

Before an Independent Commissioner  
on behalf of Waipa District Council

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*in the matter of:* An application for a retrospective land use consent to  
construct vertical and horizontal (overhead) artificial  
kiwifruit shelters at 582 Parallel Road, Cambridge.

*to:* **Waipa District Council**

*Applicant:* **Kiwifruit Investments Limited**

Statement of Evidence of John Holwerda on behalf of the Applicant

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## **Introduction**

- 1.1. My name is John Holwerda and I am co-owner and director of Sabre Horticulture (**Sabre**). Sabre builds kiwifruit orchard structures including artificial vertical shelters, horizontal hail nets, wind breaks and Plant Nurseries.
- 1.2. Sabre has been building such structures for 15 years in many parts of New Zealand, including within the following localities:
  - 1.2.1. Far North District Council;
  - 1.2.2. Whangarei District Council;
  - 1.2.3. Auckland District Council;
  - 1.2.4. Tauranga & Western Bay District Council;
  - 1.2.5. Eastern Bay District Council;
  - 1.2.6. Gisborne District Council; and
  - 1.2.7. Whanganui District Council.

## **Qualifications/Experience**

- 1.3. I founded Sabre eight and a half years ago. Prior to that I had another company that also undertook rural construction as well as developing orchards. Prior to that I have worked in construction and agriculture since leaving school, both in New Zealand and offshore. I have owned dairy farms and orchards and have been involved in dairy conversions and establishing avocado and other orchards.

## ***Orchard Shelters***

- 1.4. Sabre constructs up to 120 hectares of hail net and horizontal shelter and approximately 20,000 metres of vertical shelter throughout the North Island each year. We have never been requested by any council, other than Waipa District Council, to apply for a building consent for a permeable wind protection shelter for Horticultural applications.
- 1.5. Horizontal and vertical structures are designed to reduce wind and hail damage to high value crops, including Kiwifruit, apple raspberries, cherries and blueberries. There are approximately 3000 hectares of hail net structures protecting high value crops in New Zealand.
- 1.6. Most of our clients prefer to have either green or black netting on the vertical curtains as that has less visual impact. One of my clients demonstrated to me the reason why she wanted black netting on the vertical shelters nearest her house. I was surprised how much better the black netting is at allowing the eye to travel through the curtain and into the orchard itself. Both white and green netting tends to cause the eye to stop at the outside surface rather than

looking right through. Parmvir prefers to use the black netting on vertical curtains and that was installed on the other Parallel Road orchard and is proposed for this proposal at 582 Parallel Road.

- 1.7. Artificial shelter also helps minimise spray drift and double-sided cloth offers even more protection. Please see **attached** at Appendix A the range of cloth provided by manufacturers.
- 1.8. The side curtain acts as a 70% windbreak when in single layer. The bottom 2 metres is vertical and has a double layer. There is a layer of 70% cloth on the outside and 50% cloth on the inside.
- 1.9. Gold variety kiwifruit will be damaged by leaf rub if there is turbulence. Any leaf rub damage that results in a mark greater than the size of a match head will be rejected for export. In New Zealand only 10% of production is used for internal consumption. Rejected fruit is removed from the orchard and the cartage contractors on-sell it to dairy farms for stock feed.
- 1.10. The top, horizontal hail cloth is described as 'clear' and is a 16 millimetre quad net. It is 95% translucent and the woven product creates refracted light . This effectively increases the amount of visible light that gets to the plants and promotes growth by up to 25%. There is increased size of fruit and vigour of the plants. This netting is primarily to protect the crop from wind and hail but it also contains any spray droplets inside the orchard.
- 1.11. With the shelter belt proposed outside the cloth shelter there will be 100% protection against spray drift. The side curtains still allow water and some airflow through. That is important so that the plants are not subject to high humidity.
- 1.12. The 6 metre height of the hail netting is standard in the industry.
- 1.13. The replacement canes grow above the current canopy, which gets completely pruned at the end of the current season. The new canes are then tied down to form the next season's canopy and will bear the next fruit. You need a 6 metre height in order to have the 5 metre string poles angled across.
- 1.14. I have seen a draft report from Applied Research that was completed for Zespri NZ regarding the effect of artificial shelter cloth. That report is embargoed until 24 October 2022. I can say that the report has found that the combination of cloth and tree shelterbelt will give 100% protection against spray drift. Without the shelterbelt, the cloth still hugely reduces the potential for spray drift down to 90%.
- 1.15. The 582 Parallel Road application is for black cloth on the side curtains.
- 1.16. There is a 10 year warranty on the cloth, which is subject to ultra violet light breakdown eventually. We expect the cloth to last about 15 years with normal maintenance. The cloth is recyclable.
- 1.17. On a previous orchard that I owned, we had to replace 2 panels of cloth over a 16 year period.

- 1.18. The post structure is designed for 30 years (the poles and cables) and the poles in the ground are guaranteed for 50 years.
- 1.19. The additional shelter belt of Cryptomeria will provide wind protection and will also ensure there is minimal spray drift. The Zespri report showed that the double layer cloth combinations, as will be installed on this property, consistently achieved high downwind spray deposit reductions of between 75% and 95%. That was without the shelter belt trees in place.

### **582 Parallel Road**

- 1.20. We started constructing the shelter raker structures on the property in November 2021. The first block was furthest from Jennings property to the east. That is an 11ha block. We had no comments from anyone about that work that I'm aware of.
- 1.21. I got a call from Mr Jennings in March, from memory. By that stage we had moved to the next block closer to his house. He was asking what was involved in the shelter for the orchard and how close it would come to him.
- 1.22. I asked Parmvir to check that the real estate agent had told purchasers that we were constructing a kiwifruit orchard on the land.

### **John Holwerda**

Director and Co-Owner – Sabre Horticulture

5 October 2022

## PRODUCT SPECIFICATIONS

<b>PRODUCT:</b>	Quad Net 16mm
<b>CONSTRUCTION:</b>	100% Virgin HDPE Raschel Warp Knitted Cylindrical Monofilaments
<b>WEIGHT: BLACK, WHITE, GREY</b>	80 grams per square metre $\pm 2\%$
<b>WEIGHT: CLEAR/NATURAL</b>	90 grams per square metre $\pm 2\%$
<b>COLOUR:</b>	Black, White or Grey (Black and White Monofilaments)
<b>FEATURES:</b>	16mm hole aperture with four monofilaments crossing each aperture 500mm wide double reinforced outer edges both sides 500 ~ 550 Denier UV Stabilised Packaged in Bales
<b>WARRANTY:</b>	10 year pro-rata against UV degradation
<b>NOTES:</b>	Other sizes made to order - 8mm, 12mm, 20mm

PRODUCT CODE	DESCRIPTION	SIZE
QUAD16MM	QUAD NET 80GSM 16MM WHITE 20% ( $\pm 2\%$ ) SHADE	18M X 320M
QUADM2	QUAD NET 90GSM 16MM CLEAR/NATURAL	18M X 300M



### Hort Dev BOP Limited

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## PRODUCT SPECIFICATIONS



<b>PRODUCT:</b>	Ultimate Windbreak
<b>CONSTRUCTION:</b>	Knitted High Density Polyethylene Monofilament
<b>WEIGHT:</b>	170 grams per square metre
<b>COLOURS:</b>	Black, White, Green
<b>FEATURES:</b>	Chemisorb 944 UV Stabilised 6,000 ppm = 6% Reinforced Selvedge Top and Bottom Sewn Eyelets Top and Bottom 48% Porosity $\pm 2\%$ Burst Strength 2010 kPa Light Block Rate 34.3%
<b>WARRANTY:</b>	120 months against UV degradation
<b>NOTES:</b>	Any size made to order subject to minimum order quantity Windbreak Clips also available

PRODUCT CODE	DESCRIPTION	SIZE
WB183ULG	ULTIMATE WINDBREAK GREEN	1.83M X 100M
WB183ULW	ULTIMATE WINDBREAK WHITE	1.83M X 100M
WB274ULB	ULTIMATE WINDBREAK BLACK	2.74M X 100M
WB274ULW	ULTIMATE WINDBREAK WHITE	2.74M X 100M
WB366ULB	ULTIMATE WINDBREAK BLACK	3.66M X100M
WB366ULG	ULTIMATE WINDBREAK GREEN	3.66M X 100M
WB366ULW	ULTIMATE WINDBREAK WHITE	3.66M X 100M



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