

APPENDIX 4
PHOTOGRAPHS

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a) Australian examples provided in Vodafone's submission



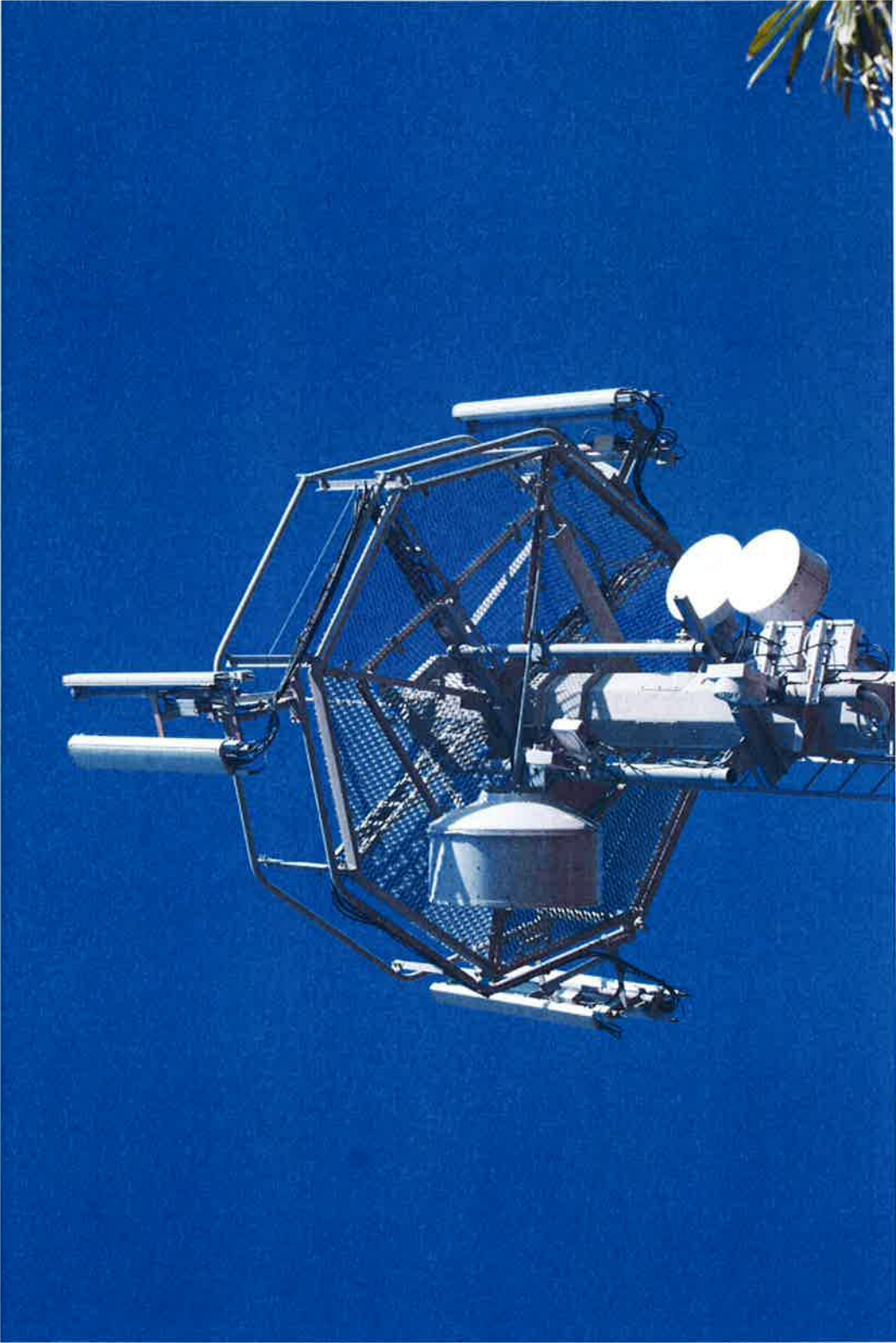
b) German examples provided in Vodafone's submission

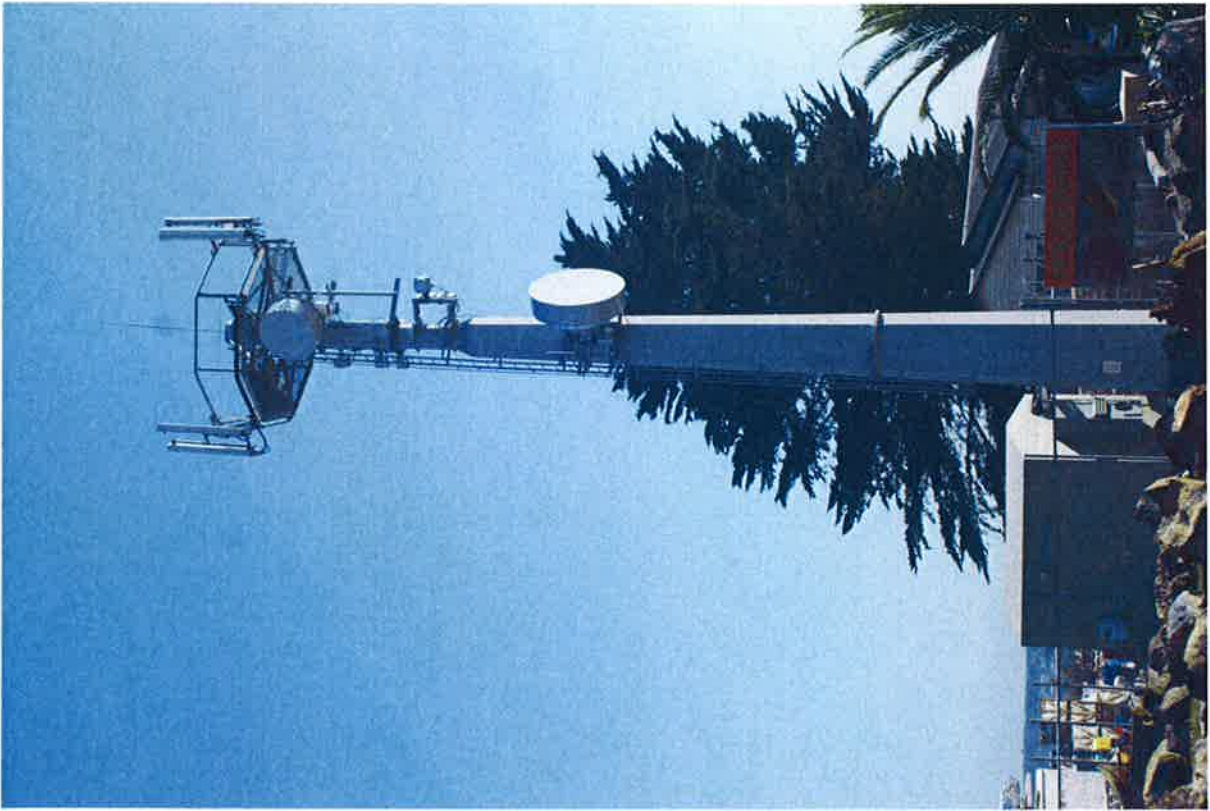


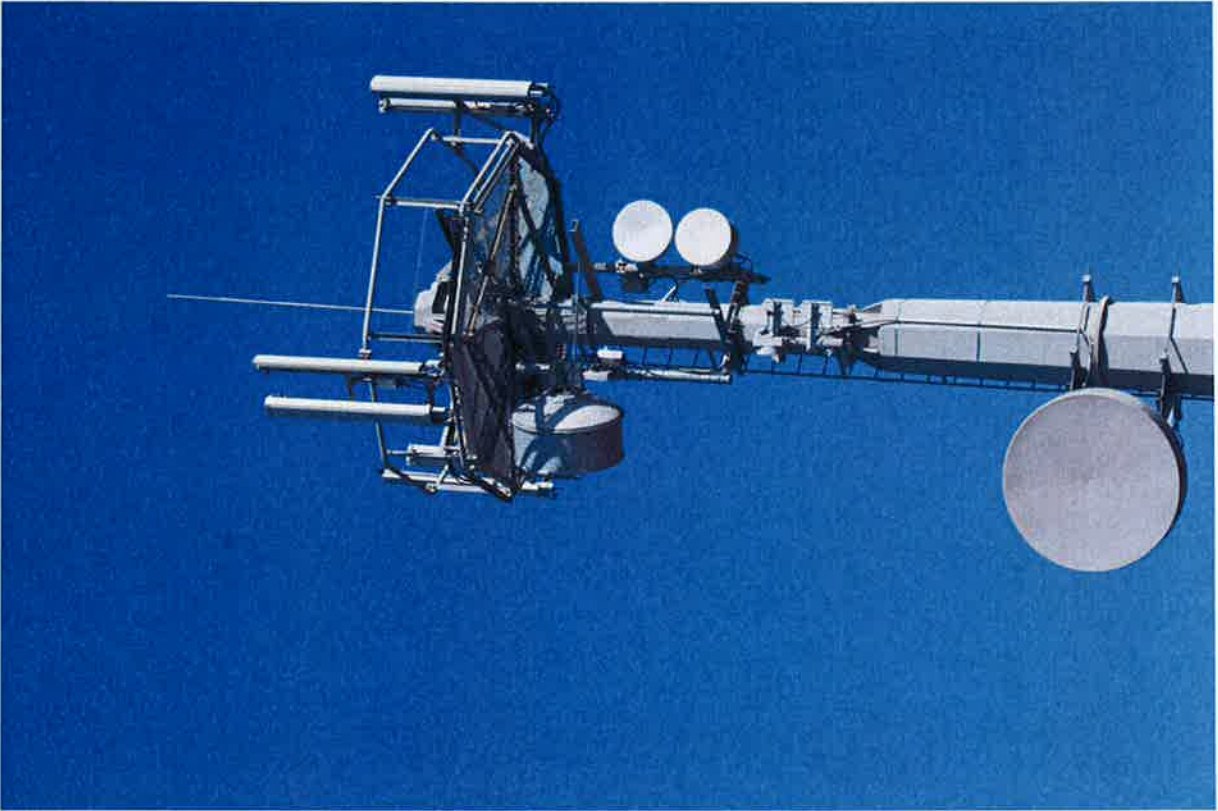
The examples chosen by Vodafone for its submission to illustrate “typical masts for mobile services in New Zealand”.

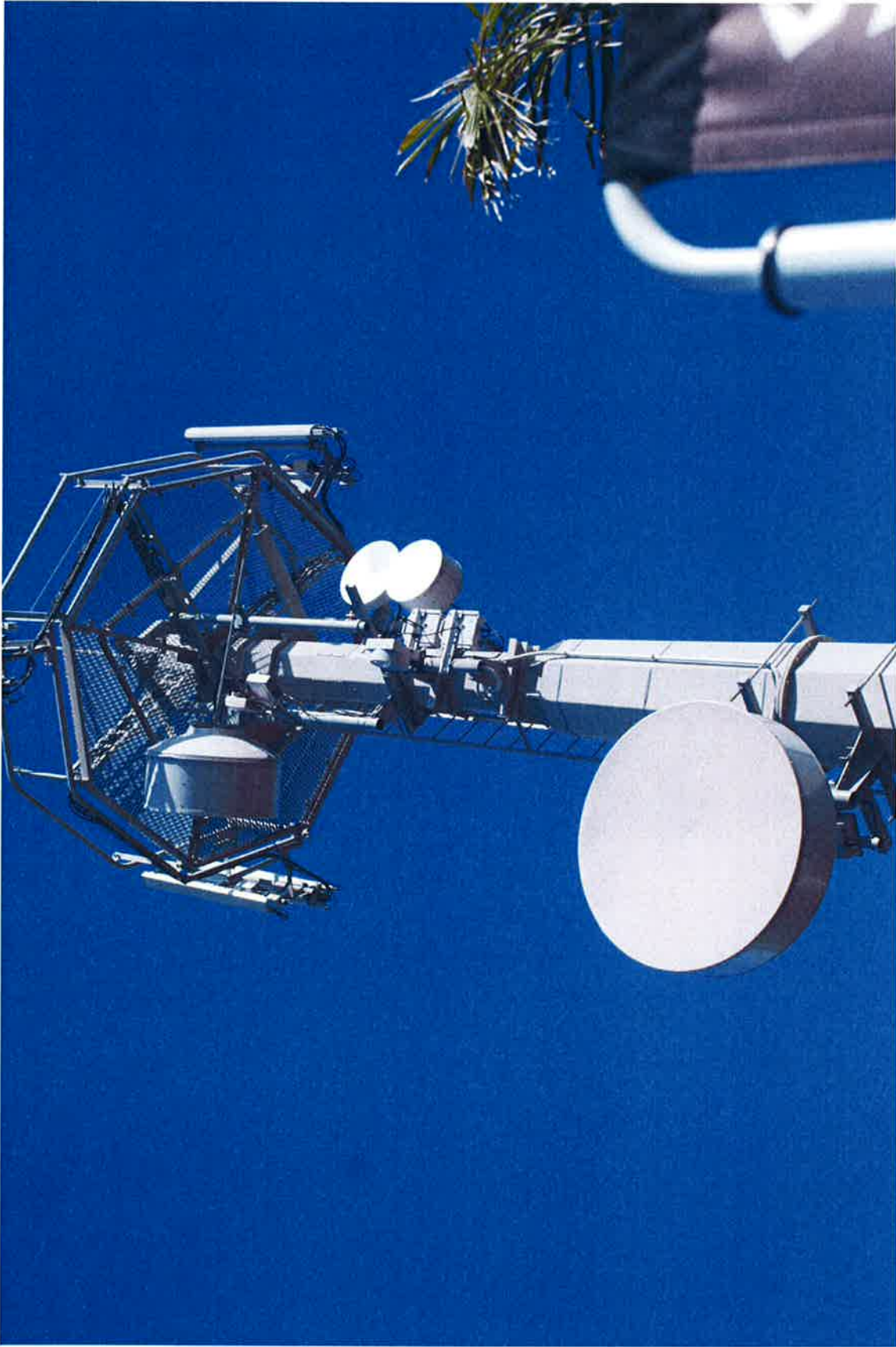
Other New Zealand Examples chosen by NZCL to illustrate the clear potential for collocation in New Zealand



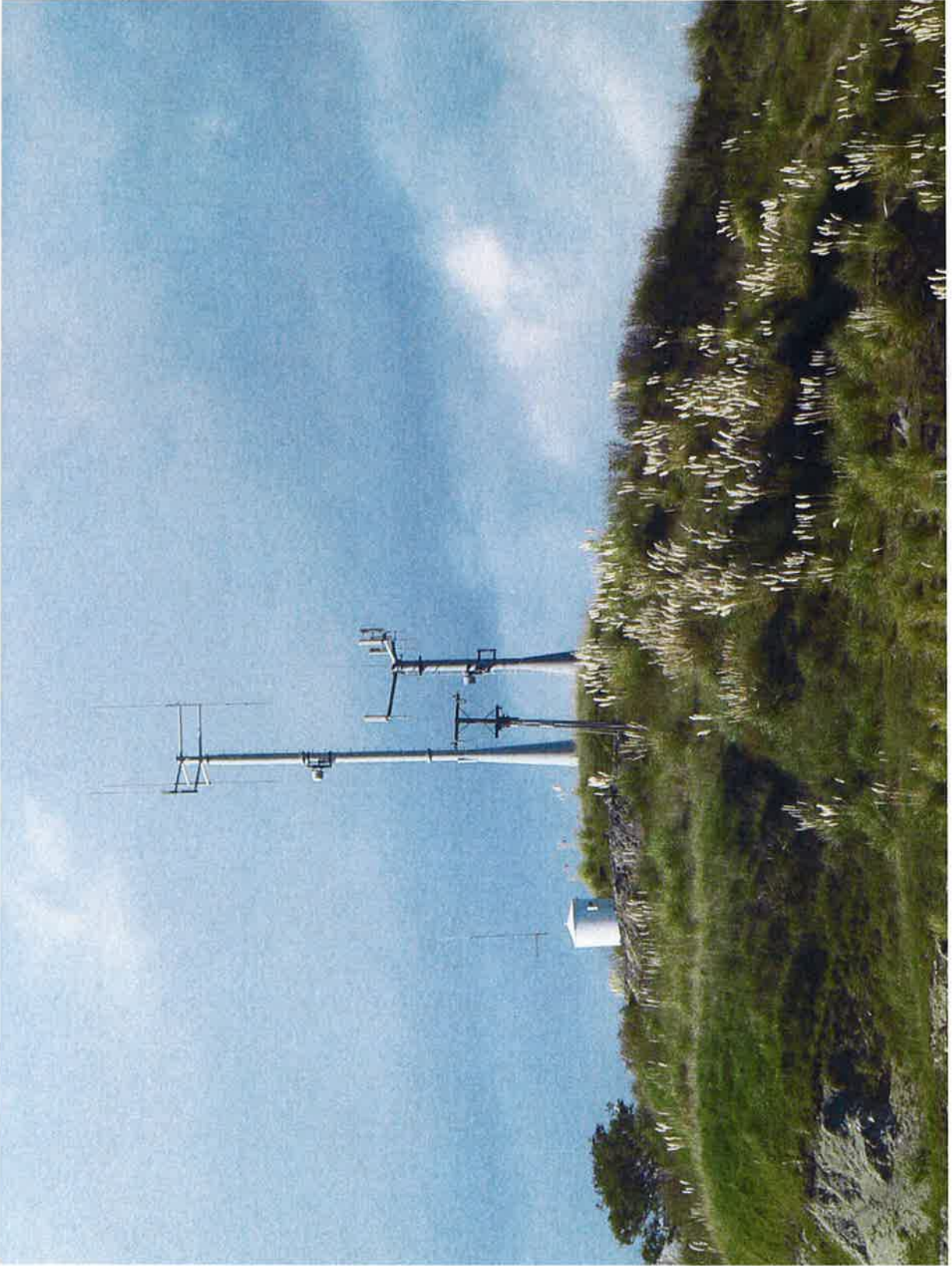








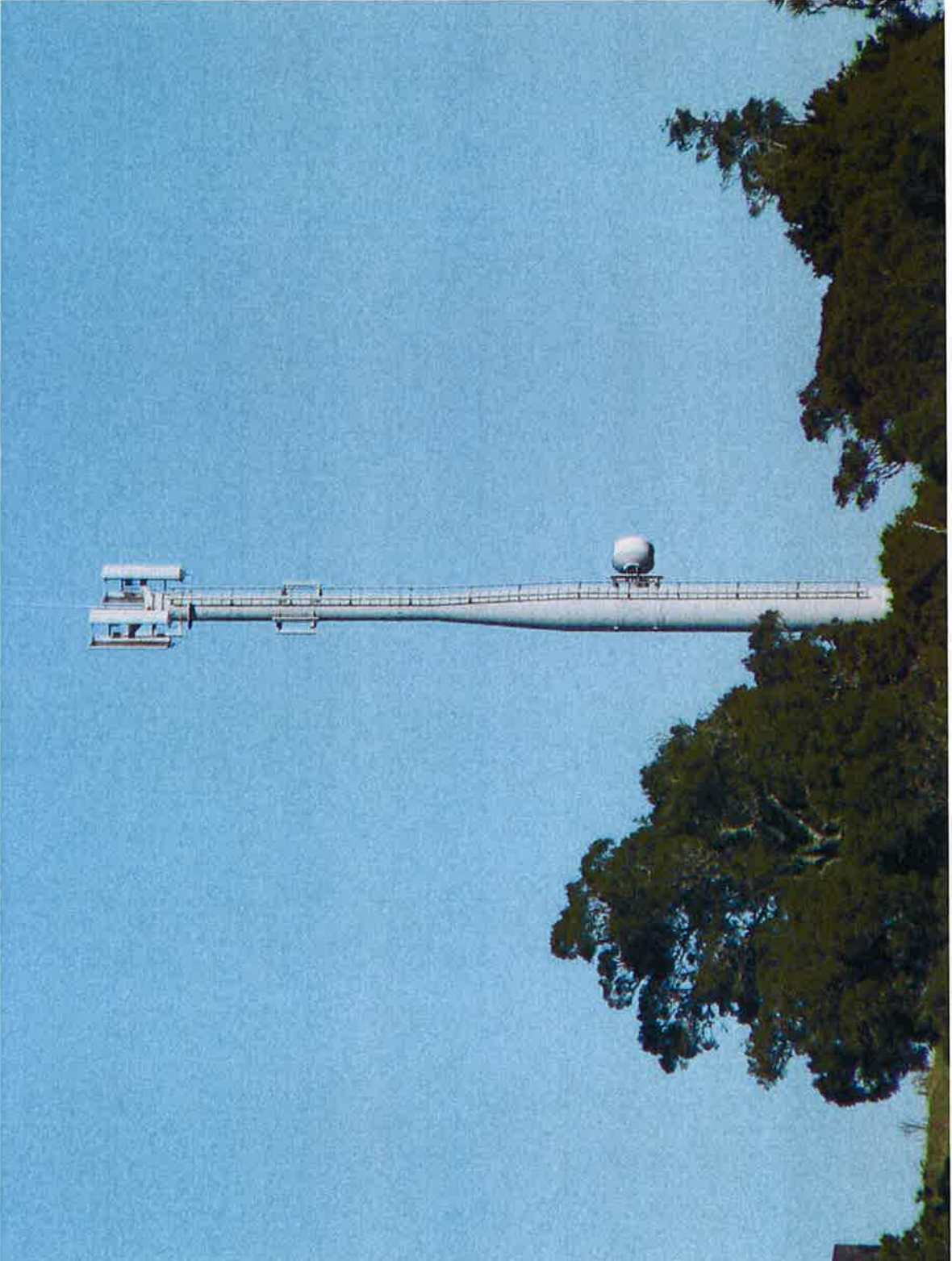














Vodafone Towers





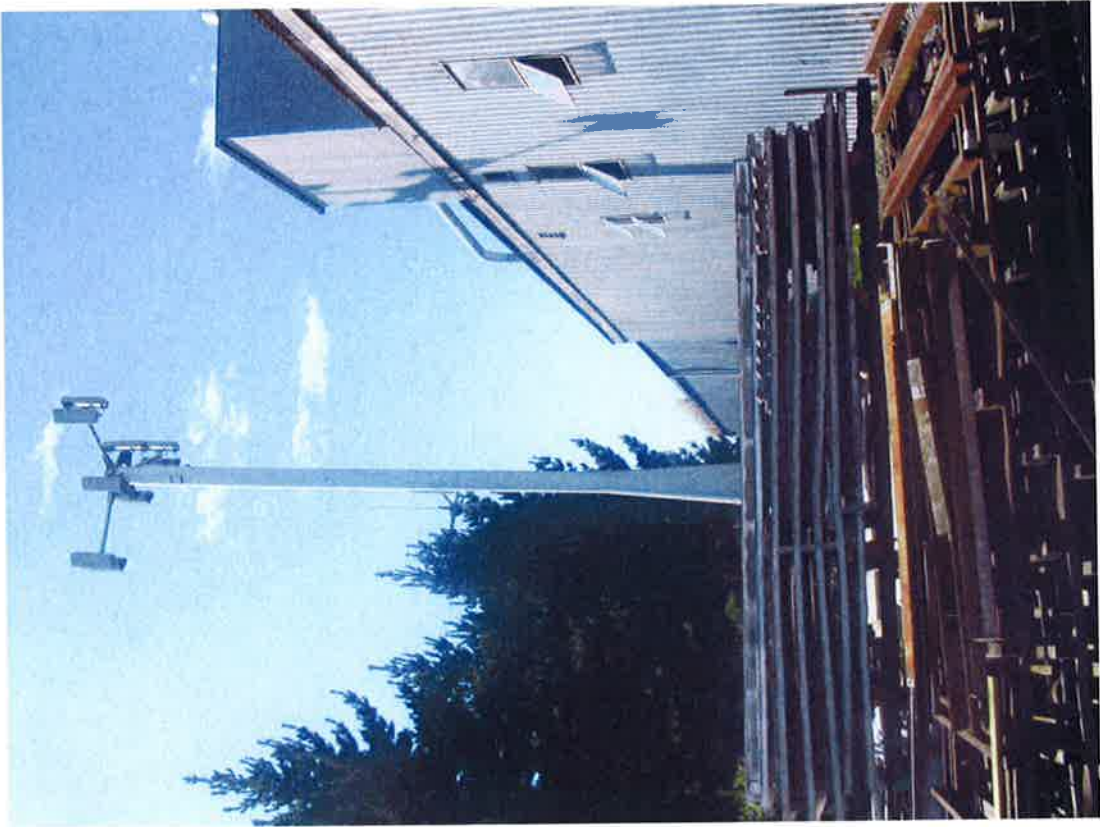
Telecom Tower 1













VNZ Beachlands Good example of 2G with 3G overlaid on top (2G larger x-pol antenna on right, 3G smaller x-pol on left). Shows VNZ can use antenna minimization

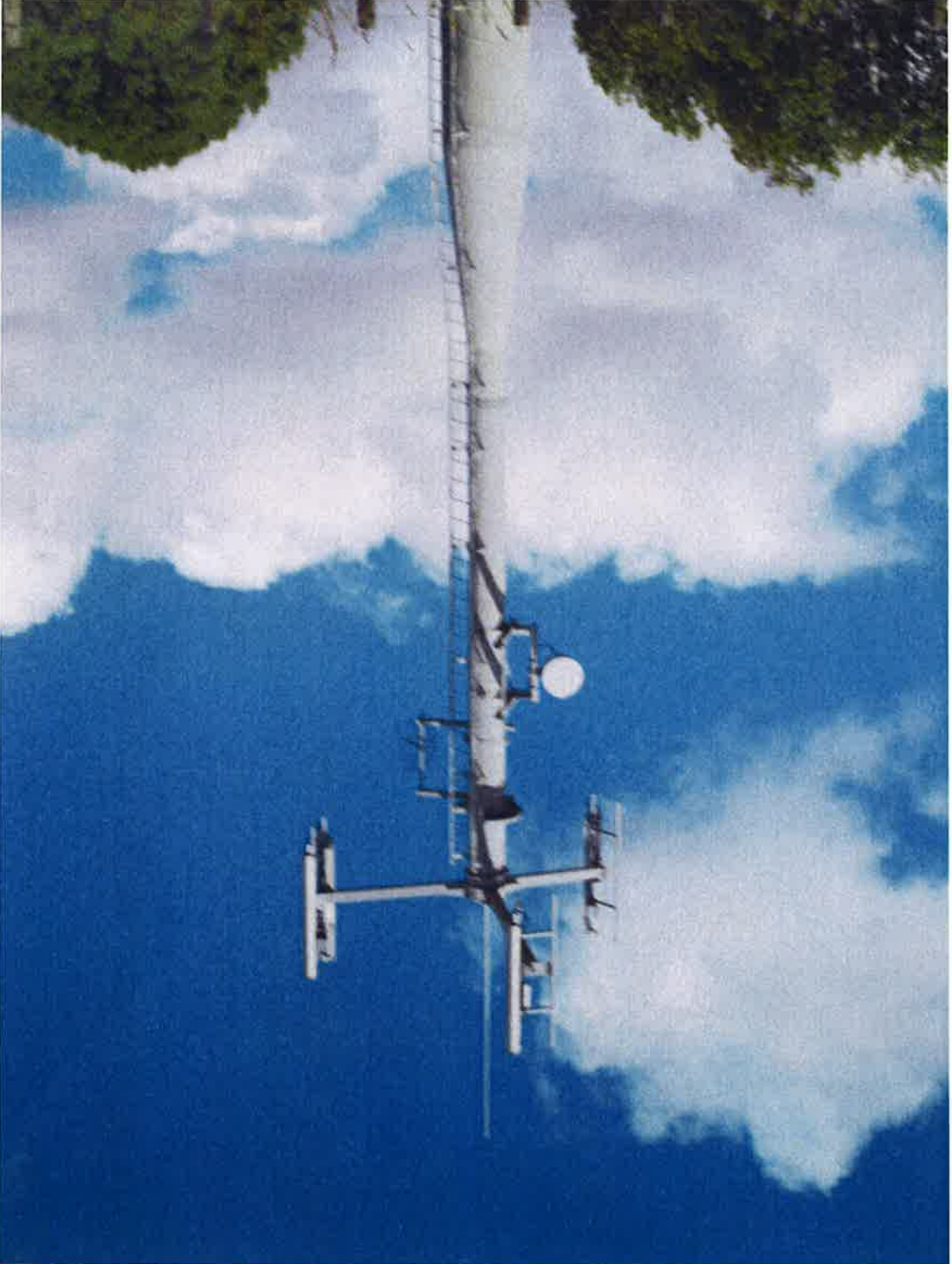


VNZ Otahuhu. Example of VNZ overlaying 3G services on an existing 2G site. 3G x-pol antenna (smaller) in centre of 2 x vertical-polarised antennas for 2G. There is room for NZC if VNZ swapped out 2 x vertical-polarised 2G antennas for 1 x-pol antennas



VNZ Clevedon 2G only and either go in between existing antenna or swap to x-pol's and use spare mount.

VNZ Whatawhata





TNZ Te Awamutu Room for more antennas! Co-Lo request rejected due to structural reasons.

VNZ Putaruru Swap to x-pol and use the freed up mount





TNZ Pukekohe Raceway. TNZ said agreed to Co-Lo provided NZC get a separate lease with land owner for equipment space. Cheaper for NZC up our own mast if we have to get a lease for equipment and mast.



TNZ Matamata Exchange.



TNZ Matamata Exchange Close Up. 1 x-pol antenna per sector.

VNZ Colville



VNZ Whitinga





Cambridge. TNZ left and VNZ right



Paeroa TNZ left, VNZ right. Note VNZ has spare mounts on the head frame in the middle of the spider arms.