

Airways New Zealand

Napier Airspace Amend - Design Notes

Version 5

5 December 2018

This paper is the Airways second submission to the CAA 2017 Airspace Review East Coast – Gisborne and Hawke’s Bay. This submission is specific to Napier airspace – the first/earlier submission being specific to Gisborne airspace.

This paper is intended to explain our draft airspace version 5 request and provide reasons why draft airspace boundaries are where they are.

At the PBN consultation meeting at Napier on 24 May 2018 Airways presented our version 1 draft Napier Control Zone (CTR) and Napier Control Area (CTA). Operator feedback at the meeting indicated that the lowered CTA down to 1500 ft immediately north of Hastings aerodrome (NZHS) was an issue for them - this 1500 ft CTA being expected to affect the standard overhead rejoin at NZHS.

To try to address that issue as much as possible, our draft NR CTR and CTA was amended to version 2. This version required slightly more CTR to the west than for the version 1 CTR. Version 2 was sent to interested parties on 24 September 2018 and Airways later met with some Hastings (HS) operators to discuss the draft airspace. The HS operators indicated that they were more happy with the version 2 airspace around Hastings.

Airways received feedback from hang glider/paraglider operators requesting some changes to version 2 to better facilitate their operations south of Napier.

Airways has considered all the consultation and feedback we have received to date regarding our draft airspace request and we have arrived at this version 5 which is our submission to CAA. (Our drafts version 3 and 4 were design variations discussed within Airways). We expect that this version 5 request will be part of the consultation process that CAA will conduct with interested parties to determine what airspace changes will be made around Napier.

Significant points regarding this version 5 are;

1. The deletion of our earlier requested 7500 ft CTA to the north-west of NR. The GENDA holding pattern is now deleted from the PBN plan so the need for airspace to contain that holding pattern is also deleted.
2. Less CTA requested to the west of Napier due to the planned disestablishment of the IFR H430 RUAHI-NR-RUAHI track;
3. Some alterations to various CTA step boundaries – which we believe would not be significantly detrimental to interested parties.
4. Splitting of the 4500 ft and 6500 ft CTAs to add 5500 ft and 7500 ft CTAs to the south of Napier in response to the feedback from the paragliding/hang gliding operators.

This version 5 draft airspace is subject to Aeropath confirmation that the IFR procedures will be contained by the airspace. Possibly, some minor amendments to the draft design may eventuate from Aeropath’s evaluation.

Purpose of changing the airspace

The airspace design requirements/policy is that the instrument flight procedures (IFP) at controlled aerodromes are contained within controlled airspace. This is in-line with CAR Part 71 Designation and Classification of Airspace.

A primary driver for Airways requesting changes to the Napier control zone (NR CTR) and Napier control area (NR CTA) as detailed in this paper is to provide the correct airspace containment of the planned new performance based navigation (PBN) IFR procedures being developed by Airways for Napier. These PBN procedures are still in the design process and some further developments may occur which could result in some changes to the requested draft airspace layout as detailed in this paper.

Some of the current VOR-based IFR procedures at NR are **not** correctly contained by the existing NR CTR and CTA. Therefore, to comply with the airspace design requirements/policy, the requested draft airspace is also designed to contain the existing IFR procedures (but refer details on page 20) that will be retained with the new PBN procedures. Some of the departure procedures will need to be amended/steepened slightly to achieve containment in our draft requested airspace.

Airways has a desire to minimise controlled airspace, particularly control zones, as much as practical. This is in-line with CAR Part 71.

This version 5 draft is designed to use the least amount of controlled airspace as practical to correctly contain the Napier instrument flight procedures. The diagrams in this paper are intended to show why particular boundaries are placed where they are.

For containment, the instrument flight procedures, including their lateral buffers, need to be at least 500 ft above the lower limit of CTA.

A rule requirement is that control area (CTA) must be at least 700 ft above the surface of the earth. This can sometimes prevent simplifying the design of CTA.

NR Airspace Amend v5 25 November 2018

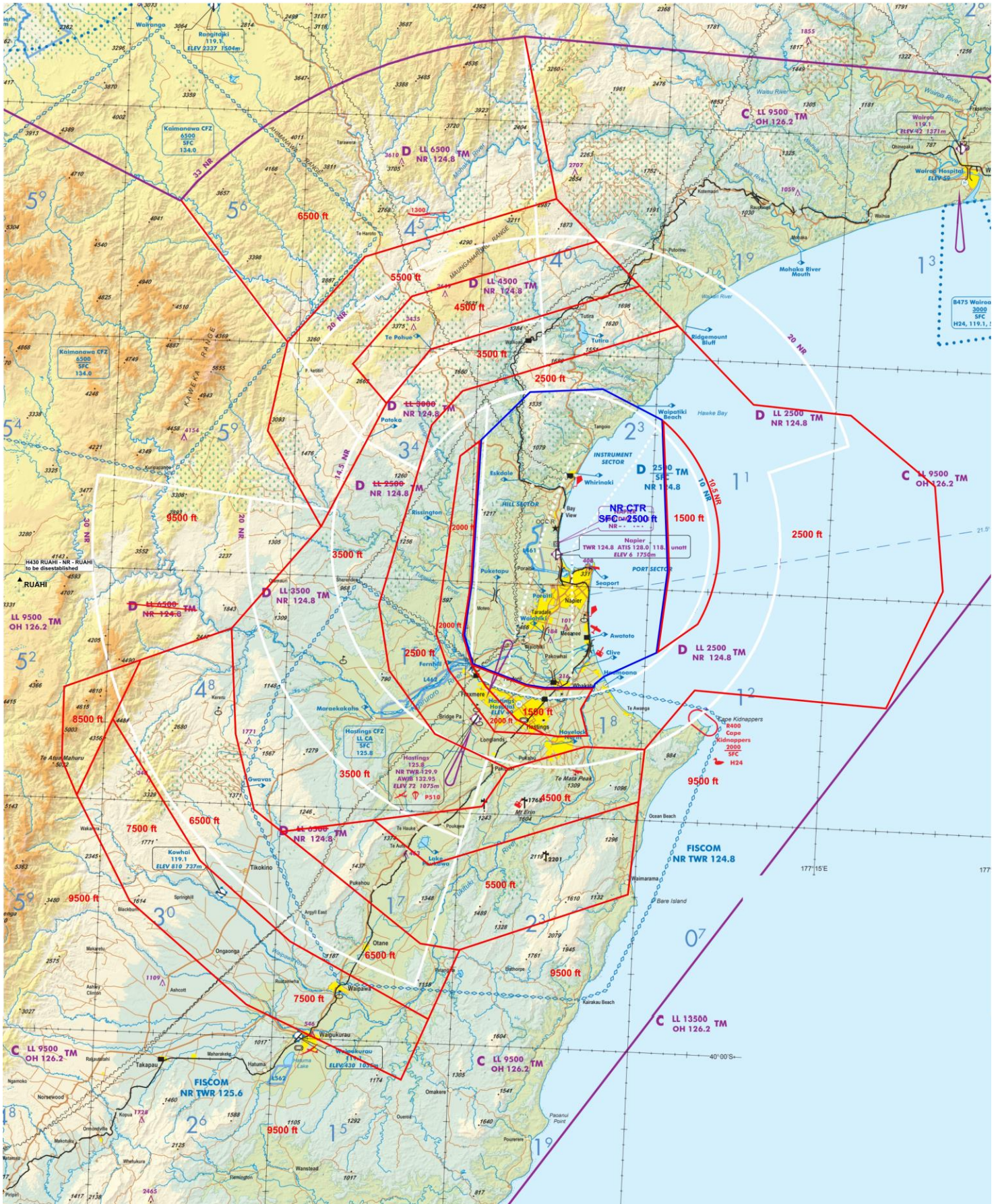


Diagram 1 NR CTR and CTA version 5
 White lines are the existing airspace boundary lines to be deleted.

Draft CTR version 5

Diagram 2 below depicts the DRAFT NR CTR v5.

The CTR Sectors, HILL SECTOR, INSTRUMENT SECTOR and PORT SECTOR will require amendment – yet to be worked on with details to be provided at a later date.

The existing VOR departures that are to be retained are likely to require some redesign to be able to be contained by the draft CTR below – probably some small increase in required climb gradient for airspace containment.

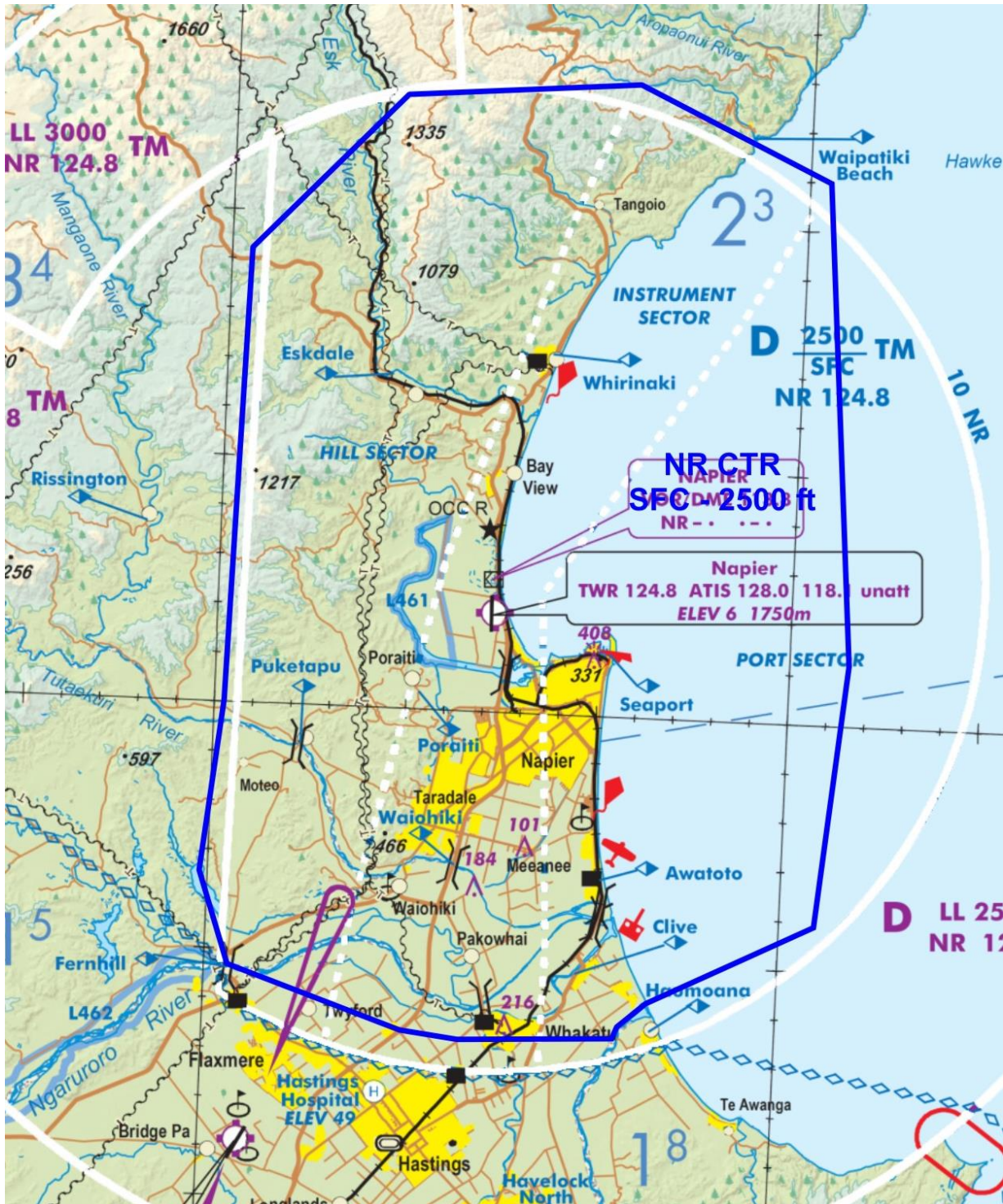


Diagram 2 DRAFT NR CTR version 5 Proposed CTA not depicted.

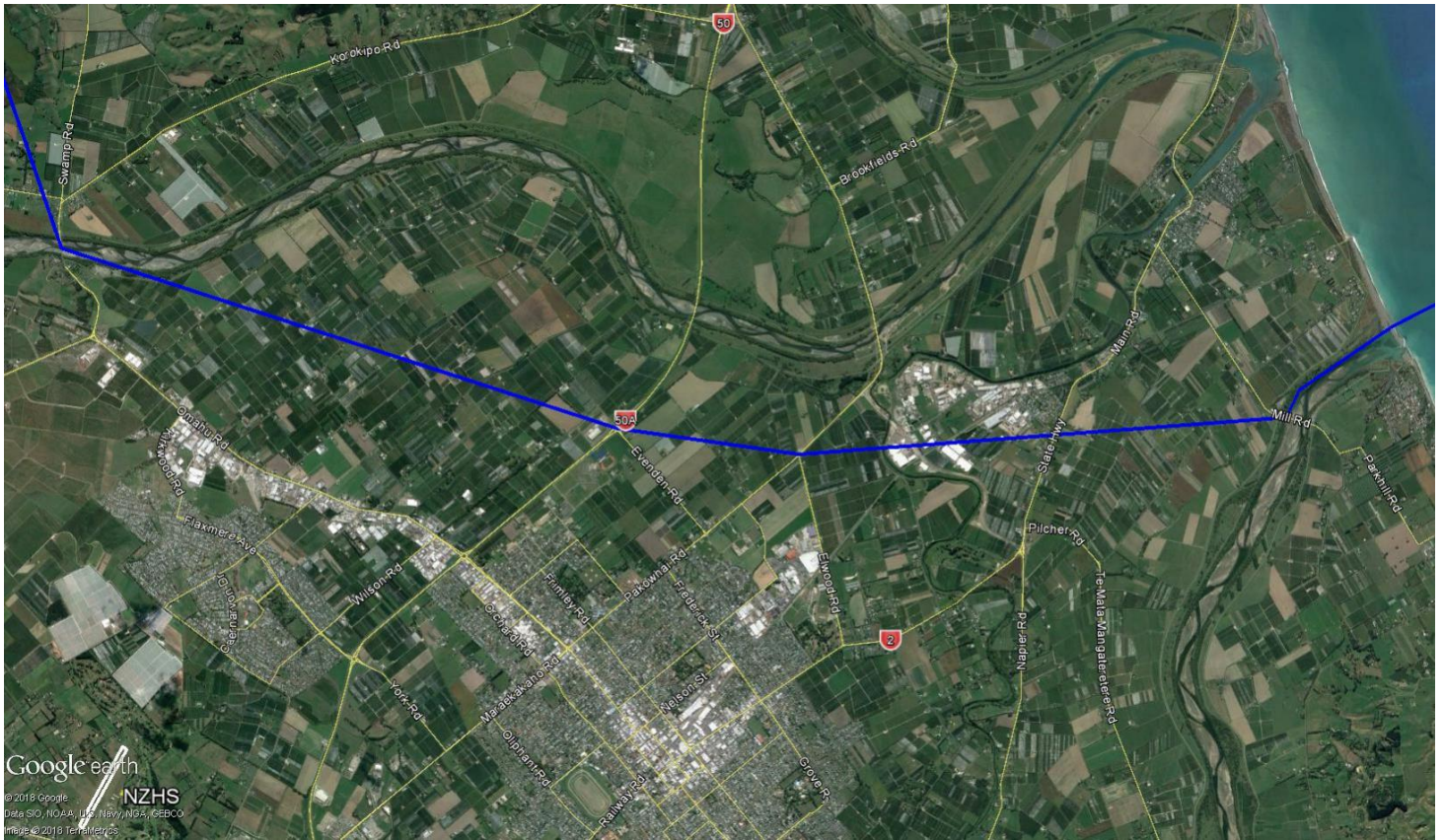


Diagram 3 DRAFT NR CTR version 5 southern boundary. Proposed CTA not depicted.

The draft CTR southern boundary goes from;

SH bridge over Ngaruroro River; to

roundabout intersection Napier Hastings Express Way-Evenden Road; to

intersection Pakowhai Road-Elwood Road; to

northwestern end of Mill Road bridge over Tukituki River; and then

two straight lines that generally follow the northern bank of the Tukituki River to the coast - immediately north of Haumoana VRP; to

point about 3.8 NM seaward of the coast

CTA Version 5

Detail of the CTA around Hastings is depicted in Diagram 4 and Diagram 5 below.

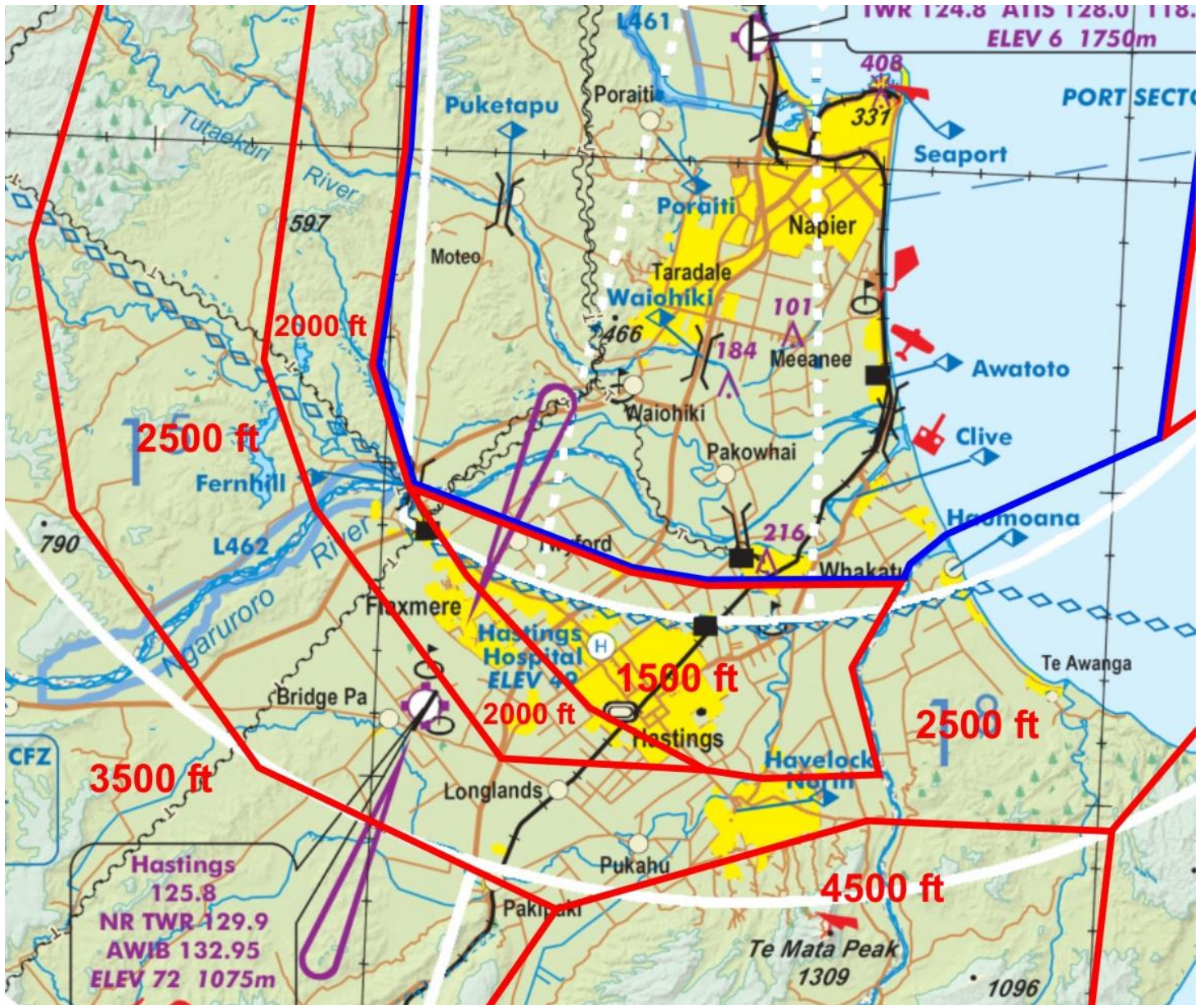


Diagram 4 NR CTR and CTA version 5

At its closest, the 1500 ft CTA is 1.9 NM away from NZHS ARP.

The eastern boundary of the 1500 ft CTA is two straight lines that generally follow the Tukituki River – the boundary could be straightened if desired.

The northerly kink in the boundary between the 2500 ft and 4500 ft CTAs is at the hang glider/paraglider operators request to allow their operations to take in the northern end of Te Mata Range

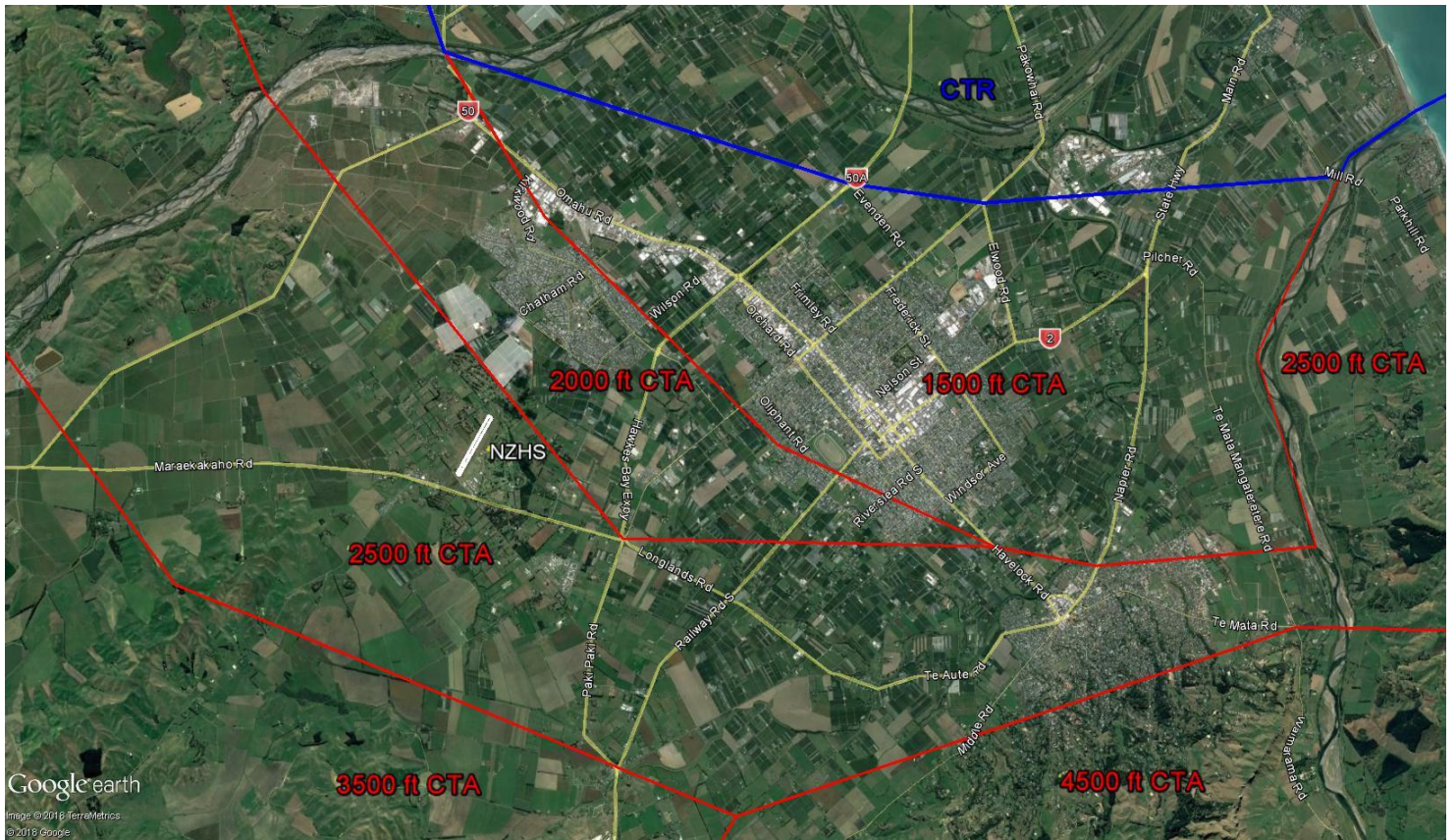


Diagram 5 NR CTA version 5 south of Napier

The draft CTA LL 1500 ft southern and eastern boundary goes from;

- SH bridge over Ngaruroro River; to
- factory buildings on Omahu Road; to
- undefined point 0.4 NM west of racecourse; to
- roundabout intersection St. Georges Road-Havelock Road; to
- intersection Crosses Road-Napier Road; to
- undefined point east of Havelock North on western bank of Tukituki River; to
- bend in Tukituki River; to
- northwestern end of Mill Road bridge over Tukituki River

The roundabout on Maraekakaho Road is a corner of the 2000 ft CTA.

The northern-eastern boundary of the golf course immediately north of NZHS generally lies along the boundary between the 2000 ft and 2500 ft CTAs – i.e. the golf course and NZHS are under the 2500 ft CTA.

The 1500 ft CTA needs to contain the 2.5 NM buffer from the VOR/DME RWY 34 teardrop approach from the point where the profile descends through 2500 ft. Diagrams 6 and 7 below depict that situation for the Cat A/B approach and the Cat C approach.

Airspace containment of the approaches is based on a continuous 300 ft per NM descent profile, including around the base turn, measured from/to runway threshold.

Those diagrams show that the 1500 ft CTA boundary could not practically be moved any further northeast away from NZHS.

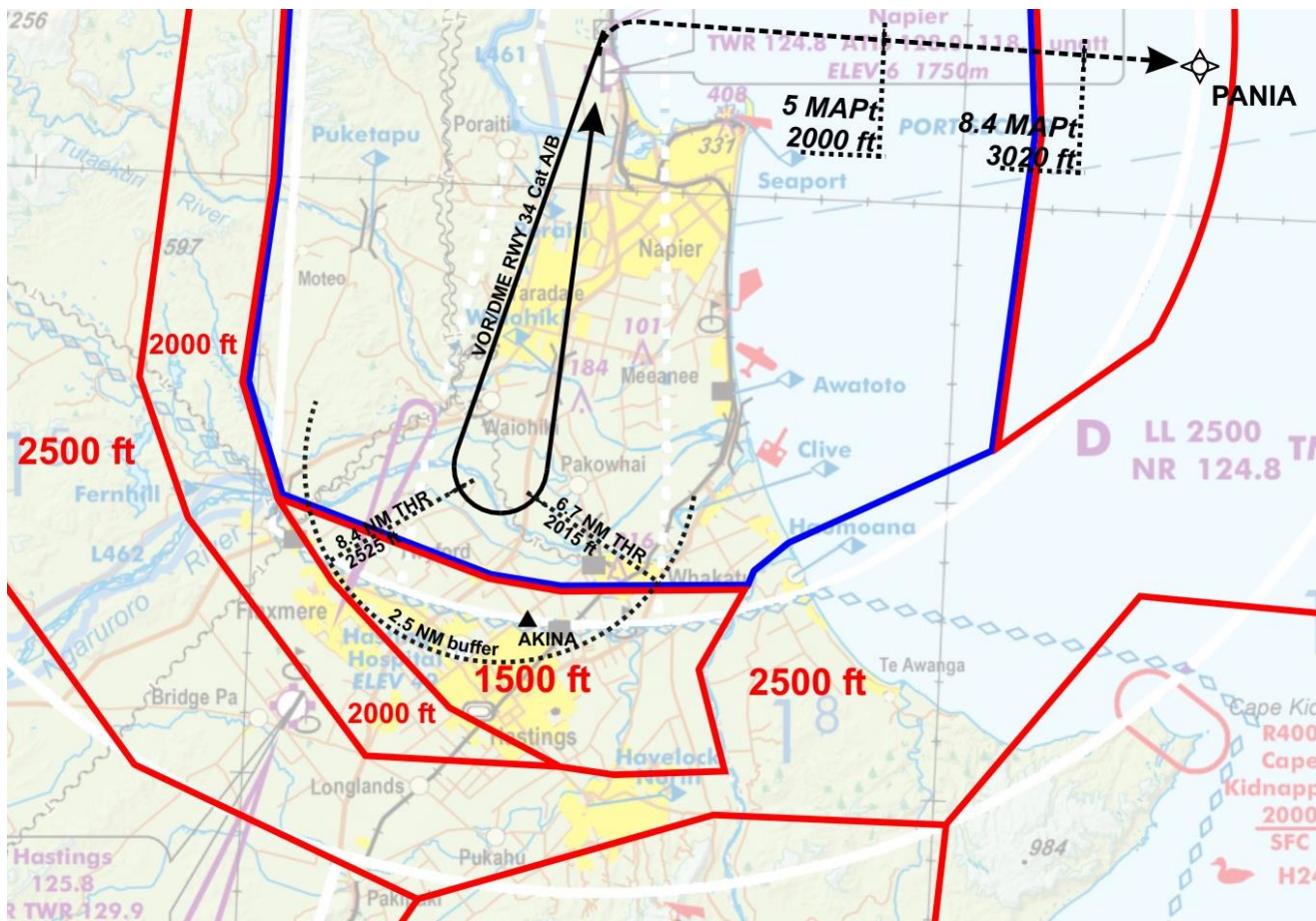


Diagram 6 The 1500 ft CTA needs to contain the 2.5 NM buffer for the VOR/DME teardrop approach to RWY 34 **Cat A/B** from the point where the profile descends through 2500 ft.

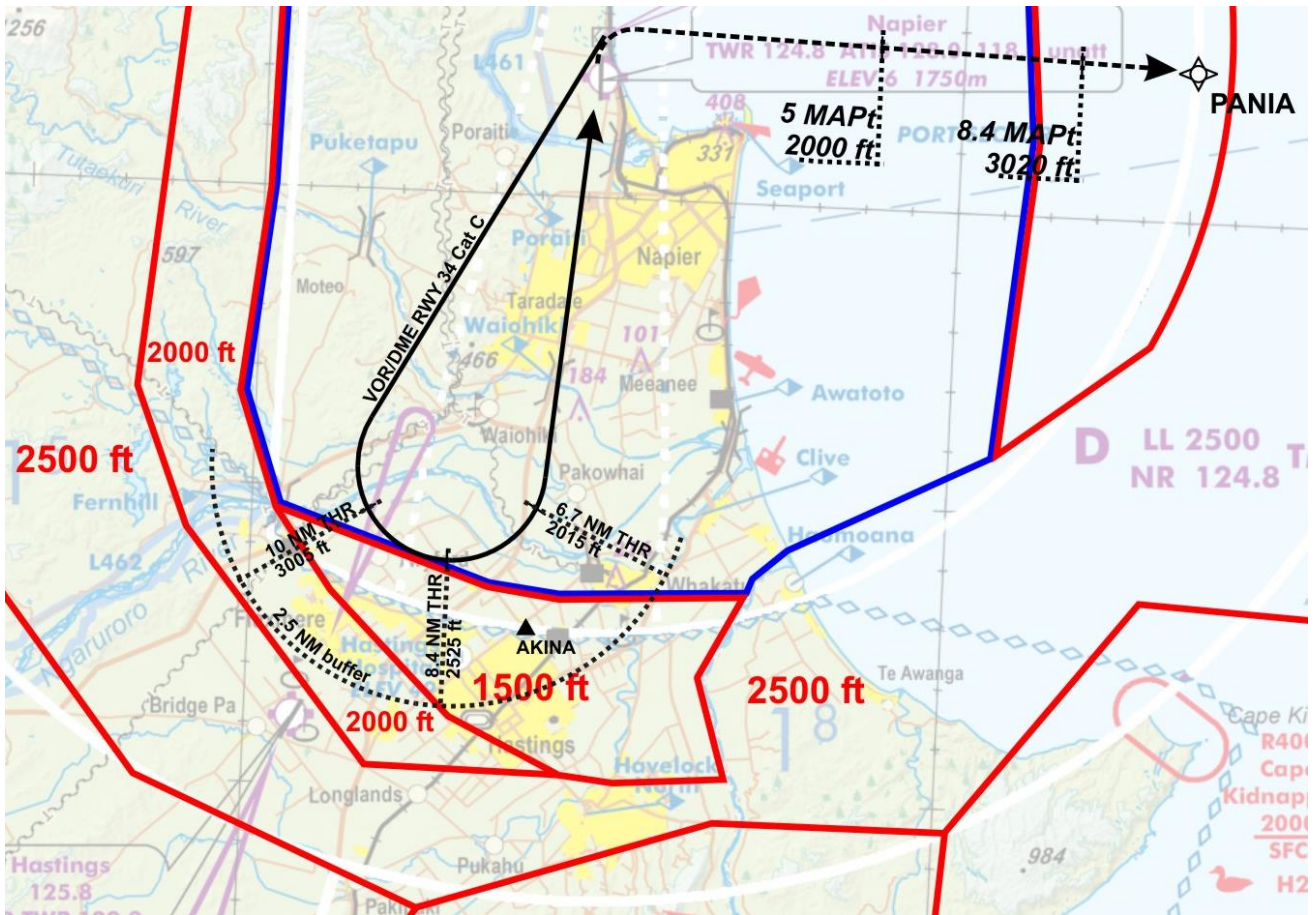


Diagram 7 The 1500 ft CTA also needs to contain the 2.5 NM buffer for the VOR/DME teardrop approach to RWY 34 Cat C from the point where the profile descends through 2500 ft.

The diagram also shows the 2000 ft CTA is containing the 2.5 NM buffer of the approach.

The 1500 ft and 2000 ft CTA boundaries also need to contain the 2.5 NM buffer from the arc approach below 3000 ft as shown on diagrams 8 and 9 below.

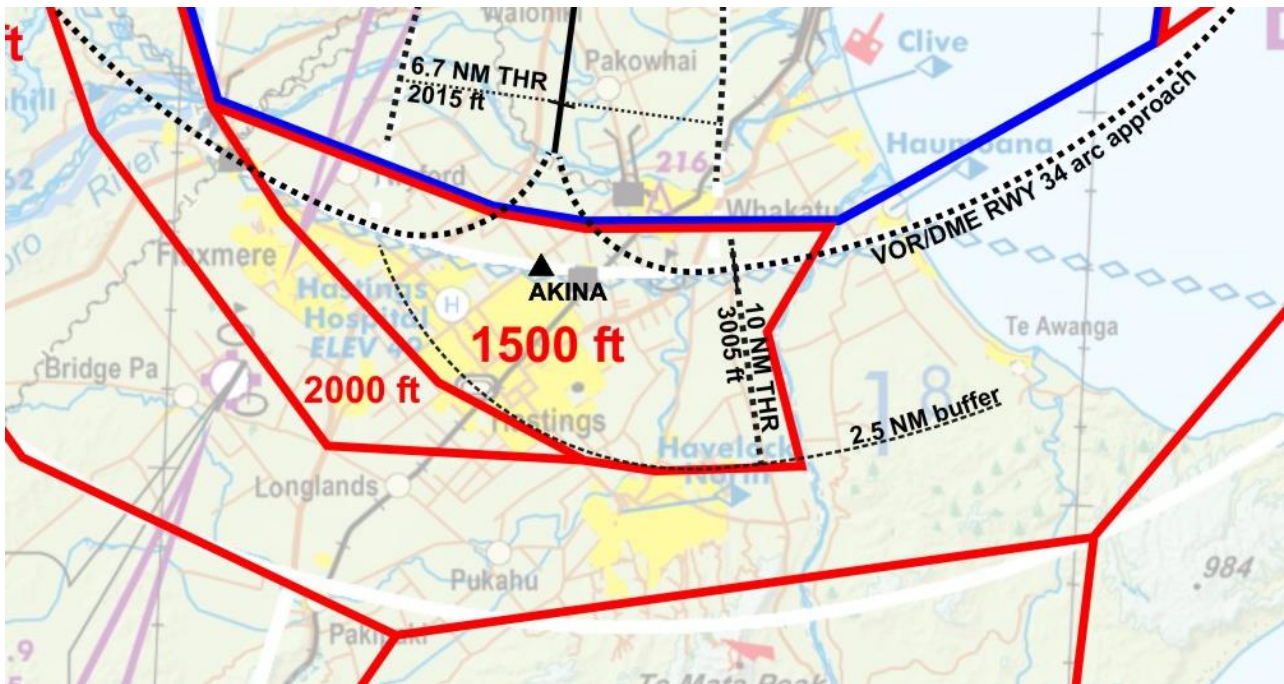


Diagram 8 The 1500 ft CTA contains the arc approach below 3000 ft

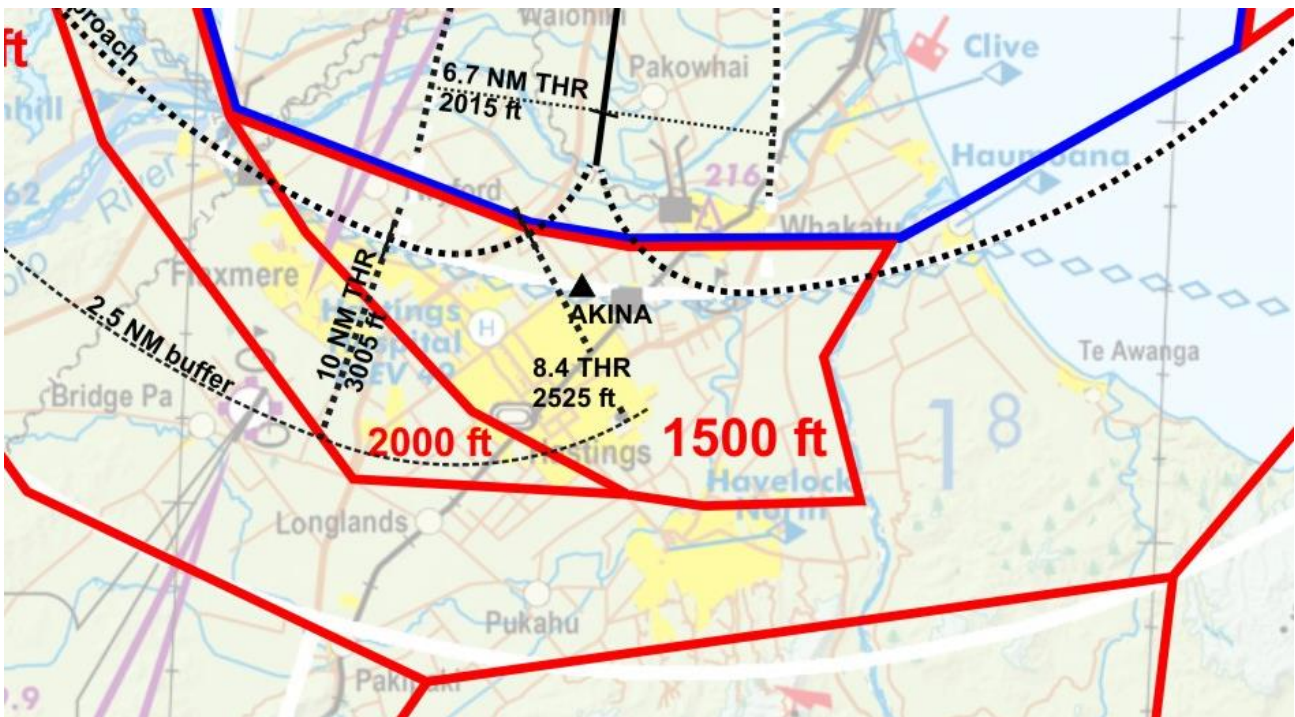


Diagram 9 The 2000 ft and 1500 ft CTA contains the arc approach below 3000 ft

CTR and CTA to the east and south

The planned new PBN RNAV RWY 34 departure to the south determines the CTR eastern boundary and influences the location of the 4500 ft and 5500 ft CTAs to the south.

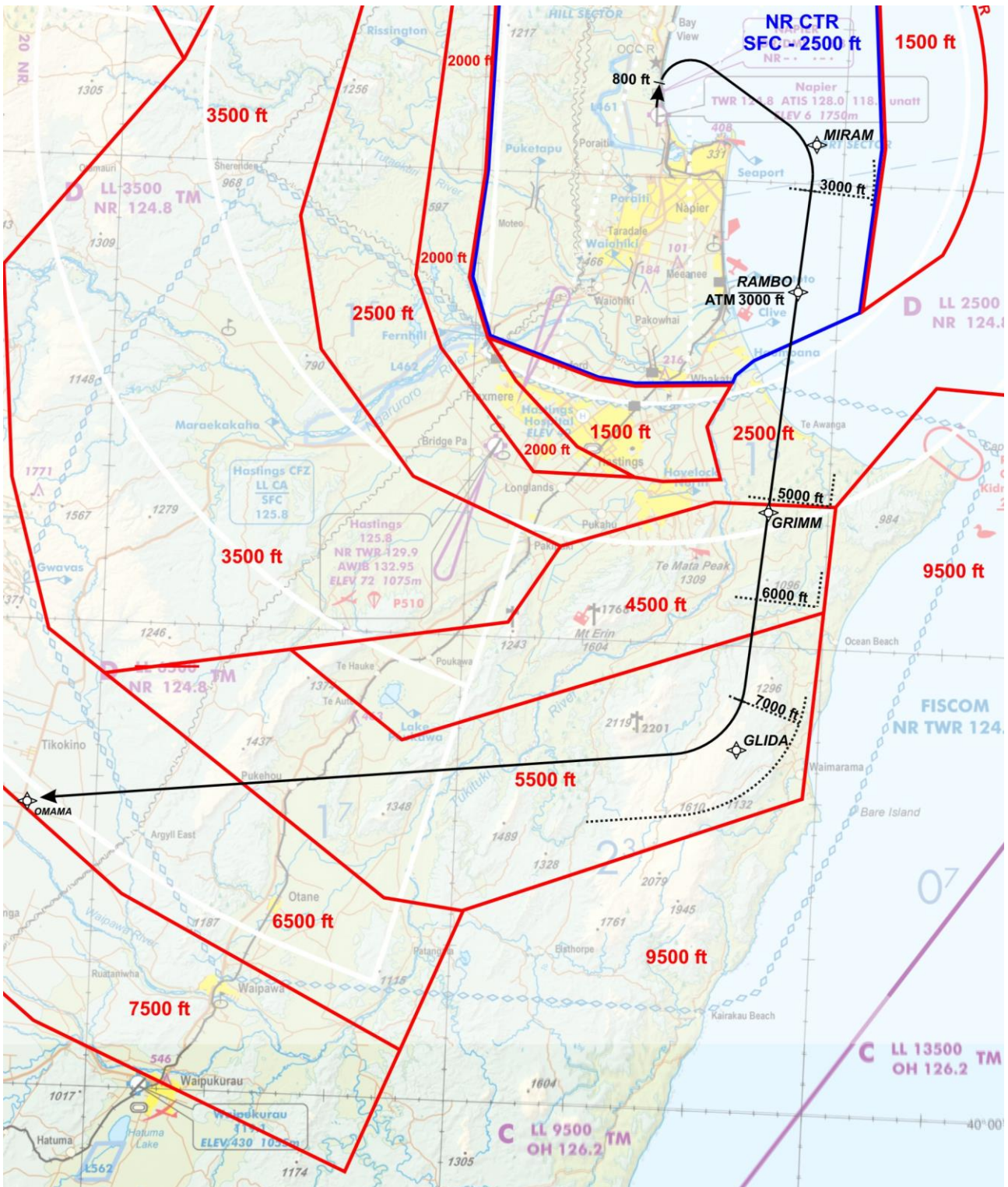


Diagram 10 The draft CTA contains the planned new PBN departures to the south off RWY 34.

CTR and CTA to the south-west

The planned new PBN RNAV RWY 16 departures require the CTR to be expanded westward slightly and influences the location of the CTA steps to the south-west as shown on Diagram 11 below.

Except where otherwise specified, a departure climb profile of 300 ft per NM measured from the upwind threshold is used for airspace containment design. A 2 NM buffer is applied for RNAV departures and a 5 NM buffer is applied for conventional IFR routes.

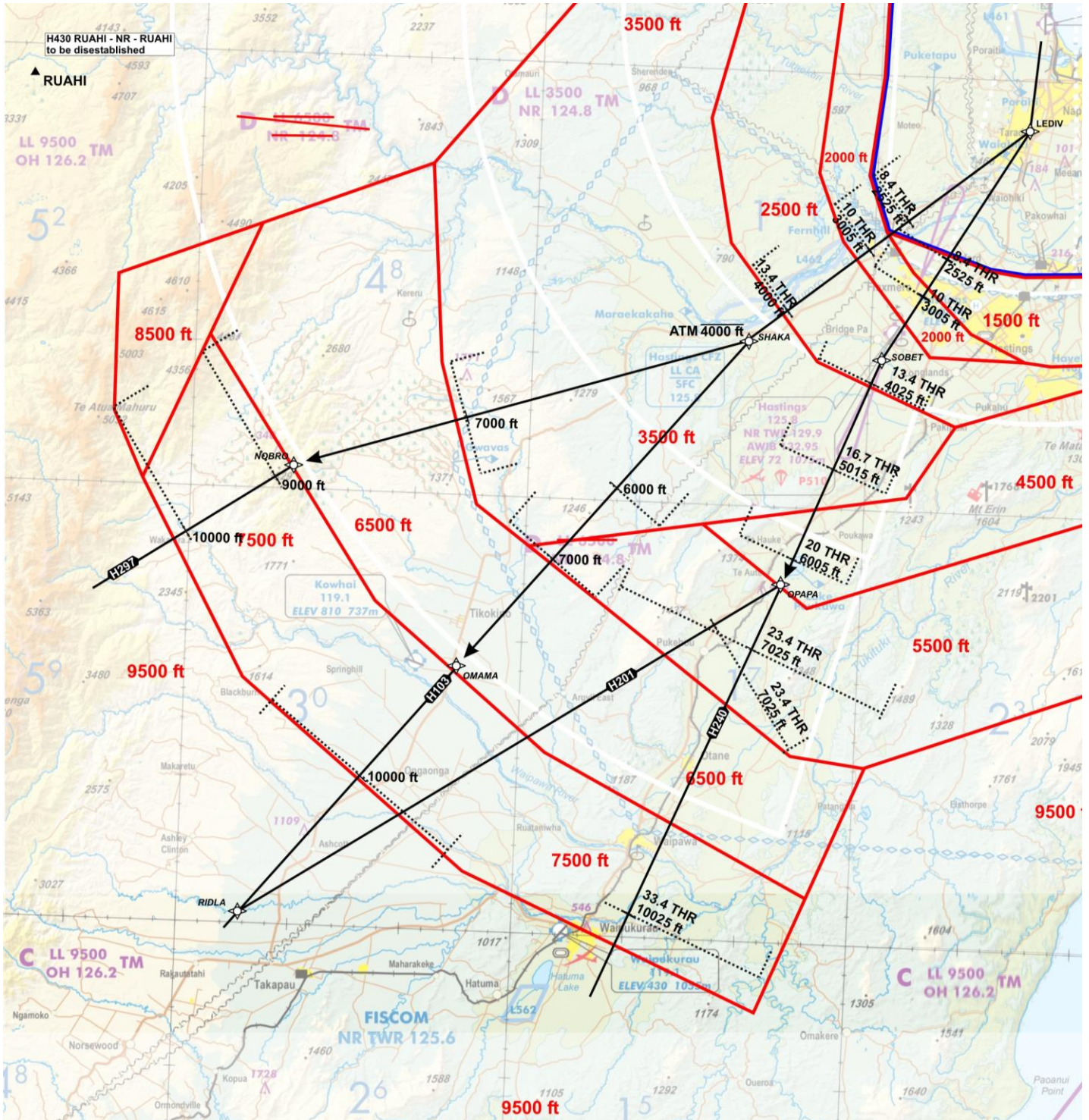


Diagram 11 A portion of the draft NR CTA to the south-west with the planned new PBN RNAV departures to the south.

The existing RWY 16 Mike 3 departure to OPAPA – RIDLA influences the CTA design as shown on Diagram 12 below.

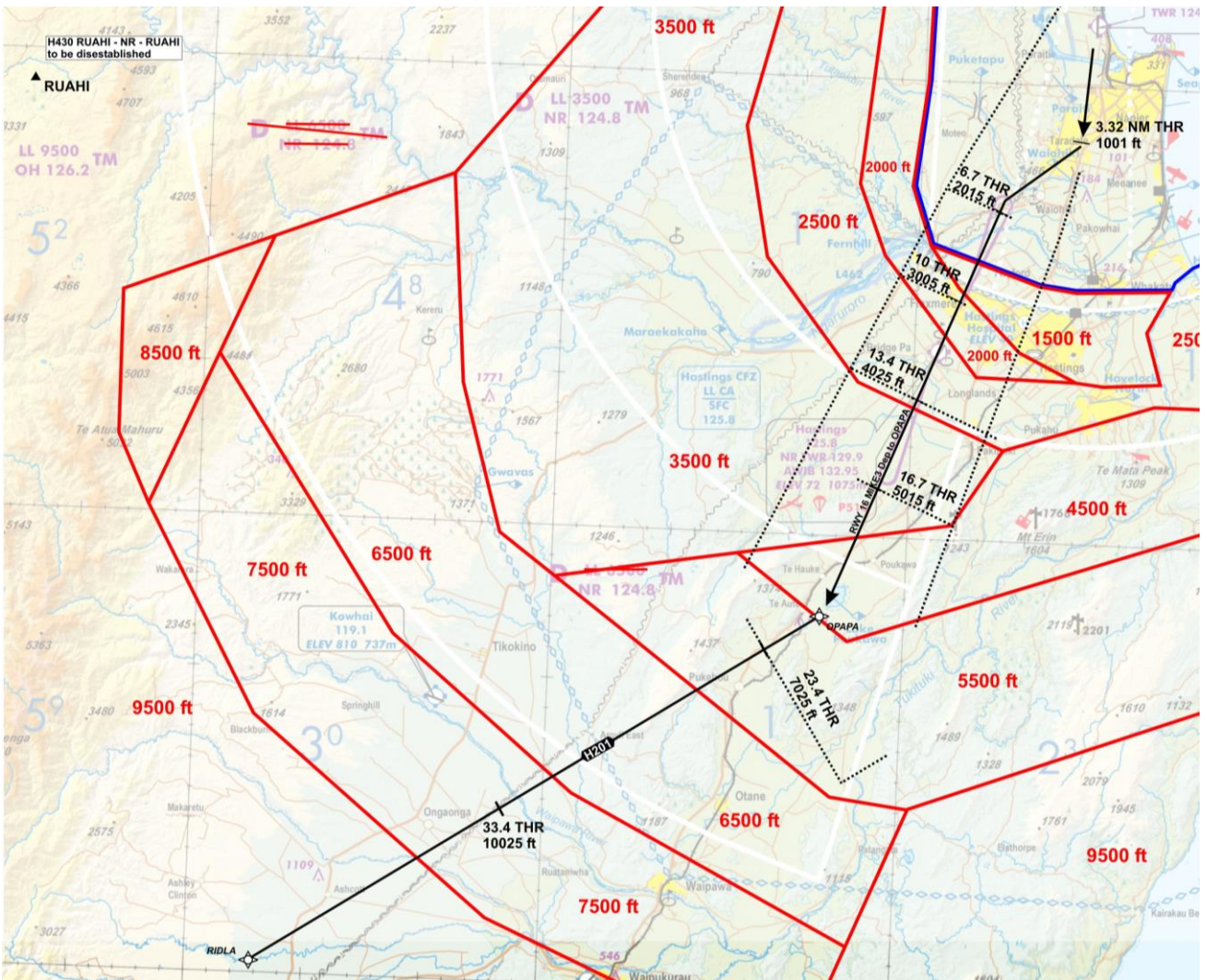


Diagram 12 A portion of the draft NR CTA to the south-west with the RWY 16 Mike 3 departure to OPAPA-RIDLA

The CTA needs to be expanded westward to correctly contain the RWY 16 MIKE 3 departure to NOSAM.

A small 8500 ft CTA block is used to minimise the extra CTA over the Ruahine Ranges.

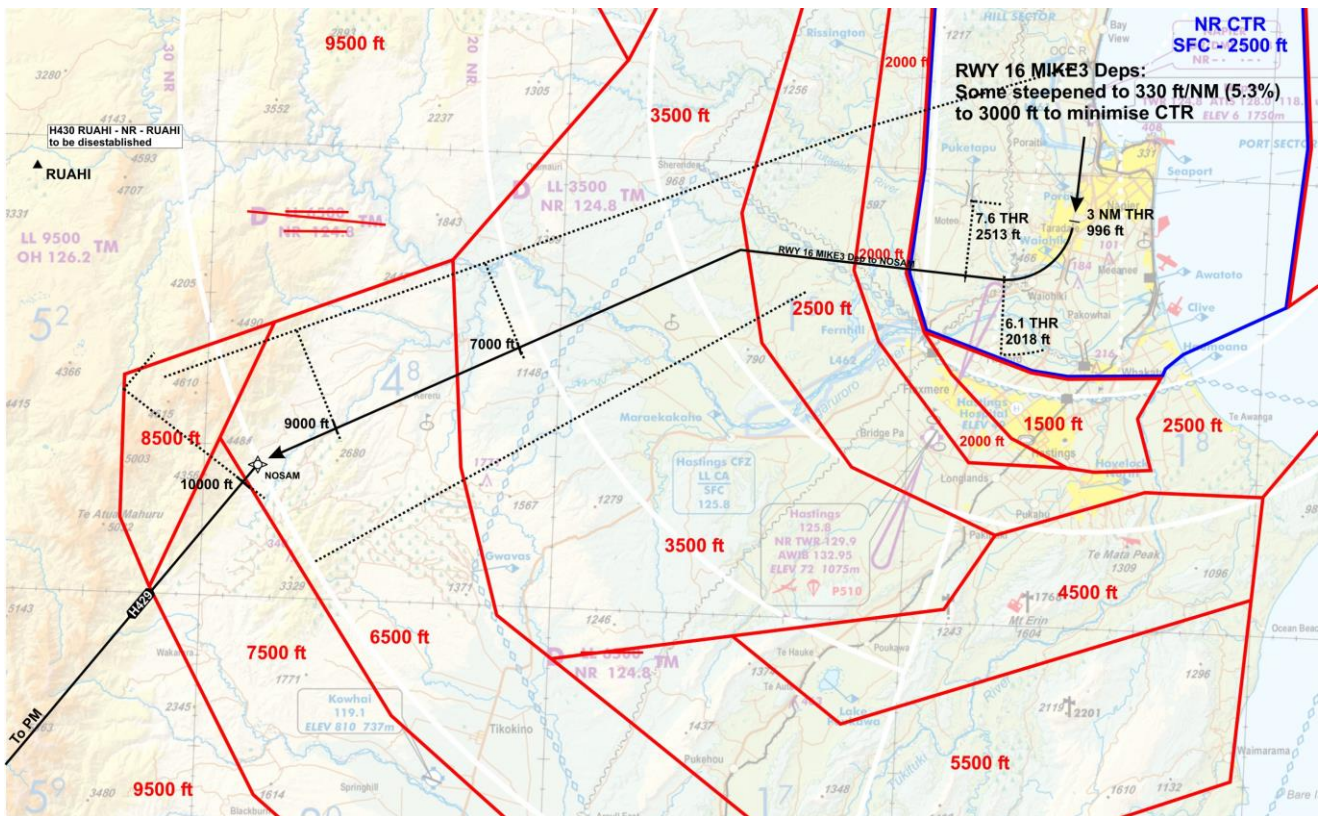


Diagram 13 The draft NR CTA to the south-west with the RWY 16 MIKE 3 departure to NOSAM.

CTA to the north and west

The protection areas for the planned new PBN RNAV holding patterns at HILLS and GAGES influences the extent of the 3500 ft CTA and 5500 ft CTA as depicted on Diagram 14 below. HILLS holding pattern will be contained 6000 ft and above. GAGES holding pattern contained 4000 ft and above.

The IFR route H430 RUAHI-NR-RUAHI will be disestablished. This reduces the need for CTA to the west of NR.

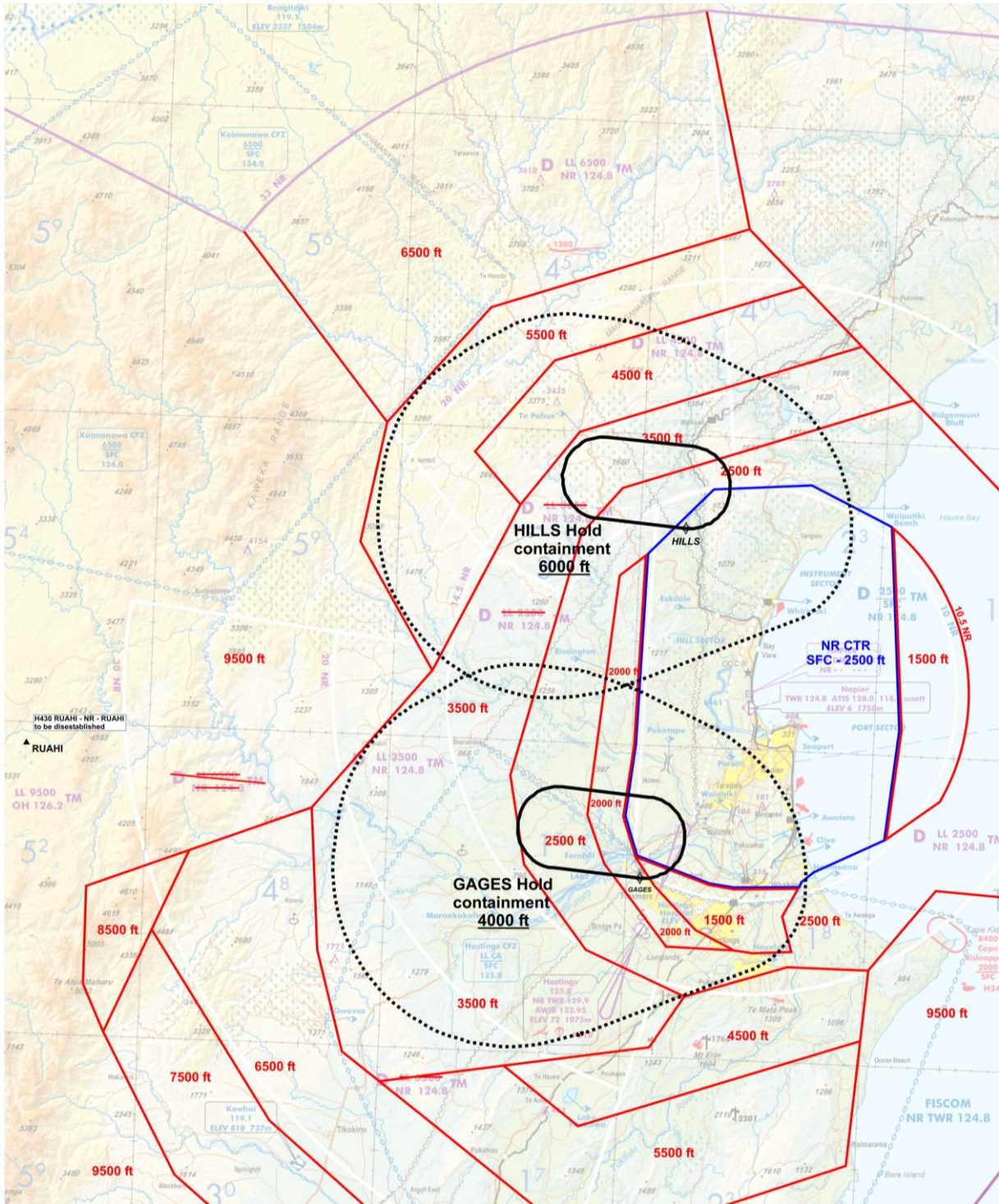


Diagram 14 The draft NR CTA to the west.

The new RNAV holds at HILLS and GAGES with their protection areas (the black dotted line) are depicted.

The PBN RNAV GENDA arrival to RWY 16 and RWY 34 and 16 departures to the north determine the CTA boundaries to the north.

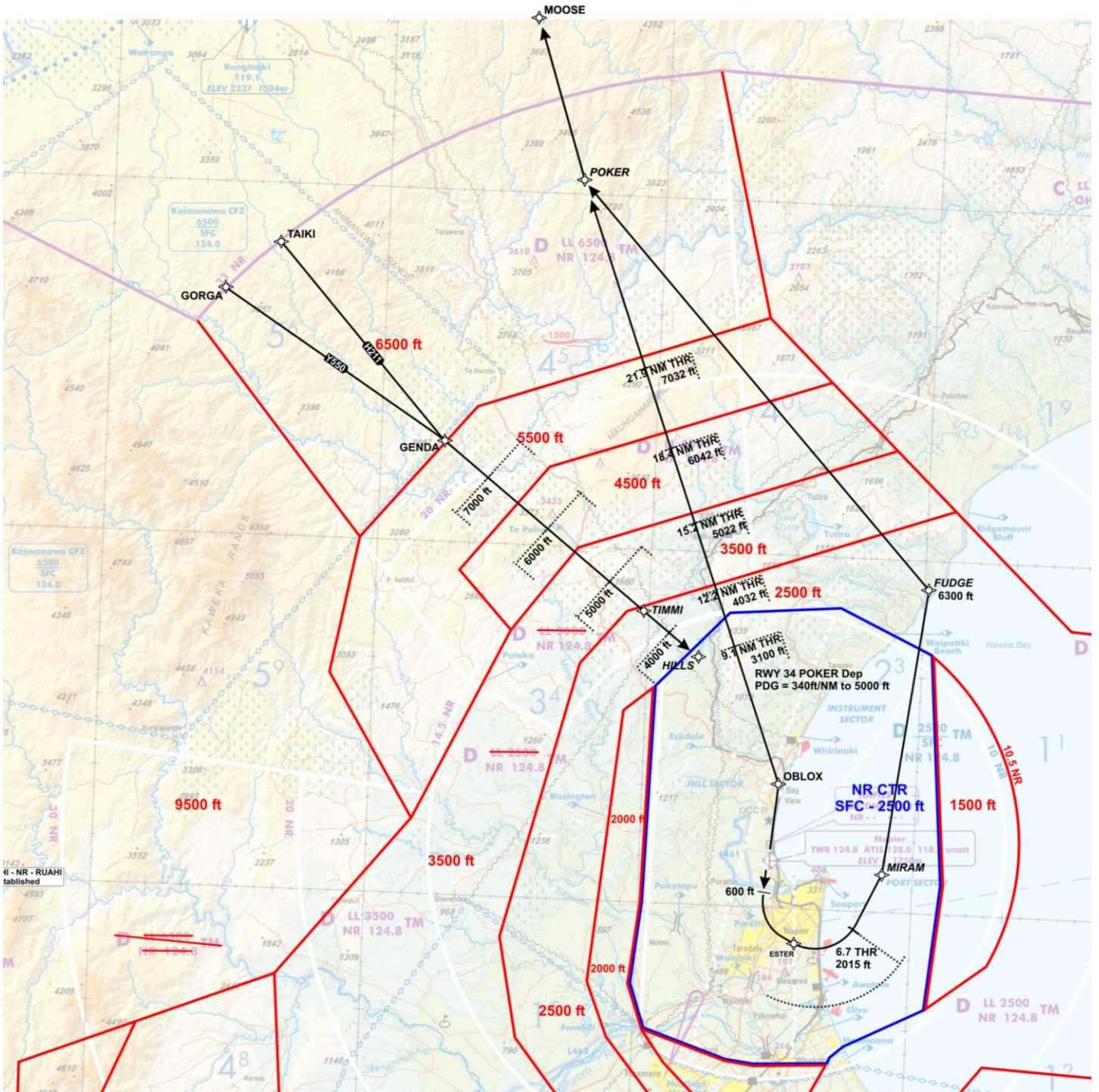


Diagram 15 The draft NR CTA to the north.
The new RNAV GENDA arrival, RWY 34 north departure and RWY 16 north departure are depicted.

CTA to the east

The 2500 ft CTA to the east contains the PANIA holding pattern as shown in Diagram 16 below.

DOMON IFR waypoint on H467 is at least 4.1 NM away from the 2500 ft CTA boundary so IFR flights holding at DOMON below 9500 ft should be able to do so remaining outside controlled airspace.

BEVER IFR waypoint on H386 is 0.9 NM north of the 2500 ft CTA boundary so it is not so certain that IFR flights holding at BEVER below 9500 ft will be remaining outside controlled airspace – particularly when navigation tolerance for the route and waypoint is taken into account.

The airspace is not designed to contain IFR routes from NR to the east such as on H467 to GOTNO and Q712 via NONAT to the Chatham Islands. This is because those routes are almost exclusively used by aircraft intended to operate below 9500 ft (or FL245 to the Chatham Islands) outside/beneath controlled airspace. And, the route to the Chatham Islands is rarely flown these days.

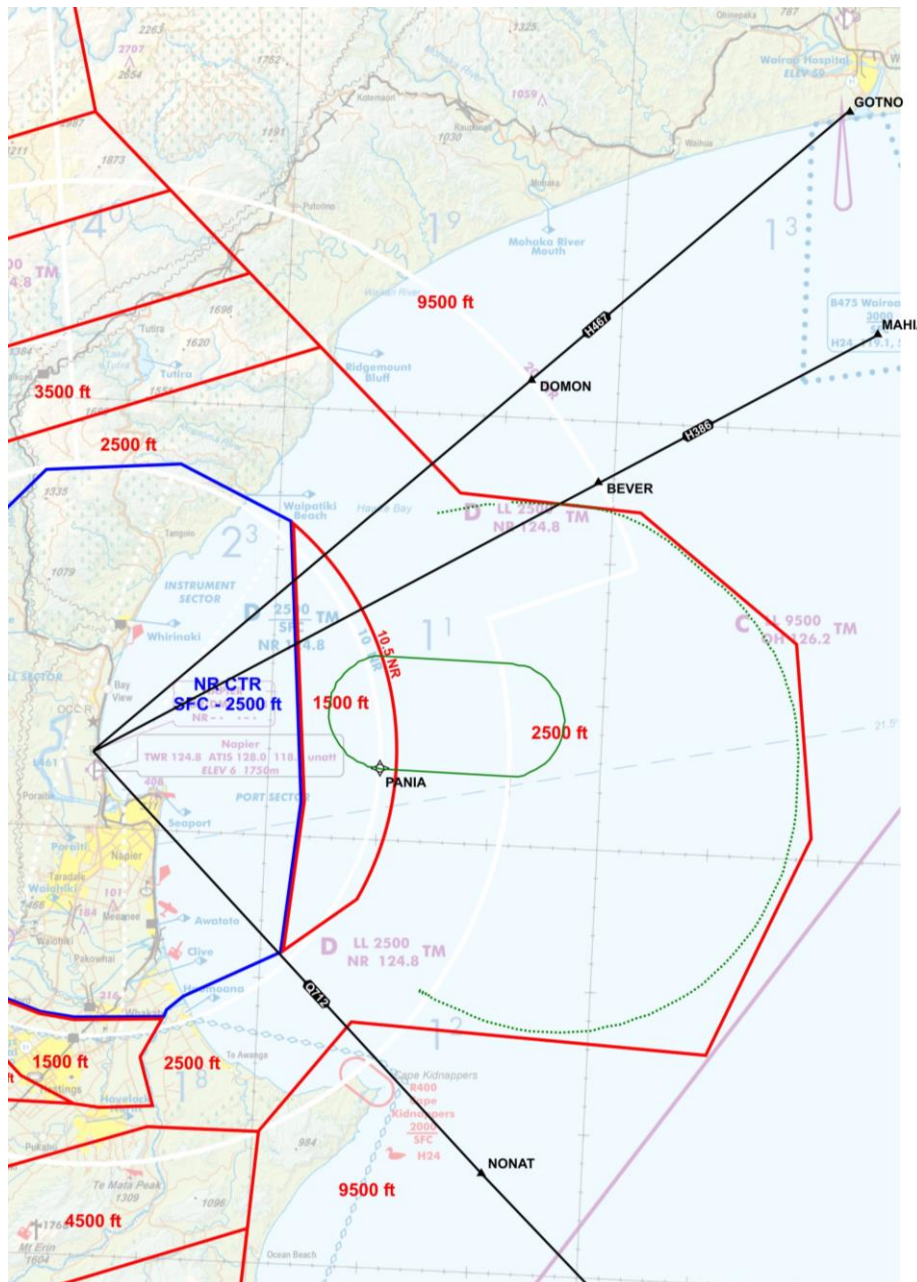


Diagram 16 The draft NR 2500 ft CTA to the east is needed to contain the PANIA hold.

Possible simplified CTA

The draft CTA to the south of Napier includes a 5500 ft CTA step and a 7500 ft CTA step. These were added to the Airways requested draft in response to the feedback received from the hang gliding/paragliding operators.

The current CTA layout allows their operations from the Burma Road site to be up to 6500 ft to the south. To contain the new PBN procedures and to correctly contain existing procedures, the CTA needs to be lowered in this area. The extra 5500 ft CTA step reduces somewhat the impact of the requested lowered airspace on their operations from Burma Road.

The operators also advised that some of their operations extend south to the Waipawa/Waipukurau area where the current CTA is LL 9500 ft. Lowered CTA is needed in this area so, to reduce the impact on their operations, the 7500 ft CTA was added to our version 5 draft design.

The addition of the 5500 ft and 7500 ft CTA steps adds some complexity to the draft airspace layout – as does the smaller 8500 ft CTA step over the Ranges. However, the layout/design is no worse than the CTA steps to the north of Napier.

If CAA and/or interested parties wanted to reduce complexity to the south, the removal of the 5500 ft, 7500 ft and/or 8500 ft CTAs would not impact on the airspace needed to contain the IFR procedures. The airspace would look as shown in Diagram 17 next page. Airways would be in agreement to those changes if that is what is determined to be the required outcome.

Simplification of the CTA steps to the north of Napier is not possible due to the rising terrain and the requirement that the lower limit of CTA is at least 700 ft above terrain.



Diagram 17 Possible simplified CTA to the south of Napier without the 5500 ft, 7500 ft and 8500 ft CTA steps.

Containment of IFR procedures NR CTR and CTA version 5

The draft NR CTR and CTA version 5 is designed to contain the following NR instrument flight procedures;

- NAPIER TWO DELTA arrival
- NAPIER TWO ALFA arrival
- VOR/DME RWY 16 approach but AROPA hold disestablished
- VOR/DME RWY 34 approach but AKINA hold disestablished
- Approach Cat A, B and C circling area (west of 16/34)
- NR VOR overhead holds at 4000 ft and above
- 16 MIKE THREE departure but with steepened initial gradient
- 34 MIKE THREE departure but with steepened initial gradient
- 34 NOVEMBER THREE departure to OPAPA, RIDLA, APITI, NOSAM but may require slightly steepened gradient
- New RNAV (GNSS) STARs to RWY 16 and 34
- New RNAV (GNSS) approach RWY 16
- New RNAV (GNSS) approach RWY 34
- New RNAV (GNSS) departures from RWY 16 and 34

The following NR instrument flight procedures are not fully contained by the CTR and CTA

- VOR RWY 34 (non DME) approach - containment not assured
- 16 NOVEMBER THREE departure to NONAT, BEVER, DOMON – containment only as far as the 2500 ft CTA boundary as explained earlier.
- 34 NOVEMBER THREE departure to NONAT, BEVER, DOMON – containment only as far as the 2500 ft CTA boundary as explained earlier.
- Evaluated Climb Sector (R005-R200) – containment varies depending on radial.

Existing NR instrument flight procedures to be disestablished

- H430 route RUAHI – NR - RUAHI
- OPAPA ONE CHARLIE arrival
- NAPIER TWO CHARLIE arrival
- NAPIER TWO BRAVO arrival
- RNAV (GNSS) Arrivals RWY 16
- RNAV (GNSS) Arrivals RWY 34
- RNAV (GNSS) RWY 16 approach
- RNAV (GNSS) RWY 34 approach
- 16 LIMA THREE departure
- 34 LIMA THREE departure
- RNAV (GNSS) LEDIV TWO departure
- RNAV (GNSS) OBLOX TWO departure
- AKINA and AROPA holds

Draft CTR and CTA version 5 Definitions

NR CTR

All that airspace bounded by a straight line from;

S39° 18' 56.33" E177° 00' 35.60" to;

S39° 28' 36.79" E177° 01' 34.02" to;

S39° 34' 02.34" E177° 00' 59.31" to;

S39° 35' 45.84" E176° 56' 38.63" Northern bank Tukituki River Mouth to;

S39° 36' 09.09" E176° 55' 52.89" Northern bank Tukituki River to;

S39° 36' 20.39" E176° 55' 46.35" Western end Mill Rd bridge over Tukituki River to;

S39° 36' 34.55" E176° 51' 44.83" Intersection Pakowhai Rd-Elwood Rd to;

S39° 36' 24.63" E176° 50' 14.51" Roundabout intersection Napier Hastings Express Way-Evenden Rd to;

S39° 35' 16.01" E176° 45' 40.03" SH bridge over Ngaruroro River to;

S39° 33' 20.90" E176° 44' 48.90" to;

S39° 29' 56.36" E176° 45' 13.19" to;

S39° 20' 43.94" E176° 45' 35.32" to;

S39° 17' 26.78" E176° 49' 24.29" to;

S39° 17' 01.90" E176° 55' 25.36" to;

S39° 18' 56.33" E177° 00' 35.60"

Vertical limits: SFC to 2500 ft

Classification: Class D

ATC Authority: NR Tower 124.8

NR CTA 1500 ft East of the coast

All that airspace bounded by the arc of a circle of 10.5 NM radius centred on S39° 27' 14" E176° 52' 08"

NR VOR/DME from;

S39° 18' 56.33" E177° 00' 35.60" clockwise to;

S39° 32' 02.18" E177° 04' 12.85" then a straight line from;

S39° 32' 02.18" E177° 04' 12.85" to;

S39° 34' 02.34" E177° 00' 59.31" to;

S39° 28' 36.79" E177° 01' 34.02" to;

S39° 18' 56.33" E177° 00' 35.60"

Vertical limits: 1500 ft to 2500 ft

Classification: Class D

ATC Authority: NR Tower 124.8

NR CTA 1500 ft South of NR

All that airspace bounded by a straight line from;

S39° 36' 20.39" E176° 55' 46.35" Western end Mill Rd bridge over Tukituki River to;
S39° 37' 54.13" E176° 54' 50.29" to;
S39° 39' 33.77" E176° 55' 30.51" to;
S39° 39' 44.07" E176° 53' 02.08" Intersection Crosses Road-Napier Road to;
S39° 39' 34.04" E176° 51' 52.40" Roundabout intersection St.Georges Rd-Havelock Rd to;
S39° 38' 40.80" E176° 49' 25.24" to;
S39° 36' 41.73" E176° 46' 47.61" factory buildings on Omahu Road to;
S39° 35' 16.01" E176° 45' 40.03" SH bridge over Ngaruroro River to;
S39° 36' 24.63" E176° 50' 14.51" Roundabout intersection Napier Hastings Express Way-Evenden Rd to;
S39° 36' 34.55" E176° 51' 44.83" Intersection Pakpwhai Rd-Elwood Rd to;
S39° 36' 21.82" E176° 55' 51.57" Mill Rd bridge over Tukituki River

Vertical limits: 1500 ft to 2500 ft

Classification: Class D

ATC Authority: NR Tower 124.8

NR CTA 2000 ft

All that airspace bounded by a straight line from;

S39° 20' 43.94" E176° 45' 35.32" to;
S39° 29' 56.36" E176° 45' 13.19" to;
S39° 33' 20.90" E176° 44' 48.90" to;
S39° 35' 16.01" E176° 45' 40.03" SH bridge over Ngaruroro River to;
S39° 36' 41.73" E176° 46' 47.61" factory buildings on Omahu Road to;
S39° 38' 40.80" E176° 49' 25.24" to;
S39° 39' 34.04" E176° 51' 52.40" Roundabout intersection St.Georges Rd-Havelock Rd to;
S39° 39' 29.90" E176° 47' 40.62" Roundabout intersection Maraekakaho Rd-Paki Paki Rd to;
S39° 35' 36.22" E176° 43' 37.74" to;
S39° 33' 16.28" E176° 42' 23.00" to;
S39° 21' 47.84" E176° 43' 49.76" to;
S39° 20' 43.94" E176° 45' 35.32"

Vertical limits: 2000 ft to 2500 ft

Classification: Class D

ATC Authority: NR Tower 124.8

NR CTA 2500 ft

All that airspace bounded by a straight line from;

S39° 22' 24.22" E177° 23' 32.05" to;
S39° 29' 07.49" E177° 24' 43.10" to;
S39° 36' 58.97" E177° 20' 18.29" to;
S39° 36' 12.82" E177° 04' 18.92" to;
S39° 40' 19.55" E177° 00' 15.03" to;
S39° 40' 15.84" E176° 55' 16.45" Intersection Te Mata Rd-Waimarama Rd-River Rd to;
S39° 41' 54.99" E176° 48' 57.61" to;
S39° 39' 53.33" E176° 42' 37.95" to;
S39° 35' 51.59" E176° 38' 47.28" to;
S39° 31' 36.73" E176° 37' 37.25" to;
S39° 19' 54.68" E176° 41' 22.34" to;
S39° 17' 36.25" E176° 43' 53.89" to;
S39° 12' 44.20" E177° 01' 35.73" to;
S39° 17' 42.87" E177° 08' 05.25" to;
S39° 18' 02.31" E177° 16' 09.16" to;
S39° 22' 24.22" E177° 23' 32.05"

Vertical limits: 2500 ft to 9500 ft

Classification: Class D

ATC Authority: NR Tower 124.8

NR CTA 3500 ft

All that airspace bounded by a straight line from;

S39° 10' 14.98" E176° 58' 05.66" to;
S39° 12' 44.20" E177° 01' 35.73" to;
S39° 17' 36.25" E176° 43' 53.89" to;
S39° 19' 54.68" E176° 41' 22.34" to;
S39° 31' 36.73" E176° 37' 37.25" to;
S39° 35' 51.59" E176° 38' 47.28" to;
S39° 39' 53.33" E176° 42' 37.95" to;
S39° 41' 54.99" E176° 48' 57.61" to;
S39° 44' 28.49" E176° 46' 55.68" to;
S39° 45' 36.59" E176° 37' 56.21" to;
S39° 46' 34.96" E176° 30' 12.63" to;
S39° 45' 09.17" E176° 27' 42.86" to;
S39° 40' 20.59" E176° 25' 59.25" to;
S39° 33' 29.19" E176° 25' 16.15" to;
S39° 26' 45.07" E176° 32' 26.57" to;
S39° 18' 31.64" E176° 37' 28.29" to;
S39° 15' 00.7" E176° 40' 56.7" Te Pohue VRP to;
S39° 10' 14.98" E176° 58' 05.66"

Vertical limits: 3500 ft to 9500 ft

Classification: Class D

ATC Authority: NR Tower 124.8

NR CTA 4500 ft north of NR

All that airspace bounded by a straight line from;

S39° 07' 29.97" E176° 54' 27.50" to;
S39° 10' 14.98" E176° 58' 05.66" to;
S39° 15' 00.7" E176° 40' 56.7" Te Pohue VRP to;
S39° 18' 31.64" E176° 37' 28.29" to;
S39° 16' 05.48" E176° 34' 34.15" to;
S39° 11' 35.18" E176° 39' 13.05" to;
S39° 07' 29.97" E176° 54' 27.50"

Vertical limits: 4500 ft to 9500 ft

Classification: Class D

ATC Authority: NR Tower 124.8

NR CTA 4500 ft south of NR

All that airspace bounded by a straight line from;

S39° 40' 19.55" E177° 00' 15.03" to;
S39° 43' 43.01" E176° 59' 57.56" to;
S39° 48' 21.45" E176° 42' 44.78" to;
S39° 45' 36.59" E176° 37' 56.21" to;
S39° 44' 28.49" E176° 46' 55.68" to;
S39° 41' 54.99" E176° 48' 57.61" to;
S39° 40' 15.84" E176° 55' 16.45" Intersection Te Mata Rd-Waimarama Rd-River Rd to;
S39° 40' 19.55" E177° 00' 15.03"

Vertical limits: 4500 ft to 9500 ft

Classification: Class D

ATC Authority: NR Tower 124.8

NR CTA 5500 ft north of NR

All that airspace bounded by a straight line from;

S39° 04' 51.70" E176° 50' 57.38" to;
S39° 07' 29.97" E176° 54' 27.50" to;
S39° 11' 35.18" E176° 39' 13.05" to;
S39° 16' 05.48" E176° 34' 34.15" to;
S39° 18' 31.64" E176° 37' 28.29" to;
S39° 26' 45.07" E176° 32' 26.57" to;
S39° 20' 38.69" E176° 27' 50.75" to;
S39° 14' 53.21" E176° 29' 06.16" to;
S39° 09' 07.29" E176° 35' 06.99" to;
S39° 04' 51.70" E176° 50' 57.38"

Vertical limits: 5500 ft to 9500 ft

Classification: Class D

ATC Authority: NR Tower 124.8

NR CTA 5500 ft south of NR

All that airspace bounded by a straight line from;

S39° 43' 43.01" E176° 59' 57.56" to;
S39° 49' 50.35" E176° 59' 23.36" to;
S39° 53' 49.22" E176° 45' 23.77" to;
S39° 53' 29.35" E176° 42' 16.38" to;
S39° 46' 34.96" E176° 30' 12.63" to;
S39° 45' 36.59" E176° 37' 56.21" to;
S39° 48' 21.45" E176° 42' 44.78" to;
S39° 43' 43.01" E176° 59' 57.56"

Vertical limits: 5500 ft to 9500 ft

Classification: Class D

ATC Authority: NR Tower 124.8

NR CTA 6500 ft north of NR

All that airspace bounded by a straight line from;

S38° 54' 22.7" E176° 47' 43.0" existing NZA443 seq 1 point to;
S39° 04' 51.70" E176° 50' 57.38" to;
S39° 09' 07.29" E176° 35' 06.99" to;
S39° 14' 53.21" E176° 29' 06.16" to;
S39° 05' 55.3" E176° 19' 39.8" existing NZA443 seq 4 point then;
the arc of a circle of 33 NM radius centred on S39° 27' 14" E176° 52' 08" NR VOR/DME from;
S39° 05' 55.3" E176° 19' 39.8" clockwise to;
S38° 54' 22.7" E176° 47' 43.0" existing NZA443 seq 1 point

Vertical limits: 6500 ft to 9500 ft

Classification: Class D

ATC Authority: NR Tower 124.8

NR CTA 6500 ft south of NR

All that airspace bounded by a straight line from;

S39° 53' 49.22" E176° 45' 23.77" to;
S39° 58' 19.64" E176° 43' 04.27" to;
S39° 53' 41.83" E176° 31' 09.29" to;
S39° 48' 45.11" E176° 23' 27.16" to;
S39° 39' 46.39" E176° 15' 37.30" to;
S39° 35' 48.86" E176° 17' 48.00" to;
S39° 33' 29.19" E176° 25' 16.15" to;
S39° 40' 20.59" E176° 25' 59.25" to;
S39° 45' 09.17" E176° 27' 42.86" to;
S39° 46' 34.96" E176° 30' 12.63" to;
S39° 53' 29.35" E176° 42' 16.38" to;
S39° 53' 49.22" E176° 45' 23.77"

Vertical limits: 6500 ft to 9500 ft

Classification: Class D

ATC Authority: NR Tower 124.8

NR CTA 7500 ft

All that airspace bounded by a straight line from;

S39° 58' 19.64" E176° 43' 04.27" to;
S40° 02' 16.57" E176° 40' 56.52" to;
S39° 57' 55.13" E176° 27' 45.19" to;
S39° 51' 22.97" E176° 17' 31.30" to;
S39° 44' 47.73" E176° 12' 51.35" to;
S39° 39' 46.39" E176° 15' 37.30" to;
S39° 48' 45.11" E176° 23' 27.16" to;
S39° 53' 41.83" E176° 31' 09.29" to;
S39° 58' 19.64" E176° 43' 04.27"

Vertical limits: 7500 ft to 9500 ft

Classification: Class D

ATC Authority: NR Tower 124.8

NR CTA 8500 ft

All that airspace bounded by a straight line from;

S39° 35' 48.86" E176° 17' 48.00" to;
S39° 39' 46.39" E176° 15' 37.30" to;
S39° 44' 47.73" E176° 12' 51.35" to;
S39° 42' 23.02" E176° 11' 27.36" to;
S39° 37' 48.98" E176° 11' 23.07" to;
S39° 35' 48.86" E176° 17' 48.00" to;

Vertical limits: 8500 ft to 9500 ft

Classification: Class D

ATC Authority: NR Tower 124.8