

November 26, 2015

4.1(iii)

Chair and Members of the Planning Committee:

Re: GREENBELT BOUNDARY REVIEW
SPECIAL COMMITTEE MEETING DEC 3, 2015

We are writing to you on behalf of our clients, 2047128 Ontario Inc.(1125 Fletcher Road) and 1297705 Ontario Inc.(1130 Fletcher Road). The lands are part of Area 4 which is being considered by the City of Hamilton for removal from the Greenbelt Boundary.

It appears that the south boundary of the lands being considered for removal on our clients lands is being established by utilizing both the NEF contours and the limits of Natural Heritage lands.

With respect to the NEF contours we attach, for your information and review, a copy of the letter dated February 12, 2002 from TradePort International Corporation which was responsible for the operations of the Hamilton International Airport at that time. The information contained in the attached letter shows projected NEF contours from 1996, 2003 and 2017. The projected NEF contours show that the lands exposed to air traffic noise is considerably reduced from 1996 to 2017 due to advanced technologies in aircraft. Using the projected 2017 contours contained within the attached letter, our clients lands should not be affected by aircraft noise and NEF contours.

If the City of Hamilton can demonstrate that the NEF contour information used to produce the southern boundary is representative of current noise levels, then we suggest that a minor adjustment be made to the southern boundary, as a minimum, by extending a small distance southerly to the limit of the existing hydro corridor / Twenty Mile Creek in order to avoid sterilizing a small pocket of land.

Should you have any questions regarding the above please do not hesitate to contact our office.

Sincerely,

A. J. Cameracci, P.Eng.
Encl.

12/2/2002



Urbex Engineering Limited,
181 Rebecca St.,
Hamilton, Ontario
L8R 1S9

Dear Sirs;

The following is the response of TradePort International and the John C. Munro Hamilton International Airport to the application to bring the lands described below within the Urban Boundary:

Subdivision: Glanbrook Hills

Agent: Urbex Engineering Ltd.

Location: The proposed subdivision is located East of Upper James St./ Hwy # 6, South of Twenty Road, immediately to the South of the Hamilton urban boundary.

Issue: The developer of Glanbrook Hills has requested that the above lands be included within the Urban Boundary in order to accommodate the registration of a plan of subdivision.

The City of Hamilton has "serious concerns regarding any further residential encroachment on the HIA noise impacted lands," and has requested the developer to meet with TradePort International, and the City to determine the terms of reference for a Noise Impact Analysis including:

1. Existing levels experienced on a 24-hour basis including noise levels when each of the two main runways are being utilized, and

2. Determine design criteria for buildings which will limit noise levels and preserve the enjoyment of the outdoor amenity areas, and
3. Provide a comparison of other developments abutting comparable airports – both successful and not successful.

Planning Considerations:

Transport Canada's policy statement, Land Use in the Vicinity of Airports, Part IV states, "Annoyance caused by aircraft noise may begin as low as NEF 25. It is recommended that developers be made aware of this fact and that they undertake to so inform all prospective tenants or purchasers of residential units. In addition, it is suggested that development should not proceed until the responsible authority is satisfied that acoustic insulation features, if required, have been considered in the building design".

The Provincial Policy Statement as amended and approved by the Lieutenant Governor in Council, Order in Council No. 102-97 issued under Section 3 of the Planning Act, effective Feb. 1, 1997 states "New policy added to not permit new residential development or other sensitive land uses in areas near airports above NEF 30."

Canada Housing and Mortgage Corporation publishes information on the appropriate noise insulation features for housing units, which may be subject to aircraft noise.

The Hamilton International Airport Master Plan identifies runway 6/24 for extension to 9000' by 2017. The NEF/NEP planning models related to this runway extension resulted in a decrease in noise levels from runway 12L/30R and an increase in noise levels from runway 6/24.

Legal Considerations:

Airports are increasingly subject to pressure from residential neighborhoods to abate and mitigate the noise from aircraft using the airport. In some jurisdictions, pressure from residential occupants has escalated to the

level of litigation with claims for nuisance relating to aircraft noise relating to airport operations (*Jones et. al vs. the Attorney General of Canada and the Vancouver International Airport Authority.*)

The Master Lease between TradePort International Corporation (Tenants) and the City of Hamilton (Landlord) of the Hamilton airport, recognizes the critical importance of 24-hour, 7 day a week operations that provides a significant competitive advantage to HIA. The Master Lease requires the Landlord to take all reasonable steps to safeguard the airport's 24/7 operational capabilities.

Existing Noise Levels

The proposed subdivision falls directly under the flight path of runway 06/24. It falls above the 25 NEF and below the 30 NEF contour. The proposed subdivision falls directly between the Hamilton airport and areas in the City from which noise complaints emanate.

Effective Perceived Noise Level (EPNL) is a noise metric, which provides a frequency weighting system that attempts to approximate the subjective reaction of the human ear to aircraft noise. It includes measurement of the effects of discreet tones, frequency, and duration of noise events as the foundation of the Noise Exposure Forecast (NEF) system. The construction of NEF contours includes EPNL data, distance information and aircraft performance data. These values are aggregated on an anti-logarithmic basis, rendering the total noise exposure at any single location a numerical calculation.

Inside the NEF 25 is the equivalent to a daily average noise level of about 55 decibels from aircraft. About 400 aircraft a day may be heard, generally varying from 50 to 80 decibels. Aircraft noise may or may not make up most of the noise in the community. The Hamilton airport is currently averaging 279 aircraft movements per day.

Inside the NEF 30 is the equivalent to a daily average noise level of about 60 decibels from aircraft. About 500 aircraft a day may be heard, generally varying from 50 to

90 decibels. Aircraft noise may or may not make up most of the noise in the community.

Shortcomings of NEF contours as planning tools for the Hamilton Airport Influence Area

There are a number of shortcomings in using NEF contours for planning development around the Hamilton airport:

1. Noise Exposure Forecasts are based upon average noise levels; people respond to noise incidents. NEF contours understate the effect of individual noise emissions on the peaceful enjoyment of property. The airport's Noise Complain Hotline has never received a complaint that "on average, the noise from the airport is rather loud." Every single complaint on the Noise Hotline deals with a single noise emission or a series of noise emissions. A typical noise complaint might be, "A very loud plane went over at 1:55 AM this morning and woke me up. I couldn't get back to sleep."
2. The current NEF contours for HIA are badly out of date. These contours were prepared in 1999 based upon 1996 data. Subsequent to 1996, aircraft movements at the airport have increased dramatically. Cargo shipments have increased 50% with a corresponding increase in aircraft movement. Cargo from HIA is often shipped on Boeing 727-200 air freighters. These are classified as Stage II aircraft under the Canadian Aviation Regulations. In August 1995, the government of Canada passed legislation that required phase-out of Chapter 2 jet aircraft by April 1, 2002. The Canadian Aviation Regulations Pt. IV, Sub. II (paragraphs 602.150 – 602.162) govern the phase-out of Chapter 2 aircraft. These regulations allow for the retrofitting of Chapter 2 aircraft with engines with 'hushkits' to meet Chapter 3 standards.

A number of manufacturers developed 'hushkit' assemblies for the commonly used Chapter 2

aircraft types, including the Boeing B-727 flown frequently out of HIA. Certification of 'hushkit' retrofits is based upon the average of three noise level measurements at points in the vicinity of the runway: approach, takeoff, and sideline zones.

A shortcoming in this certification standard is that a 'hushkit' with minimal effectiveness on takeoff, which is the source of most noise complaints, could still be certified if approach and sideline measurements surpassed Chapter 3 standards. Testing has shown some 'hushkits' to be more effective than others; the Raisebeck system, used by some aircraft utilizing HIA has proven noisy on take off, yet relatively quiet on sideline and landing measurements. Operating on a 'quiet wing system' the Raisebeck 'hushkit' includes: modifications to the center engine winglets on wing tips creating less drag. Pilots with Raisebeck equipped aircraft should be able to use less throttle on take-off; in practice, that may not be the case.

Availability, not effectiveness, appears to have been the overarching criteria of flight operators when scrambling to 'hushkit' their aircraft in order to meet Stage 3 timetables. Unfortunately, many of the cargo aircraft flying from the Hamilton airport are equipped with the compliant, but inferior, Raisebeck 'hushkit'.

In 2000, WestJet Airlines chose HIA as its eastern Canadian hub. WestJet now operates 111 flights per week from HIA, and that number will increase to 139 flights per week in February 2003. As WestJet expands its route network into eastern Canada, the number of flights will continue to increase over the next several years. HIA has recently announced a major expansion of its Airport Terminal Building to accommodate this airlines rapid growth. HIA now handles approx. 900,000 passengers per year. We are planning an airport that will handle up to 5 million passengers per year by 2007.

Neither existing aircraft levels nor projected levels are included in existing NEF contours. It is likely that when NEF contours are updated in the 2004 Master Plan, the subject areas will fall above the 30 NEF.

Building Design Criteria

Table 2, in Transport Canada's policy statement, Land Use in the Vicinity of Airports, indicates that below NEF 30 a residential land use *may* interfere occasionally with certain activities of the resident. Table 3 indicates a residential land use *may* be acceptable in accordance with the appropriate note and subject to the following limitations:

 Annoyance caused by aircraft noise may begin as low as NEF 25. It is recommended that developers be made aware of this fact and that they undertake to so inform all prospective tenants or purchasers of residential units. In addition, it is suggested that development should not proceed until the responsible authority is satisfied that acoustic insulation features, if required, have been considered in the building design.

The National Research Council, working in conjunction with Canada Mortgage and Housing Corporation (CMHC) and Transport Canada Aviation, has developed a technique for selecting residential building components based on NEF values. This information is published in CMHC's *New Housing and Airport Noise Handbook*, NHA 5185 81/05.

Shortcomings of relying upon residential building components to abate the impact of aircraft noise

Building techniques and upgraded insulation are based upon the NEF, which is a measurement of average aircraft noise. The single incident noise emissions, which impact peaceful enjoyment of private property, are at substantially higher decibel levels than represented in the NEF. Building techniques and upgraded insulation is less

effective in eliminating complaints from single incident high-level emissions.

The building techniques and upgraded insulation designed for a lower level noise exposure contour is likely to become obsolete and ineffective if the growth of the airport expands the noise exposure contour, bringing a building or development inside a higher contour.

Building techniques and upgraded insulation have no impact outside the home. A substantial number of noise complaints deal with the inability to peacefully enjoy outdoor amenities, particularly during summer months.

Similar developments

The Hamilton airport is not in the residential development business. It has no comment on "successful or unsuccessful" residential developments in the vicinity; the very terms "successful or unsuccessful" are highly subjective in nature. The information following may provide a starting point for investigation:

In August 2002 a petition was presented to Hamilton City Council dealing with the noise from aircraft operations. A large number of the 400 signatories were from a residential development in the Golflinks Rd. / McNiven Rd. area. This development is about the same distance from runway 12L/30R as is the proposed development from runway 6/24.

The pleadings in *Jones et. al. Vs. The Attorney General of Canada and the Vancouver International Airport Authority* mention a number of subdivisions in the Richmond area, proximate to the Vancouver International Airport, which may be considered 'unsuccessful' developments.

The city of Winnipeg has passed a zoning by-law severely restricting residential development around airports.

Recommendations:

TradePort International and the Hamilton International Airport believe the Glanbrook Hills application should be discouraged for the following reasons:

1. It is the position of the Hamilton International Airport that all development directly under a flight path is undesirable and should be discouraged.
2. The proposed subdivision, though within the 25 NEC is too close to the 30 NEC – a level at which residential development is discouraged.

TradePort International and the Hamilton International Airport believe the Glanbrook Hills application is premature for the following reasons:

1. The NEF contours are out-of-date. An application should be deferred until these are updated as part of the HIA Master Plan process due to be completed in 2004. The new Master Plan may determine a time frame for the extension of runway 6/24.
2. The case of *Jones et. al. Vs. the Attorney General of Canada and the Vancouver International Airport Authority* will have a major impact on the relationship between airports and residential neighbors. The case is presently on appeal to the Supreme Court of Canada, and any new residential development around the airport should await the outcome of that action.
3. The International Civil Aviation Organization, the recognized international regulatory body, is in the process of developing guidelines for the next phase of aircraft noise abatement. There are two major issues:
 - a. A definition for Stage 4; acceptable noise levels for the manufacture of aircraft and,
 - b. A phase-out schedule for the oldest, noisiest existing aircraft.

Airports Council International – North America, and the Canadian Airports Council, of which Hamilton International Airport is an active member, have adopted the following position:

That a new Stage 4 standard be set at a minimum of 14 db below current Stage 3 requirements. This number, a cumulative reduction at three measuring points is technically achievable right now... anything less would be a step backward.

Residential development proximate to the Hamilton airport should wait until Stage 4 standards are set, phase-in schedules are announced, and NEFs based upon the new standard are available.

TradePort International and the Hamilton International Airport believe that any development that may be allowed in areas proximate to the airport should be subject to the following conditions:

1. Any residential building should be built to the highest noise abatement standard that may be found in CMHC's *New Housing and Airport Noise Handbook*.
2. Every residential unit built under a flight path, within an NEF 25 contour, or within the airport influence area should have a restrictive covenant registered on title, proscribing the owner from making any complaint with respect to noise, or taking any action contrary to the business interest of the airport or its operators.

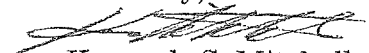
Attachments

Attached for your consideration are the following:

1. NEF contours for 1996, 2003 and 2017
2. Flight paths of runway 06/24 and 12L/30R (take off and landing)
3. Single incident noise footprint of a Boeing 727-200

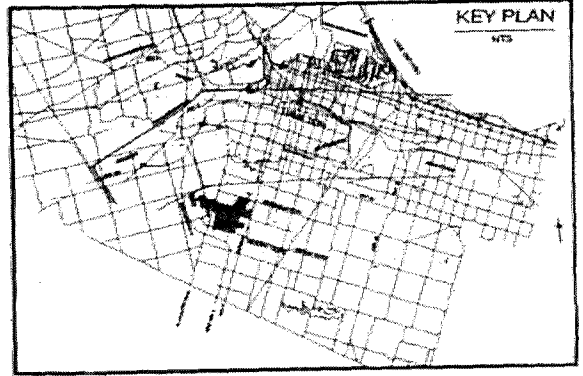
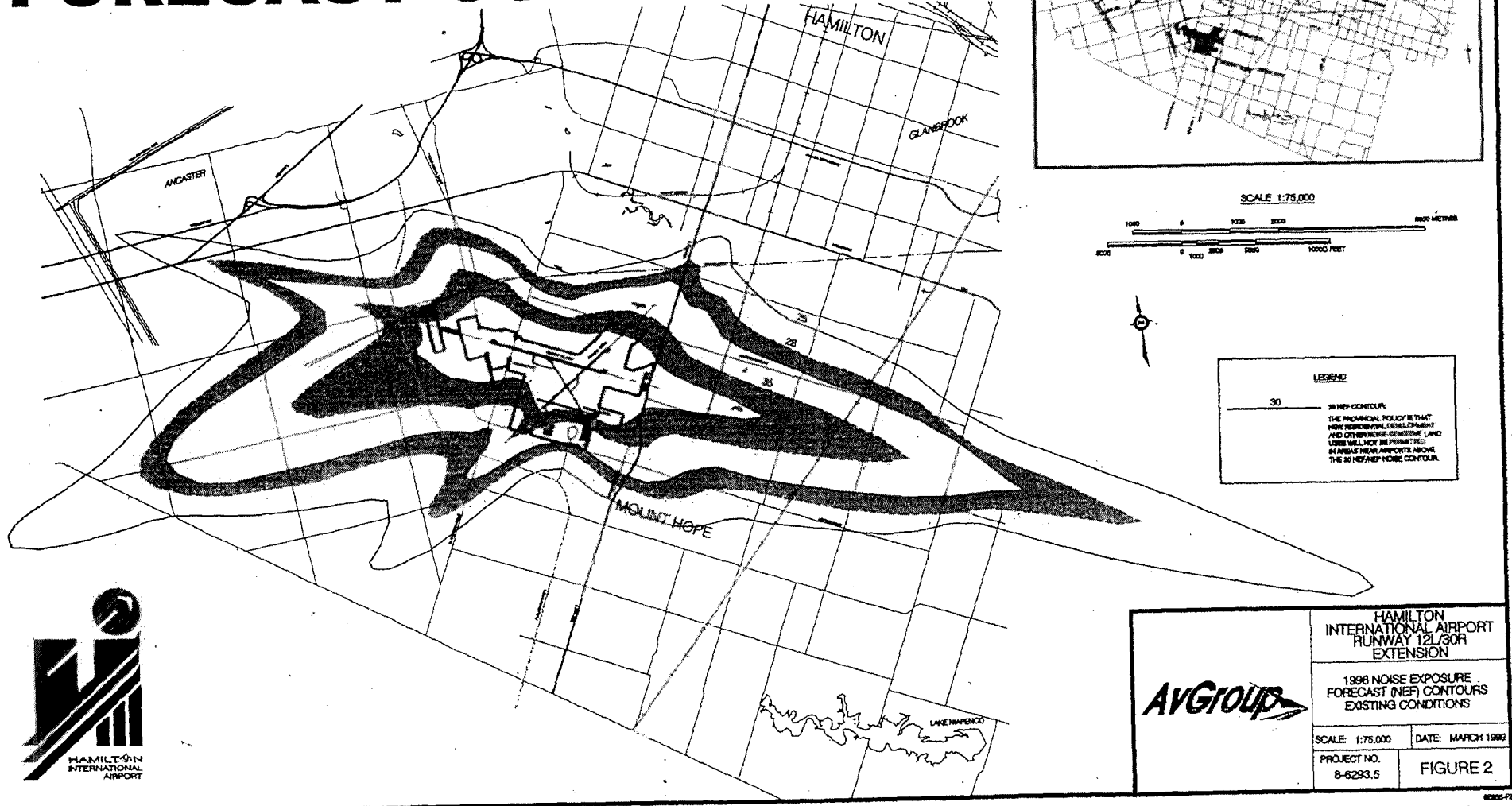
4. Typical incident chart of aircraft noise complaints
Upon review of the above material and enclosures, should the developer or his agent believe a meeting would be helpful, I am happy to meet at any time.

Sincerely,

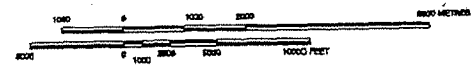


Kenneth C. Mitchell, M.B.A.
Director, Public and Government Relations,
TradePort International Corporation

1996 NOISE EXPOSURE FORECAST CONTOURS



SCALE 1:75,000



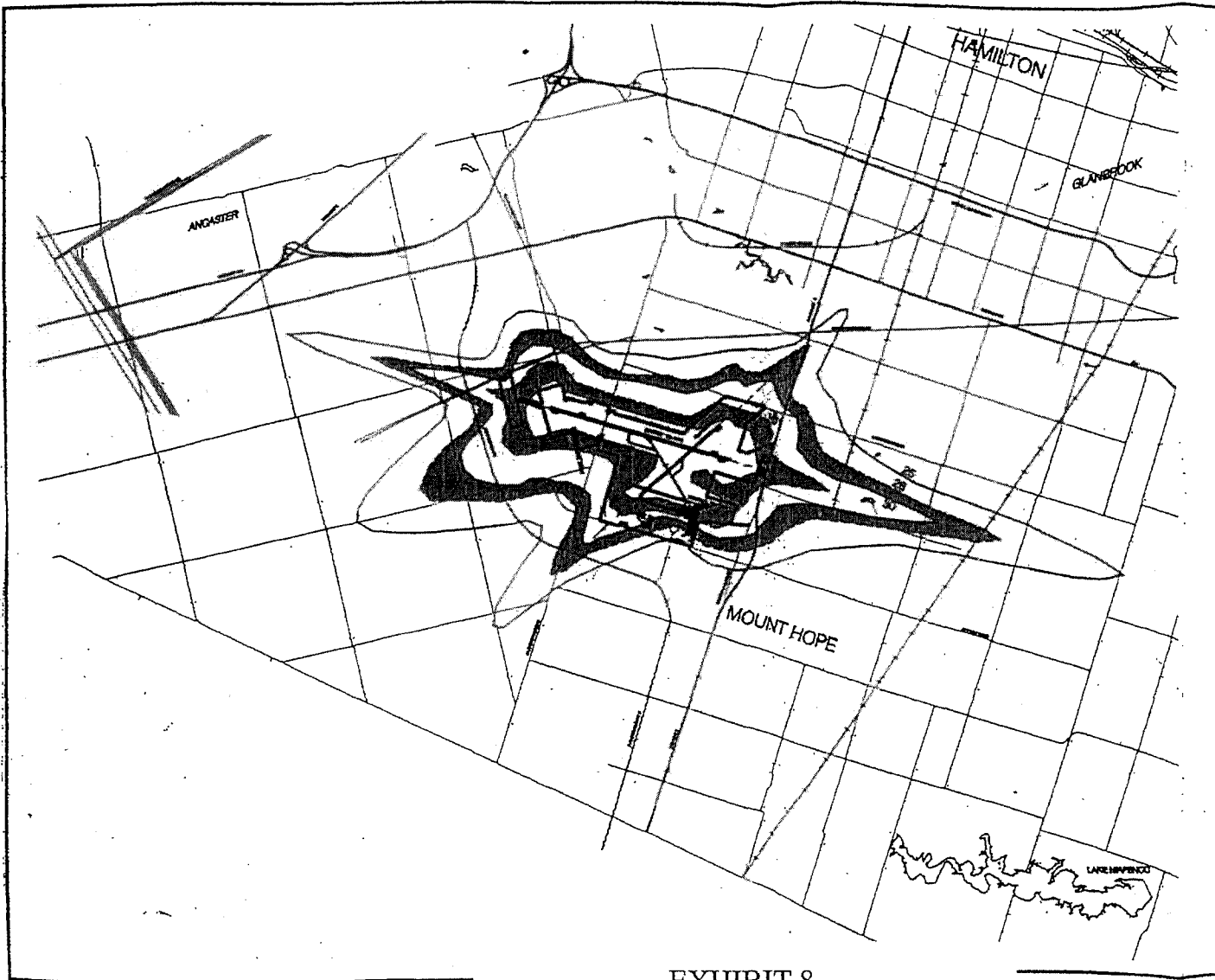
LEGEND

30

30 NEP CONTOUR
 THE PROVINCIAL POLICY IS THAT
 NEW RESIDENTIAL DEVELOPMENT
 AND OTHER SENSITIVE LAND
 USES WILL NOT BE PERMITTED
 IN AREAS NOW AIRPORT ABOVE
 THE 30 NEP CONTOUR.



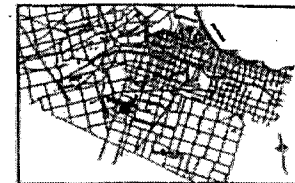
AVGI	HAMILTON INTERNATIONAL AIRPORT RUNWAY 12L/30R EXTENSION	
	1996 NOISE EXPOSURE FORECAST (NEP) CONTOURS EXISTING CONDITIONS	
SCALE: 1:75,000	DATE: MARCH 1996	
PROJECT NO. 8-6293.5	FIGURE 2	



**HAMILTON
INTERNATIONAL
AIRPORT**



LEGEND



KEY PLAN

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30 NEP CONTOUR:

THE PROVINCIAL POLICY IS THAT
NEW RESIDENTIAL DEVELOPMENT
AND OTHER MORE SENSITIVE LAND
USES WILL NOT BE PERMITTED
IN AREAS NEAR AIRPORTS ABOVE
THE 30 NEP/NEF NOISE CONTOUR.

SCALE:



NORTH

**NOISE EXPOSURE FORECAST
CONTOURS-2003**

MARCH 1998

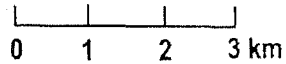
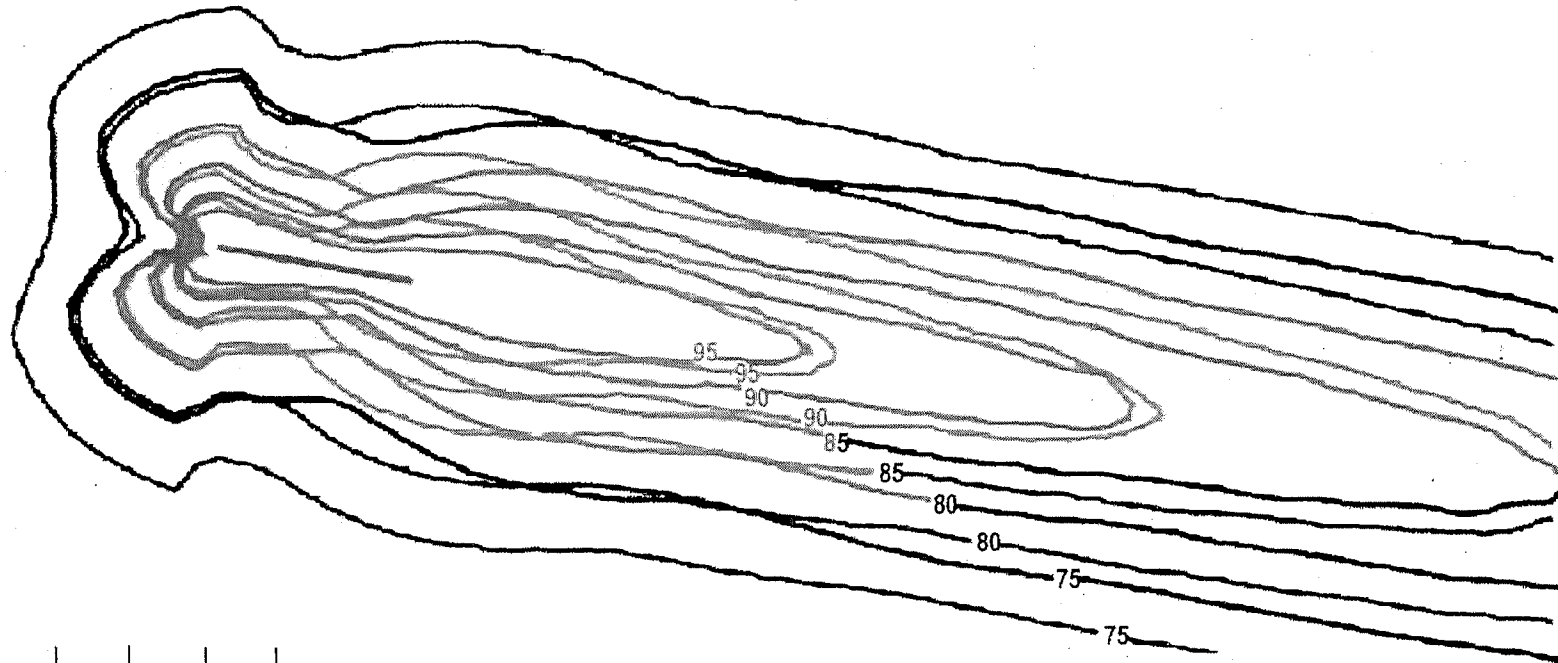
AVGROUD

EXHIBIT 8

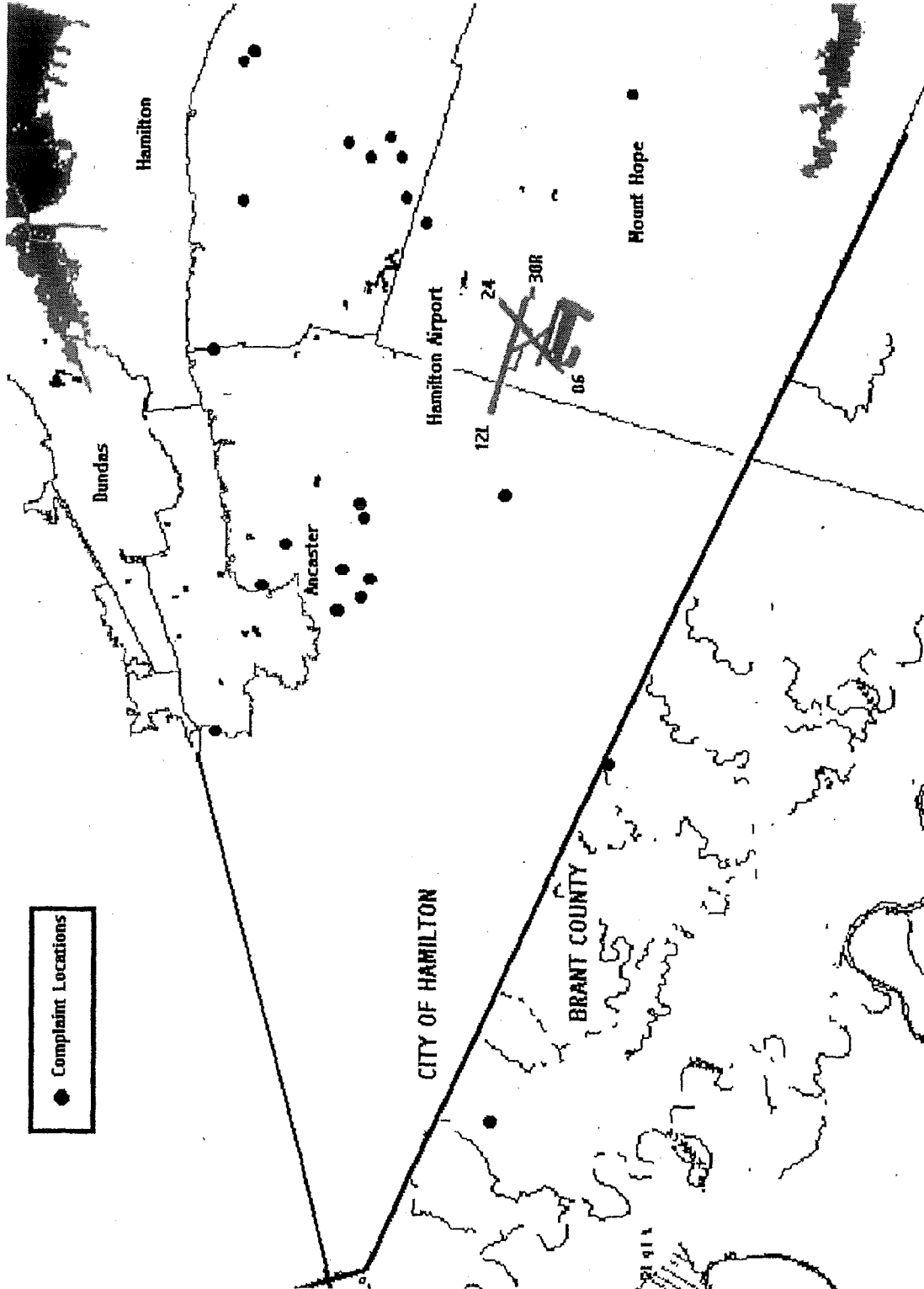


COMPARISON OF SEL NOISE CONTOURS DC-8 (IL-76 surrogate) AND B727 AIRCRAFT

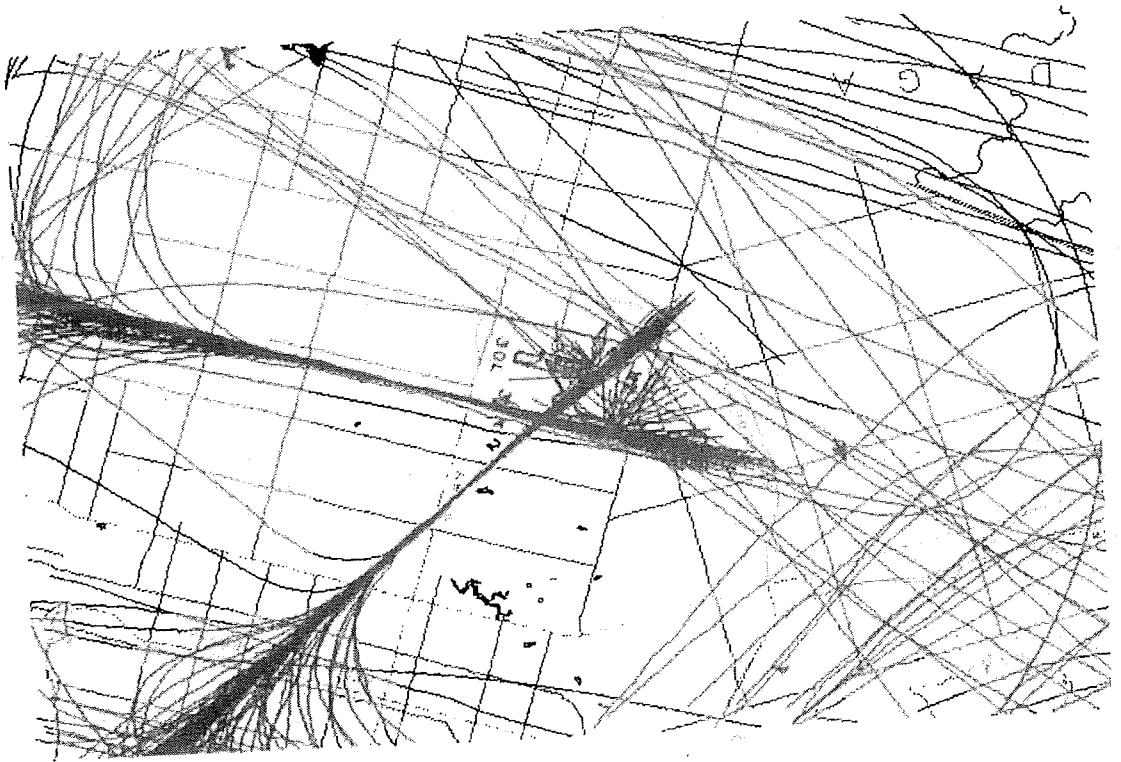
The single Event Noise Exposure Level (SEL) contour in dBA represents lines of equal noise energy of a single aircraft flyover (i.e. landing or take-off). The maximum instantaneous noise level is generally 10 dBA less than the SEL at a point location.
*Contours generated using the FAA INM V4.11 computer model.
May 2002*



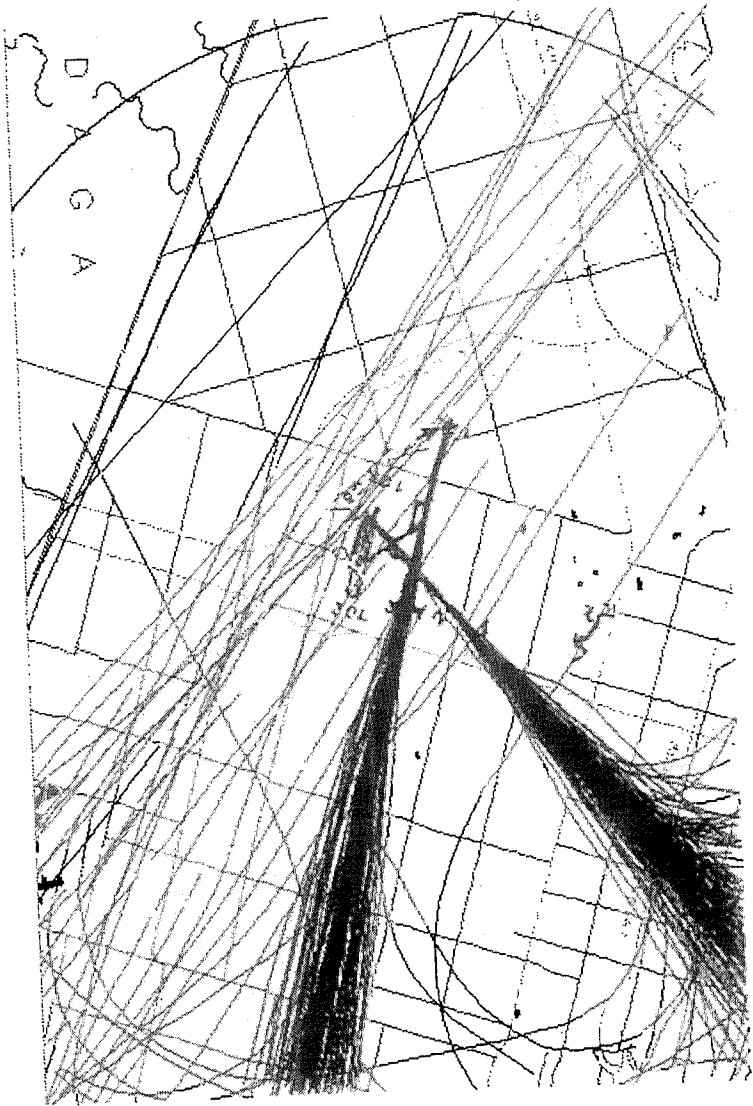
Aircraft	INM Type	Stage Length
DC8-60	DC8QN	4 (1500-2500nm)
727 Q	727 EM2	4 (1500-2500nm)

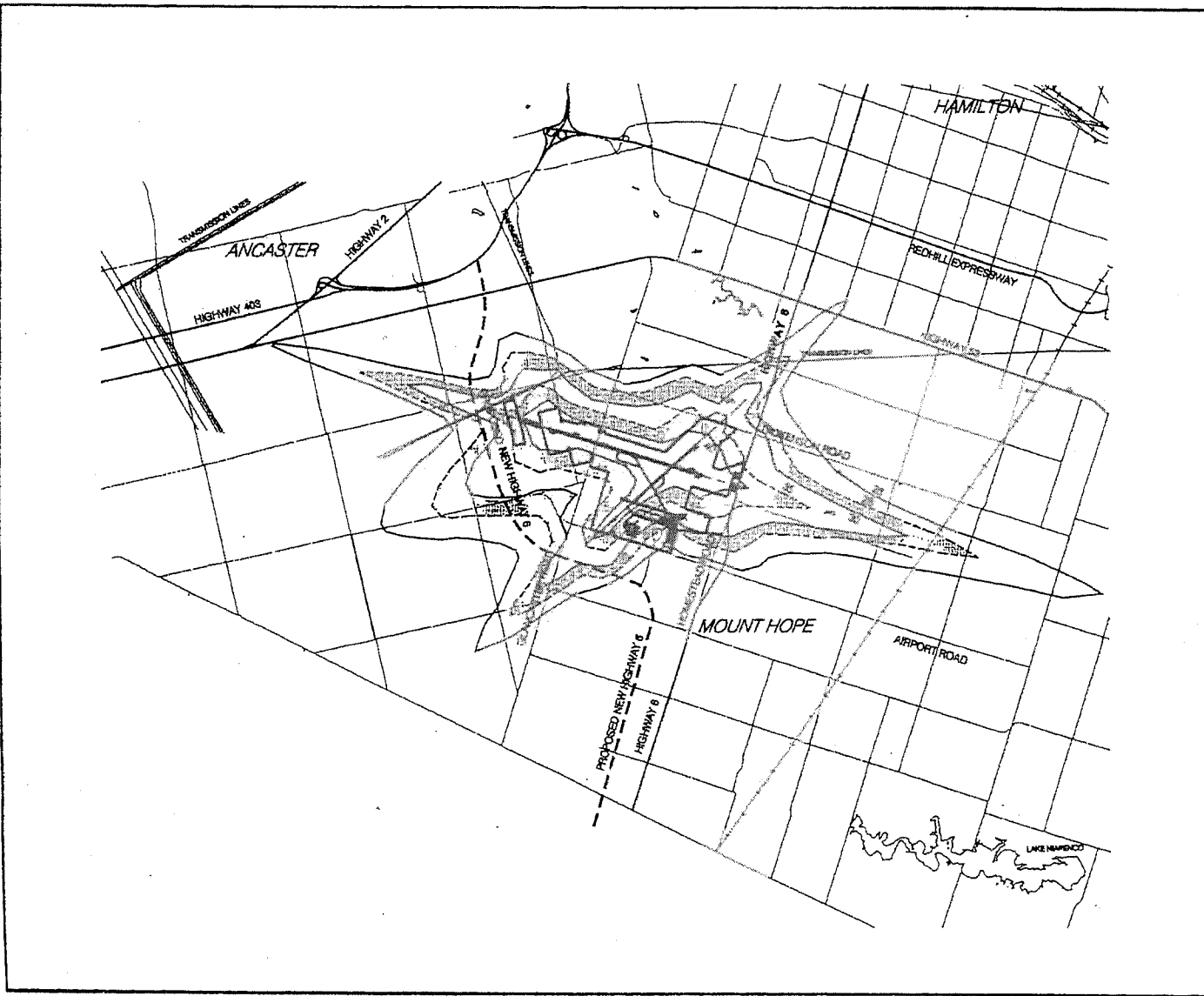


Amund



Departures





**HAMILTON
INTERNATIONAL
AIRPORT**



MASTER PLAN

LEGEND

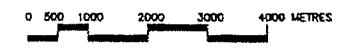


KEY PLAN

30
30 NEF CONTOUR:

THE PROVINCIAL POLICY IS THAT
NEW RESIDENTIAL DEVELOPMENT
AND OTHER NON-RESIDENTIAL LAND
USES WILL NOT BE PERMITTED
IN AREAS NEAR AIRPORTS ABOVE
THE 30 NEF/NEP NOISE CONTOUR.

SCALE:



**NOISE EXPOSURE PROJECTION
CONTOURS-2017
SCENARIO 2**

FIGURE 6.12
MAY 1998





FEEDBACK ON AREAS THAT COULD BE CONSIDERED FOR REMOVAL FROM THE GREENBELT

Now that you have visited Panels 14 and 15, what do you think about the areas shown? Should other areas be considered for addition? Mark up the figure below and provide your comments in the space provided on this page. Additional space is on Page 9. Include reasons why an area should or should not be considered for addition to the Greenbelt.

Reminder: The purpose of this review is to develop a high-level understanding of opportunities to refine the Greenbelt. Areas shown and discussed will not necessarily be added (or removed) in whole or even in part. Any changes made will be minor.

Comments

