

**Airways New Zealand submission to the  
Civil Aviation Authority's  
2016 Waikato and Bay of Plenty Airspace Review**

**Prepared by: John Wagtendonk  
Policy, Standards and Safety Improvement**

**Updated Submission**

**20 November 2015**

This is one of three Airways submissions to the 2016 Waikato and Bay of Plenty Airspace Review.

This submission is an update to the Airways submission for Hamilton CTR and CTA dated 31 July 2015.

**Hamilton CTR and CTA Proposal**

A primary reason for reducing the size of the HN CTR is to reclassify as class G the airspace that is not needed for air traffic control purposes.

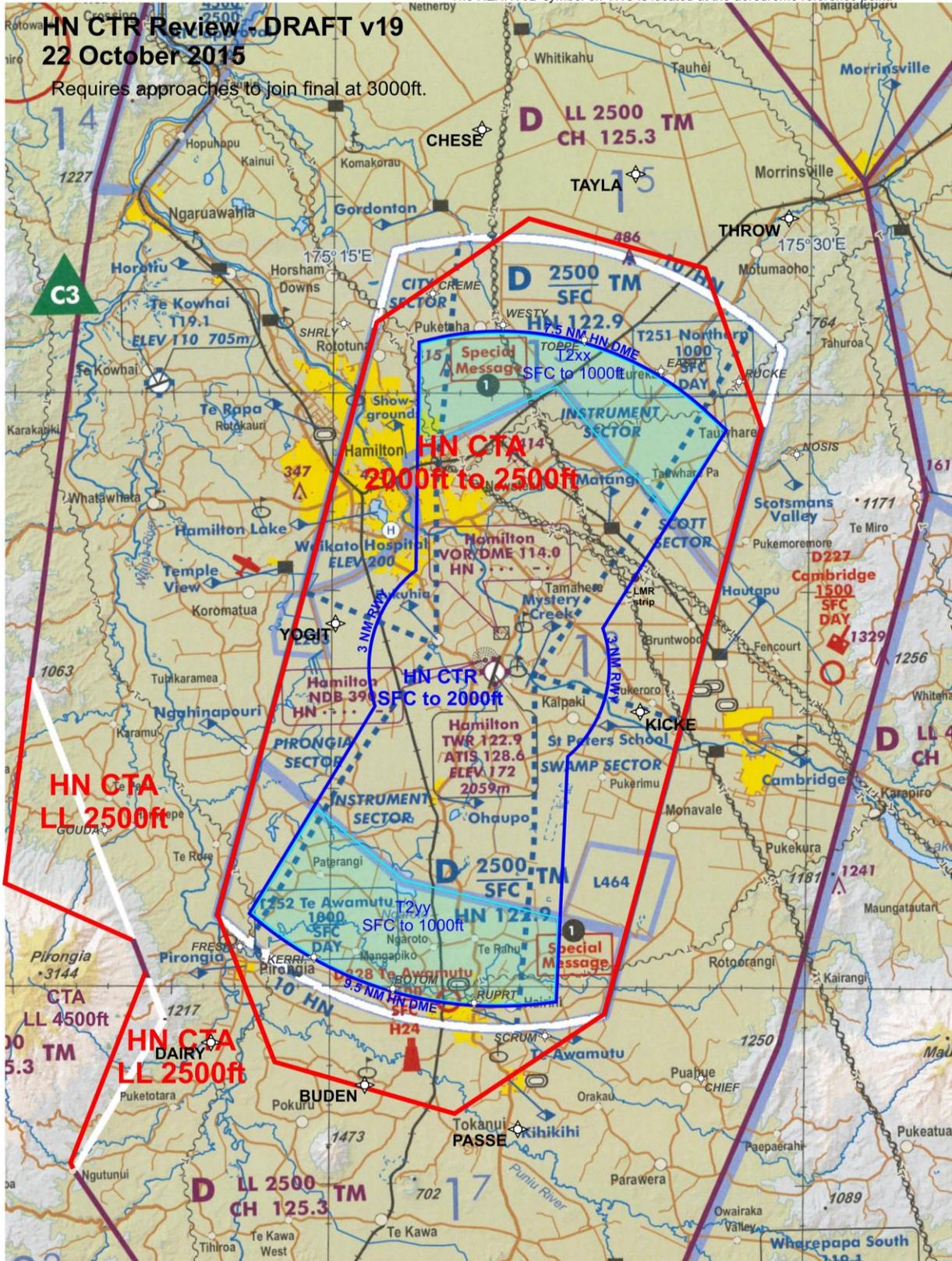
Airways also proposes a change to the HN CTA LL 2500ft in the Pirongia area to contain proposed new PBN instrument flight procedures.

# Airways DRAFT Proposal dated 22 October 2015

Below is the Airways proposed new HN CTR, associated new HN CTA LL 2000ft and amended HN CTA LL 2500ft as at 22 October 2015.

Probable new IFP waypoints also depicted  
15 degree SIDs split from RWY THR

Note: 3 NM circle - centred on NZHN ARP. Fans widened to the East.  
The NZHN A/D symbol on VNC is located at the aerodrome reference point.



## Visual Reporting Points

At this stage Airways has not determined what, if any, new visual reporting points would be desirable for the proposed new CTR and CTA.

## Supporting Information and Points to Note

1. The design reduces the size and upper level of the HN CTR as much as practical to contain the instrument approaches and departures and provide suitable containment of circuit operations at HN.

The design would require the existing VOR/DME and NDB/DME approaches to be amended so that they turned inbound at 3,000ft or above.

2. The upper level of the DRAFT CTR is 2,000ft AMSL, lower than the existing 2,500ft.
3. The lowered CTR upper level requires the addition of a new HN CTA airspace extending from 2,000ft to 2,500ft to reach the lower level of NZA245. In general, the lateral dimensions of this new CTA are the same as the existing HN CTR but note the extensions to the south and north.
4. The existing HN CTA LL 2500ft (NZA245) would be changed in the Pirongia area to contain proposed new PBN instrument flight procedures.
5. Airspace containment criteria applied

VOR approach inbound legs	VOR splay
NDB approach inbound legs	NDB splay
RNAV approach inbound legs	VOR splay
Missed approach tracks - NDB, VOR and RNAV	2 NM buffer between nominal track and airspace boundary
BUDEN2 and TAYLA2 departure tracks	2 NM buffer between nominal track and airspace boundary
Proposed new RNAV SID departure tracks	2 NM buffer between nominal track and airspace boundary
Proposed new RNAV approach tracks	2 NM buffer between nominal track and airspace boundary

### Central 3 NM circular portion of CTR

6. The central 3 NM circular portion of the CTR is centred on the RWY 36R/18L centreline at a point abeam TXY A. Note that the NZHN aerodrome symbol depicted on VNC and the DRAFT is located at the NZHN aerodrome reference point which is to the east of RWY 36R/18L.
7. The 3 NM circular portion provides containment for instrument approach Cat A and B circling approaches. Cat C and D circling is not contained.
8. L263 lies outside the CTR by not less than 1 NM.

### Width of CTR Fans

9. The width of the CTR fans is not less than the existing Instrument Sector and therefore provides containment for the inbound legs of the existing and proposed amended IFR approaches.
10. The width of the CTR fans is primarily determined by the 2 NM buffers for the planned new PBN departure procedures. These new departure procedures will consist of a straight ahead departure, a departure that turns 15 degrees left of RWY centreline and a departure that turns 15 degrees right of centreline.
11. L464 lies just outside the CTR.

### Lee Martin Road Airfield (LMR Strip)

12. Unfortunately, the Lee Martin Road Airfield (LMR strip) does not lie outside the DRAFT CTR.

Based on the photo of the LMR strip on the Aerosport website, Airways believe that the DRAFT CTR boundary would pass over the centre of the strip (orientated 10-28) – i.e. the western half of the strip would be inside the CTR, whereas the eastern half would be outside.

Airways did much work to see if this could be avoided so that the strip, and a small area around the strip to permit departures and arrivals to RWY 10/28, would lie completely outside but the procedures and criteria wouldn't allow that.

Some possible solutions that could be put to CAA for their consideration are;

1. A reduction in the airspace containment criteria in that area which would allow a small indentation in the CTR boundary around the LMR strip; or
2. The addition of a small transit lane (about 0.5 NM diameter?) around the strip with an upper level 700ft AMSL.

### Length of CTR Fans

13. The southern boundary of the CTR is 8.0 NM from the RWY 36R THR (9.5 NM HN DME). This is in-line with the policy of airspace being governed by a 300ft per NM climb/descent gradient determined from the runway ends.

The southern boundary is also determined by the descent profile of the VOR/DME RWY 36R approach – which is 2510ft at 9.2 DME.

14. The northern boundary of the CTR is 8.0 NM from the RWY 18L THR (7.5 NM HN DME). This is in-line with the policy of airspace being governed by a 300ft per NM climb/descent gradient determined from the runway ends.

The northern boundary is also determined by the descent profile of the VOR/DME RWY 18L approach – which is 2510ft at 7.2 DME.

### VFR Transit Lanes

15. The proposal includes retaining the portions of transit lanes T251 and T252 that lie within the proposed new CTR.

### Length of new CTA LL2000ft

16. The southern boundary of the new CTA LL2000ft lies around 2 NM further south of the existing CTR southern boundary.

This boundary is determined by the proposed new PBN instrument flight procedures.

17. The northern boundary of the new CTA LL2000ft lies just outside the existing CTR northern boundary.

This boundary is determined by the proposed new PBN instrument flight procedures.

### Width of new CTA LL2000ft

18. The width of the new CTA LL2000ft is the same at the existing CTR boundary.
19. Having the CTA down to 2,000ft east and west of Hamilton allows for departures to be vectored off the SID passing 2,500ft, or lower in some cases, rather than waiting until 3,000ft and provides some controlled airspace for IFR flights arriving on a visual approach or making a visual departure.

### Amended CTA LL2500ft

20. The existing HN CTA LL 2500ft (NZA245) would be changed in the Pirongia area to contain proposed new PBN instrument flight procedures.

### Containment of IFPs

21. Regarding the existing Hamilton instrument flight procedures (IFPs):

RNAV (GNSS) STARs 18L – contained by the CTA LL 2500ft

RNAV (GNSS) STARs 36R – contained by the CTA LL 2500ft

VOR/DME RWY 18L cat A and B – NOT contained by the proposed new airspace.

Based on the aircraft descending from 3,000ft commencing outbound at the VOR, the outbound and base turn legs of this approach would not be contained below 2,500ft until the aircraft was established inbound and inside 7.5 DME.

This approach needs to be amended/extended so that it is not below 3,000ft until inbound and inside 9.5 DME and not below 2,500ft inside 7.5 DME.

VOR/DME RWY 18L cat C and D – NOT contained by the proposed new airspace.

Based on the aircraft descending from 3,000ft commencing outbound at the VOR, the outbound and base turn legs of this approach would not be contained below 2,500ft until the aircraft was established inbound and inside 7.5 DME.

This approach needs to be amended/extended so that it is not below 3,000ft until inbound and inside 9.5 DME and not below 2,500ft inside 7.5 DME.

VOR RWY 18L – NOT contained by the proposed new airspace.

Based on the aircraft descending from 3,000ft commencing outbound at the VOR, the outbound and base turn legs of this approach would not be contained below 2,500ft until the aircraft was established inbound and inside 7.5 DME.

Since this is a non-DME approach which may make it difficult to determine when inside 7.5 NM from the DME, it is proposed that this approach be retained in its existing form with the condition that it is not fully contained.

VOR/DME RWY 36R cat A and B – NOT contained by the proposed new airspace.

Based on the aircraft descending from 3,000ft commencing outbound at the VOR, the outbound and base turn legs of this approach would not be contained below 2,500ft until the aircraft was established inbound and inside 9.5 DME.

This approach needs to be amended/extended so that it is not below 3,000ft until inbound and inside 11 DME and not below 2,500ft inside 9.5 DME.

VOR/DME RWY 36R cat C and D – NOT contained by the proposed new airspace.

Based on the aircraft descending from 3,000ft commencing outbound at the VOR, the outbound and base turn legs of this approach would not be contained below 2,500ft until the aircraft was established inbound and inside 9.5 DME.

This approach needs to be amended/extended so that it is not below 3,000ft until inbound and inside 11 DME and not below 2,500ft inside 9.5 DME.

NDB/DME RWY 18L – NOT contained by the proposed new airspace.

Based on the aircraft descending from 3,000ft commencing outbound at the NDB, the outbound and base turn legs of this approach would not be contained below 2,500ft until the aircraft was established inbound and inside 7.5 DME.

Unless it is determined that full containment is not needed, this approach needs to be amended/extended so that it is not below 3,000ft until inbound and inside 9.5 DME and not below 2,500ft inside 7.5 DME.

NDB RWY 18L – NOT contained by the proposed new airspace.

Based on the aircraft descending from 3,000ft commencing outbound at the NDB, the outbound and base turn legs of this approach would not be contained below 2,500ft until the aircraft was established inbound and inside 7.5 DME.

Since this is a non-DME approach which may make it difficult to determine when inside 7.5 NM from the DME, it is proposed that this approach be retained in its existing form with the condition that it is not fully contained.

NDB/DME RWY 36R – NOT contained by the proposed new airspace.

Based on the aircraft descending from 3,000ft commencing outbound at the VOR, the outbound and base turn legs of this approach would not be contained below 2,500ft until the aircraft was established inbound and inside 9.5 DME.

Unless it is determined that full containment is not needed, this approach needs to be amended/extended so that it is not below 3,000ft until inbound and inside 11 DME and not below 2,500ft inside 9.5 DME.

RNAV (GNSS) RWY 18L – contained by the new airspace

RNAV (GNSS) RWY 36R – contained by the new airspace

BUDEN 2 Departure – contained by the new airspace.

Approach Control need to be careful with turning the departure off the BUDEN2 before reaching 3,000ft to ensure airspace containment.

TAYLA 2 Departure – contained by the new airspace.

Approach Control need to be careful with turning the departure off the TAYLA2 before reaching 3,000ft to ensure airspace containment.

Omni-direction Departures – containment by the proposed new airspace is NOT assured.

Tracks up to 15 degrees either side of RWY centreline climbing until passing 2500ft would be contained. Some other tracks/radials may also be contained depending on the track itself and the rate of climb of the aircraft. To depart on R081 would require the aircraft to reach 2500ft by 3 NM and 3,000ft by 5 NM east of HN.

**NOTE:** *If this airspace design is adopted, Airways would make arrangements for the VOR/DME and NDB/DME approaches to be amended and published as described above so that they would be contained by the new airspace.*

22. Regarding containment of proposed new Hamilton instrument flight procedures (IFPs):

New 15 degree SIDs RWY 36 – contained by the proposed new airspace

New 15 degree SIDs RWY 18 – contained by the proposed new airspace

New RNAV approach RWY 18 (turning final at 8 NM) – contained by the proposed new airspace.

New RNAV approach RWY 36 (turning final at 8 NM) – contained by the proposed new airspace.

## Consultation

Airways has carried out some initial consultation with the Hamilton Airport Company, CTC Aviation, Waikato Aero Club and the Philips Trust (rescue helicopter organisation) regarding this draft proposal.