I, ROBERT JOSEPH DOUGLAS, Deputy Town Clerk of The Corporation of the Town of Vaighan in the Regional Municipality of York, do hereby certify that the attached is a true copy of Amendment No. 115 to the Official Plan of the Vaughan Planning Area which was approved by The Ontario Municipal Board, with modifications, on the 16th day of March, 1981. The attached text incorporates said modifications.

Douglas Deputy Town Cherk Town of Vaughan

DATED at the Town of Vaughan this 28th day of July, 1981.

AMENDMENT No. 115 TO THE OFFICIAL PLAN OF THE VAUGHAN PLANNING AREA

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AMENDMENT NO. 115

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TO THE OFFICIAL PLAN

OF THE TOWN OF VAUGHAN PLANNING AREA

AMENDMENT NUMBER 115 TO THE OFFICIAL PLAN OF THE VAUGHAN PLANNING AREA

Part 2 of the attached text and Schedule 'A' entitled "Land Use" constitute Amendment Number 115 to the Official Plan of the Vaughan Planning Area. This Amendment has been prepared in accordance with Section 17 of The Planning Act, R.S.O. 1970, as amended.

The Amendment was adopted by the Corporation of the Town of Vaughan, on the _____ day of _____ 1980.

MAYOR

CLERK

THE CORPORATION OF THE TOWN OF VAUGHAN

BY-LAW NUMBER

A By-Law to adopt Amendment Number 115 to the Official Plan of the Vaughan Planning Area.

The Council of The Corporation of the Town of Vaughan ENACTS AS FOLLOWS:

1. THAT the attached Amendment Number 115 to the Official Plan of the Vaughan Planning Area, consisting of the Part 2 of the attached text and Schedule 'A', "Land Use" is hereby adopted.

2. THAT the Clerk is hereby authorized and directed to make application to the Ministry of Housing for approval of the aforementioned Amendment Number 115 to the Official Plan of the Vaughan Planning Area.

3. This By-Law shall come into force and take effect on the day of the final passing thereof.

READ a FIRST and SECOND time this ____ day of _____,
1980.

_____ MAYOR

CLERK

READ a THIRD time and finally passed this ____ day of

_____, 1980.

MAYOR

CLERK

AMENDMENT NO. 115

TO THE OFFICIAL PLAN OF THE VAUGHAN PLANNING AREA

This Amendment No. 115 to the Official Plan of the Vaughan Planning Area consists of Part 2 of the following text, and of Schedule 'A' entitled "Land Use".

Attached hereto, but not constituting part of the Amendment are Part 1 entitled "Background and Context" and Appendices 1 to 4. These contain background and supportive data to the Amendment.

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I PART I - BACKGROUND AND CONTEXT

1.1 Purpose

Amendment No. 4 to the Official Plan for the Vaughan Planning Area designates general land use patterns and sets a framework for future development. The Official Plan requires that Secondary Plans for major new residential development areas be prepared and adopted as amendments to the Official Plan.

The purpose of this Amendment is to furnish a secondary plan and relevant land use policies for a major development area in the Maple community, in conformity with the policies of the Official Plan for the Vaughan Planning Area, and Amendments thereto.

The majority of the land which is the subject of this Amendment is proposed for residential subdivision purposes. This Amendment is intended to establish policies which will determine the form and structure of development in the area.

1.2 Location

The area which is the subject of this Amendment is located in the northwest quadrant of the Village of Maple, more particularly described as part of Lots 21 and 22, Concession 4, Town of Vaughan (formerly the Township of Vaughan). The area consists of approximately 88 hectares (217 acres) of undeveloped land north of Major Mackenzie Drive, and west of Keele Street.

1.3 Basis

The bases for this Amendment are summarized below:

1.3.1 Existing Official Plan

The lands are designated in the existing Official Plan (Amendment No. 4) for residential purposes. The policies related to residential areas in Official Plan Amendment No. 4 include a requirement for a secondary plan.

1.3.2 Proposed Maple Community Plan

During the mid 1970's, the Municipality was involved in preparing a plan for the entire Maple Community. The process resulted in the adoption in 1978 of a proposed Official Plan Amendment No. 100, <u>The</u> <u>Maple Community Plan</u>. Official Plan Amendment No. 100 was rescinded in February, 1980, due to the fact that there are some issues outstanding which have not yet been resolved, particularly with respect to the boundaries of the Maple Community. The boundary of the Community in the vicinity of the lands which are subject of this Amendment has not, however, been in contention. It is considered appropriate to proceed with this amendment at this time because:

- a) the residential development of the lands which are subject of this Amendment was established in Official Plan Amendment No. 4;
- b) the residential (and related urban) uses of the lands within the Amendment Area and south and east of the proposed by-pass was included in Official Plan Amendment No. 100;
- c) the municipality is desirous of proceeding with an area of new development to coincide with new sewer services soon to be installed in Maple, and
- d) this Amendment has been prepared within the general context of the Maple Community Plan, (Official Plan Amendment No. 100), thereby taking advantage of the research, public participation and policy decisions carried out in preparation of that Plan.

1.3.3 Existing and Proposed Land Uses

This Amendment has taken into consideration the existing land uses, and major land use proposals. The site itself now accommodates the Maple community park, and a small number of residential dwellings fronting on Keele Street. The site is otherwise vacant and agricultural. Existing land uses in the vicinity are shown in Appendix 1 attached hereto. Uses and proposals of particular note:

- a) The existing pits and quarries area northeast of Maple has been proposed as a landfill site.
- b) The amendment incorporates a proposed truck by-pass which is intended to divert traffic around the downtown area of Maple.

- c) The existing Maple Airport is recognized by the inclusion in the Amendment of Noise Exposure Forecast contours.
- d) A Family Leisure Centre is under construction adjacent to Hwy. 400, west of Maple.

1.3.4 Servicing

The existing village of Maple is presently serviced by septic tanks and beds. Amendment No. 4 to the Official Plan of the Vaughan Planning Area states in part that unsubdivided lands in Maple shall not be subdivided or developed until satisfactory urban water and sanitary services are provided.

Sanitary sewer services for the community of Maple will be supplied through a main trunk under the York-Durham servicing scheme. This trunk is scheduled for completion in 1980 or 1981.

The community of Maple is supplied with Metropolitan Toronto water through the York water supply scheme. Maple is located in the Metro pressure zone No. 7 and is supplied via a reservoir located to the north of the community. Water is delivered to this reservoir by a water main along Keele Street.

1.3.5 Roads

The Amendment Area is affected by two existing major roads, Keele Street and Major Mackenzie Drive, and by the proposed Maple by-pass.

Official Plan Amendment No. 17, adopted in 1968, designates Keele Street and Major Mackenzie Drive as Arterial Roads, and also designated the proposed by-pass as a "Diagramatic Alignment of Future Arterial". A location for the proposed by-pass right-of-way was the subject of a preliminary report by Duncan Hopper and Associates dated July 5, 1977. The location of this proposed right-of-way is shown on Schedule 'A' to the Amendment.

The Amendment includes an internal loop collector street. This was originally suggested in proposed Official Plan Amendment No. 100, and has been incorporated into this Amendment, and into the Draft Plan which is proposed to implement this Amendment.

2 PART 2 - THE POLICIES

2.1 Land Use Policies

Schedule 'A' sets out land use designations for the Amendment Area. The location of roads and land use designations is diagramatic and may be altered to a minor extent in accordance with Section 2.10 of this Amendment.

The following sections contain specific policies which pertain to each land use designation.

2.1.1 General Policies

- a) The area which is subject of this Amendment is the presently undeveloped land in Maple, north of Major Mackenzie Drive, west of Keele Street, and previously designated Residential by Official Plan Amendment No. 4. Specifically, the area of the amendment includes:
 - i) undeveloped lands south and east of the proposed by-pass which are proposed to be subdivided;
 - ii) undeveloped lands extending north of the proposed by-pass to the northern limit of Lot 22, Concession 4;
 - iii) the proposed alignment of the by-pass within the proposed subdivision lands; and
- iv) the existing community park/recreation centre, and residential uses north of the community park, fronting on Keele Street.
 The rationale for the inclusion of these elements in the Amendment is that it should include the undeveloped lands which are presently proposed for development, plus existing and proposed public facilities within or adjacent to the proposed development. The Amendment identifies the proposed by-pass as the boundary of the designated urban area, and redesignates from Residential to Rural the lands north of the proposed by-pass as the north-west boundary of the residential community. The boundary of the Amendment Area is shown on Schedule 'A'.
- b) No new development shall be permitted in the Amendment Area unless adequate sanitary and storm sewer and water services are available.
- c) No new development shall occur until storm water drainage plans for the drainage area in which the proposed development is located have been prepared to the satisfaction of the Town of Vaughan and other appropriate authorities. Such drainage areas may be natural or as modified.

2.1.2 Noise Control

- a) In addition to those conditions set forth in Section
 2.3 new residential uses close to Keele Street,
 Major Mackenzie Drive or the proposed by-pass arterial, shall
 be permitted only if appropriate noise control measures
 are provided.
- b) Planning approvals for residential development in such areas outlined in a) above shall not be granted until the Town, in consultation with the Ministry of the Environment and any other concerned public agencies, has determined to the mutual satisfaction of all concerned agencies that the proposed residential development will provide an appropriate and satisfactory residential environment in terms of the existing and expected conditions of noise, odour, dust, vibrations and traffic and that appropriate pollution abatement measures, if required, will be provided.
- c) Noise control measures may involve one or more of the following, depending upon the physical circumstances at specific locations:
 - setbacks;
 - sound barriers (landscaped berms, building and/or fences);
 - house siting and the provision of protected locations for related outdoor spaces;
 - building design (including consideration of height, external configuration, internal layout, locations of windows, etc.);
 - building construction (including materials for acoustical insulation, glazing, ventilation, etc.);
 - and/or such other appropriate measures which may be devised.

2.1.3 Restrictions, Noise Exposure Forecast Contours, Maple Airport

- a) Current noise exposure forecast (N.E.F.) contours for the Maple airport have been plotted on Schedule 'A'. The following policies shall prevail in regard to the N.E.F. contours:
 - a) No new residential development shall occur within an area affected by the 35 N.E.F. and above.
 - b) Residential development and school building located between the 28 and 35 N.E.F. contours shall conform to acoustic design criteria as may be established from time to time by the Ministry of Housing.
 - c) Appendix 3, which is for information purposes only, outlines current Ministry of Housing acoustic design criteria for development near airports.
 - d) The height of any structure, including residential units, is limited in certain areas due to the proximity of the Maple airport and the alignment of the runways. The implementing zoning By-Law shall ensure that the height of any structure in the vicinity of the flight paths of the Maple airport shall be in accordance with the current Department of Transport regulations and guidelines. Appendix 4, "Zoning for Airport Licencing" is attached for information purposes and can be used as a guide to establish maximum heights of structures in the vicinity of the airport flight paths.
 - e) In addition to 2.1.3 d) above, with regard to towers or other high obstacles, no obstruction shall be considered acceptable in the Maple Community which would penetrate an imaginary surface commencing 150 feet above the assigned elevation of the airport in recognition of safety measures for small airports adopted by the Federal authorities.

2.2 Rural Area

The Official Plan policies of the Town of Vaughan regarding lands designated Rural Area shall apply to the lands designated Rural Area by this Amendment, indicated on Schedule 'A', "Land Use".

2.3 Residential

- a) Residential uses may include: single family detached and attached dwelling units, semi-detached dwelling units, linked dwelling units, street townhousing, and public open space.
- b) For the purposes of calculating net residential density in the residential area, a net residential hectare or acre shall include local streets as well as the land for the dwelling units, but shall exclude all other land uses.
- c) The number of residential units in the Amendment Area shall not exceed approximately 15 units per net hectare (6 units per net acre).
- d) In residential areas, new housing units which directly abut residential units existing at the date of adoption of this Plan by Council shall be compatible single family detached dwelling units on individual lots, or semi-detached units.
- e) All new residential uses located on Keele Street, Major Mackenzie Drive or the proposed by-pass arterial shall have reversed frontages as protection from any adverse environmental effects of the arterials, and where appropriate special housing types, building setbacks, landscaping, fencing and/or screening to minimize any adverse visual effects created by abutting development.
- f) A pedestrian/bicycle system intended to facilitate access to parks and schools shall be incorporated into the plan of subdivision. A conceptual alignment is indicated on Schedule 'A', and changes in location will be permitted without further amendment, provided that the intent of providing such a system is maintained.

2.4 Commercial

- a) This Amendment includes one commercial designation, a commercial site immediately south of the proposed arterial by-pass on the west side of Keele Street.
- b) Commercial development shall be regulated by the implementing zoning By-Law, and is subject to the approval of site plans by the Town through agreements under the relevant provisions of the Planning Act.

2.5 <u>Community Park</u>

- a) A Community Park is designated in the northeast portion of the Amendment area. This is an existing park, part of which is owned by the Town, and part of which is leased by the Town from the landowners. It contains a range of active recreational and team sport facilities. It serves as the major community park in all of Maple, and it is intended to function also as a neighbourhood park for the Amendment Area.
- b) The designation of the Community Park on Schedule 'A' is symbolic, and may be modified in size or shape without Amendment to this Plan. The eventual size of the park shall be approximately 8.5 hectares (21 acres).

2.6 Institutional

- a) Institutional uses include elementary schools, religious institutions, municipal buildings, branch libraries, day care centres, and other similar uses.
- b) All institutional uses shall be permitted in the Amendment Area without amendment to this Plan.

2.6.1 Schools

- a) Within the Amendment Area, a school site is designated on Schedule 'A'. The site has been selected in consultation with the York County Board of Education.
- b) The designation is symbolic, and may be modified in size, location, or shape without amendment to this plan.
- c) If the designated site is not required for school purposes, it may revert to residential use without amendment to this Plan. The residential density shall be compatible with those on the adjacent lands.

2.7 Roads

- a) The road plan for the Amendment Area is shown on Schedule 'A'.
- b) The hierarchy of roads has been established on a classification of street functions according to volume, speed and access. The road system with respect to the Amendment Area consists of three types of roads, classified as follows:
 - i) Arterials;
 - ii) Residential collector streets;
 - iii) Local streets.
- c) All roads and all road improvements necessitated by this development shall be developed at the Developer's expense, and to the satisfaction of the Town of Vaughan.

2.7.1 Arterials

 a) Regional roads Keele Street and Major Mackenzie Drive are arterials, as designated in Official Plan Amendment No. 17.
 Official Plan Amendment No. 17 also designated the by-pass diagrammatically. This Amendment confirms the designation of the by-pass as an arterial, and indicates its general location.

- b) The prime function of the by-pass arterial is as a truck route leading into the pits and quarries area. Also, as a long term proposal and should it prove feasible through the necessary feasibility studies to extend it through the north-east quadrant of Maple, it may eventually serve as an east-west by-pass for the community for all kinds of traffic.
- c) The northwest component of the by-pass arterial shall be built at the earliest opportunity during the development of the Maple Community.
- d) In the development of residential units, reverse lots will be required abutting all arterials. Access from open space, institutions and commercial uses will be controlled but not prohibited.
- e) Noise control measures will be considered during the design and construction of the proposed by-pass.
- 2.7.2 Residential Collectors
 - a) The residential collector street is intended to afford organization for the local street system and provide the main connection points to the arterial system.
 - b) Sidewalks will be required on both sides, and the sidewalk system may incorporate provision for bicycles.
 - c) Access from abutting properties shall be permitted but will be controlled.

2.7.3 Local Streets

- a) The local street system is intended to provide access to individual properties within the Amendment Area.
- b) Sidewalks may be required on one or both sides.

2.8 <u>Services</u>

2.8.1 Sanitary Sewers

No development in the Amendment Area shall proceed until the Regional Municipality of York and the Ministry of the Environment, Ontario, have assured the provision of sewage capacity in the York-Durham Servicing Scheme, and the required facilities are available to the Amendment Area to the satisfaction of the Town.

2.8.2 <u>Water Supply</u>

Development of the amendment area shall be dependent upon the availability of water supply from the York water system.

2.8.3 Storm Drainage

- a) No new development shall occur until storm water drainage plans for the drainage area in which the proposed development is located have been prepared to the satisfaction of the Town of Vaughan and other appropriate agencies. Such drainage areas may be natural or as modified.
- b) The drainage plans may include facilities such as retention ponds, open drainage channels, and sediment retention basins. Provisions must be made for overland flow routes in the event of a major storm.
- c) Natural streams shall be retained within valley lands designated as Drainage Tributary. Under Ontario Regulation 235/73 (and subsequent amendments thereto), permission must be received from the Conservation Authority to, among other things, straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse.

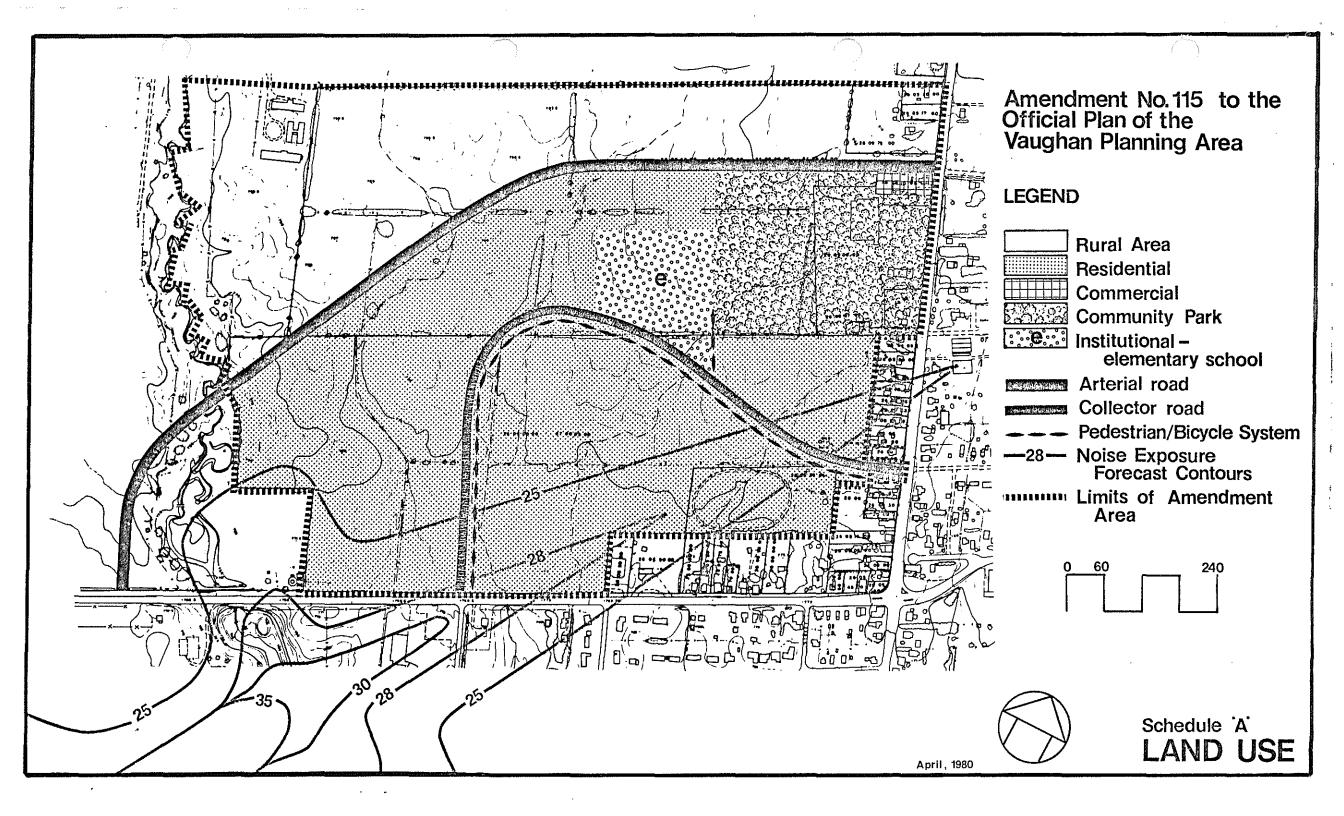
2.9 Implementation

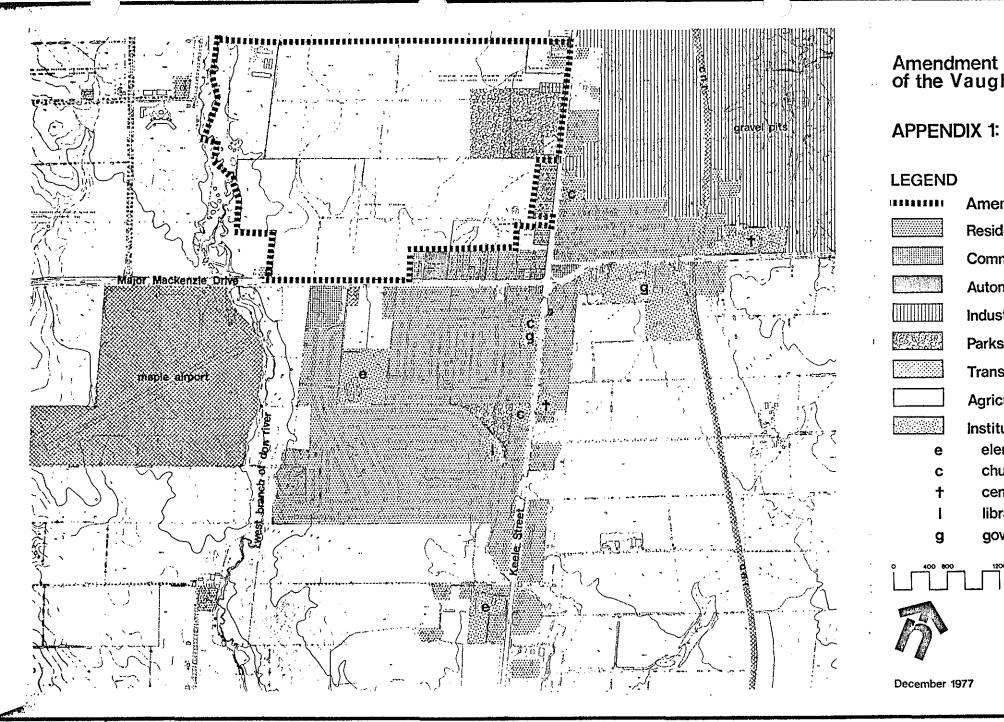
Implementation of this Amendment and of the preceding policies may entail the following steps:

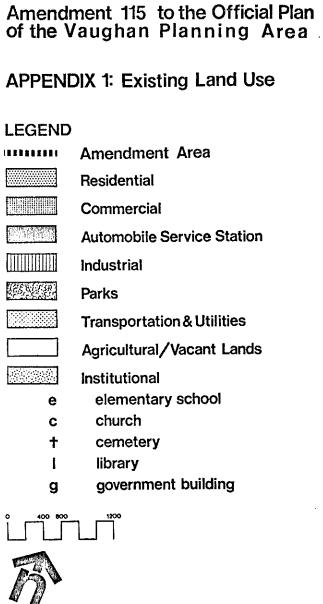
- a) Processing of individual subdivision plans under Section 33 of the Planning Act in accordance with the policies set forth in this Amendment. Where necessary, severances may be approved under Section 29 of The Planning Act. Where an application for a new plan of subdivision is received on land abutting a residential area existing on the date of approval of this Plan, the Town of Vaughan will endeavour to notify the residents primarily affected as a part of the process of considering the subdivision plan.
- b) The policies of this Plan will be implemented by Council's adoption of appropriate restricted area by-laws and development control agreements under the relevant sections of The Planning Act.
- c) Public works, community facilities, and schools shall be constructed in accordance with policies set forth in this Amendment and under the direction of the Town of Vaughan and other appropriate authorities.
- d) The Town of Vaughan may accept cash in lieu of land conveyance for park purposes as permitted under Section 33(8) of The Planning Act.

2.10 Interpretation

- a) The boundaries between the land use designations shown on Schedule 'A' (Land Use) are approximate. Minor adjustments will not require an amendment to this Plan as long as the intent of its policies is maintained.
- b) The location of the by-pass arterial and the collector road system is approximate, and minor adjustments will not require an amendment to this Plan as long as the intent of its policies is maintained.







NOTE: This is a reproduction from Official Plan Amendment No.100

APPENDIX 2

LAND USE AREAS

PROPOSED (APPROXIMATE) LAND USE AREAS, WITHIN AMENDMENT AREA

		APPROXIMATE AREA				
		HECTARES	(ACRES)			
RURAL		23	(57)			
RESIDENTIA	AL	32.5	(80.5)			
COMMERCIA	L	.4	(1)			
COMMUNITY	PARK	8.5	(21)			
INSTITUTI	ONAL					
	ELEMENTARY SCHOOL	2.4	(6)			
ROADS						
	ARTERIAL	4.5	(11.2)			
	COLLECTOR	3.3	(8.2)			
	LOCAL ROADS	8.1	(20)			
	PROPOSED BY-PASS	5.0	(12.5)			

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APPENDIX 3

MINISTRY OF HOUSING LAND USE POLICY NEAR AIRPORTS

Provincial land use policies established in 1969 to protect lands near airports have been revised by the Ministry of Housing through the adoption of a more accurate system of measuring discomfort caused by aircraft noise.

The new policy is based on the NEF (Noise Exposure Forecast) system which reflects the noise produced by all types of aircraft at an airport, taking into consideraton the number of flights, the duration of the noise, the time of day and the frequency components of the sound (pure tones).

All land use proposals near airports must now adhere to the NEF Land Use Compatibility Table (below). The applicable NEF values should be determined from NEF contour maps prepared by Central Mortgage and Housing Corporation, based on contours supplied by Transport Canada or by the Department of National Defence (see opposite). This table has been designed to reflect CMHC policy related to residential development * and also contains policies for non-residential uses.

The general principle underlying the restrictions is that the outdoor noise level should govern permissible uses of a property. However, some indoor uses which make almost no use of the outdoors may be permitted to almost any noise level provided they meet CMHC standards for acoustic insulation and ventilation. The latter requirement is necessary to ensure that the acoustic insulation value is not lost through the opening of windows.

* New Housing and Airport Noise, N.H.A. 5185 Metric Edition.

NEF land use compatibility table

Land uses (1)	Noise exposure			-	40
Group I residential, passive use park, school, library, church, theatre, auditorium, hospital, nursing home, camping or picnic area	0 2	Discretion Alf buildin	aty Range gs musi conform to esign Criteria (2) (3). Some annoyance will occur. In this range but residential	35 Nonew Group I bass established in this ra those for which the o	Lige, axcepi
Group II hotel, motel, retail or service commercial, office, athletic field, playground, stadium, outdoor swimming pool	in this range, usually a prot		be studied and approp	environment is irrele meet the Acoustic D	Svant and which esign Criteria (3) Group II uses may not ba established
Group III industrial, warehousing, arena, general agriculture, animal breeding (4).	In this range, i	noise is not usu	atly a serious problem.	Discretionary Range Most Group III uses In this range, provide are adequately insul	are permissible ad ancillary uses

Notes

- Uses not specifically mentioned should be compared to the uses listed, classified in the most appropriate Group and regulated accordingly.
- (2) For residential uses, refer to "New Housing and Airport Noise", N.H.A. 5185-1-78 and any amendments thereto. Acoustic design must include adequate ventilation. The developer of a residential project must undertake to inform prospective tenants or purchasers of the possible noise problem.
- (3) For non-residential uses, refer to the Acoustic Design Oriteria opposite.
- (4) Research has shown that most animals become conditioned to high noise levels. However, fur farms, and any use likely to create a bird hazard, such as a feed lot or stock yard, should not be located closer to an airport than as recommended by Transport Canada In "Land Use in the Vicinity of Airports", document S-77-4.

Acoustic design criteria for non-residential uses

The procedure described in Section E of "New Housing and Airport Noise" should be adapted to meet required sound insulation for non-residential buildings. Table 1 below shows the correction factor to be used with Table 2 of the CMHC handbook to determine the Acoustic Insulation Factor (AIF) for other uses. AIF values corresponding to NEF values above the 35 contour are obtained by extrapollation from the figures on Table 2 below.

Table 1

Correction factor

Hotel, motel no	correction
Private office area, conference room etc.	-5
General office areas, retail stores	-10

Hospitals, theatres, auditoriums, churches, libraries, schools and nursing homes are subject to the same requirements as residential uses.

Table 2

Acoustic Insulation factor*

Example 1

The AIF for a retail store within the 30 contour. assuming the room has 3 components, would be 30-10 = 20.

With reference to Table A of the CMHC handbook, assuming a window area = 30% of the floor area, the window could be a single pane of 2 mm. glass. Within the 40 contour, the AIF would be 40-10 = 30and a similar store would need single pane of 4 mm. or 5 mm. glass.

Example 2

A private office associated with an industrial use in the vicinity of the 45 NEF contour would have an AIF of 46-5 = 41. (Assuming 4 components). Assuming a window area = 25% of the floor area, triple glazing (a WT2-W1 window) would be required.

No. of components	NEF												
forming room envelope	25	26	27	28	29	30	31	32	33	34	35	40	45
1	20	21	22	23	24	25	26	27	28	29	30	35	40
2	23	24	25	26	27	28	29	30	31	32	33	38	43
3	25	26	27	28	29	30	31	32	33	34	35	40	45
4	26	27	28	29	30	31	32	33	34	35	36	41	46

* Table 2 of the CMHC handbook "New Housing and Airport Noise" (1978 edition), expanded to include NEF values above 35.

NEF contour maps

The currently available NEF contour maps are listed to the right. With the exception of Toronto International Airport (Malton), they are obtainable from local offices of the Central Mortgage and Housing Corporation. The Toronto Malton maps are available from the Local Planning Policy Branch, Ministry of Housing, Queen's Park, M7A 1Y7. Up-to-date contours for other airports are scheduled to be produced by Transport Canada and will be added to this list. In addition, it is expected that existing contour maps will be reviewed and up-dated from time to time.

Airport	Ref. No.	Date of Latest Revision
Ottawa	OR 2	June, 1972
Hamilton	OR 3	Apr., 1973
London	OR 4	Jan., 1975
Windsor	OR 5	July, 1973
Thunder Bay	OR 6	Oct., 1974
Carp	OR 7	May, 1973
Kingston	OR 8	Apr., 1973
Sudbury	OR 9	June, 1973
Buttonville	OR10	Aug., 1973
Toronto Island	OR11	Aug., 1973
Oshawa	OR12	Sept., 1974
Maple/King		
City	OR13	Sept., 1973
Waterloo-		
Wellington	OR14	Apr., 1977
Sault Ste. Marie	e OR15	Sept., 1974
C.F.B. Trenton	OR16	Dec., 1975
Brantford	OR17	Aug., 1977

APPENDIX 4 ZONING FOR AIRPORT LICENCING

For zoning purposes an imaginary rectangular area called a strip surrounds the runway. Zoning is measured from the edges of the strip. To meet licencing requirements a minimum strip 1700' by 200' is required to contain a minimum size runway.

The strip is normally kept clear of major hazards to aircraft such as buildings, trees, and sharp changes in ground contours. On the attached sketch the strip is defined by the four corners, A, B, C, and D. The strip extends a distance X feet beyond each end of the runway, and Y feet each side of the runway centerline.

For VFR runways the following dimensions apply:

, e. . .

- X = 100' for runways less than 3000' long, and 200' for runways 3000' and over.
- 2) Y = 100' for runways less than 3000' long, and 250' for runways 3000' and over.

The side (transitional) zoning is measured from the edges of the strip (sides A to B or D to C) and is measured perpendicular to those sides. The slope of the transitional surface is 20% (1:5) for runways less than 3000', and 14.3% (1:7) for runways 3000' and longer.

This means that to meet transitional zoning an obstacle 20' higher than runway elevation must be at least 100' from the edge of the strip for a runway less than 3000', and 140' from the strip if the runway is 3000' or longer.

It should be noted that zoning is <u>always</u> referenced to runway elevation. In the above example if the ground was level the obstacle may be 20' high. However if the ground level at the obstacle was 2' higher than runway elevation then the obstacle may only be 18' above ground.

The take-off/approach area extends out from each end of the strip and diverges at 10% for VFR runways. This means that at a distance of 100' from the end of the strip each side of the area diverges 10'.

The slope of the take-off/approach area for VFR operations is as follows:

- 1) 5% (1:20) for day only runways less than 5000' in length.
- 2) 2.5% (1:40) for day only runways 5000' and longer, and for all runways for night.

To decide if an obstacle is in the take-off/approach area zones, a calculation using the 1:20 or 1:40 ratio is used. i.e. a 20' obstacle on level ground must be 400' from the end of the strip to meet day zoning on a 3000' runway.

With regard to towers or other high obstacles no obstruction shall be considered acceptable which would penetrate an imaginary surface commencing 150 feet above the assigned elevation of the airport at the 13,000 foot radius and extending outward and upward at a 2% slope to a maximum height of 1000 feet above the assigned elevation of the airport.

