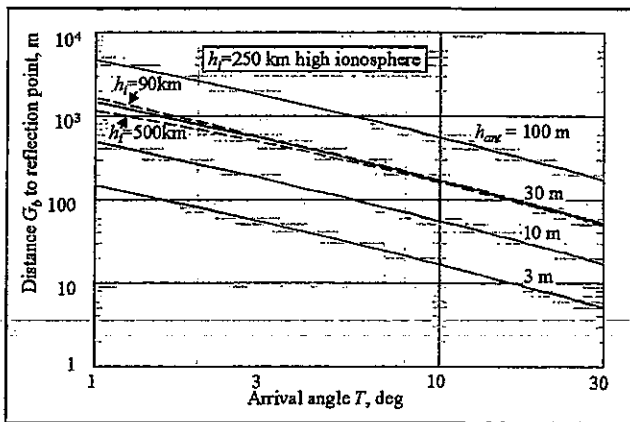


Figure 3 — Distance to the reflection point is tens to thousands of meters.

weak dependency on the height of the ionosphere; heights from 90 km to as much as 500 km, the range of heights for the E, E_s, and F layers of the ionosphere, give very nearly the same geometrical result. There is, however, a strong dependency on the receiving height location. Figure 3 shows the distance to the reflection point versus the arrival angle for several receiving heights between 3 and 100 m with a 250 km high ionosphere. The 30 m high antenna distances are also shown (dashed lines) for 90 km and 500 km high ionosphere. *Since the reflection point is typically from a few kilometers to tens of meters away the ground immediately below the antenna does not affect elevated antenna performance.* A very good approximation to the reflection point distance is:

$$G_b = \frac{55h_{ant}}{T} \quad [\text{Eq. 6}]$$

where:

h_{ant} is the antenna height in meters

T is the arrival angle in degrees.

The reflection point given by Equation 6 is the same as for the transmit case; please see "The Effect of Ground in the Far Field" in Chapter 3 of *The ARRL Antenna Book* (see Note 1). It should be noted that transmit patterns computed in the presence of the ground often quoting a "take off angle," implicitly assume that the ground is flat to beyond the distance given by Equation 6. Here, in contrast, recall that we have allowed for a ground roughness factor.

Earth Reflection Loss

The ground or sea reflection loss, L_{earth} , in dB for multiple hop paths can be found by setting the direct wave "1" terms to zero in Equation 5 and expressing the result in decibels. Figure 4 shows the loss in the 20 m band for horizontal, vertical and a 50% mix of the polarization, for reflection from the sea and from a medium earth ($\epsilon = 12$) versus the angle T . The reflection includes a surface roughness factor of 3 m. For $2 \leq T \leq 16^\circ$ this reflection loss can amount to more than 1 dB for horizontal polarization, but as much as 9 dB for vertical polarization reflected from earth ground.

Optimum Antenna Height

We can now solve Equation 5 at various frequencies, polarizations, ground constants and as a function of the height of an antenna. The specific antenna pattern — that is, the free space pattern — is not important as long as the elevation plane beamwidth is sufficient

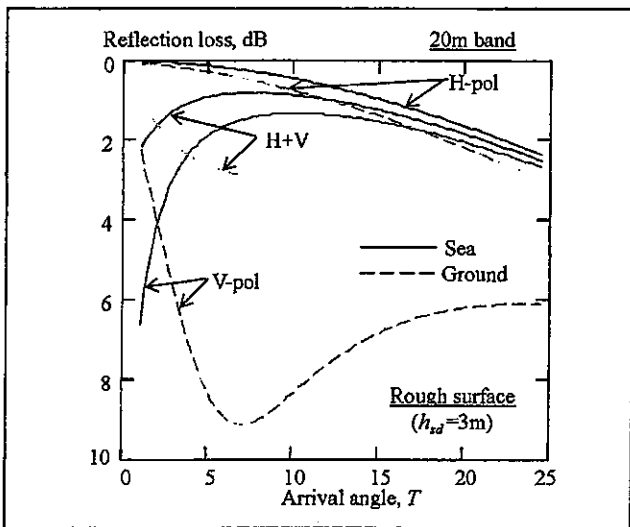


Figure 4 — Reflection coefficient with surface roughness, 20 m band.

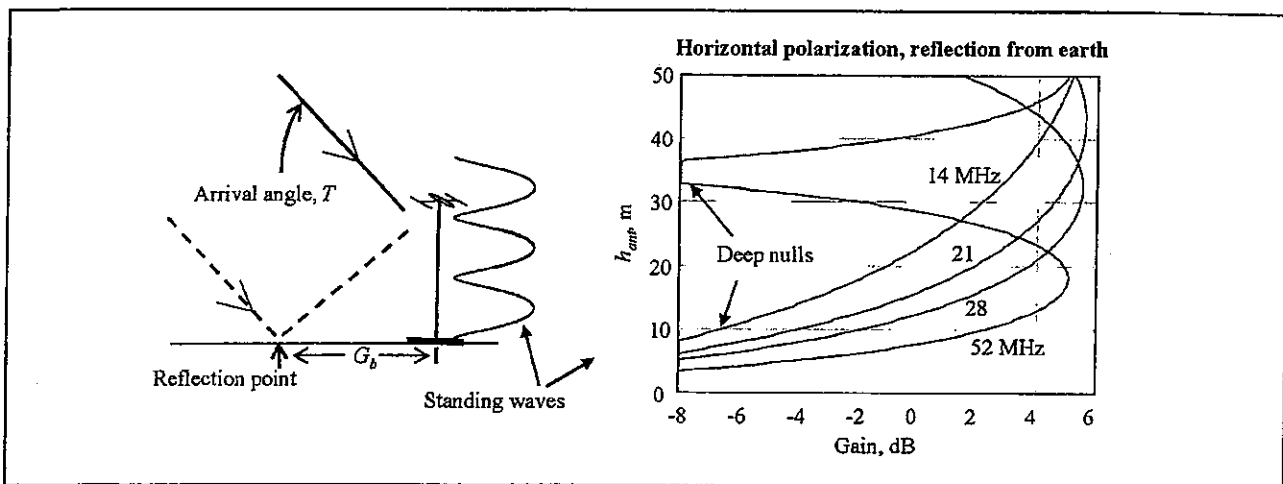


Figure 5 — Horizontal polarization ($P_{HV} = 20$), earth ground, $T = 5^\circ$, roughness is 3 m.

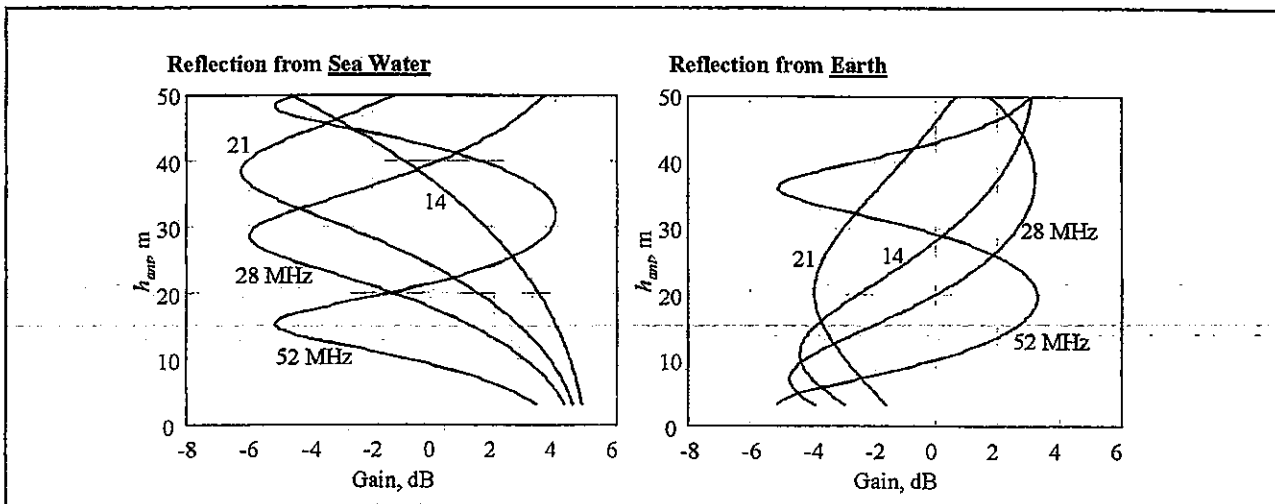


Figure 6 — Vertical polarization ($P_{HV} = 0.05$), $T = 5^\circ$, roughness is 3 m, reflections from (left) sea water and from (right) earth ground.

to include the important angles of arrival, both above and below the local horizontal plane. We do note, however, that as the angle T increases, the waves arrive in pairs above and below the main beam peak, so that the full antenna gain for directive antennas cannot be always be realized — especially for very high gain (narrow elevation plane beamwidth) antennas.

Figure 5 shows the geometry and the calculated vertical standing wave patterns produced by the interaction of the direct and earth reflected waves for earth ground parameters $\epsilon = 5$ and $\sigma = 0.005$ S/m. The standing wave peaks and nulls depend on frequency and on arrival angle, here 5° . This suggests placing the antenna at the signal peak, which is one definition of the optimum antenna height.

Results for horizontally polarized waves reflected from the sea differ primarily in the depth of nulls compared with earth ground reflected results of Figure 5. There are transmitter mode equivalents to the receive mode standing wave patterns shown in Figure 5. The transmit mode patterns are computed in the presence of a ground, and usually a peak “take-off angle” is identified; see for example Figure 3 in the companion article in the June 2011 issue of *QST*.⁹ Clearly the transmit mode patterns do not make it easy to identify the best height for the antenna.

Figure 6 shows the vertical polarization performance for reflection from sea water $\epsilon = 70.6$ and $\sigma = 4.54$ S/m, on the left and from ground with $\epsilon = 5$ and $\sigma = 0.005$ S/m on the right. The saline water model is from *Radiowave Propagation and Antennas for Personal Communications* (see Note 4). The sea-reflected, vertically polarized case has an optimum at sea level. This is why vertically polarized antennas on the beach are so effective on some DXpeditions such as during the VP6DX operation. Note that the optimum heights per frequency for vertically polarized antennas with the reflection from earth ground are not the same as for horizontal polarization. Ground mounted vertical antennas with a reflection from earth ground will have negative height gains of -1 to -5 dB. The gains shown in Figures 5, 6 and 7 are in addition to any free space directive gain provided by the antenna system. Results in Figures 5 and 6 are exactly analogous to the results that have been predicted and measured to within a decibel at open air test sites in the 30 to 932 MHz range. See Section 6.3 in *Radiowave Propagation and Antennas for Personal Communications* (see Note 4).

Concentrating now on the 20 m band, Figure 7 shows field-strength signal levels relative to the free space value for reflections from the ground. *These are not antenna patterns but rather signal*

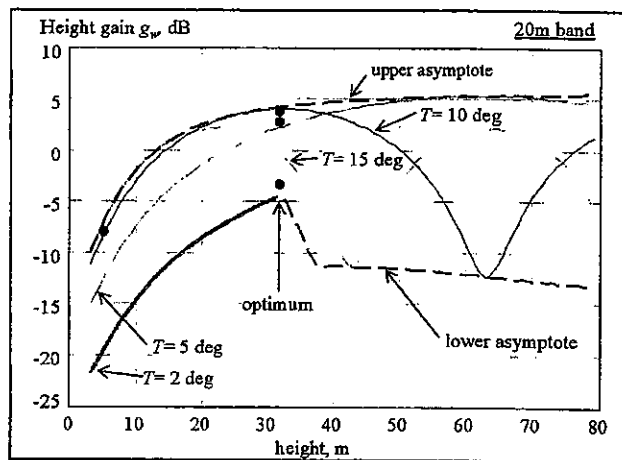


Figure 7 — Height gain for horizontal polarization in the 20 m band.

field strength levels that are then sampled by an antenna. The axes have been flipped compared with the previous figures. The upper dashed asymptote is the *maximum constructive interference* for the continuum of all arrival angles between 2 and 16° . Specific results for 2° , 5° , 10° and 15° are shown by the embedded curves. The lower dashed asymptote is defined by the *destructive interference* for the continuum of arrival angles. The lower asymptote intersects the 2° arrival angle curve at a cusp, which defines an optimum antenna height for that frequency. At that elevation, the height gain, g_w , has the smallest variation versus the range of arrival angles, and its minimum gain value is the highest. When an antenna is placed there, the actual free space antenna gain, at the pattern elevation angle, T , adds to this field strength height gain. Antennas that are higher than the optimum height will encounter degraded performance at the higher angles of arrival because the nulls defining the lower asymptote to the right of the cusp are likely to be a factor. This is why in some cases a lower antenna can significantly outperform a higher antenna. If we had chosen a higher minimum required arrival angle, the optimum height would decrease. Similar curves can be drawn for other HF bands or combinations of bands, and optimum heights can be found.

Multiband Considerations

Since the geometry of the reflection point, including divergence and surface roughness, are fixed in physical dimensions, the vertical interference patterns don't quite scale with wavelength. Thus, the optimum height does not scale exactly with frequency. Some multiband Yagi beams can cover the 40 m to 6 m bands in a single structure. Raising and lowering such an antenna is not usually desirable, so knowing an overall optimum height could be very useful. A family of curves like the 20 m band curves in Figure 7 can be calculated for any frequency band or any combination of frequency bands.

One effective strategy for finding an overall optimum over multiple bands is to choose the best height for the highest frequency band of interest. That somewhat sacrifices the performance for the lowest arrival angles at the lower frequency bands, but more gently than the destructive interference loss of height gain for higher arrival angles if a higher antenna were chosen.

The optimum heights for various frequency bands between 7 and 54 MHz are shown in Figure 8. The three curves are for three different minimum angles, the upper curve shows optima for a 1° to 16° arrival angle range, the middle curve for 2° to 16°, and the lower curve for 3° to 16°. The middle curve slopes from about 1.5 to 1.6 wavelengths between 7 and 29 MHz.

If operation anywhere in the 10 m to 40 m bands is of equal interest, the "best" height works out to about 19.9 m. That height is suitable for arrival angles as low as 1° in the 10 m band, and is also suitable for angles above about 4° in the 20 m band. In the 40 m and 30 m bands the results are "best effort," but as will be shown in the next section, paths at higher arrival angles may exist, but with an increased number of earth-ionosphere hops. If the 20 m band is to be optimized, then the best height is about 32 m. If 6 m band operation is important then the optimum height is about 15.3 m. The heights

between about 15 m and 32 m (50 to 105 ft) emerge as a good range of compromise choices for multiband HF and 6 m band operations.

This analysis also provides some insight into the physical basis for the operation of phased Yagi antennas mounted at different heights on a tower. By combining the signals from the two or more Yagis using phase shifters, it is possible to enhance gain in the direct-wave path while minimizing the destructive interference from the earth reflection. Possibly significant performance improvement might be realized.

Path Link Considerations

Many details are important in calculating a path link at HF, but for illustration here we examine a simplified path where both ends of the link are located on relatively flat (but not smooth) terrain, and the ionosphere and earth are suitable for the needed reflections along the path. Path link margin depends on the height of the ionosphere, h_i as well as on the arrival angle, T . Figure 9 shows the hop distances for several ionospheric heights as a function of the arrival angle over a spherical earth. For our example we will assume that the ionospheric refraction and reflection occurs at an effective height of 250 km. So a 10,000 km path might be traversed with 3, 4 or 5 hops, each 3,333 km or 2,500 km or 2,000 km respectively. Other paths are possible as well, as Davies described in *Ionospheric Radio Propagation* (see Note 5). The three different hops are marked by the shaded circle in Figure 9, with corresponding marks in Figure 7. Different hop distances mean different arrival angles, which affects the total path loss.

The wave interference gain, or height gain, g_w in dB shown in Figure 7 applies to each end of the link. Ionospheric reflection/refraction loss is L_{ion} in dB and can be as little as 2 to 5 dB.¹⁰ In this simplified example, we will use 3 dB to account for polarization decomposition, as described by Davies (see Note 5). The free space loss is $27.6 + 20 \log(2 D_r \times f)$ dB for one hop, where the frequency,

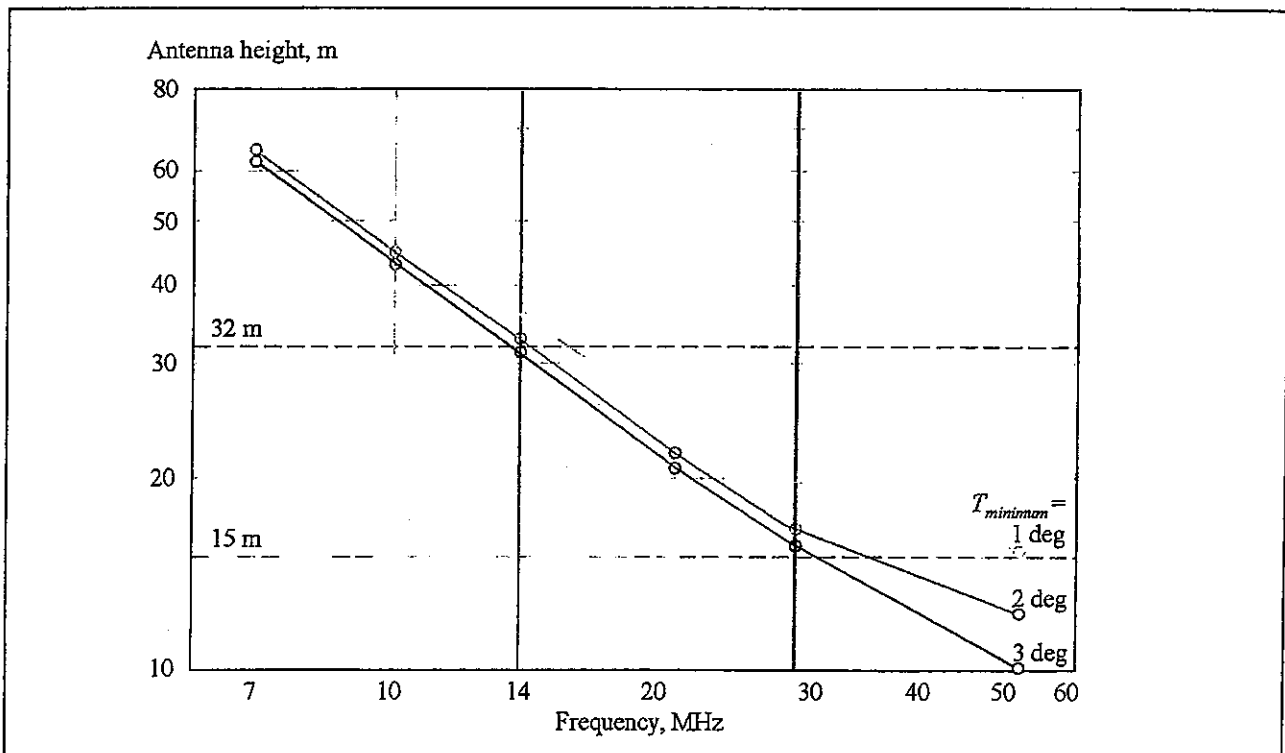


Figure 8 — Optimum antenna heights over even terrain for various frequencies.

Table 1
Path Losses in a 10,000 km Path for Different Numbers of Hops.

Hops	T (deg)	First hop loss (dB)	Height gain (dB)	Rest of hops loss (dB)	PL (dB)	S-units
3	2.8	[126.1 + 3]	-[-4 - 4]	{ 9.6 + 7.1}	153.8	3.6
4	6.9	[123.7 + 3]	-[+3 + 3]	{10.6 + 8.1 + 7.1}	146.4	4.8
5	10.4	[121.8 + 3]	-[+4 + 4]	{11.7 + 9.2 + 8.2 + 7.6}	157.8	2.9

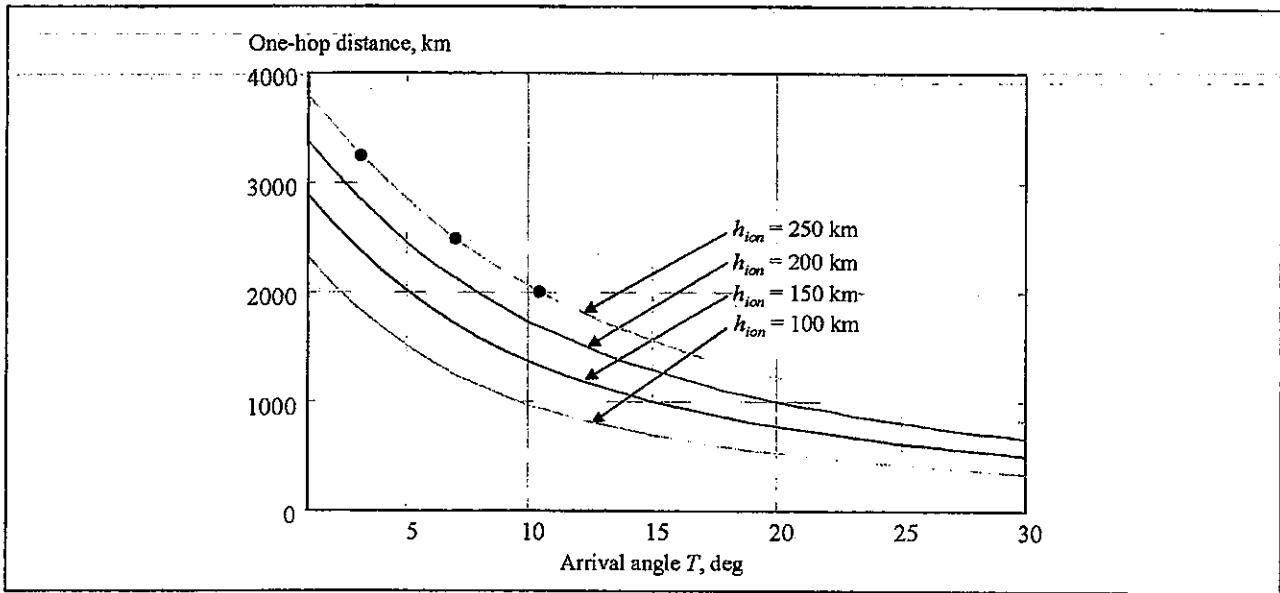


Figure 9 — Hop distances, with the 3, 4, and 5 hop points marked for a 10,000 km path.

f , is in MHz and the distance, D_v is in meters. Each additional j^{th} hop adds an incremental free space loss, an earth reflection loss, $L_{earth,j}$ (from Figure 4), and another ionospheric reflection loss, $L_{ion,j}$. The path loss for n hops is written in Equation 7 so that the bracketed terms are for a single hop or first hop, including wave interference at the link ends A and B. The braces contain additional losses for hops 2 through n if present.

$$L_{path} = [27.6 + 20 \log(2D_{tr} f_{MHz}) + L_{ion} - g_{w,A} - g_{w,B}] + \dots + \left\{ \sum_{j=2}^n \left(20 \log \left(\frac{j}{j-1} \right) + L_{ion,j} + L_{earth,j} \right) \right\} \quad [\text{Eq 7}]$$

Our example path in the 20 m band with a 250 km effective ionospheric height might require 3 to 5 or more hops to traverse a 10,000 km path. The various gains and losses for this idealized example are listed in Table 1. In general, several of these as well as other possible paths will exist, causing fading and signal variations as the ionosphere changes. Table 1 shows the path losses and estimated received S-units for 50 W transmitted power (approximately 100 W PEP for CW or processed SSB) and with 32 m high dipoles at each end. Gain antennas will improve signals in proportion to the antenna gains. The bracketed and braced terms in Table 1 correspond to the same terms in Equation 7.

Notice that the four-hop path has a stronger signal by over an

S-unit more than the example three-hop path because the increased height gains g_w of a combined 8 dB at the higher arrival angle (the difference between the top and bottom solid circles at the optimum height in Figure 7) at both ends of the link more than compensate for the additional reflection losses of an additional hop. The height gain is the intersection of the arrival angle, T , with the antenna height in Figure 7. The four-hop 6.9° arrival angle results in less destructive interference by 7 dB at each end of the link than the three-hop 2.8° arrival angle. *The lowest arrival angle path is not always the best!* Agonizing over a lower "take-off angle" is futile. This effect justifies a compromise lower limit for the angle of arrival at lower frequencies when choosing a compromise height for a multiband antenna. The five-hop path suffers additional earth and ionospheric reflection losses, but still results in a respectable $S = 2.9$ signal.

Suppose that the antenna at one end of the link is lowered to 5m. The height gain, g_w becomes -17 dB for the 2.8° three-hop path, so that path is not viable. The gain is -8 dB for the four-hop path, however, which is 12 dB lower than at the optimum height, resulting in an $S = 1$ reading. That is still a -115 dBm signal, which is suitable for CW as well as SSB. This result helps to explain the occasional spectacular DX results possible from low and indoor attic antennas.¹¹ If the arrival angle is, say $>5^\circ$, the low antenna captures signals that are not dramatically worse than from a high antenna. Indeed, KE4PT has earned WAS-TPA and DXCC, now with 200 confirmed entities as well as a 6 meter VUCC from southern Florida, using just an indoor antenna.

Uncertainties in the ionospheric reflection/refraction loss

increase as the number of hops increases, and Equation 7 represents a best case value. Link reliability can be estimated by attaching variances to the several propagation loss components and by using the method of Hagn described in Section 8.4 of *Radiowave Propagation and Antennas for Personal Communications* (see Note 4).

Summary and Conclusions

Constructive and destructive wave interference from a direct path and an earth reflected path causes a vertical standing wave at the antenna location. The standing wave pattern details depend on the wave angle of arrival, polarization, on whether the reflection point was ground or sea water, and on the terrain profile (not considered here). Optimum antenna heights are largely governed by the lowest arrival angle deemed important at the highest desired frequency. Antennas that are placed too high can suffer from significant wave destructive interference at desired higher arrival angles. The earth reflection point is typically several kilometers away for low arrival angles, but can be tens of meters for very high arrival angles, so the condition of the ground immediately below an elevated antenna is of little importance. Because height gain can be significantly greater for higher arrival angles, the lowest arrival angle path (fewest hops) does not always result in the best link margin for paths that can be closed with different numbers of earth-ionosphere hops. Optimum

height is 1.5 to 1.6 wavelengths for any one band, or a compromise height can be found for a multiband antenna operating over several bands by using the optimum for the highest frequency. Keeping in mind that this analysis was limited to rough, but not locally mountainous earth, nor a dense urban region, antenna heights in the range of 15 m to 32 m (50 to 105 ft) are found to be reasonable compromise choices for multiband antennas operating from a fixed height.

Kazimierz (Kai) Siwiak, KE4PT, earned a PhD from Florida Atlantic University, Boca Raton, FL, and his BSEE and MSEE from the Polytechnic Institute of Brooklyn, Brooklyn, NY, specializing in antennas and propagation. He founded TimeDerivative Inc., a wireless technology consultancy in 2003. He is a registered Professional Engineer and Senior Member of IEEE. Dr. Siwiak holds 38 US patents, has authored many peer-reviewed papers, four textbooks, and has contributed chapters to other books. His work appears in ARRL publications and in QST. He holds an Extra Class Amateur Radio operator license and is a life member of AMSAT and a member of ARRL, where he serves on the RF Safety Committee. He is also an ARRL Technical Advisor. He is an avid DXer, and was involved with SAREX (Space Amateur Radio Experiment) as a team member, including many SAREX operations and school contacts. His interests include flying (instrument and multiengine commercial pilot), hiking and camping.

Notes

- ¹R. Dean Straw, N6BV, Ed., *The ARRL Antenna Book*, 21st Edition, 2007.
- ²M. I. Skolnik, *Radar Handbook*, Second Edition, McGraw-Hill Professional, 1990.
- ³See the *Antenna Book* tab at www.arrl.org/product-notes, updated statistical elevation-angle files, accessed 29 December 2010.
- ⁴K. Siwiak, Y. Bahreini, *Radiowave Propagation and Antennas for Personal Communications*, Third Edition, Artech House, Norwood MA, 2007.
- ⁵K. Davies, *Ionospheric Radio Propagation*, National Bureau of Standards Monograph 80, Washington DC, 1965.
- ⁶Eugene Zimmerman, W3ZZ, "Long Distance E_s Propagation on 50 MHz at Solar Cycle Minimum — Part 1," *The World Above 50 MHz*, QST, July 2009, p 88.
- ⁷Eugene Zimmerman, W3ZZ, "Long Distance E_s Propagation on 50 MHz at Solar Cycle Minimum — Part 2," *The World Above 50 MHz*, QST, August 2009, p 86.
- ⁸K. Siwiak, "Optimum Height for an Elevated Communications Antenna," *DUBUS Magazine*, Vol. 39, 3rd Quarter 2010, pp 86-99.
- ⁹K. Siwiak, "What's the Optimum Height for an HF Antenna?" *QST* June 2011.
- ¹⁰Recommendation ITU-R P.534-4.
- ¹¹K. Siwiak, KE4PT, "You Can Enjoy DXing with a Modest Station," *CQ Amateur Radio*, November 2010, pp 46-48.

QEX

BEFORE THE ENVIRONMENT COURT

Decision No. [2012] NZEnvC107

IN THE MATTER of an appeal pursuant to Clause 14 of the
First Schedule of the Resource
Management Act 1991 (**the Act**)

BETWEEN TAURANGA EMERGENCY
COMMUNICATIONS GROUP
INCORPORATED

NEW ZEALAND ASSOCIATION OF
RADIO TRANSMITTERS
INCORPORATED

(ENV-2011-AKL-000074)

Appellants

AND TAURANGA CITY COUNCIL
Respondent

Hearing: At Tauranga, 14 – 15 May 2012

Court: Environment Judge J A Smith presiding
Environment Commissioner K A Edmonds
Environment Commissioner A J Sutherland

Appearances: Ms M L Maddox & Mr T R Fischer for Tauranga City Council (**the Council**)

Mr M D Newman for New Zealand Association of Radio Transmitters
Incorporated (**NZART**)

Mr B Heywood for Tauranga Emergency Communications Group
Incorporated (**TECG**)

Mr G Cooper for Mr King (Section 274 Party)

Date: 15 May 2012

ORAL INTERIM DECISION



- A. The amendments set out in Annexure A attached are to be incorporated into the City Plan.
- B. The Council is to provide its proposed amendment to the provisions in Annexure B within 20 working days from the date of this Oral Decision.
- C. The parties are to file a Joint Memorandum within 20 working days thereafter, setting out either the agreed terms, or the areas where there is still disagreement.
- D. The Court will then issue a Final Decision.
- E. Costs are not encouraged. Parties are to indicate in the Joint Memorandum if costs are sought.

REASONS FOR INTERIM DECISION¹

Introduction

[1] The Council, in considering the provisions for utilities in Tauranga, imposed controls over private radio communications. This effectively required them to comply with the building envelope (building height in each zone) together with a maximum intrusion for aerials and the like of a further 2m. These provisions were submitted on by the appellants and the Council considered these as part of its hearing process on the Proposed Tauranga City Plan.

[2] The Council conclusion can be summarised as follows:

2.21.10 The panel note that the structures for which exemptions are sought by the amateur radio operators are well outside of the building envelope standards that set the anticipated scale and character of residential buildings and amenity of the zone.

2.21.11 The panel consider that expectation of other residents within these zones would be that if such structures were proposed for an adjoining or an adjacent site then they could reasonably expect to be involved in consideration of whether the permitted activity standard should be exceeded. If the neighbours are happy with the



¹ Subject to alterations and additions to improve clarity.

location of the pole in relation to the boundary and the over-shadowing effects then this can be signed off on the building consent. In terms of height it is noted that structures exceeding the height limit would be a discretionary activity consent and Council could assess such proposal on its merits while still providing for neighbours to be able to be involved in the consideration of such an application.

[3] The submissions were refused. This appeal resulted.

Section 290A of the Act

[4] Under Section 290A of the Act we have had consideration to the Council decision, including the discussion above. We note however that the Council in subsequent mediation and discussions with the appellant has acknowledged that the amateur radio transmitters do hold a special position and should be provided for in terms of the Proposed Plan.

[5] Accordingly, they have co-operated and generated a set of agreed amendments to the Tauranga City Plan which are annexed hereto and marked A. Importantly, this includes a definition in relation to:

3 Definitions

amateur radio configuration

The antennas, aerials (including rods, wires and tubes) and associated supporting structures which are owned and used by licensed amateur radio operators.

[6] Both parties support the insertion of these provisions into the Plan, and we have had regard to them. We agree with the parties that these changes properly recognise many of the activities of the amateur radio community in relation to activities that do not involve particularly high elements.

[7] Accordingly, those amendments in Annexure A are to be incorporated within the Plan and we proceed with this appeal on the basis that those amendments are made to the Plan.

Current Position of Parties

[8] Creation of a category for amateur radio configuration essentially leaves an issue between the parties in relation to the height to which any part of the configuration can go. Essentially, the appellants seek that one element of the



configuration (which must include any supporting structure) can exceed the building envelope. The supporting structure itself could be to a height of 20m while the maximum height of any aerials could be to 26m.

[9] It transpired in answer to questions of Mr Newman that it was only envisaged that a whip single or dipole aerial would be provided above 20m. Nevertheless, the wording sought by the appellants would allow the maximum height of attached antennas and aerials to be to 26m.

[10] Additional amendments sought by the appellants are annexed hereto and marked **B**.

[11] Essentially, the concern with these changes was advanced by Mr Lander, a landscape witness for the Council. His evidence reflects the considerations advanced by the Council in their reasons for declining the original submission. We summarise those effects from Mr Lander's evidence to be of three types:

- [a] Visual dominance;
- [b] Contrast with surroundings; and
- [c] Glint.

Council Evidence

[12] In respect of supporting structures, Mr Lander believed those three factors would be exacerbated by the lower permeability of the supporting structure compared with the aerials.

[13] In respect of aerials, he acknowledged after questions that visual dominance was minor and that glint was a minor effect.

[14] His evidence in respect of contrast with surroundings is a more complex analysis but does not appear to argue that there is a significant adverse effect. He does say:²



² Lander, EIC, at [85]

85. I consider that aerials of the scale proposed by the appellants could contrast significantly with their surroundings and as a result adversely affect the landscape character and amenity of the Residential and Rural-Residential zones ...

[15] He then says:³

... The extent of these effects as previously mentioned may vary depending on the environmental conditions described above.

[16] The Council proposed, and the appellants agreed, that any application for limited discretionary consent in accordance with Annexure A, attached hereto, be assessed by reference to full criteria:

4H.2.5.2 Restricted Discretionary Activity – Matters of Discretion and Conditions – Amateur Radio Configurations in the Residential and Rural Residential Zones

In considering whether to grant consent and what conditions, if any, to impose Council shall have regard to:

- a) The bulk, form and scale, location and number of aerials, antennas or associated supporting structures, and the extent to which the proposal would lead to visual dominance and loss of visual amenity as viewed by adjoining and adjacent properties and the surrounding neighbourhood;
- b) The extent to which the proposal would reduce adverse visual and amenity impacts through design measures, including location on site, materials used, finish of materials including colour;
- c) The extent to which the proposal would reduce the ability to maintain access for maintenance, including for buildings on adjoining sites; and
- d) In the case of a pedestal antenna not complying with the overshadowing standards the extent to which the proposal would result in the loss of sunlight and daylight to surrounding sites ...

[17] Of the criteria that are listed, only a) and b) were supported by any evidence and we can see no particular reason c) is included. Nevertheless, the parties have agreed on it and we take the matter no further.

[18] Mr Lander did suggest that there were two viewing audiences in terms of visual amenity, being adjoining neighbours and the surrounding neighbourhood. His particular concern with height above the building envelope seemed to relate more to



³ibid, at [85]

the concerns about the surrounding neighbourhood than adjoining properties. The reason the Court says this is that it appears that an aerial of 13m in length and with elements up to 14.9m across could be constructed up to 11m. That would have impact upon adjoining neighbours. If it was raised to 20m that would reduce the apparent size of the element and accordingly, its impact on immediate neighbours. Mr Lander accepted this, but noted that it would then be visible to the surrounding neighbourhood.

[19] We agree with the appellants that the provisions relating to amateur radio equipment were not discreetly considered as part of the original Proposed Plan. For reasons that remain unclear to us, the Council at the submission stage considered that the amateur radio transmission equipment should be treated on the same basis as any other building, notwithstanding that they had already provided for exemptions in respect of household aerials.

[20] For our part, we see little distinction between household aerials and amateur radio aerials, except size. We have seen household configurations that, although not as large as those suggested in this case, are nevertheless substantial with both vertical and horizontal elements that cover a number of metres. In Tauranga, as elsewhere in New Zealand, there seems to have been a habit of adding further domestic aerials onto a single boom or pipe, which now include old analogue transmission, the new terrestrial Freeview, Sky, and also radio aerials. We were surprised when we drove around Tauranga suburbs at how many of these there are, and how a number of these seem to be in excess of 11m.

Court Approach

[21] In considering the appropriate provisions for the Plan, we adopt the general tests accepted in cases such as *Nugent*,⁴ and more recently, *Eldamos*.⁵ We deal with each test.



⁴ *Nugent Consultants Limited v Auckland City Council*, [1996] NZRM481, at [484]

⁵ *Gisborne District Council v Eldamos Investments Ltd*, W047/2005, at page 27, Sheppard J

Do the proposed restrictions on aerials and associated support structures assist the Council to carry out its functions under the Act?

[22] The question, of course, in this case is what are the effects the Council is seeking to address?

[23] Aerials themselves are commonplace. It seems that there are two concerns – one, is the excessive size of the aerials; and the second, is the intrusion of those aerials into airspace above the envelope. The question is one of degree. As we have already noted, there are a whole series of intrusions, not the least of which is the significant number of trees in the Tauranga area. We were told that there is a tendency towards one and two storey buildings. This is true, nevertheless the land is heavily dissected and there are many areas where there is an apparent layering of buildings, one on top of another, going up many 10s of metres – Otumoetai, estuary edges, areas such as Matua and Welcome Bay being clear examples of that topography.

[24] So although the houses themselves may only be 9m, the effect of a 9m envelope varies significantly depending on whether the buildings are at sea level or on higher land. This means that the effect of house aerials can be seen, in some cases, skylined e.g. Otumoetai and Welcome Bay, and on most of the hilltops. They may only be 9m above the ground at that point, but they are nevertheless up to 100m or so above sea level.

[25] So when we look at the effect that is being addressed, there appear to be two elements to the Council's duty here:

- [a] The first is to recognise and provide for the needs of amateur radio within New Zealand. This duty is acknowledged both in international treaties and in national documents. Licensing of amateur radio transmitters is controlled and each must have a licence to transmit. In our view, the importance of the amateur radio community to the infrastructure of New Zealand is often underestimated. The Court recognises that they have a particular role both in times of emergency and in maintaining, in a general sense, international communications. Accordingly, that duty needs to be recognised by the Council and balanced with the needs of its community for amenity.



- [b] We also note that the Council acknowledges a similar duty in relation to network utilities, by providing for structures up to 26m in certain areas, and in other areas, such as residential areas, requiring consents.

[26] We agree with Ms Maddox for the Council that the Plan, utility services are encouraged within open space, roadway, or commercial areas. Nevertheless, there are many examples that we have seen where such utilities are provided in proximity to residential areas and represent an intrusion into them. Curiously, we did not find any of them, even placed on the boundaries of a property, to be visually dominant or intrusive. They appear to be relatively well tolerated. That may be because of the monopole design which is usually utilised for microwave structures, but we are unable to comment further in the absence of evidence.

[27] What we can say is that there are many structures which occur adjacent to residential areas and which intrude above 9m. Although we were told light standards were typically under 9m, we saw a number of them well over that, in the vicinity of 12m. We also have seen light standards on open recreational areas which would be easily visible from residential areas nearby, as well as microwave towers and the like, which we have already mentioned.

What is a reasonable level of intrusion into amenity that could occur?

[28] When we look at the effects, we take into account the following particular features:

- [a] That the aerials themselves are a familiar and endemic part of the residential areas of Tauranga. Although amateur aerials are different in scale, they consist of largely similar looking elements (namely a boom with cross elements). As such they are of a form and type which is generally familiar;
- [b] Scale is essentially a factor of distance. Although many of these amateur aerials may be very large when seen close up, when viewed from a distance it is difficult to ascertain whether they are simply an aerial attached to a house, or a stand-alone aerial some distance further away;



- [c] We agree that the support structures can begin to give a utilitarian look, more similar to those of network utilities. Nevertheless, generally speaking they are of a lighter build and not as intrusive; and
- [d] Accordingly, we consider that the key effect is not the view from a distance, which effect we consider to be minimal, but rather the potential effect on adjoining neighbours. Neighbours are the people who will obtain a sense of scale in respect of any aerial and supporting structure.

[29] Given the agreed provisions which will allow aerials to be constructed at 9m, or possibly 11m as we understand it, we consider raising the height of that aerial from say 10m – 20m would diminish its apparent size, and thus reduce its potential dominance on a neighbouring property. We also have considered whether or not an appropriate setback would avoid the effect of overbearing or dominance.

[30] To utilise a Yagi Steppir DB42, with a boom height of 13m has a turning radius requirement of 8.8m. Given that the parties agree that any element of the aerial or structure cannot go over the boundary, this means that the supporting structure would have to be at least 8.8m from any boundary. Furthermore, as we read Annexure B, the appellants have proposed that such an aerial should not intrude into the streetscape setback, so that would mean it would have to be at least a further 3m within the Residential area, or 10m in the Rural area, from the property frontage. In those circumstances, we consider that the effects on passersby (those who are walking on the street frontage) are further addressed by this extra requirement, and those of adjoining neighbours are addressed by the effect of the turning radius requirement.

[31] In our view, this is self-policing. Mr Heywood referred to a smaller array he was considering, but it would still require a setback of some 7.7m. The smaller the array, its physical size reduces, and accordingly, its setback for turning circle from the boundary would reduce. We would still have a minimum limit of 1.5m from the side boundary and 3m from the front boundary, but as can be seen by our calculations, this would never arise because all the aerials that would be necessary to exceed 9m height have to be turned in order to pick up signal.

[32] So, in answer to the question we have asked, we consider that the effects of the activity are ones that can be addressed by the provisions that are suggested in Annexure B, generally (subject to some changes we will suggest later). This would



also assist the Council in carrying out its functions under the Act and would have the advantage that it does not require on-going policing.

[33] In that regard, we consider that the suggestion of an extra 6m to 26m goes too far. Although we accept that there is a possibility of a whip aerial that would be invisible, the wording of Annexure **B** could leave it open for a person to construct an array with a 6m upright and then a boom. That is not intended, nor acceptable.

[34] We conclude, 20m overall as an upper limit, although generous to amateur radio, is sufficient to enable them to engage in HF use and meets the majority of international publications' recommendations as to aerial height. In our view, 20m represents a reasonable provision for the radio community while balancing that against the potential impact. We agree with Ms Maddox that at heights greater than 20m there would be an unacceptable level of impact. In that regard we have viewed some of the network utility structures and light standards at 26m, and consider those a step too far.

[35] However, subject to that, we consider that permitted activity status has the advantage of the Council not becoming involved in extensive and expensive applications for consent for an almost minute sample of the population of Tauranga. The reality is, with around 40 members, we are struggling to envisage more than one application per year. Most people who are buying a house, who are already amateur radio enthusiasts, would be taking into account the property as part of their purchase requirements. We cannot see there being a real planning concern.

[36] We were told that there were some 90 members who held licences, but of those, nearly half are either retired, overseas, or are not otherwise engaged in operating as an amateur radio transmitter. When we consider the number of those people who are likely to be moving and wanting to construct a new array, we consider that as being very small.

[37] We also take into account that not all amateur radio transmitters will want to become involved in HF transmission, and it is unlikely that many members will take advantage of the proposed provisions.



Are the proposed restrictions in accordance with Part 2 of the Act?

[38] In that regard, we have a somewhat different view of this matter to Ms Maddox. We accept that there are potentially some amenity impacts. In our view, those are on adjoining neighbours; others we disregard in the end as being minimal.

[39] Those on adjoining neighbours must be balanced against the international and national need to encourage the amateur radio transmission community. In that regard, although a very small group, radio amateurs constitute an important part of our community, particularly in times of emergency. From our perspective we do not consider the advent of more modern means of communication as derogating from the importance of this function.

[40] When we look at the various parts of Part 2, we are unable to see any part of Section 6 of the Act that is affected by this application. References to the coastal environment and natural character are unaffected by the height of a tower. No-one suggested any physical impact upon it. The impact in the end is one on landscape character, visual amenity, and outlook.

[41] Section 7 balances various aspects (including amenity) with other factors such as physical resources. In this regard we consider that the amateur radio community uses a physical resource, which itself needs to be protected and encouraged, along with the other features of the Act.

[42] Overall, the purpose of the Act is to manage the environment – in this case, the question of building height, for the wellbeing of the community. We recognise that the radio transmission community is a part of the general community, and it too should be provided for, on a reasonable basis. The question then turns on what is reasonable?

Can the proposed restrictions on aerials and associated support structures give effect to the Regional Policy Statement?

[43] Again, reliance is made on issues of natural character and historic heritage. We are unable to see any impact of the height of these structures on that.

[44] There was a reference to views from marae to culturally significant landscapes, but nobody addressed that in any detail and there wasn't any indication



that such views would be affected adversely to any degree. We note, for example, that the Port of Tauranga has significant structures that interfere with views towards Mauao, and those are considered to be acceptable because of the importance of the Port. We likewise consider that the fairly small intrusion of an aerial and support structure in Tauranga residential zones is acceptable because of the importance of maintaining the radio transmission community.

[45] We have had regard to the Proposed Plan Objectives, Policies, and other provisions, and again, it seems to us those would basically support either proposition. We conclude the outcome turns on whether one sees these aerial structures as a building or not. For the reasons that the Court has already explained, it considers that they are essentially part of the exemption i.e. the aerials and antenna, rather than part of a building.

[46] In having regard to this, we do feel it is important in considering the relevant documents that there are a number of international treaties and separate licensing of amateur radio transmitters.

Do the proposed restrictions on aerials and support structures achieve the objectives and implement the policies of the Proposed Plan?

[47] This turns on whether the Court considers that the increase in height will maintain and enhance the amenity of the surrounding area. Essentially our conclusion on this is that the overall impact on this amenity will be minimal, provided the impact on adjoining neighbours is addressed.

[48] In that regard, we have particular consideration as to whether or not adjoining neighbours consent should be obtained, or consent from neighbours within a radius of 50m. In the end we have concluded that that is not necessary, even though Mr Heywood, quite fairly in our view, considered that it could be appropriate.

[49] Our reasons for that are that the issue in this case should not turn upon whether or not people agree, but whether it is appropriate to provide for radio amateurs or not. In other words, if it is appropriate to provide for amateur radio transmission and to allow the height restriction to be exceeded then such provision should be made.

[50] We, of course, encourage what Mr Heywood says, that all amateur radio transmitters should consult with their neighbours at an early stage about their ideas



and what they have in mind. We think that is good neighbourliness. Nevertheless, we also consider that it would be unfair if the outcome turned upon whether a particular neighbour decided, for whatever reason, to oppose an application. In the end, given our conclusions as to the effects, we consider that there is no need to justify the application by getting the consent of neighbours, either next door, or within a 50m radius.

[51] When we look at the policies and objectives of the Plan, we consider that allowing for radio transmission does maintain the existing elements of amenity, by ensuring the bulk and scale of structures is compatible. The reason we reach that conclusion is we consider that the structures involved here are ones that are generally provided for as an exemption to Building (that is, aerials and antennas) and that they are typically expected to be seen within residential areas. The question of scale is a question of distance, and accordingly, the only parties directly affected by scale are the next-door neighbours.

[52] We were also concerned in regard to neighbours' consent as to how that would be processed by the Council, given that it would be a permitted activity. On what basis would neighbours' consent be required? It would either rely on the individual owner collecting and keeping, hopefully, the consent of neighbours. What happens when those neighbours change over 20 years, as they have with Mr Heywood?

[53] And the next question is, would that mean that the parties have to apply for a certificate of compliance on every occasion? We were then concerned about the cost of that, and whether we were just entering into another bureaucratic circle?

[54] Given our conclusion as to the effects and the nature of the activity, in this case antennas and aerials being erected, we consider that we should treat them as part of the general exemption for aerials and antennas but allowing extra intrusion over those for general domestic use.

[55] We also point out that, curiously, ordinary domestic aerials have no height provision, per se, so we are curious as to how they are supposed to be within 11m when there doesn't appear to be anything preventing someone from constructing them much higher. It is perhaps the fact that the Council would treat the supporting structure as a building, and thus require consent.



[56] Of course, that means that one could nail an aerial to a tree, but we don't see that as desirable! Nevertheless, we are not faced with dealing with the domestic provisions in any way.

[57] So although we have had regard to the various policies and objectives of the Proposed Plan, we have concluded that the question of appropriateness in this case turns upon the Council decision seeing these structures as buildings.

Are the proposed restrictions, having regard to efficiency and effectiveness, the most appropriate way, having regard to the benefits and risks of acting or not acting?

[58] Our major concern here is the cost to the applicant of obtaining consent. There are very few parties likely to be involved. Radio amateurs are providing a service, particularly in times of crisis. We do not see the benefit of dealing with the minor effects on adjoining neighbours, as being justified by the cost of application. We consider the most effective method in this case to be permitted status.

[59] We note in that regard that the fee for an application as a discretionary activity seems to be just under \$5,000, and given that the cost of an aerial is around \$3,000, we can understand the concerns of the transmission community.

Actual and potential environmental effects of aerials and associated support structures as a permitted activity

[60] This is a matter we have directly addressed already in terms of effects, and in the end, we consider that the minor loss of landscape amenity to adjoining neighbours is compensated for by the control provisions that are suggested by the applicants in Annexures A & B, and also by the advantages that having transmitters within the community provides to the wider district and region.

CONCLUSION

[61] In that regard, we have reached a different conclusion to the Council, and we have set out in some detail why we have done so.

[62] The end result in our view is that the provisions in Annexure A are to be incorporated within the Plan. We consider that the provisions in Annexure B are



generally acceptable, but we consider that they do require further consideration. We accept Ms Maddox's submission that in such circumstances we should issue an Interim Decision and ask the parties to re-visit these provisions.

[63] Firstly, we consider, in respect of aerial elements that are sought to be included, that we should perhaps specify both boom length and element length (13m for boom; 14.9m for elements), and that not only does it not overhang the site boundary, but that it doesn't offend any streetscape requirement.

[64] So far as the aerial vertical comprising tubular elements up to 13.5m in height, it is the intention of the Court that there only be one intrusion above the building envelope permitted per site. In other words, an aerial would have to be attached to that structure – it couldn't be attached separately. We do not want multiple intrusions, and the intention of our decision is to allow one intrusion above the building envelope (plus the 2m), so the 11m height limit could go to 20m maximum height. We have decided not to draw a distinction between the support structure and the aerial. Essentially, the maximum height of any amateur radio configuration is 20m.

[65] We are a bit concerned about the way Item F is worded. The simple point is that there can only be one structure that intrudes above the building envelope and the maximum height of that amateur radio configuration is 20m.

[66] With respect to Annexure B 4H.2.4 Aerials:

[a] Provision (f)(i) should read;

f) One support structure per site of a dimension of greater than 115mm provided that:

i) The maximum height of the support structure and any attached aerials or antennas is 20m. The supporting structure ...

[b] We have no problem with (f)(i)(a) – (d);

[c] Provision (f)(iii) should be deleted;

[d] Provision (f)(iv) was not discussed at the hearing. We leave it for the parties to finalise;



- [e] Provision (f)(v). We agree and emphasise the overshadowing rules should not apply to the amateur radio configuration; and
- [f] Provision (f)(vi) – (vii) are appropriate generally.

[67] Our intent is that there be one intrusion above the building envelope (plus 2m). If that has elements of the array attached to it, so be it. The maximum dimensions, as we mentioned, is to be 13m x 14.9m and it must be in a horizontal plane. If you want an amateur radio configuration to provide for aerials as well, that is fine, as long as they are within 20m height.

Directions

[68] **The Council are to provide their provisions for Annexure B to the other parties within 20 working days:**

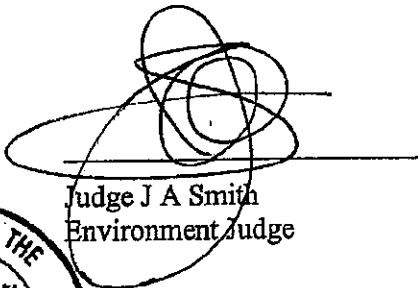
- [a] **All parties are to file a Joint Memorandum within 20 working days thereafter, setting out either agreement, or the areas where there is still disagreement.**
- [b] **The Court will then issue a Final Decision.**

[69] We would encourage the parties to reach agreement. The Court has tried to be as clear as we can in respect of the matter.

[70] Application for costs are not encouraged. If costs are in issue, this is to be indicated in the Joint Memorandum.

DATED at AUCKLAND this 6th day of June 2012

For the Court:


Judge J A Smith
Environment Judge



Annexure A

AGREED AMENDMENTS TO THE PROPOSED TAURANGA CITY PLAN

3 Definitions

amateur radio configuration

The antennas, aerials (including rods, wires and tubes) and associated supporting structures which are owned and used by licensed amateur radio operators.

network utility (network utilities)

Any activity relating to;

a)...

m) The operation and maintenance of *network utility service*

But excludes;

n) amateur radio configurations.

4H Purpose of the Permitted Intrusion Rules

Generally building bulk and scale is determined by the height, setback and overshadowing provisions of the relevant underlying zone. There will, however be instances where it is appropriate for design features or building components that are integral to the function of that building (e.g., chimneys, balustrades, plant rooms, etc.) to breach these provisions where their dimensions are not considered to create adverse effects on the amenity of adjoining properties.

In addition there is also a need for the Plan to recognise the Port of Tauranga and Tauranga City Airport and ensure that the day-to-day operation of both these activities can continue as safely and efficiently as possible.

Where an intruding building component cannot comply with the dimensions specified in these provisions then its potential adverse effects will need to be assessed against the relevant provision of the underlying zone.

Amateur radio configurations do not come within the definition of Network Utilities and are not subject to the same rules. For clarity the provisions relating to amateur radio configurations in the Residential and Rural Residential Zones are set out as part of the permitted intrusions provisions of this Chapter.

4H.1 Objectives and Policies for Permitted Intrusions

4H.1.1 Objective – Permitted Intrusions

Design features and building components are able to breach height and setback requirements where their dimensions are not considered to have an adverse effect on amenity values.

4H.1.1.1 Policy – Permitted Intrusions

By enabling design features and building components to intrude into height, setback and overshadowing requirements to an extent where they are not considered to generate adverse effects on the amenity of adjoining properties or the surrounding neighbourhood.



4H.1.2 Objective – Amateur Radio Configurations

Amateur radio configurations are provided for where they do not have an adverse effect on existing and anticipated residential or rural residential amenity and character.

4H.1.2.1 Policy – Amateur Radio Configurations

By enabling amateur radio configurations to intrude into the zone based permitted activity standards for height, overshadowing, streetscape and setback requirements for the Residential or Rural Residential Zone in which they are located to the extent they are not considered to generate adverse effects on the existing and anticipated residential or rural residential character and amenity of adjoining properties or the surrounding neighbourhood.

4H.2 Permitted Activity Rules

Note: For radio and telecommunication masts, aerials, antenna dishes, antenna panels and electric lines meeting the definition of a "Network Utility (Network Utilities)" refer to Chapter 10 – Network Utilities and Designations.

Note: For amateur radio configurations refer to Rule 4H.2.4 Permitted Activities – Permitted Intrusions for Amateur Radio Configurations in the Residential and Rural Residential Zones.

Note: Where an activity does not comply with a Permitted Activity Rule for Permitted Intrusions, it shall be assessed under the Activity Status of the relevant Chapter Rule with the exception of Amateur Radio Configurations which shall be assessed under the activity status contained within Chapter 4H.

Note: Permitted Intrusions in the Transmission Plan Area shall comply with the New Zealand Electrical Code of Practice 2001:34.

Note: The height of crop protection structures shall comply with Rule 16A.8.2 – Building Height.

4H.2.3 Permitted Height and Viewshaft Protection Area Intrusions

...

- b) In all other zones:
- i) A design feature or building component, which does not exceed the maximum permitted height by more than 2 metres and/or an external dimension of 2 metres in any other direction (excluding diagonal measurements);
 - ii) Satellite and microwave dishes, radio and telecommunication aerials and antenna which comply with the provisions of Chapter 10 – Network Utilities and Designations; or
 - iii) Private (for residential and recreational purposes) radio and telecommunication antennas (being no greater than 2m² in area) and aerials (being no greater than 80mm in diameter) excluding amateur radio configurations;

...



4H.2.4 Permitted Activities – Permitted Intrusions for Amateur Radio Configurations in the Residential and Rural Residential Zones

Note: Where an activity does not comply with the Permitted Activity Intrusion Rule it shall be considered a Restricted Discretionary Activity, unless stated otherwise.

The following amateur radio configurations are permitted activities under this Rule, unless:

- a) the provisions of 4I (Specified Airport Slopes and Surfaces) applies; and/or
- b) they are proposed to be located within or on one or more of the following Plan Areas: Special Ecological Plan Area; Outstanding Natural Features and Landscapes Plan Area, Important Amenity Plan Area; Coastal Hazard Erosion Plan Area, Coastal Protection Plan Area, Flood Hazard Plan Area; High Voltage Transmission Plan Area; and/or
- b) they are proposed to be located within or on the site of an Item listed in Appendix 7A: Register of Built Heritage or Appendix 7B: Register of Significant Maori Items, or an archaeological site identified on Council's GIS database.

in which case the provisions of 4I, the relevant Plan Area(s) and/or heritage provisions shall prevail:

Antennas

- a) Where attached to a building or other structure (including a mast) radio and telecommunications antenna up to and including 2m in diameter for an antenna dish and not exceeding 2m² in area or 2m in any dimension for a panel antenna; provided the antenna does not overhang a site boundary; and
- b) One pedestal mounted antenna per site provided that:
 - i) The antenna is pivoted less than 4m above the ground with a maximum diameter of 5m; and
 - ii) The pedestal and/or the antenna are located in accordance with the streetscape, setback and overshadowing standards applying to buildings in the zone in which they are located.

Supporting Structures

- d) No more than six support poles for wire aerials of less than 115mm in outside diameter per site provided:
 - i) The maximum height of the support poles is the maximum building height applying in the zone in which they are located;
 - ii) The streetscape, setback and overshadowing standards shall not apply to these support poles;
 - iii) Where guy wires are used these must not exceed 12mm in diameter; and
 - iv) At no point must any guy wire overhang the boundary.

One pole support structure (excluding support poles for wire aerials) or lattice support structure per site provided that:



- i) The maximum height of the pole support structure is 9m and the maximum dimension of the pole is 115mm; or
- ii) The maximum height of the lattice support structure is 9m and the maximum width of the lattice support structure is 900mm to 8m in height and 660mm to 9m in height; and
- iii) The pole or lattice structure is located in accordance with the streetscape and setback standards applying to buildings in the zone in which they are located. For the purpose of this rule the overshadowing standards shall not apply to the pole or lattice support structure; and
- iv) Where guy wires are used these must not exceed 12mm in diameter; and
- v) At no point must any guy wire overhang the boundary.

Note: The provisions of 4I relating to Specified Airport Slopes and Surfaces also apply and if not met shall prevail over this rule.

4H.2.5 Restricted Discretionary Activity Rules – Amateur Radio Configurations in the Residential and Rural Residential Zones.

The following is a Restricted Discretionary Activity:

- a) Any amateur radio configuration in the Residential and Rural Residential Zones that does not comply with Rule 4H.2.4 Amateur Radio Configurations in the Residential and Rural Residential Zones.

4H.2.5.1 Restricted Discretionary Activity – Standards and Terms – Amateur Radio Configurations in the Residential and Rural Residential Zones

- a) No amateur radio configuration within any identified Viewshaft Protection Area shall exceed the maximum height identified within the Plan Maps (Part B).

Note: Any Activity that does not comply with Rule 4H.2.5.1 will result in the activity being considered a Discretionary Activity in accordance with the Objectives and Policies for the zone in which it is located and the relevant Natural Features and Landscapes Objectives and Policies.

Note: The provisions of 4I relating to Specified Airport Slopes and Surfaces also apply and if not met shall prevail over this rule.

4H.2.5.2 Restricted Discretionary Activity – Matters of Discretion and Conditions – Amateur Radio Configurations in the Residential and Rural Residential Zones

In considering whether to grant consent and what conditions, if any, to impose Council shall have regard to:



a) The bulk, form and scale, location and number of aerials, antennas or associated supporting structures and the extent to which the proposal would lead to a visual dominance and loss of visual amenity as viewed by adjoining and adjacent properties and the surrounding neighbourhood;

b) The extent to which the proposal would reduce adverse visual and amenity impacts through design measures including location on site, materials used, and finish of materials including colour;

c) The extent to which the proposal would reduce the ability to maintain access for maintenance, including for buildings on adjoining sites; and

b) In the case of pedestal antenna not complying with overshadowing standards the extent to which the proposal would result in the loss of sunlight and daylight to surrounding sites, particularly in relation to outdoor living areas or the main indoor living area windows of surrounding residential or rural residential properties.

4H.2.6 Discretionary Activity Rules

The following are Discretionary Activities:

- a) Any Restricted Discretionary Activity that does not comply with 4H.2.5.1 Restricted Discretionary Activity – Standards and Terms – Amateur Radio Configurations in the Residential and Rural Residential Zones; and
- b) Any Activity which is not a Permitted, Controlled, Restricted Discretionary, or Non-Complying Activity.



Annexure B

Additional amendments to the Proposed Tauranga City Plan sought by appellants

4H.2.4

Aerials

- c)
 - i) Aerial elements up to 80mm in diameter and up to 14.9 m long provided that the aerial does not overhang a site boundary.
 - ii) Aerial wires provided that they do not overhang the boundary.
 - iii) Aerial vertical comprising tubular elements up to 13.5 m high

- f) One support structure per site of a dimension of greater than 115mm provided that:
 - i) The maximum height of the support structure is 20m. The supporting structure may be one of the following:
 - (a) A guyed pole. The diameter of the pole being 115mm or less.
 - (b) A guyed lattice mast. The mast width being 300mm or less. The mast may be of constant width or tapering.
 - (c) A self-supporting lattice mast. The mast must fit within a tapering envelope 420mm wide at 20m and 660mm at 9m.
 - (d) A self-supporting tubular pole. The mast must fit within a tapering envelope 115mm at 20m and 230mm at 9m.
 - ii) Local enlargement of support structure to accommodate a rotator mechanism is permitted.
 - iii) The maximum height of the supporting structure and attached antennas and/or aerials must not exceed 26m.
 - iv) Supporting structure using tilt-over mechanism shall not exceed the above dimensions above 9m.
 - v) The supporting structure is located in accordance with the streetscape and setback standards applying to buildings in the zone in which they are located. For the purpose of this rule the overshadowing standards shall not apply to the supporting structure; and
 - vi) Where guy wires are used these must not exceed 12 mm in diameter; and
 - vii) At no point must any guy wire overhang the boundary



BEFORE THE ENVIRONMENT COURT

Decision No. [2012] NZEnvC 193

IN THE MATTER of an appeal pursuant to Clause 14 of the
First Schedule of the Resource
Management Act 1991 (**the Act**)

BETWEEN TAURANGA EMERGENCY
COMMUNICATIONS GROUP
INCORPORATED

NEW ZEALAND ASSOCIATION OF
RADIO TRANSMITTERS
INCORPORATED

(ENV-2011-AKL-000074)

Appellants

AND TAURANGA CITY COUNCIL
Respondent

Hearing on the papers under section 279 of the Act

Environment Judge J A Smith

FINAL DECISION

A. The Tauranga City Plan is amended in accordance with Annexure A, Annexure B and Annexure C to this decision.

B. There is no order as to costs.

REASONS

Introduction

[1] This matter relates to the Tauranga City Plan. The Council, in considering the provisions for utilities in Tauranga, imposed controls over private radio communications. This effectively required them to comply with the building envelope (building height in each zone) together with a maximum intrusion for aerials and the like of a further 2m. These provisions were submitted on by the appellants and the Council considered these as part of its hearing process on the Proposed Tauranga City Plan. The appellants' submissions were refused, and they brought this appeal.

[2] The matter was heard at Tauranga on 14-15 May 2012, which resulted in the Court issuing interim decision [2012] NZEnvC 107.

[3] The decision recorded that the parties had co-operated and generated a set of agreed amendments to the Tauranga City Plan which were attached to the decision as Annexure A. The Court agreed with the parties that the changes properly recognised many of the activities of the amateur radio community in relation to activities that do not involve particularly high elements and directed that the amendments set out in Annexure A be incorporated into the City Plan.

[4] The decision also included Annexure B which set out the additional amendments sought by the appellants to the proposed Tauranga City Plan.

[5] The Court directed the Council to provide its proposed amendments to the provisions in Annexure B within 20 working days from the date of the decision. A joint memorandum setting out the agreed terms or the areas where there was still disagreement were to be filed within 20 working days thereafter.

[6] The parties generally reached agreement, however, in discussing the draft provisions an issue arose for which further guidance was requested from the Court. The issue related to the activity status of amateur radio configurations in the Wairakei and City Living Zones. In response the Court convened a Judicial Telephone

Conference which was held on 26 July 2012. Following the telephone conference the parties were directed to file a further joint memorandum.

[7] In accordance with this direction and those set out in decision [2012] NZEnvC 107 the parties have filed a joint memorandum setting out the agreed amendments. These amendments include the proposed wording for the rules relating to aerials (Rule 4H.2.4(c) and support structures (Rule 4H.2.4(f) (Annexure B), the amendments sought to Annexure A in order to provide clarity in terms of the maximum dimensions of the supporting structures, and for consistency with the wording proposed for Annexure B and the resulting consequential amendments to the Plan (Annexure C).

[8] The Court has considered the proposed amendments to Annexure A, the agreed version of Annexure B and the consequential amendments identified in Annexure C, and is satisfied that they reflect the Court's interim decision and provide for an appropriate outcome.

[9] Accordingly, the plan is amended in accordance with the attachments to this decision, being the revised version of Annexure A ("A"), the agreed version of Annexure B ("B") and the consequential amendments set out in Annexure C ("C").

[10] There is no order as to costs.

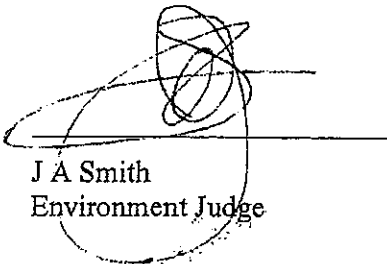
DATED at AUCKLAND this

7th

day of

September

2012



J A Smith
Environment Judge

"A"

REPLACEMENT ANNEXURE "A"
AGREED AMENDMENTS TO THE PROPOSED TAURANGA CITY PLAN

3 Definitions

amateur radio configuration

The antennas, aerials (including rods, wires and tubes) and associated supporting structures which are owned and used by licensed amateur radio operators.

network utility (network utilities)

Any activity relating to;

a)...

m) The operation and maintenance of *network utility* service

But excludes;

n) amateur radio configurations.

4H Purpose of the Permitted Intrusion Rules

Generally building bulk and scale is determined by the height, setback and overshadowing provisions of the relevant underlying zone. There will, however be instances where it is appropriate for design features or building components that are integral to the function of that building (e.g., chimneys, balustrades, plant rooms, etc.) to breach these provisions where their dimensions are not considered to create adverse effects on the amenity of adjoining properties.

In addition there is also a need for the Plan to recognise the Port of Tauranga and Tauranga City Airport and ensure that the day-to-day operation of both these activities can continue as safely and efficiently as possible.

Where an intruding building component cannot comply with the dimensions specified in these provisions then its potential adverse effects will need to be assessed against the relevant provision of the underlying zone.

Amateur radio configurations do not come within the definition of Network Utilities and are not subject to the same rules. For clarity the provisions relating to amateur radio configurations in the Residential and Rural Residential Zones are set out as part of the permitted intrusions provisions of this Chapter.

4H.1 Objectives and Policies for Permitted Intrusions

4H.1.1 Objective – Permitted Intrusions

Design features and building components are able to breach height and setback requirements where their dimensions are not considered to have an adverse effect on amenity values.

4H.1.1.1 Policy – Permitted Intrusions

By enabling design features and building components to intrude into height, setback and overshadowing requirements to an extent where they are not considered to generate adverse effects on the amenity of adjoining properties or the surrounding neighbourhood.

4H.1.2 Objective – Amateur Radio Configurations

Amateur radio configurations are provided for where they do not have an adverse effect on existing and anticipated residential or rural residential amenity and character.

4H.1.2.1 Policy – Amateur Radio Configurations

By enabling amateur radio configurations to intrude into the zone based permitted activity standards for height, overshadowing, streetscape and setback requirements for the Residential or Rural Residential Zone in which they are located to the extent they are not considered to generate adverse effects on the existing and anticipated residential or rural residential character and amenity of adjoining properties or the surrounding neighbourhood.

4H.2 Permitted Activity Rules

Note: For radio and telecommunication masts, aerials, antenna dishes, antenna panels and electric lines meeting the definition of a "Network Utility (Network Utilities)" refer to Chapter 10 – Network Utilities and Designations.

Note: For amateur radio configurations refer to Rule 4H.2.4 Permitted Activities – Permitted Intrusions for Amateur Radio Configurations in the Residential and Rural Residential Zones.

Note: Where an activity does not comply with a Permitted Activity Rule for Permitted Intrusions, it shall be assessed under the Activity Status of the relevant Chapter Rule with the exception of Amateur Radio Configurations which shall be assessed under the activity status contained within Chapter 4H.

Note: Permitted Intrusions in the Transmission Plan Area shall comply with the New Zealand Electrical Code of Practice 2001:34.

Note: The height of crop protection structures shall comply with Rule 16A.8.2 – Building Height.

4H.2.3 Permitted Height and Viewshaft Protection Area Intrusions

...

- b) In all other zones:
 - i) A design feature or building component, which does not exceed the maximum permitted height by more than 2 metres and/or an external dimension of 2 metres in any other direction (excluding diagonal measurements);
 - ii) Satellite and microwave dishes, radio and telecommunication aerials and antenna which comply with the provisions of Chapter 10 – Network Utilities and Designations; or

- iii) Private (for residential and recreational purposes) radio and telecommunication *antennas* (being no greater than 2m² in area) and *aerials* (being no greater than 80mm in diameter) excluding amateur radio configurations;

4H.2.4 Permitted Activities – Permitted Intrusions for Amateur Radio Configurations in the Residential and Rural Residential Zones

Note: Where an activity does not comply with the Permitted Activity Intrusion Rule it shall be considered a Restricted Discretionary Activity, unless stated otherwise.

The following amateur radio configurations are permitted activities under this Rule, unless:

- a) the provisions of 4l (Specified Airport Slopes and Surfaces) applies; and/or
- b) they are proposed to be located within or on one or more of the following Plan Areas: Special Ecological Plan Area; Outstanding Natural Features and Landscapes Plan Area, Important Amenity Plan Area; Coastal Hazard Erosion Plan Area, Coastal Protection Plan Area, Flood Hazard Plan Area; High Voltage Transmission Plan Area; and/or
- c) they are proposed to be located within or on the site of an Item listed in Appendix 7A: Register of Built Heritage or Appendix 7B: Register of Significant Maori Items, or an archaeological site identified on Council's GIS database.

in which case the provisions of 4l, the relevant Plan Area(s) and/or heritage provisions shall prevail:

Antennas

- a) Where attached to a building or other structure (including a mast) radio and telecommunications antenna up to and including 2m in diameter for an antenna dish and not exceeding 2m² in area or 2m in any dimension for a panel antenna; provided the antenna does not overhang a site boundary; and
- b) One pedestal mounted antenna per site provided that:
 - i) The antenna is pivoted less than 4m above the ground with a maximum diameter of 5m; and
 - ii) The pedestal and/or the antenna are located in accordance with the streetscape, setback and overshadowing standards applying to buildings in the zone in which they are located.

Supporting Structures

- d) No more than six support poles for wire aerials of less than 115mm in outside diameter per site provided:
 - i) The maximum height of the support poles is the maximum building height applying in the zone in which they are located;
 - ii) The streetscape, setback and overshadowing standards shall not apply to these support poles;

- iii) Where guy wires are used these must not exceed 12mm in diameter; and
- iv) At no point must any guy wire overhang the boundary.
- e) One pole support structure (excluding support poles for wire aerials) or lattice support structure per site provided that:
 - i) The maximum height of the pole support structure is 9m and the maximum inscribed circle of the pole and any lowering mechanism shall be 600mm below 4m in height and 115mm above 4m; or
 - ii) The maximum height of the lattice support structure is 9m and the maximum inscribed circle of the lattice support structure and any lowering mechanism shall be 900mm below 8m in height and 660mm above 8m; and
 - iii) The pole or lattice structure is located in accordance with the streetscape and setback standards applying to buildings in the zone in which they are located. For the purpose of this rule the overshadowing standards shall not apply to the pole or lattice support structure; and
 - iv) Where guy wires are used these must not exceed 12mm in diameter; and
 - v) At no point must any guy wire overhang the boundary.

Note: The provisions of 4I relating to Specified Airport Slopes and Surfaces also apply and if not met shall prevail over this rule.

4H.2.5 Restricted Discretionary Activity Rules – Amateur Radio Configurations in the Residential and Rural Residential Zones

The following is a Restricted Discretionary Activity:

- a) Any amateur radio configuration in the Residential and Rural Residential Zones that does not comply with Rule 4H.2.4 Amateur Radio Configurations in the Residential and Rural Residential Zones.

4H.2.5.1 Restricted Discretionary Activity – Standards and Terms – Amateur Radio Configurations in the Residential and Rural Residential Zones

- a) No amateur radio configuration within any identified Viewshaft Protection Area shall exceed the maximum height identified within the Plan Maps (Part B).

Note: Any Activity that does not comply with Rule 4H.2.5.1 will result in the activity being considered a Discretionary Activity in accordance with the Objectives and Policies for the zone in which it is located and the relevant Natural Features and Landscapes Objectives and Policies.

Note: The provisions of 4I relating to Specified Airport Slopes and Surfaces also apply and if not met shall prevail over this rule.

4H.2.5.2 Restricted Discretionary Activity – Matters of Discretion and Conditions – Amateur Radio Configurations in the Residential and Rural Residential Zones

In considering whether to grant consent and what conditions, if any, to impose Council shall have regard to:

a) The bulk, form and scale, location and number of aerials, antennas or associated supporting structures and the extent to which the proposal would lead to a visual dominance and loss of visual amenity as viewed by adjoining and adjacent properties and the surrounding neighbourhood;

b) The extent to which the proposal would reduce adverse visual and amenity impacts through design measures including location on site, materials used, and finish of materials including colour;

c) The extent to which the proposal would reduce the ability to maintain access for maintenance, including for buildings on adjoining sites; and

b) In the case of pedestal antenna not complying with overshadowing standards the extent to which the proposal would result in the loss of sunlight and daylight to surrounding sites, particularly in relation to outdoor living areas or the main indoor living area windows of surrounding residential or rural residential properties.

4H.2.6 Discretionary Activity Rules

The following are Discretionary Activities:

- a) Any Restricted Discretionary Activity that does not comply with 4H.2.5.1 Restricted Discretionary Activity – Standards and Terms – Amateur Radio Configurations in the Residential and Rural Residential Zones; and
- b) Any Activity which is not a Permitted, Controlled, Restricted Discretionary, or Non-Complying Activity.

"B"

Amend Rule 4H.2.4 by inserting the following:

Aerials

- c) *Aerials* that comply with the following:
- (i) Any of the elements making up the *aerial* do not exceed 80mm in diameter;
 - (ii) For horizontal HF yagi *aerials*, the maximum element length does not exceed 14.9m, and the boom length does not exceed 13m;
 - (iii) No part of the *aerial* (including aerial wires) overhangs a site boundary;
 - (iv) The streetscape and setback standards applying to buildings in the applicable Residential Zone or Rural Residential Zone (except that aerial wires are not required to comply with the streetscape and setback standards);
 - (v) No part of the *aerial* exceeds the maximum stated height applying to buildings in the applicable Residential Zone or Rural Residential Zone by more than 2m (except for vertical aerials as provided for under (vi) below); and
 - (vi) For vertical aerials, one vertical aerial to a maximum height of 20m, provided there is only one vertical aerial or one supporting structure (and attached aerial(s) or antenna(s)) under (f) below per site that exceeds the maximum stated height applying to buildings in the applicable Residential Zone or Rural Residential Zone by more than 2m.

Supporting Structures

- d)..
- e)..
- f) For each site, one support structure (in addition to support structures permitted under 4H.2.4 d) and e)) that exceeds the maximum stated height applying to buildings in the applicable

Residential Zone or Rural Residential Zone by more than 2m, provided that:

- (i) Any attached *antenna* complies with 4H.2.4 a) and any attached *aerial* complies with 4H.2.4 c) (excluding c)(v)).
- (ii) The maximum height of the support structure and any attached *aerials* or *antennas* is 20m.
- (iii) There is no vertical *aerial* on the site permitted under 4H.2.4 c)(vi) that exceeds the stated height applying to buildings in the applicable Residential Zone or Rural Residential Zone by more than 2m.
- (iv) The supporting structure may be one of the following:
 - (a) A guyed mast. The maximum inscribed circle of the mast below 9m shall be 1000mm, and above 9m shall be 115mm; or
 - (b) A guyed lattice mast. The maximum inscribed circle of the mast below 9m shall be 1000mm, and above 9m shall be 300mm. The mast may be of constant width or tapering; or
 - (c) A self-supporting lattice mast. The maximum inscribed circle of the mast below 9m shall be 1000mm, and above 9m must fit within a tapering envelope with a maximum inscribed circle of 660mm at 9m and 420mm at 20m; or
 - (d) A self-supporting tubular mast. The maximum inscribed circle of the mast below 9m shall be 1000mm, and above 9m must fit within a tapering envelope with a maximum inscribed circle of 230mm at 9m and 115mm at 20m.
- (v) There may be local enlargement of support structure to accommodate a rotator mechanism.
- (vi) There may be a lowering mechanism on a support structure provided that the diameter of the support structure and lowering mechanism does not exceed the dimensions specified in (iv)(a)-(d) above.
- (vii) The supporting structure is located in accordance with the streetscape and setback standards applying to buildings in the applicable Residential Zone or Rural Residential Zone. For the purpose of this rule the overshadowing standards shall not apply to the supporting structure.

- (viii) Where guy wires are used these must not exceed 12 mm in diameter.
- (ix) At no point must any guy wire overhang the boundary.

"C"

Consequential amendments as follows (additions shown underlined, deletions strikethrough):

14B: Suburban Residential, Wairakei Residential and Large Lot Residential Zones

14B.2 Activity Status Rules

14B.2.1 Activities in Suburban Residential, Wairakei Residential and Large Lot Residential Zones

Table 14B.1: Suburban Residential, Wairakei Residential and Large Lot Residential Zone Activity Status

Use/Activity	Relevant Rule	Suburban Residential	Large Lot Residential	Wairakei Residential
Accessory buildings, structures and activities		P (Refer Rule 14B.3)	P (Refer Rule 14B.3)	RD (P) (Refer Rule 14B.6) <u>With the exception of permitted Amateur Radio Configurations (refer relevant Rule 4H.2.4)</u>

Note: (P) in this table in relation to the Wairakei Residential Zone means an activity is a permitted activity (excluding Amateur Radio Configurations permitted under Rule 4H.2.4) provided that the proposed development has been designed and constructed in accordance with a comprehensive development consent granted under Rule 14B.6 g) – Restricted Discretionary Activity Rules and provided under Rule 14B.3.15 - Wairakei Residential Zone – Permitted Activities and Rule 14B.6.10 – comprehensive development consent.

14B.3 Permitted Activity Rules

14B.3.2 Building Height - Suburban Residential, Large Lot Residential

a) The maximum height of any building, with the exception of the permitted intrusions either under in Rule 4H.2.3 or 4H.2.4, on a site shall be:

14B.3.4 Setbacks - Suburban Residential, Large Lot Residential

a) All buildings, excluding any setback intrusions permitted under either Rule 4H.2.1 or 4H.2.4, shall provide the following setbacks from a side or rear boundary:

14B.3.6 Overshadowing - Suburban Residential, Large Lot Residential

a) All *buildings*, excluding any overshadowing intrusions permitted under either Rule 4H.2.2 or 4H.2.4, shall be within a *building* envelope calculated in accordance with *Appendix 14C: Overshadowing*;

14B.3.15 Wairakei Residential Zone – Permitted Activities

No activity within the Wairakei Residential Zone shall be considered a Permitted Activity (other than Amateur Radio Configurations permitted under Rule 4H.2.4) unless in accordance with a *comprehensive development consent* granted under *Rule 14B.6 g*) – *Restricted Discretionary Activity Rules* and provided for under *Rule 14B.6.10 – comprehensive development consent*
Note: Any Activity that does not comply with Rule 14B.3.15 – Wairakei Residential Zone – Permitted

Activities shall be considered a Non-Complying Activity.

14C: Urban Marae Community Zone and the Ngati Kahu Papakainga Zone

14C.5 Permitted Activity Rules

14C.5.2 Building Height

a) The maximum height of any building, with the exception of the permitted intrusions under either in Rule 4H.2.3 or 4H.2.4, shall be:

14C.5.5 Setbacks

All *buildings*, excluding any setback intrusions permitted under either Rule 4H.2.1 or 4H.2.4 shall provide the following *setbacks* from a side or rear *boundary*:

14C.5.7 Overshadowing

a) All *buildings*, excluding any overshadowing intrusions permitted under either Rule 4H.2.2 or 4H.2.4 shall be within a *building envelope* calculated in accordance with *Appendix 14C: Overshadowing*;

14D: City Living Zone

14D.2 Activity Status Rules

Use/Activity	Relevant Rule	City Living Residential	City Living Mixed Use
Accessory buildings, structures and activities	14D.4	RD <i>With the exception of permitted Amateur Radio Configurations (refer relevant Rule 4H.2.4)</i>	RD <i>With the exception of permitted Amateur Radio Configurations (refer relevant Rule 4H.2.4)</i>

Table 14D.1: City Living Zone Activity Status

14D.4 Restricted Discretionary Activity Rules

14D.4.2.4 Building Height

a) The maximum height of any building or structure (Refer to Appendix 14D: City Living Zone Building Heights); with the exception of the Permitted Intrusions under either in Rule 4H.2.3 or 4H.2.4, shall be:

14D.4.2.7 Overshadowing

a) All buildings, excluding any overshadowing intrusions permitted under either Rule 4H.2.2 or 4H.2.4, on a site shall be within a building envelope in accordance with Appendix 14C: Overshadowing;

14E: High Density Residential Zone

14E.3 Permitted Activity Rules

14E.3.2 Building Height

a) The maximum *height* of any *building* with the exception of the Permitted Intrusions under either in Rule 4H.2.3 or 4H.2.4 on a *site* shall be 9 metres.

14E.3.4 Setbacks

All *buildings*, excluding any *setback* intrusions permitted under either Rule 4H.2.1 or 4H.2.4 shall provide the following *setbacks* from a side or rear *boundary*:

14E.3.6 Overshadowing

a) All *buildings*, excluding any overshadowing intrusions permitted under either Rule 4H.2.2 or 4H.2.4 and excluding *buildings* in the High Rise Plan Area, shall be within a *building* envelope calculated in accordance with *Appendix 14C: Overshadowing*.

15A: Rural Residential Zone

15A.2 Activity Status Rules

15A.2.1 Activities in the Rural Residential Zone

Table 15A.1: Rural Residential Zone Activity Status

Use/Activity	Relevant Rule	Rural	Tara Road
		Residential	Urban Growth Plan Area
<i>Accessory buildings, structures and activities</i>	15A.3	P	C <i>With the exception of permitted Amateur Radio Configurations (refer relevant Rule 4H.2.4)</i>

15A.2 Permitted Activity Rules

15A.3.2 Building Height

a) The maximum *height* of any *building*, with the exception of the permitted intrusions under either in Rule 4H.2.3 or 4H.2.4 shall be 9 metres;

15A.3.4 Setbacks

All *buildings*, excluding any *setback* intrusions permitted under either Rule 4H.2.1 or 4H.2.4 shall provide the following *setbacks* from a side or rear *boundary*:

15A.3.5 Overshadowing

All *buildings*, excluding any *overshadowing* intrusions permitted under either Rule 4H.2.2 or 4H.2.4, shall be within a *building* envelope calculated in accordance with *Appendix 14C: Overshadowing*.

**Submission on Plan Change 61 -
Minor Amendments
to the Wairau/Awatere Resource Management Plan**



Submissions close 5.00 pm Friday, 21 December 2012

1. Submitter Details

Full Name	Flona Mary Patchett			
Organisation (if applicable)				
Contact Person (if applicable)	Murray Hunt			
Postal Address	34 Rowley Crescent			
	Blenheim 7201			
		Post Code		
Email	murray@hjc.co.nz			
Telephone	Business	(03) 578 5339	Home	
	Fax	(03) 578 0323	Mobile	027 434 2782
Address for Service	C/- Hardy-Jones Clark			
(if different from above)	PO Box 646			
	Blenheim 7201		Post Code	
Signature (of submitter or person authorised to sign on behalf of submitter)			Date	21/12/12

2. Trade Competition

Could you gain an advantage in trade competition in making this submission? Yes No

If you answered yes, please note that there are restrictions on your ability to make a submission. Refer to Clause 6(4) of the First schedule of the RMA for further information.

3. Council Hearing

Do you wish to be heard in support of your submission? Yes No

If you answered 'Yes' to being heard, would you be prepared to consider presenting a joint case with others who have made a similar submission? Yes No

4. Return Submission to:

Attention Planning Technician
Marlborough District Council
PO Box 443
Blenheim 7240

Fax: 520 7496

Email: pc61@marlborough.govt.nz

For Office Use
Submission No:

65

5. The specific parts of the proposed plan change the submission relates to are as follows:

Item 2 - Definition of 'Family Flat'

Continue on a separate sheet if necessary

6. My submission is: *(state the nature of your submission whether you support or oppose (in full or in part) specific provisions)*

I support the inclusion of a restrictive definition of a family flat and in particular the limit on the size. It is my submission that tighter controls are required to ensure that family flats do not proliferate and create pressure and adverse effects in the rural environment and Rural zone by way of reverse sensitivity, loss of productive soils and pressure for subdivision.

Continue on a separate sheet if necessary

7. The decision I seek from Council is: *(where amendments are sought, provide details of what changes you would like to see)*

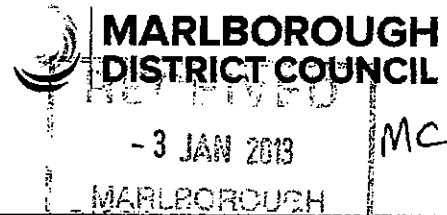
To approve the change and include additional restrictions/ definitions addressing the following.

- (i) Defining the term family - the addition of the word "immediate" before family would assist.
- (ii) Requiring the family flat building to be located adjacent and/or proximate to the principal residence.
- (iii) Requiring the building to be secondary and ancillary in size and scale to the principal dwelling.
- (iv) Prescribing a time limit for the status of a permitted use, i.e. they are to be permitted for a fixed term only.
- (v) Require payment of a bond to secure removal of the family flat at the end of the term of the permitted use either by reference to time or end of family occupation.
- (vi) Such other decisions as are necessary to make clear that family flats are in fact a very limited and restricted exception to the provisions that permit only one dwelling house per title as of right and ensure that "family flats" are properly controlled and restricted to their primary purpose which is to provide accommodation often for dependent family and often for a limited time frame.

Continue on a separate sheet if necessary

**Submission on Plan Change 61 -
Minor Amendments
to the Wairau/Awatere Resource Management Plan**

Submissions close 5.00 pm Friday, 21 December 2012



1. Submitter Details

Full Name	Sherridan Jerrett		
Organisation (if applicable)			
Contact Person (if applicable)	Sherridan		
Postal Address	3324 State Highway 63		
	RD1		
	BLENHEIM	Post Code	7271
Email	stonelea@hotmail.com		
Telephone Business	03 5722886	Home	03 5722886
Fax	03 5722844	Mobile	021 653445
Address for Service	As above		
(if different from above)			
		Post Code	
Signature (of submitter or person authorised to sign on behalf of submitter)			Date: 12/12/2012

2. Trade Competition

Could you gain an advantage in trade competition in making this submission? Yes No

If you answered yes, please note that there are restrictions on your ability to make a submission. Refer to Clause 6(4) of the First schedule of the RMA for further information.

3. Council Hearing

Do you wish to be heard in support of your submission? Yes No

If you answered 'Yes' to being heard, would you be prepared to consider presenting a joint case with others who have made a similar submission? Yes No

4. Return Submission to:

Attention Planning Technician
Marlborough District Council
PO Box 443
Blenheim 7240

Fax: 520 7496

Email: pc61@marlborough.govt.nz

For Office Use
Submission No:

66

5. The specific parts of the proposed plan change the submission relates to are as follows:

Plan Change 61 - Item 11
Home Occupation - Definitions (Chapter 26) - insertion of the word 'brothels'.

Continue on a separate sheet if necessary

6. My submission is: (state the nature of your submission whether you support or oppose (in full or in part) specific provisions)

I oppose the insertion of the word 'brothels', as I do to the current inclusion of 'escort agency' and 'massage parlours' as excluded activities. The exclusion of these specific personal services, is discriminatory.

I also oppose the inclusion of 'motor vehicle repairs', under the 'Excluded from this definition' paragraph. This is too vague, and should instead be added to 'motor body building' as 'motor body building or repairs'.

I believe that inserting the word 'Discretely' and its definition would assist in defining a home occupation.

Continued on a separate sheet.

Continue on a separate sheet if necessary

7. The decision I seek from Council is: (where amendments are sought, provide details of what changes you would like to see)

To OMIT the intended word 'brothels' from the amendment to Plan Change 61, Item 11 - Home Occupation Definition (Chapter 26).

Amendments I would like to see are:

INSERT the words 'carried out discretely' into the definition of Home Occupation, and
INSERT a definition for the word 'Discretely'.

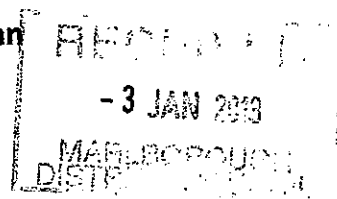
REMOVE the words 'other than escort agencies and massage parlours' from the definition of Home Occupation (Chapter 26).

DELETE the words 'motor vehicle repairs' and INSERT 'or repairs' after 'motor body building', under the 'Excluded from this definition' paragraph, part of the definition of Home Occupation (Chapter 26).

Continued on separate sheet.

Continue on a separate sheet if necessary

**Submission on Plan Change 61 – Minor Amendments
To the MDC Wairau/Awatere Resource Management Plan
Submission by Sherridan Jerrett**



6. My submission is:

I **oppose** the insertion of the word 'brothels', as I do to the current inclusion of 'escort agency' and 'massage parlours' as excluded activities. The exclusion of these specific personal services, is discriminatory.

Sex workers need a safe, clean, and comfortable working environment as do other personal service workers, eg hairdressers, physiotherapists, and beauty specialists. With the inclusion of the one resident plus one worker rule, the business is already restricted and would only just make the definition of a brothel - 'a house in which womEn work as prostitutes'. I believe that two women living together, and working discretely, will not give rise to adverse effects on the character or amenity values of residential areas.

I also **oppose** the inclusion of 'motor vehicle repairs', under the 'Excluded from this definition' paragraph. This is too vague, and should instead be added to 'motor body building' as 'motor body building or repairs'.

Mechanical and Engine repairs have long been carried out from home, with little or no annoyance to neighbours. This home occupation provides an essential service for older vehicles and income for the retired mechanic. It is also ideal to supplement the family's income, by working at night. There is very little noise emitted from this occupation, and what is, is not prolonged in comparison to the length of the job.

I believe inserting the word 'Discretely' and its definition would assist in defining a home occupation.

Home Occupation – means an occupation, business, trade, craft or profession, carried out discretely, the primary purpose of which is to derive income and is: ...'.

Discretely – means that the person undertaking the Home Occupation has ensured that:

All necessary permits, certification, and resource consents have been obtained;

Signage is restricted to their Trading Name and Phone Number, a maximum size of A4, and attached to or alongside their letterbox;

Client parking is available on their property;

Noise emissions are infrequent and within the acceptable urban level, night and day;

Particle emissions meet the current Log Fire standards, and

Emitted odours are low level and infrequent, or undetectable by their neighbour.

**Submission on Plan Change 61 – Minor Amendments
To the MDC Wairau/Awatere Resource Management Plan
Submission by Sherridan Jerrett**

7. The decision I seek from Council is:

To OMIT the intended word 'brothels' from the amendment to Plan Change 61, Item 11 - Home Occupation Definition (Chapter 26).

Amendments I would like to see are:

- 1 **INSERT** the words 'carried out discretely' into the definition of Home Occupation.

Home Occupation – means an occupation, business, trade, craft or profession, carried out discretely, the primary purpose of which is to derive income and is: ...'.

- 2 **INSERT** a definition for the word 'Discretely'.

Discretely – means that the person undertaking the Home Occupation has ensured that:

All necessary permits, certification, and resource consents have been obtained;

Signage is restricted to their Trading Name and Phone Number, a maximum size of A4, and attached to or alongside their letterbox;

Client parking is available on their property;

Noise emissions are infrequent and within the acceptable urban level, night and day;

Particle emissions meet the current Log Fire standards, and

Emitted odours are low level and infrequent, or undetectable by their neighbours.

- 3 **REMOVE** the words 'other than escort agencies and massage parlours' from the definition of Home Occupation (Chapter 26).

Home Occupation – means an occupation, business, trade, craft or profession, carried out discretely, the primary purpose of which is to derive income and is: ...'.

- 4 **DELETE** the words 'motor vehicle repairs' under the 'Excluded from this definition' paragraph, part of the definition of Home Occupation (Chapter 26).

'Excluded from ... spray painting, fibre-glassing, ... or locality.'

- 5 **INSERT** 'or repairs' after 'motor body building', under the 'Excluded from this definition' paragraph, part of the definition of Home Occupation (Chapter 26).

'Excluded from this definition ... fish processing, motor body building or repairs ... or locality.'

Sherridan Jerrett

**Submission on Plan Change 61 -
Minor Amendments
to the Wairau/Awatere Resource Management Plan**

Submissions close 5.00 pm Friday, 21 December 2012



**MARLBOROUGH
DISTRICT COUNCIL**

20 DEC 2012 4:58pm

MARLBOROUGH
DISTRICT COUNCIL
PICTON

1. Submitter Details

Full Name	John Wavell Herbert			
Organisation (if applicable)				
Contact Person (if applicable)				
Postal Address	2069 Queen Charlotte Drive			
	PICTON	Post Code	7281	
Email	h-john@clear.net.nz			
Telephone	Business	Home	(03) 573-6023	
	Fax	Mobile		
Address for Service	As above			
(if different from above)				
		Post Code		
Signature (of submitter or person authorised to sign on behalf of submitter)	[Signature]		Date	20/12/2012

2. Trade Competition

Could you gain an advantage in trade competition in making this submission? Yes No

If you answered yes, please note that there are restrictions on your ability to make a submission. Refer to Clause 6(4) of the First schedule of the RMA for further information.

3. Council Hearing

Do you wish to be heard in support of your submission? Yes No

If you answered Yes to being heard, would you be prepared to consider presenting a joint case with others who have made a similar submission? Yes No

4. Return Submission to:

Attention Planning Technician
Marlborough District Council
PO Box 443
Blenheim 7240

Fax: 520 7496

Email: pc61@marlborough.govt.nz

For Office Use
Submission No:

67

5. The specific parts of the proposed plan change the submission relates to are as follows:

Plan change number 61
Clarify that utility provisions apply to 'requiring authorities'.

Continue on a separate sheet if necessary

6. My submission is: (state the nature of your submission whether you support or oppose (in full or in part) specific provisions)

I oppose the proposed submission that utility provisions apply to "requiring authorities"

Continue on a separate sheet if necessary

7. The decision I seek from Council is: (where amendments are sought, provide details of what changes you would like to see)

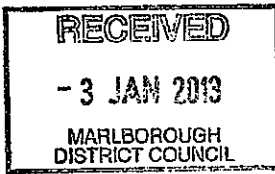
That the amateur radio service be included in the utility provisions, along with the requiring authorities, with regard to antenna and their supporting structures.

Antenna and their supporting structures for the purpose of Amateur Radio, be regarded under the utilities provisions.

I seek to include the Amateur Radio Service along with the 'requiring authority', so that the existing requirements can continue to apply to Amateur Radio antenna structures.

Amateur Radio Service operators take an active part in Search and Rescue events, as well as providing communications for numerous community and sports events. Operators played an important role in the recent Christchurch Civil Defence operations at the time of the recent earthquakes and subsequent activities. Not including the Amateur Radio antennas along with the supporting structures in the utility provisions, will limit the opportunities for the growth and expansion of the hobby. Additionally it may hamper the communications role that has been so valuable in emergency situations.

Continue on a separate sheet if necessary



**Submission on Plan Change 61 -
Minor Amendments
to the Wairau/Awatere Resource Management Plan**



Submissions close 5.00 pm Friday, 21 December 2012

1. Submitter Details

Full Name

Organisation (if applicable)

Contact Person (if applicable)

Postal Address

 Post Code

Email

Telephone Business Home
 Fax Mobile

Address for Service
 (if different from above)
 Post Code

Signature (of submitter or person authorised to sign on behalf of submitter) Date

2. Trade Competition

Could you gain an advantage in trade competition in making this submission? Yes No

If you answered yes, please note that there are restrictions on your ability to make a submission. Refer to Clause 6(4) of the First schedule of the RMA for further information.

3. Council Hearing

Do you wish to be heard in support of your submission? Yes No

If you answered Yes to being heard, would you be prepared to consider presenting a joint case with others who have made a similar submission? Yes No

4. Return Submission to:

Attention Planning Technician
Marlborough District Council
PO Box 443
Blenheim 7240

Fax: 520 7496

Email: pc61@marlborough.govt.nz

For Office Use
Submission No:

5. The specific parts of the proposed plan change the submission relates to are as follows:

Item 10 - Deletion of the definition of "Wineries" and replacement of the definition with the term Winery and a new definition for Winery.

Continue on a separate sheet if necessary

6. My submission is: (state the nature of your submission whether you support or oppose (in full or in part) specific provisions)

We are opposed to the change to the definition of winery.

The definition of wineries should not be amended as proposed without comprehensive consideration of the wider effects of industrial activities located or established in the Rural Zone and in the rural environment. Furthermore the appropriate location for industrial activities is the Industrial Zone.

That any amendments have proper regard to the implications of industrial activities including water use, waste and other discharges, traffic, noise, lighting and the other effects from those activities which are incompatible with the Rural Zones and the rural environment.

The Section 32 evaluation is incorrect when it refers to an evaluation of the proposed in particular it refers to wineries as a "permitted activity". It does not address the obvious option of waiting for the pending Plan review and gives a proper justification for implementing an ad hoc change now in the absence of a comprehensive review.

The definition as proposed does not make sense in particular the phrase "or juice from the subsequent production of wine".

Continue on a separate sheet if necessary

7. The decision I seek from Council is: (where amendments are sought, provide details of what changes you would like to see)

-Decline to make the proposed deletion of the definition of wineries and replace it with the new definition of "Winery" as proposed.
-Alternatively consider amendment of the definition of wineries and for a new definition to limit the size and scale of facilities to ensure that conflict in the rural environment between industrial facilities and those activities that occur in the Rural Zone are minimised.

- Require the location of industrial activities into the industrial zone where appropriate services including water and effluent disposal services can be provided.

- Limit the size and scale of such facilities to a scale of activity consistent with the receiving rural environment and ensure that adverse effects are avoided. Such adverse effects include significant effects on rural amenity and character, productive soils from inappropriately located industrial facilities contracted to process wine.

-Exclude bottling and consequential activities from the definition of processing.

-Exclude the processing of juice previously crushed or processed off site from the definition.

Continue on a separate sheet if necessary

CERTIFICATE OF INCORPORATION

GUERNSEY ROAD RESIDENTS ASSOCIATION INCORPORATED 2560162

This is to certify that GUERNSEY ROAD RESIDENTS ASSOCIATION INCORPORATED was incorporated under the Incorporated Societies Act 1908 on the 11th day of May 2012.

Neville Hemi

Registrar of Incorporated Societies
20th day of December 2012



Submission on Plan Change 61 -
Minor Amendments
to the Wairau/Awatere Resource Management Plan



Submissions close 5.00 pm Friday, 21 December 2012

1. Submitter Details

Full Name SAMUEL TOWNENT 2125WT

Organisation (if applicable)

Contact Person (if applicable)

Postal Address 36 MCKENZIE STREET BLENHEIM

Post Code 7201

Email Vhfhound@gmail.com

Telephone Business (03) 5777710 Home (03) 5778892

Fax Mobile (027) 578002

Address for Service

(if different from above)

Post Code

Signature (of submitter or person authorised to sign on behalf of submitter) S. Townent Date 14

2. Trade Competition

Could you gain an advantage in trade competition in making this submission? Yes No

If you answered yes, please note that there are restrictions on your ability to make a submission. Refer to Clause 6(4) of the First schedule of the RMA for further information.

3. Council Hearing

Do you wish to be heard in support of your submission? Yes No

If you answered Yes to being heard, would you be prepared to consider presenting a joint case with others who have made a similar submission? Yes No

4. Return Submission to:

Attention Planning Technician
Marlborough District Council
PO Box 443
Blenheim 7240

Fax: 520 7496

Email: pc61@marlborough.govt.nz

For Office Use
Submission No: 69

RECEIVED

Page 1 of 2

20 DEC 2012

MARLBOROUGH
DISTRICT COUNCIL

5. The specific parts of the proposed plan change the submission relates to are as follows:

Plan change number 61
Clarify that utility provisions apply to 'requiring authorities'.

Continue on a separate sheet if necessary

6. My submission is: *(state the nature of your submission whether you support or oppose (in full or in part) specific provisions)*

I oppose the proposed submission that utility provisions apply to "requiring authorities" as suggested in the Resource Management Plan

Continue on a separate sheet if necessary

7. The decision I seek from Council is: *(where amendments are sought, provide details of what changes you would like to see)*

That the amateur radio service be included in the utility provisions, along with the requiring authorities, with regard to antenna and their supporting structures.

Antenna and their supporting structures for the purpose of Amateur Radio, be regarded under the utilities provisions.

I seek to include the Amateur Radio Service along with the 'requiring authority', so that the existing requirements can continue to apply to Amateur Radio antenna structures.

Amateur Radio Service operators take an active part in Search and Rescue events, as well as providing communications for numerous community and sports events. Operators played an important role in the recent Christchurch Civil Defence operations at the time of the recent earthquakes and subsequent activities. Not including the Amateur Radio antennas along with the supporting structures in the utility provisions, will limit the opportunities for the growth and expansion of the hobby. Additionally it may hamper the communications role that has been so valuable in emergency situations.

Continue on a separate sheet if necessary

Submission on Plan Change 61 -
Minor Amendments
to the Wairau/Awatere Resource Management Plan



Submissions close 5.00 pm Friday, 21 December 2012

1. Submitter Details

Full Name

Organisation (if applicable)

Contact Person (if applicable)

Postal Address

 Post Code

Email

Telephone Business Home
Fax Mobile

Address for Service
(if different from above)
 Post Code

Signature (of submitter or person authorised to sign on behalf of submitter) Date

2. Trade Competition

Could you gain an advantage in trade competition in making this submission? Yes No

If you answered yes, please note that there are restrictions on your ability to make a submission. Refer to Clause 6(4) of the First schedule of the RMA for further information.

3. Council Hearing

Do you wish to be heard in support of your submission? Yes No

If you answered 'Yes to being heard, would you be prepared to consider presenting a joint case with others who have made a similar submission? Yes No

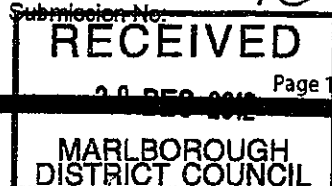
4. Return Submission to:

Attention Planning Technician
Marlborough District Council
PO Box 443
Blenheim 7240

Fax: 520 7496

Email: pc61@marlborough.govt.nz

For Office Use
Submission No.



5. The specific parts of the proposed plan change the submission relates to are as follows:

Plan change number 61
Clarify that utility provisions apply to 'requiring authorities'.

Continue on a separate sheet if necessary

6. My submission is: *(state the nature of your submission whether you support or oppose (in full or in part) specific provisions)*

I oppose the proposed submission that utility provisions apply to "requiring authorities"

Continue on a separate sheet if necessary

7. The decision I seek from Council is: *(where amendments are sought, provide details of what changes you would like to see)*

That the amateur radio service be included in the utility provisions, along with the requiring authorities, with regard to antenna and their supporting structures.

Antenna and their supporting structures for the purpose of Amateur Radio, be regarded under the utilities provisions.

I seek to include the Amateur Radio Service along with the 'requiring authority', so that the existing requirements can continue to apply to Amateur Radio antenna structures.

Amateur Radio Service operators take an active part in Search and Rescue events, as well as providing communications for numerous community and sports events. Operators played an important role in the recent Christchurch Civil Defence operations at the time of the recent earthquakes and subsequent activities. Not including the Amateur Radio antennas along with the supporting structures in the utility provisions, will limit the opportunities for the growth and expansion of the hobby. Additionally it may hamper the communications role that has been so valuable in emergency situations.

Continue on a separate sheet if necessary

Submission on Plan Change 61 -
Minor Amendments
to the Wairau/Awatere Resource Management Plan



Submissions close 5.00 pm Friday, 21 December 2012

1. Submitter Details

Full Name ROBERT JACOB NICOLL

Organisation (if applicable)

Contact Person (if applicable)

Postal Address 25 SELWYN ST

BLenheim Post Code 7201

Email antenna@xnet.co.nz

Telephone Business Home
Fax Mobile

Address for Service
(if different from above)
 Post Code

Signature (of submitter or person authorised to sign on behalf of submitter) R J Nicoll Date 14-12-2012

2. Trade Competition

Could you gain an advantage in trade competition in making this submission? Yes No

If you answered yes, please note that there are restrictions on your ability to make a submission. Refer to Clause 6(4) of the First schedule of the RMA for further information.

3. Council Hearing

Do you wish to be heard in support of your submission? Yes No

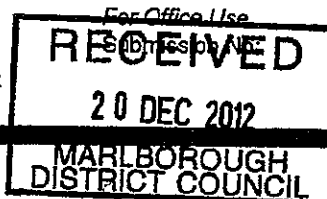
If you answered 'Yes to being heard, would you be prepared to consider presenting a joint joint case with others who have made a similar submission? Yes No

4. Return Submission to:

Attention Planning Technician
Marlborough District Council
PO Box 443
Blenheim 7240

Fax: 520 7496

Email: pc61@marlborough.govt.nz



5. The specific parts of the proposed plan change the submission relates to are as follows:

Plan change number 61
Clarify that utility provisions apply to 'requiring authorities'.

Continue on a separate sheet if necessary

6. My submission is: (state the nature of your submission whether you support or oppose (in full or in part) specific provisions)

I oppose the proposed submission that utility provisions apply to "requiring authorities"

Continue on a separate sheet if necessary

7. The decision I seek from Council is: (where amendments are sought, provide details of what changes you would like to see)

That the amateur radio service be included in the utility provisions, along with the requiring authorities, with regard to antenna and their supporting structures.

Antenna and their supporting structures for the purpose of Amateur Radio, be regarded under the utilities provisions.

I seek to include the Amateur Radio Service along with the 'requiring authority', so that the existing requirements can continue to apply to Amateur Radio antenna structures.

Amateur Radio Service operators take an active part in Search and Rescue events, as well as providing communications for numerous community and sports events. Operators played an important role in the recent Christchurch Civil Defence operations at the time of the recent earthquakes and subsequent activities. Not including the Amateur Radio antennas along with the supporting structures in the utility provisions, will limit the opportunities for the growth and expansion of the hobby. Additionally it may hamper the communications role that has been so valuable in emergency situations.

Continue on a separate sheet if necessary

**Submission on Plan Change 61 -
Minor Amendments
to the Wairau/Awatere Resource Management Plan**



Submissions close 5.00 pm Friday, 21 December 2012

1. Submitter Details

Full Name **JEREMY LAMB**

Organisation (if applicable)

Contact Person (if applicable)

Postal Address **7 KINLOCH CRES**
BLenheim


Post Code **7201**

Email

Telephone Business **03 578 1068** Home **03 579 3031**
Fax Mobile **021 713 484**

Address for Service
(if different from above)

Post Code

Signature (of submitter or person authorised to sign on behalf of submitter)  Date **16/12/2012**

2. Trade Competition

Could you gain an advantage in trade competition in making this submission? Yes No

If you answered yes, please note that there are restrictions on your ability to make a submission. Refer to Clause 6(4) of the First schedule of the RMA for further information.

3. Council Hearing

Do you wish to be heard in support of your submission? Yes No

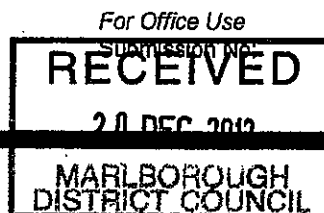
If you answered Yes to being heard, would you be prepared to consider presenting a joint case with others who have made a similar submission? Yes No

4. Return Submission to:

Attention Planning Technician
Marlborough District Council
PO Box 443
Blenheim 7240

Fax: 520 7496

Email: pc61@marlborough.govt.nz



5. The specific parts of the proposed plan change the submission relates to are as follows:

Plan change number 61
Clarify that utility provisions apply to 'requiring authorities'.

Continue on a separate sheet if necessary

6. My submission is: (state the nature of your submission whether you support or oppose (in full or in part) specific provisions)

I oppose the proposed submission that utility provisions apply to "requiring authorities" as suggested in the Resource Management Plan

Continue on a separate sheet if necessary

7. The decision I seek from Council is: (where amendments are sought, provide details of what changes you would like to see)

That the amateur radio service be included in the utility provisions, along with the requiring authorities, with regard to antenna and their supporting structures.

Antenna and their supporting structures for the purpose of Amateur Radio, be regarded under the utilities provisions.

I seek to include the Amateur Radio Service along with the 'requiring authority', so that the existing requirements can continue to apply to Amateur Radio antenna structures.

Amateur Radio Service operators take an active part in Search and Rescue events, as well as providing communications for numerous community and sports events. Operators played an important role in the recent Christchurch Civil Defence operations at the time of the recent earthquakes and subsequent activities. Not including the Amateur Radio antennas along with the supporting structures in the utility provisions, will limit the opportunities for the growth and expansion of the hobby. Additionally it may hamper the communications role that has been so valuable in emergency situations.

Continue on a separate sheet if necessary

Submission on Plan Change 61 -
Minor Amendments
to the Wairau/Awatere Resource Management Plan



Submissions close 5.00 pm Friday, 21 December 2012

1. Submitter Details

Full Name Mark O'Neil

Organisation (if applicable)

Contact Person (if applicable)

Postal Address 95A Alambra Rd

Post Code 7201

Email

Telephone Business Home 05788762

Fax Mobile 0277759725

Address for Service

(if different from above)

Post Code 7201

Signature (of submitter or person authorised to sign on behalf of submitter) Mark O'Neil Date 18/12/12

2. Trade Competition

Could you gain an advantage in trade competition in making this submission? Yes No

If you answered yes, please note that there are restrictions on your ability to make a submission. Refer to Clause 6(4) of the First schedule of the RMA for further information.

3. Council Hearing

Do you wish to be heard in support of your submission? Yes No

If you answered 'Yes to being heard, would you be prepared to consider presenting a joint joint case with others who have made a similar submission?

Yes No

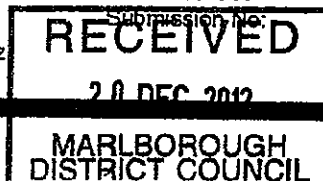
4. Return Submission to:

Attention Planning Technician
Marlborough District Council
PO Box 443
Blenheim 7240

Fax: 520 7496

Email: pc61@marlborough.govt.nz

For Office Use
Submission No:



73

5. The specific parts of the proposed plan change the submission relates to are as follows:

Plan change number 61
Clarify that utility provisions apply to 'requiring authorities'.

Continue on a separate sheet if necessary

6. My submission is: *(state the nature of your submission whether you support or oppose (in full or in part) specific provisions)*

I oppose the proposed submission that utility provisions apply to "requiring authorities" as suggested in the Resource Management Plan

Continue on a separate sheet if necessary

7. The decision I seek from Council is: *(where amendments are sought, provide details of what changes you would like to see)*

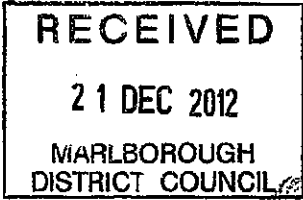
That the amateur radio service be included in the utility provisions, along with the requiring authorities, with regard to antenna and their supporting structures.

Antenna and their supporting structures for the purpose of Amateur Radio, be regarded under the utilities provisions.

I seek to include the Amateur Radio Service along with the 'requiring authority', so that the existing requirements can continue to apply to Amateur Radio antenna structures.

Amateur Radio Service operators take an active part in Search and Rescue events, as well as providing communications for numerous community and sports events. Operators played an important role in the recent Christchurch Civil Defence operations at the time of the recent earthquakes and subsequent activities. Not including the Amateur Radio antennas along with the supporting structures in the utility provisions, will limit the opportunities for the growth and expansion of the hobby. Additionally it may hamper the communications role that has been so valuable in emergency situations.

Continue on a separate sheet if necessary



**Submission on Plan Change 61 -
Minor Amendments
to the Wairau/Awatere Resource Management Plan**



**MARLBOROUGH
DISTRICT COUNCIL**

Submissions close 5.00 pm Friday, 21 December 2012

1. Submitter Details

Full Name

Organisation (if applicable)

Contact Person (if applicable)

Postal Address

 Post Code

Email

Telephone Business Home
Fax Mobile

Address for Service
(if different from above)
 Post Code

Signature (of submitter or person authorised to sign on behalf of submitter) Date

2. Trade Competition

Could you gain an advantage in trade competition in making this submission? Yes No

If you answered yes, please note that there are restrictions on your ability to make a submission. Refer to Clause 6(4) of the First schedule of the RMA for further information.

3. Council Hearing

Do you wish to be heard in support of your submission? Yes No

If you answered 'Yes to being heard, would you be prepared to consider presenting a joint joint case with others who have made a similar submission? Yes No

4. Return Submission to:

Attention Planning Technician
Marlborough District Council
PO Box 443
Blenheim 7240

Fax: 520 7496

Email: pc61@marlborough.govt.nz

For Office Use
Submission No:

74

5. The specific parts of the proposed plan change the submission relates to are as follows:

Item 6 Clarify that utility provisions apply to "requiring authority"
Proposed Change
(1) Insert the following definition of "utility":
Means a network utility operation undertaken by a requiring authority as those terms are defined in Section 166 of the Resource Management Act 1991

Continue on a separate sheet if necessary

6. My submission is: (state the nature of your submission whether you support or oppose (in full or in part) specific provisions)

I oppose this specific change as being badly thought through for the following reason: That the requirement for the utility to be "a network utility operation", and be carried out by a requiring authority (which is what this change requires) may have some unintended results and may not achieve Council's aims.

1. For example, one can only assume that Council's Harbourmaster does realise that even though Council may be a requiring Authority, the provision of port services, or maintenance of a navigable waterway is not a network utility operation as defined in Section 166 of the Resource Management Act, and so after this change comes into force the installation of any navigation aids, lighthouses and beacons (which are presently permitted under the rules) will no longer be an "as of right" operation but may require a Resource Consent. Nor will any Boating Club or private wharf owner be able to install any navigation aid without a Resource Consent. Presumably permission for navigation lights on marine farms could be dealt with as a condition in the consent which establishes the farm.

Similarly, since the Police do not install speed cameras to construct or operate roads but are only the enforcing authority, they may also be caught by the change.
(Continued on separate page)

Continue on a separate sheet if necessary

7. The decision I seek from Council is: (where amendments are sought, provide details of what changes you would like to see)

I would ask Council to abandon this particular portion of its proposed change and let the status quo remain.

Continue on a separate sheet if necessary

2. The change seems to assume that all utilities are installed as part of a network by operators who can be requiring authorities. However, consider the case of a private landowner who wishes to use a private electrical contractor to run an overhead power line within his farm or vineyard (for example a line from a building to an irrigation pump). The power line is not part of a network operation, it is only internal wiring, and neither the landowner nor the electrical contractor can become requiring authorities, so, in the absence of other rules permitting the activity, the owner will need to apply for a Resource Consent.

And one assumes that technically a subdivider of land could find themselves in a similar situation. They are obviously not a network operator and cannot become a requiring authority. Few if any drainage or cabling contractors operate networks. The subdivider would therefore need to ensure that the Consent for the subdivision includes consent for the services, since they would no longer be able to be installed as of right under the amended rules.

The list of similar potential problems from this proposed change simply goes on and on.

3. There is mention that one of the reasons for the change is the fear that private persons may install tall aerials in their yards.

One has to ask the question how often have private people installed tall aerials in the past? I have lived in Blenheim for over 30 years and can think of very few. Further, an aerial of anything like that height would surely be covered by the Building Act and Council would have control over its design and safety.

It does appear to me that in proposing this change Council is using a sledgehammer to crack a nut; that this is a huge over-reaction to a problem which appears not to exist.

The most likely person to wish to install a large aerial is a member of the Amateur Radio fraternity. Generally speaking this group is fairly responsible and community minded, and Council has in the past maintained good relations with the local club. Further, it is a group which has traditionally been of benefit to the community in times of civil emergency and placing unnecessary restrictions on their operation may not be in the community's best interest. It does seem to me that given the good relations between Council and the local Amateur Radio Club some joint consultation could lead to an alternative which meets the needs of both parties.

Further in changing the rules in this arbitrary manner Council ignores the physics involved in radio communication. An aerial is rather more than a simple piece of wire. To act efficiently it must be tuned to the frequency being used. Common frequencies used by amateur radio operators are in the 40, 80 and 160 metre bands. Given that the minimum length for an efficient aerial is one quarter of a wavelength (that is 10, 20 or 40 metres), a height limitation of seven and a half metres is inadequate. While it is true that some shorter aerials exist, the one thing they have in common is their inefficiency.

As someone with an interest in setting up an amateur radio station I have personally investigated shorter aerials for amateur radio use, and concluded that because of their inefficiency I would have to consider boosting the power of my transmitter to the maximum permitted (an increase of 10 times) by adding a very inefficient linear amplifier.

In this day and age when energy conservation is an issue for most people it seems a backward step to be forcing radio operators to make significant increases in their power usage to overcome a seemingly non-existent problem.

It may also be worth pointing out that the national body, the NZART operates networks both in its own right (it has systems of radio repeaters) and as a member co-operative operates a network of fixed and mobile stations which would probably in terms of size come next down the list from mobile phone network operators. It does seem quite possible that at some stage they could apply to become a requiring authority, and from my reading of Section 167 of the Act they may well be successful. It does seem to me that the proposed change does have a loophole which could well nullify its effectiveness.

In conclusion, this particular change does not seem to be well thought out and has potential problems. There does not appear to be any particular urgency to make the change since the present provision has been in place for many years with few if any problems.

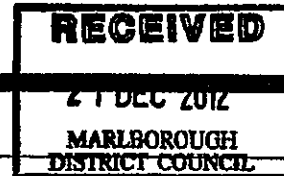
It would seem sensible to take a step back and consider whether there may be a better way of achieving Council's objective without creating unintended issues.

Submission on Plan Change 61 -
Minor Amendments
to the Wairau/Awatere Resource Management Plan



MARLBOROUGH
DISTRICT COUNCIL

Submissions close 5.00 pm Friday, 21 December 2012



1. Submitter Details

Full Name: KENNETH JOHN MENZIES.

Organisation (if applicable): MARLBOROUGH AMATEUR RADIO CLUB INC.

Contact Person (if applicable):

Postal Address: 7 ROSS LANE BLENHEIM

Post Code: [][][][]

Email:

Telephone Business: [] Home: 5786292

Fax: [] Mobile: 0277157715

Address for Service: []

(if different from above): []

Post Code: [][][][]

Signature (of submitter or person authorised to sign on behalf of submitter): [Signature] Date: 21/12/12

2. Trade Competition

Could you gain an advantage in trade competition in making this submission? Yes No

If you answered yes, please note that there are restrictions on your ability to make a submission. Refer to Clause 6(4) of the First schedule of the RMA for further information.

3. Council Hearing

Do you wish to be heard in support of your submission? Yes No

If you answered 'Yes' to being heard, would you be prepared to consider presenting a joint case with others who have made a similar submission? Yes No

4. Return Submission to:

Attention Planning Technician
Marlborough District Council
PO Box 443
Blenheim 7240

Fax: 520 7496
Email: pc61@marlborough.govt.nz

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Submission No:

75

5. The specific parts of the proposed plan change the submission relates to are as follows:

Plan change number 61
Clarify that utility provisions apply to 'requiring authorities'.

Continue on a separate sheet if necessary

6. My submission is: (state the nature of your submission whether you support or oppose (in full or in part) specific provisions)

I oppose the proposed submission that utility provisions apply to "requiring authorities"

Continue on a separate sheet if necessary

7. The decision I seek from Council is: (where amendments are sought, provide details of what changes you would like to see)

That the amateur radio service be included in the utility provisions, along with the requiring authorities, with regard to antenna and their supporting structures.

Antenna and their supporting structures for the purpose of Amateur Radio, be regarded under the utilities provisions.

I seek to include the Amateur Radio Service along with the 'requiring authority', so that the existing requirements can continue to apply to Amateur Radio antenna structures.

Amateur Radio Service operators take an active part in Search and Rescue events, as well as providing communications for numerous community and sports events. Operators played an important role in the recent Christchurch Civil Defence operations at the time of the recent earthquakes and subsequent activities. Not including the Amateur Radio antennas along with the supporting structures in the utility provisions, will limit the opportunities for the growth and expansion of the hobby. Additionally it may hamper the communications role that has been so valuable in emergency situations.

Continue on a separate sheet if necessary

**Submission on Plan Change 61 -
Minor Amendments
to the Wairau/Awaters Resource Management Plan**



Submissions close 5.00 pm Friday, 21 December 2012

1. Submitter Details

Full Name

Organisation (if applicable)

Contact Person (if applicable)

Postal Address

 Post Code

Email

Telephone Business Home
 Fax Mobile

Address for Service
 (if different from above)
 Post Code

Signature (of submitter or person authorised to sign on behalf of submitter) Date

2. Trade Competition

Could you gain an advantage in trade competition in making this submission? Yes No

If you answered yes, please note that there are restrictions on your ability to make a submission. Refer to Clause 6(4) of the First schedule of the RMA for further information.

3. Council Hearing

Do you wish to be heard in support of your submission? Yes No

If you answered 'Yes to being heard, would you be prepared to consider presenting a joint joint case with others who have made a similar submission? Yes No

4. Return Submission to:

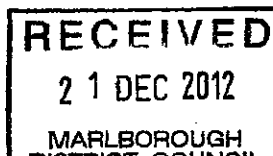
Attention Planning Technician
Marlborough District Council
PO Box 443
Blenheim 7240

Fax: 520 7496

Email: pc61@marlborough.govt.nz

For Office Use
Submission No:

76



6. The specific parts of the proposed plan change the submission relates to are as follows:

Item 1 Policy on term of water permits to take and use water

It is the intent of Plan Change 61, Item 1, to remove the RMA provision for 30 year water permit terms and introduce 10 year water permits by changing the existing Policy 1.3 to read:

"To issue water permits to take and use water for a period of 10 years where water resources are either fully allocated or over-allocated relative to the allocation limits set in this Plan or where water is taken from a resource for which no SFR has been established in the Plan".

Continue on a separate sheet if necessary

6. My submission is: (state the nature of your submission whether you support or oppose (in full or in part) specific provisions)

This submission opposes that the maximum period of a Resource Consent to take and use water is limited to 10 years. There is a substantial financial investment in establishing irrigation infrastructure, high development costs when move into intensive landuse (e.g viticulture) and additional investment in technology to utilise water efficiently. These developments are long-term investments and require certainty of access to water over a 20 to 30 year permit term to safeguard this commitment. Arable and Vegetable crops can require more water but for less duration. Growers need long term certainty. Growers do not need to be stressing over reapplying for consents and the cost also associated with it. The third report of the Land and Water Forum has signalled that Councils should grant consents for a minimum of 20 years and that longer durations should become the norm. The Section 32 Report evaluation details that irrespective of the current provision of 30 year terms for water permits, the majority of water permits issued since the Plan was notified are for terms of 10 to 20 years. The Water Allocation Plan is currently under review as part of the Wairau/Awatere -Regional Policy Statement Review. This proposed amendment through a Plan change would be premature and pre-emptive while the the Water Allocation Review is yet to be completed.

Continue on a separate sheet if necessary

7. The decision I seek from Council is: (where amendments are sought, provide details of what changes you would like to see)

Delete entirely Item 1 "Term of Water Permits for the Taking of Water from the Proposed Plan Change -Schedule of Changes"

No further action on this Item be contemplated until the completion of the Water Allocation Plan Review

Continue on a separate sheet if necessary

**Submission on Plan Change 61 -
Minor Amendments
to the Wairau/Awatere Resource Management Plan**



**MARLBOROUGH
DISTRICT COUNCIL
RECEIVED**

21 DEC 2012

DISTRICT COUNCIL

1. Submitter Details

Full Name: RICHARD NARWICK EVANS

Organisation (if applicable):

Contact Person (if applicable):

Postal Address: 40 Percy Street
Blenheim
Post Code:

Email:

Telephone Business: Home:
Fax: Mobile: 021 648783

Address for Service: 40 Percy St
(if different from above) Blenheim
Post Code:

Signature (of submitter or person authorised to sign on behalf of submitter): [Signature] Date: 21-12-2012

2. Trade Competition

Could you gain an advantage in trade competition in making this submission? Yes No

If you answered yes, please note that there are restrictions on your ability to make a submission. Refer to Clause 6(4) of the First schedule of the RMA for further information.

3. Council Hearing

Do you wish to be heard in support of your submission? Yes No

If you answered 'Yes to being heard, would you be prepared to consider presenting a joint case with others who have made a similar submission? Yes No

4. Return Submission to:

Attention Planning Technician
Marlborough District Council
PO Box 443
Blenheim 7240

Fax: 520 7496
Email: pc61@marlborough.govt.nz

For Office Use
Submission No: 77

5. The specific parts of the proposed plan change the submission relates to are as follows:

- (2) family flat - size limit
- (3) setback for motorbodies
- (7.2) building setbacks on platforms
- (11) limit home occupation to 1 additional person
- (13) removal of "subdivided earthworks"
- (15) use of rear sections & inclusion of Deferred T-ship Resub ZONE

Continue on a separate sheet if necessary

6. My submission is: (state the nature of your submission whether you support or oppose (in full or in part) specific provisions)

- (2) Remove size limit removes owner choice & is restrictive
- (3) Inclusion of "earthworks" in (ii) is limit to owner & will increase development costs
- (7.2) will restrict up till subdivided & remove choice of owner to develop
- (11) Single person limit is restrictive & will limit growth of business
- (13) this will require 'subdivided earthworks' to obtain R/C at additional costs
- (15) DTR Z limits development, owner should ^{have} choice to pay for treatment

Continue on a separate sheet if necessary

7. The decision I seek from Council is: (where amendments are sought, provide details of what changes you would like to see)

- (2) remove size limit
- (3) ~~remove~~ ~~exclude~~ exclude "earthworks" from clause
- (7.2) remove "building setbacks" from clause
- (11) remove 1 person limit, match with Spers honesty
- (13) delete 'subdivided earthworks' from clause
- (15) decline this proposal.

Continue on a separate sheet if necessary