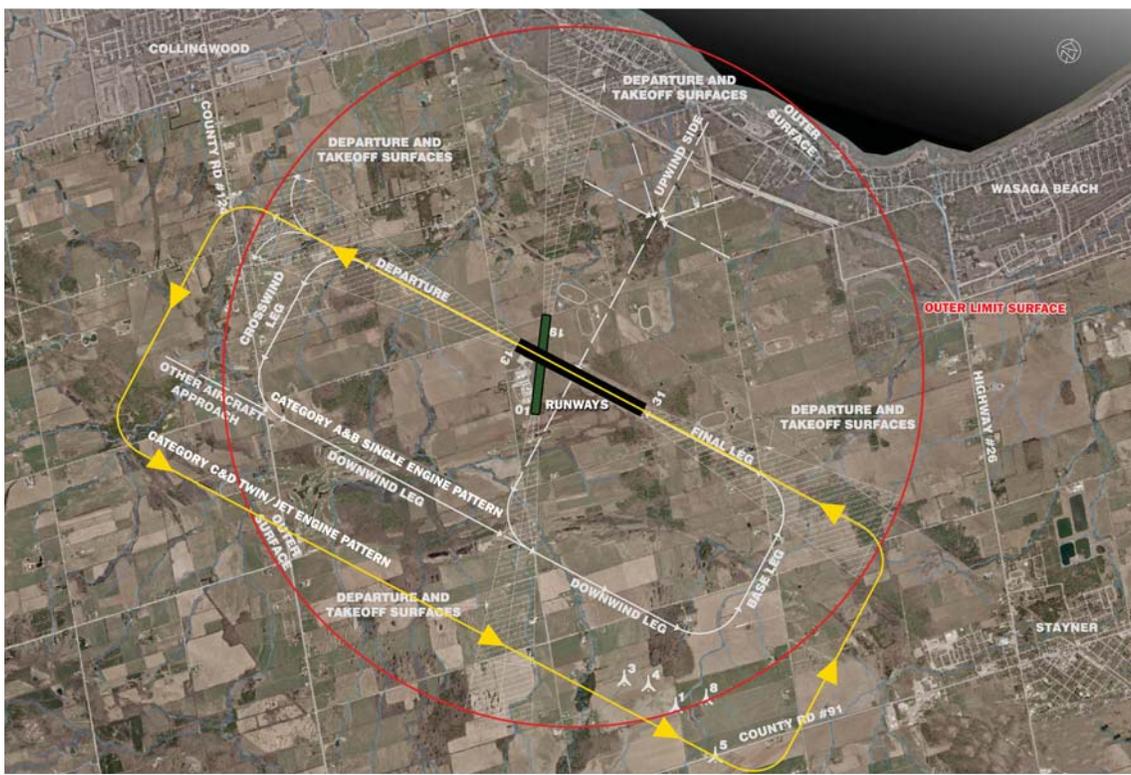


Analysis of the Economic Impacts of the wpd Fairview Wind Project on the Collingwood Regional Airport and the Regional Economy



Prepared For:
The Township of Clearview
The Town of Collingwood

Prepared By:
 MALONE GIVEN
PARSONS LTD.

In Association With:
Charles Cormier, Aeronautical Information Consultant
metro economics
Aerocan Aviation Ltd.

January 8, 2016

January 8, 2016

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Dear Sirs;

Re: Analysis of the Impacts of the wpd Fairview Turbine Project on the Collingwood Regional Airport and the Regional Economy

I am pleased to submit our report describing the results of the above analysis, as completed by Malone Given Parsons Ltd. in association with Charles Cormier, metro economics and Aerocan Aviation Ltd.

In short, we conclude that the Collingwood Regional Airport is fulfilling its intended function as an economic engine and is attracting business expansion proposals that would deliver very substantial economic benefit to the South Georgian Bay region. Approval of the current wpd Turbine Project would be fatal to business expansion, such that, on balance, the offending turbines should be moved or wpd's Renewable Energy Act Application denied.

It has been a pleasure working with you and municipal staff on this assignment.

Yours very truly,

MALONE GIVEN PARSONS LTD.



John P. Genest, MCIP, RPP, PLE
Principal
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cc: Mr. Chas Cormier, Aeronautical Information Consultant
Mr. Tom McCormack, metro economics
Mr. Paul Hayes, Aerocan Aviation Ltd.

Analysis of the Impacts of the wpd Fairview Wind Project on the Collingwood Regional Airport and the Regional Economy

Prepared For:

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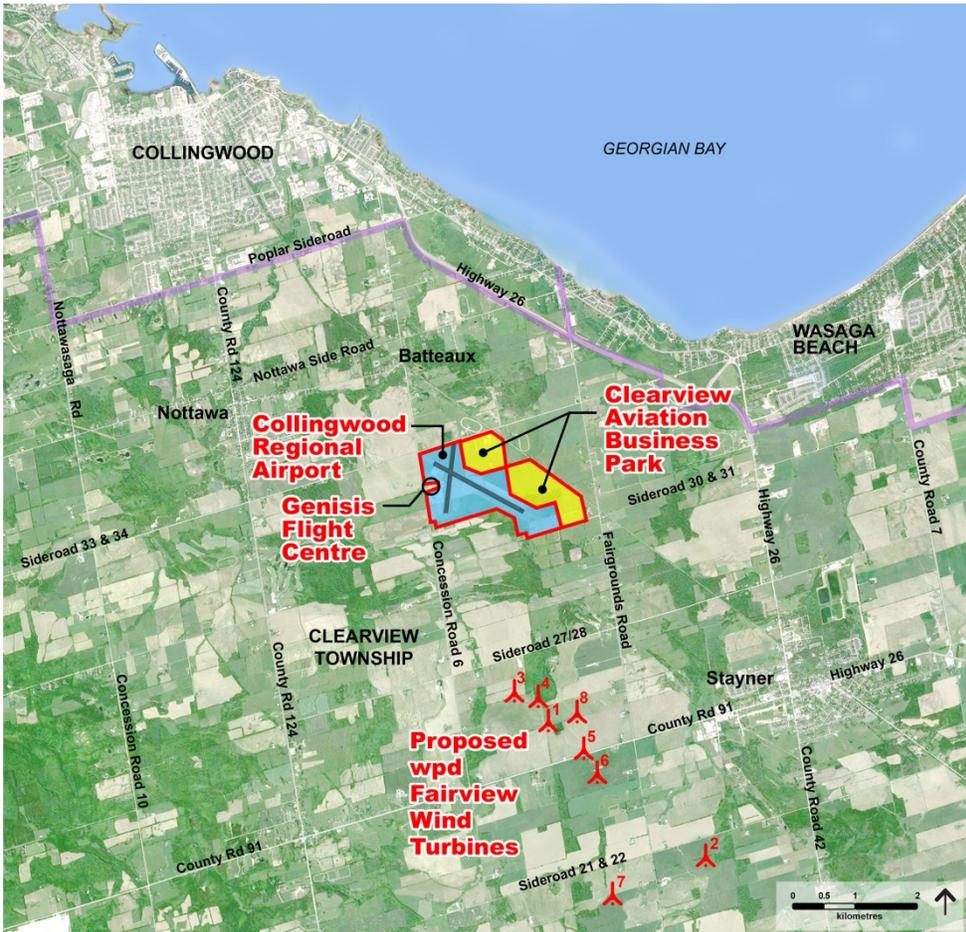
NOTE:

This report has been prepared for the Township of Clearview and the Town of Collingwood for the sole purpose of providing input to the Ontario Ministry of the Environment and Climate Change in its review of a Renewable Energy Act Application by wpd Fairview. It should not be relied upon for any other purpose and anyone who does so assumes all attendant risk.

EXECUTIVE SUMMARY

Malone Given Parsons Ltd. was retained by the Township of Clearview and the Town of Collingwood to analyse the potential economic impacts of the proposed wpd Turbine Project on the current operations and future potential of the Collingwood Regional Airport (the **CRA**). The analysis focuses on operations at the airport, and aviation-related business expansion proposals on two adjacent properties – the existing Genesis Flight Centre (**Genesis**) and the proposed Clearview Aviation Business Park (**CABP**). The geography of these properties and the proposed turbine locations is illustrated in Figure A.

Figure A: Collingwood Regional Airport Location Map



Source: Malone Given Parsons Ltd., wpd Canada.

The Collingwood Regional Airport

The Collingwood Regional Airport is an important transportation asset for the Town of Collingwood, the Township of Clearview, Wasaga Beach and the South Georgian Bay region. It provides convenient access and support for business,

recreational and tourism travel to the area and averaged over 11,440 landings and takeoffs annually over the 2006-2014 period. It supports a business cluster that ranks among Collingwood's Top 20 employers.

The CRA and related businesses directly employ approximately 30 people, and support another 20 indirect jobs. Together, these generate annual totals of \$2.8 million in labour income and \$4.0 million in GDP. The current Genesis and CABP properties together with the CRA lands generated approximately \$83,000 in municipal taxes in 2014.

The airport is a successful growth engine, fulfilling the function expected of it in the Collingwood Economic Development Action Plan. It is generating returns to its own investments in infrastructure by attracting new private sector investment in land and facilities that target construction of over 370,000 sq. m (4 million sq. ft.) supporting an estimated 1,100 direct jobs at build-out.

The Provincial and Municipal Land Use Planning Context

Provincial policy, as expressed in the Provincial Policy Statement and the Growth Plan, recognizes and seeks to protect the transportation role and economic function of airports, and employment lands.

Consistent with the higher order objectives, the local and County level land use planning framework gives a clear expression of municipal support for and public interest in further business expansion and economic development at and around the CRA.

Contribution of the Aviation Sector to Canada's Economy

The aviation and aerospace industry is an important and growing component of the Canadian economy. Canada and Ontario are home to many of the world's top aerospace companies. The public interest in expanding the industry is manifest in the number of Federal and Provincial initiatives intended to stimulate innovation and growth.

The Regional Economic Context

An analysis of the regional economic context highlights that jobs are growing at a much slower rate than population and that a large proportion of the local population must commute outside the regional area for employment. The employment structure is heavily weighted to jobs in the retail, accommodation and food sectors. Area resident's salaries are generally lower than the provincial average for their occupations. The area's employment and average salary profiles would clearly benefit from the attraction of employers bringing jobs and skill-sets necessary to support growth in aviation-related business.

Operating Impacts of the wpd Turbine Project on the CRA and its Business Expansion Potential

The proposed locations of the wpd turbine numbers 1,3,4,5 & 8 will intrude, in several cases significantly, into the operating air space at the CRA (see Figure B). These intrusions can be addressed to NAV Canada’s satisfaction by changes to operating procedures. These proposed changes are expected to have consequences that are not reviewed as part of NAV Canada’s mandate, and were therefore not examined by that agency.

Transport Canada corroborates the independent analysis of Collingwood and Clearview’s aviation consultant, Mr. C. Cormier, who concludes that the proposed turbine locations will have significant impacts to the airport’s operating procedures, including landing and take-off minimums and general accessibility. These impacts are expected to significantly impair the CRA’s attractiveness to ongoing or new flight school and other aviation business operations. These impacts could be resolved by relocating the turbines to positions outside the airport’s air space, or by denying the wpd Turbine Project application.

Figure B: Collingwood Airport Outer Surface & Typical Circuit Patterns for Runway 31



Source: C. Cormier

Business people contemplating significant financial investments in expansions of aviation related activity at and adjacent to the CRA see approval of the turbines as introducing unacceptable risk to their investments, such that they would not proceed with them.

The wpd Turbine Project, in its current configuration, risks the loss to the region of significant new investment in growing the regional economy and labour skill set.

Economic Benefits of Business Expansion at the CRA

Order of magnitude estimates of the value of build out of proposed business expansion at the CRA identify substantial economic benefits to the local area and the broader regional economy.

The Construction phase, which might extend over twenty or more years, would yield:

- \$353 million in direct expenditures
- 3,300 person years of total employment
- \$169.4 million in total labour income
- \$282.4 million in total GDP, and
- \$25.3 million in municipal fee and Development Charge revenues to local and County level municipalities and school boards.

The Operating Phase would generate, on an ongoing annual basis once build-out is realized:

- 1,890 direct and indirect jobs
- \$104.1 million in total labour income
- \$152.6 million in total GDP, and
- \$10.5 million in tax revenues to local and County level municipalities and school boards.

An integral aspect of these benefits is the attraction of skilled aviation-related employment at an estimated salary some 45% higher than the salary average for the region, elevating the regional skill set and pay scale, and adding to the fulfillment of common economic development objectives.

Review of the Maury Hill and Associates Inc. Economic Impacts Report

The Hill Report commissioned by wpd is narrowly scoped and narrowly executed by an author with no evident expertise or experience in economic impact analysis or economic development. It misses the single most important element in assessing the potential consequences of implementing the wpd Turbine Project -

market and investor perceptions of the attractiveness of the facility as one enabling successful investment of risk capital, and its influence on current or prospective plans to invest.

The Report dismisses the airspace operational issues raised by Transport Canada and fails to fulfill reasonable expectations for an economic impact analysis considering economic development aspirations. It is not an adequate response to MOECC's request for an economic analysis of the issues raised by Transport Canada.

Conclusions

wpd's proposed locations for five turbines will insert significant obstacles into the airport's operating space and would require significant changes to flight operations at the CRA. These changes will be fatal to the expansion potential of the two businesses proposing new facilities adjacent to the airport.

The broader public interest in economic expansion at the CRA is manifest in:

- The Collingwood Economic Development Action Plan, and its airport-related Action Item
- Local municipal and County level aspirations for economic development as enabled by their respective Official Plans
- Provincial policy expressed in the PPS and the Growth Plan
- Federal and Provincial government efforts to grow the aviation and aerospace industries through significant tax credit and innovation support programs, and
- The magnitude of the economic benefits generated by build-out of the business expansion concepts at the airport.

On balance, wpd should be required to move the turbines proposed to intrude into the CRA's operating airspace, or its Renewable Energy Approval Application should be denied.

To do otherwise would put a narrow and relatively small private interest ahead of the greater public interest in unimpeded operations at the CRA, and the future investment, job growth and related economic benefits the Airport could sustain in furtherance of local, regional, provincial and federal economic development objectives.

TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	I
Conclusions	v
1.0 INTRODUCTION	1
1.1 Location and Context.....	1
1.2 The wpd Fairview Wind Project Application.....	2
1.3 Purpose and Organization of Report	3
2.0 OPERATING AND ECONOMIC CHARACTERISTICS OF THE COLLINGWOOD REGIONAL AIRPORT	5
2.1 Characteristics of the Collingwood Regional Airport	5
2.2 CRA Airport Users and its Role in the Region	8
2.3 Economic Benefits	10
2.3.1 Municipal Taxes.....	10
2.3.2 Contributions to GDP and Labour Income.....	12
2.4 The CRA's Role in Economic Development.....	13
2.5 Business Expansion Initiatives.....	14
2.5.1 Genesis Flight Centre	14
2.5.2 CABP Development Proposal	15
2.6 Summary	17
3.0 THE PROVINCIAL AND MUNICIPAL LAND USE PLANNING CONTEXT FOR BUSINESS EXPANSION AT THE CRA.....	19
3.1 Provincial Policy Context	19
3.1.1 Provincial Policy Statement	19
3.1.2 The Growth Plan.....	21
3.2 Official Plan Policies and Municipal Support for the CRA and Aviation Business Expansion.....	21
3.2.1 Simcoe Official Plan	21
3.2.2 Clearview Official Plan	23

3.3	Municipal Opposition to the wpd Turbine Project.....	25
3.4	Summary.....	25
4.0	FEDERAL AND PROVINCIAL INTEREST IN THE AVIATION SECTOR.....	27
4.1	Contribution of the Aviation Sector to Canada’s Economy.....	27
4.2	Federal Programs & Intentions	28
4.3	Contribution of the Aerospace Industry to Ontario’s Economy	30
4.4	Provincial Programs & Intentions.....	30
4.5	The Economic Impact of Business Aviation in Canada	31
4.6	Summary.....	31
5.0	THE REGIONAL ECONOMIC CONTEXT.....	33
5.1	Population and Employment within the Regional Area.....	33
5.2	Employment Structure in the Regional Area	34
5.3	Occupations of Residents within the Regional Area	35
5.4	Summary.....	37
6.0	OPERATING IMPACTS OF THE WPD TURBINE PROJECT ON THE CRA AND ITS BUSINESS EXPANSION POTENTIAL	39
6.1	Transport Canada Assessment of Operating Impacts on the CRA	40
6.1.1	Background: Definitions and Criteria	40
6.1.2	Transport Canada Assessment of the Effects of the wpd Turbines on the CRA’s Operating Characteristics – Responses to MOECC Questions.....	42
6.1.3	Observations Regarding Transport Canada’s Review	45
6.2	Cormier Assessment of Operating Impacts on the CRA.....	45
6.2.1	Cormier Assessment of the Effects of the wpd Fairview Turbines on the CRA’s Operating Characteristics.....	46
6.3	NAV Canada Assessments of Operating Impacts on the CRA	48
6.3.1	NAV CANADA Correspondence.....	48
6.3.2	Observations Regarding NAV Canada’s Review	50

6.4	Implications of Operational Impacts of the wpd Turbine Project to the CRA.....	51
6.5	Investor Assessments of Outcomes from Identified Operating Impacts on the CRA.....	53
6.6	Summary	55
7.0	ECONOMIC BENEFITS OF BUSINESS EXPANSION AT THE CRA.....	57
7.1	Methodology	57
7.1.1	Measures of Economic Impact.....	58
7.1.2	Types of Economic Effects	59
7.1.3	Multipliers.....	59
7.2	Capital Construction Phase Impacts.....	60
7.3	Operating Phase Impacts.....	62
7.3.1	Annual Contributions to Employment, Labour Income and GDP.....	62
7.3.2	Annual Contributions to Municipal Tax Revenues.....	64
7.4	Summary	64
8.0	REVIEW OF THE MAURY HILL AND ASSOCIATES INC. ECONOMIC IMPACTS REPORT	67
8.1	Context and Criteria.....	67
8.2	The Maury Hill & Associates Inc. Report	69
8.3	Summary	71
9.0	SUMMARY & CONCLUSIONS	73
9.1	Summary	73
9.2	Conclusions	76

LIST OF FIGURES

Figure 1.1: Collingwood Regional Airport Location Map.....	2
Figure 2.1: Aircraft Movements at the Collingwood Regional Airport – 2006 to 2014.....	7
Figure 2.2: Larger Aircraft Utilizing the Collingwood Regional Airport	8
Figure 2.3: Collingwood Regional Airport Businesses and Users	9
Figure 2.4: Collingwood’s Top 20 Employers.....	10
Figure 2.5: Municipal Taxes Generated by the CRA and Adjacent Lands (2014).....	11
Figure 2.6: Current CRA Contributions to GDP, Labour Income and Employment.....	13
Figure 2.7: Genesis Flight Centre Expansion Plan.....	15
Figure 2.8: Phase 1 Draft Plan of Subdivision for the CABP Lands	17
Figure 3.1: 2013 Simcoe Official Plan – Draft Schedule 5.1 Land Use Designations Excerpt.....	22
Figure 3.2: Clearview Official Plan – Schedule A Map 1 Excerpt	24
Figure 5.1: Population and Employment Growth – 2001 to 2011	34
Figure 5.2: Employment by Place of Work	35
Figure 5.3: Occupation by Place of Residence.....	36
Figure 5.4: Salary Comparison	37
Figure 6.1: Collingwood Airport Outer Surface & Typical Circuit Patterns for Runway 31	47
Figure 7.1: Multipliers for Construction and Operating Phase Impacts.....	60
Figure 7.2: Economic Impacts of the Construction Phase – Business Expansion at the CRA	61
Figure 7.3: Annual Economic Impacts of the Operating Phase – Business Expansion at the CRA	63
Figure 7.4: Annual Tax Revenues from Business Expansion at the CRA.....	64

BIBLIOGRAPHY

LIST OF APPENDICES

1. Municipal Council Resolutions Opposing the wpd Turbine Project and its Impacts on the CRA
2. Transport Canada Letter to MOECC, November 17 2014
3. C. Cormier Letter to the Collingwood Airport Services Board re wpd Turbine Project Impacts on the CRA, January 20 2014
4. NAV Canada Correspondence re Impacts of the wpd Turbine Project on Operating Procedures at the CRA
5. Correspondence from Collingwood Aviation Partners at al re Impacts of the wpd Turbine Project on the CRA as a Viable Business Location
6. MOECC Letter to wpd Fairview re Requirement for an Economic Impacts Analysis, October 6 2015
7. Economic Impacts Report, Prepared by Maury Hill and Associates Inc., November 9, 2015
8. LinkedIn Website Profile of Maury Hill and Associates Inc. Adaptive Safety Concepts

1.0

INTRODUCTION

Malone Given Parsons Ltd. has been retained by the Township of Clearview and the Town of Collingwood to analyze the potential economic impacts of the wpd Fairview Wind Turbine Project on current operations and future potential at the Collingwood Regional Airport.

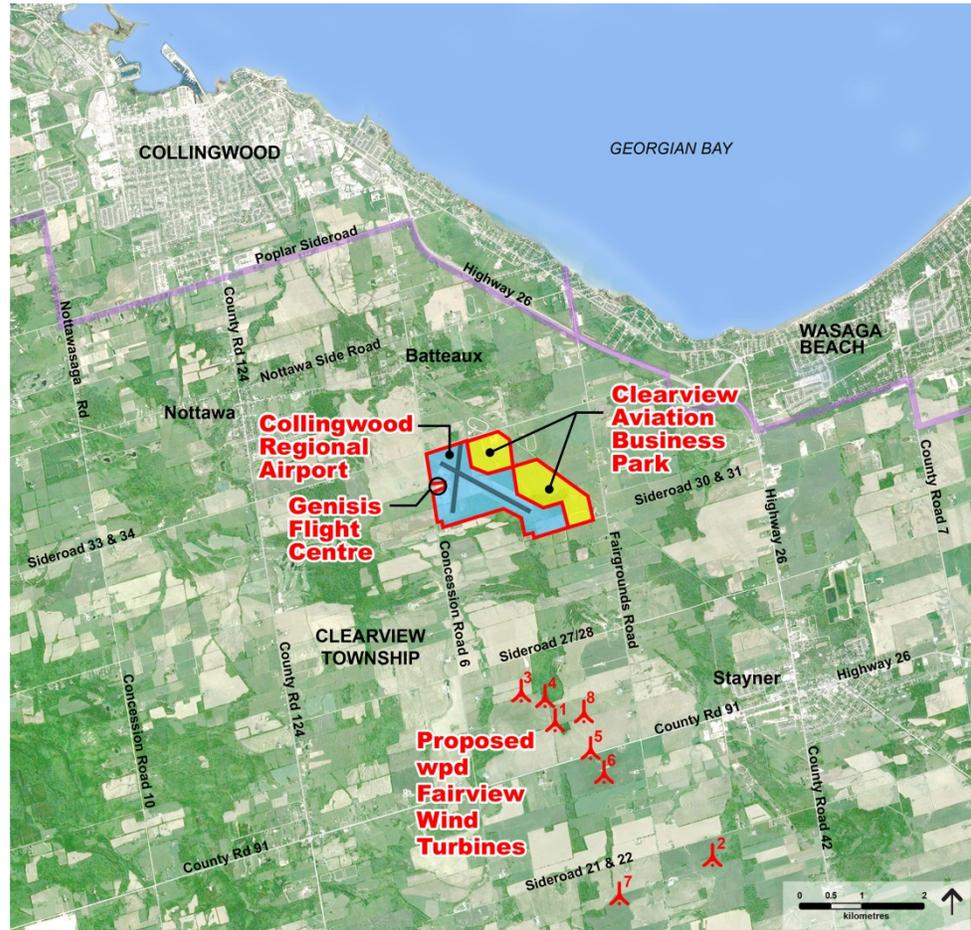
1.1 Location and Context

The Collingwood Regional Airport (**CRA or the Airport**) is located in the south east quadrant of the intersection of Concession Road 6 North and Nottawasaga Sideroad 33 & 34/Airport Road, in the Township of Clearview Ontario. The airport site, known municipally as 1997 Concession 6 North, is approximately 159 hectares (392 acres) in extent (see Figure 1.1).

The CRA is owned by the Town of Collingwood, with funding support from the Town of Wasaga Beach and the Township of Clearview. Management oversight is by a Collingwood Airport Services Board (the **Airport Services Board**) which includes representatives from each funding community. Day to day operation is managed through a contract with North 44 Airport Services.

The Airport is in a rural setting, surrounded primarily by properties currently in agricultural use. The adjoining Genesis Flight Centre (**Genesis**) fronts onto Concession Road 6 North and is otherwise surrounded by the Airport on its remaining three sides. Genesis offers flight training, air charter and aircraft maintenance services and has taxiway access to the airport runways.

Figure 1.1: Collingwood Regional Airport Location Map



Source: Malone Given Parsons Ltd.

In December 2014 an Official Plan Amendment application was submitted to enable the development of an aviation related business park on lands located to the immediate east of the CRA. The proposed Clearview Aviation Business Park (CABP) is intended to provide for roughly 90 ha (220 acres) of fully serviced industrial/commercial land with immediate access to the CRA, on two parcels totalling 107 ha (265 acres).

1.2 The wpd Fairview Wind Project Application

In 2009 wpd Canada (**wpd**) submitted a proposal to construct eight wind turbines south of County Road 91, in Clearview. The Airport Services Board was concerned with the potential impact and retained Charles Cormier, an aviation safety expert to review the proposal. Mr Cormier concluded that although the 2009 proposal was not ideal, there were no technical grounds for an objection.

Subsequently, in early 2011 wpd revised its proposal and moved four of the proposed turbines to a location north of Country Road 91, closer to the CRA. The Airport Services Board retained Mr. Cormier to review the revised 2011 proposal. Mr. Cormier concluded that the 2011 wpd proposal would negatively affect the Airport in a number of ways.

In August 2012 wpd submitted a Renewable Energy Approval (REA) Application (the **Application**) to the Ontario Ministry of the Environment (now the Ministry of Environment and Climate Change - **MOECC**) for approval of the Fairview Wind Project (the **wpd Turbine Project**) under Ontario Regulation 359/09 (O. Reg, 359/09) of the Environmental Protection Act. The Application proposes eight 146 metre (479 feet) tall wind turbines (see Figure 1.1), four of which will be located within the operating area of the airport.

The Application was posted to the Environmental Registry in 2014 for a sixty day period during which MOECC accepted public comments. The Airport Services Board made a submission in opposition to the Application, appending a January 2014 letter report by Mr. Cormier. Summary excerpts from that letter are reviewed in this report's Section 6.0.

As part of its review of the Application, MOECC consulted with Transport Canada. By letter dated November 17 2014, Transport Canada confirmed that the Application as configured would significantly impact operations at the CRA. In October 2015, MOECC asked wpd to provide an assessment of the economic impacts of anticipated operational changes. The responding report – *The Economic Impacts of the Fairview Wind Project on Collingwood Regional Airport* prepared by Maury Hill and Associates Inc. was incorporated into a package submission entitled *Fairview Wind Project - Analysis of Economic Impacts on Collingwood Regional Airport* provided by wpd to the MOECC on November 9 2015. Subsequently, MOECC allowed the Town of Collingwood with the Township of Clearview to undertake their own analysis, the results of which are contained in this report.

1.3 Purpose and Organization of Report

The purpose of this report is to provide an analysis of the economic benefits of the Collingwood Regional Airport and the potential economic impacts, direct and indirect, associated with the wpd Turbine Project. It is intended to assist the MOECC with its decision on whether or not to approve the Application.

The report is divided into nine Sections. Following this Introduction:

- Section 2.0 describes the CRA and its related businesses, their contribution to the local and regional economy, and business expansion plans by Genesis and the CABP for their lands adjacent to the airport;
- Section 3.0 reviews the provincial interest in protecting airports and related employment lands, and the County and local municipal level land use planning context for the Airport and adjacent lands;
- Section 4.0 describes the structure of the regional economy, including population and employment and wage profiles;
- Section 5.0 outlines the Federal and Provincial interest in the aviation/aerospace sector, and current policies and programs in place to support its growth;
- Section 6.0 describes the impacts of the wpd Turbine Project on operations at the CRA, and their implications to the airport's accessibility and attractiveness as a business location;
- Section 7.0 generates estimates of the economic impacts at build-out of the proposed business expansions at Genesis and the CABP through their construction and operating stages;
- Section 8.0 provides a peer review of the Economic Impacts Report prepared for wpd by Maury Hill and Associates Inc.; and
- Section 9.0 summarizes the preceding work and the study conclusions.

2.0

OPERATING AND ECONOMIC CHARACTERISTICS OF THE COLLINGWOOD REGIONAL AIRPORT

Collingwood Regional Airport plays a significant role in the local and regional economy. This section analyses the current contribution of the Airport and its future potential as a recognized transportation asset.

2.1 Characteristics of the Collingwood Regional Airport

The CRA is roughly 7 km from the communities of Collingwood, Wasaga Beach and Stayner. It offers convenient access to businesses and tourism and recreation facilities in these communities and to the west in The Town of The Blue Mountains.

The Airport is generally recognized as an excellent aviation facility, with two operating runways – the main one paved and lighted and at 5,000 feet (1,524 metres) in length capable of accommodating most corporate jet aircraft – and the other with a grass surface at just over 2,500 feet (762 metres) in length and providing suitable crosswind capability for many smaller general aviation aircraft. Three approved and published instrument approach procedures ensure consistent and reliable access to the airport supporting Instrument Flight Rule (**IFR**) landings under conditions with cloud ceilings as low as 300 feet above the runway – a very low minimum enabling a very high assurance of being able to land at the

airport in inclement weather. Aviation fuel is available for both piston and turbine powered aircraft. There is also a terminal building with pilot's lounge, flight planning area, Internet access and a coffee shop. A courtesy car is available by reservation, along with access to taxi, limousine and car rental services.

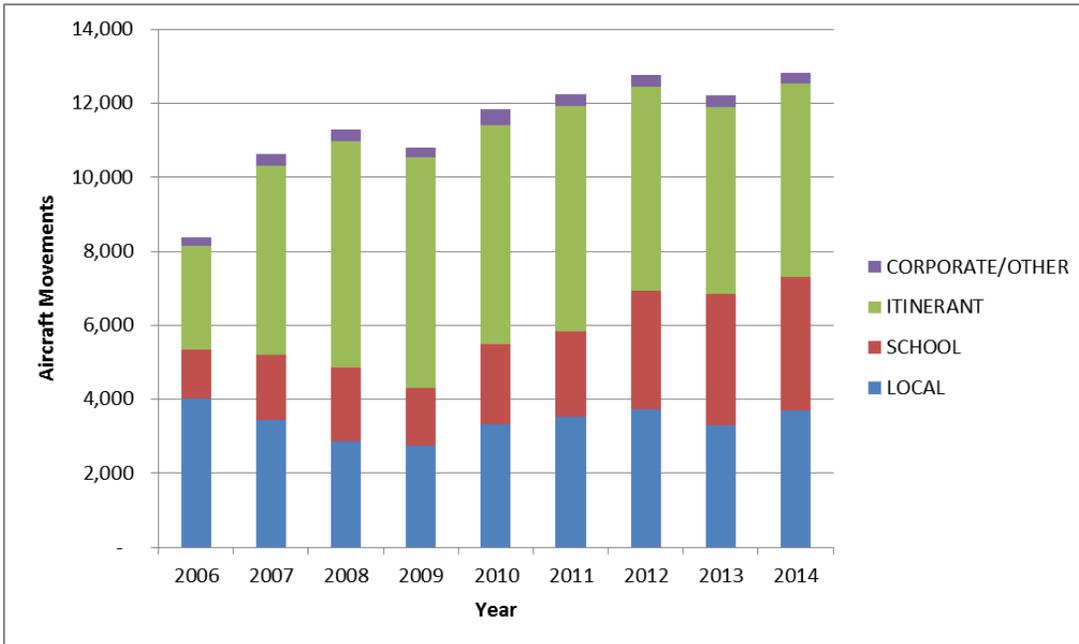
The CRA has been an accredited Canada Customs port of entry since 2013. It was certified as an airport by Transport Canada until 2007. The airport gave up that certification at a time when Transport Canada was encouraging regional aerodromes to reduce their demands on the inspection services required to maintain certified status, but is currently seeking re-certification. That change notwithstanding, the Airport Services Board has continued to operate the Airport consistent with the rules, regulations and protocols for a certified airport. Certification is a pre-requisite to a federal Zoning Order that would preclude obstacles penetrating an "Outer Surface" defined as a surface extending for a radius of 2.16 nautical miles (4,000 metres) from a runway centre point at an altitude 148 feet (45 metres) above the runway elevation.

In terms of aviation activity, the CRA is moderately busy, averaging 11,440 movements (landings and takeoffs) annually or almost 1,000/month over the 2006 - 2014 period (see Figure 2.1). With reference to the 2014 data, the following points are noted:

- Virtually 70% of the movements are itinerant, which means that only 30% are local (i.e., remaining in the local air traffic pattern)
- Roughly 90% are by piston powered aircraft, 10% by jet, turboprop or helicopter
- 90% are by aircraft weighing 2,000 kg or less at takeoff weights
- Police, air ambulance and military helicopters are noted from time to time
- Close to 30% of activity is by flight training students

Over 100 private and two corporate aircraft are currently based fulltime at the airport, with over 100 pilots calling the CRA their home base. There are currently 38 aircraft hangars totalling in excess of 14,000 sq. m. (150,000 sq. ft.) in enclosed space. Twenty of these hangars have been built over the 2005 to 2015 period, and another is under construction in December 2015.

Figure 2.1: Aircraft Movements at the Collingwood Regional Airport – 2006 to 2014



Source: Collingwood Regional Airport

Renewal of airport facilities and flight operations support is ongoing – the past ten years have seen over \$2.3 million invested in improvements to infrastructure, navigation/IFR support and maintenance:

- New Terminal Building: \$450,000
- Reconstruction of Runway, Apron and Taxiways: \$1,300,000 with 2/3 funded under an infrastructure grant
- Taxiway paving: \$200,000
- New Snow removal equipment: \$225,000
- State of the art GNSS LPV approaches: \$75,000
- Automated Weather Observation System: \$65,000
- Ground power unit (aid to starting jet engines in cold weather): \$8,000
- New runway deicing chemical spreader: \$2,500
- Fencing: \$40,000

The airport is able to accommodate aircraft with landing speeds up to 165 knots, subject to runway length limitations, which includes business and small airline jets and propeller aircraft including the Dash 8 and Canadian Forces C130 Hercules (See Figure 2.2). Possible extensions of the runway to as long as 2,134 metres (7,000 feet) have been discussed but are not part of any current expansion plan.

Figure 2.2: Larger Aircraft Utilizing the Collingwood Regional Airport



Source: Collingwood Regional Airport

2.2 CRA Airport Users and its Role in the Region

Overall, the CRA is a significant component of the local economy, not only for its direct employment, but also for the support it provides to local business, tourism and recreational activities. Including the airport operator, there are 11 businesses at the airport, employing 32 people. Nine different federal and provincial government agencies or user types make use of the airport in providing essential services to citizens and the regional hospital (see Figure 2.3).

Various VIP groups make use of the CRA, including politicians, the Canadian Armed Forces, high profile entertainers, sports personalities and business people headlining or attending tourism events or accessing recreational property.

Figure 2.3: Collingwood Regional Airport Businesses and Users

Employers	No. of Employees (approx.)
North 44 Airport Services	4
First Class Café	3
Future Air Flight Training	6
Genesis flight training	7
Shott Aviation A/C Maintenance	2
Airmotive Technologies	1
Lindburg A/C Maintenance	1
Douglas Air photography	2
Airborne Systems international	2
Aerotrek A/C sale	1
Aero Shelter Commercial Pilots and A/C Maintenance	3
Total	32
Government and other Agencies	
Ontario Provincial Police	
Royal Canadian Mounted Police	
Ministry of Natural Resources	
Department of National Defence	
ORNGE Air Ambulance Services	
Search and Rescue	
Coast Guard	
Ontario Hydro	
Medical Organ Transfer and Medevac Flights	

Source: Collingwood Regional Airport

Taken as a cluster, the CRA and its dependant businesses rank among the Town of Collingwood’s Top 20 employers (see Figure 2.4). The airport is also relied upon by a number of the region’s leading local companies for access by executives, suppliers and clients, including:

- Pilkington Canada
- Canadian Mist
- VOA Canada Inc.
- Breaker Technologies (BTI)
- Agnora Glass
- Blue Mountain Resort
- Goodall Rubber
- Amazingly Green
- Collwest Grain Ltd.

Figure 2.4: Collingwood's Top 20 Employers

Employer	No. of Employees (approx.)
Collingwood General and Marine Hospital	450
E3 Community Services (non-profit)	250
Pilkington Canada	240
Town of Collingwood	238
MacLean Engineering	180
Saunders Book Company	160
CC Tatham & Associates	75
Georgian College	60
Sensor Technology	55
Architectural Glass of North America (AGNORA)	52
Goodall Rubber	52
Royal Le Page	50
Shaw Woodworks	50
Crozier & Associates	45
Canadian Mist Distillers	43
Ainley Group	39
John Brown Custom Sporting Equipment	35
CRA and Related Businesses	32
Greenland International Consulting	30
Switch Video	25

Source: Town of Collingwood, Collingwood Airport Services Board.

2.3 Economic Benefits

In addition to its direct employment function, the CRA provides significant contributions to the local and regional economies through municipal tax revenue, and indirect generation of labour income and GDP.

2.3.1 Municipal Taxes

Municipal taxes generated by the CRA and adjacent lands are summarized in Figure 2.5 below. Assessed values for the current CRA, Genesis and CABP sites are sourced from assessment rolls for the subject properties, as provided by the Municipal Property Assessment Corporation (MPAC). Taxation revenues to Clearview Township, the upper tier Simcoe County, and for education purposes are estimated by applying the appropriate tax rates to the existing uses and assessed values.

Figure 2.5: Municipal Taxes Generated by the CRA and Adjacent Lands (2014)

Tax Revenue - Clearview Township					
	Assessed Value	Exempt CVA	Rate Category	Tax Rate	Revenues
Collingwood Regional Airport	\$7,201,000	\$2,523,230	Residential	0.00628426	\$29,000
Collingwood Airport Business Park	\$1,354,300	\$0			\$7,450
<i>Residential</i>	\$1,070,000	\$0	<i>Residential</i>	<i>0.00628426</i>	\$7,000
<i>Farm</i>	\$284,300	\$0	<i>Farmland</i>	<i>0.00157107</i>	\$450
Genesis	\$910,600	\$160,400	Commercial	0.00786852	\$6,000
TOTAL	\$10,820,200				\$42,450

Tax Revenue - Simcoe County					
	Assessed Value	Exempt CVA	Rate Category	Tax Rate	Revenues
Collingwood Regional Airport	\$7,201,000	\$2,523,230	Residential	0.00299958	\$14,000
Collingwood Airport Business Park	\$1,354,300	\$0			\$3,210
<i>Residential</i>	\$1,070,000	\$0	<i>Residential</i>	<i>0.00299958</i>	\$3,000
<i>Farm</i>	\$284,300	\$0	<i>Farmland</i>	<i>0.00074990</i>	\$210
Genesis	\$910,600	\$160,400	Commercial	0.00375577	\$3,000
TOTAL	\$10,820,200				\$20,210

Tax Revenue - Education					
	Assessed Value	Exempt CVA	Rate Category	Tax Rate	Revenues
Collingwood Regional Airport	\$7,201,000	\$2,523,230	Residential	0.00195000	\$9,000
Collingwood Airport Business Park	\$1,354,300	\$0			\$2,140
<i>Residential</i>	\$1,070,000	\$0	<i>Residential</i>	<i>0.00195000</i>	\$2,000
<i>Farm</i>	\$284,300	\$0	<i>Farmland</i>	<i>0.00048750</i>	\$140
Genesis	\$910,600	\$160,400	Commercial	0.01190000	\$9,000
TOTAL	\$10,820,200				\$20,140

Source: Township of Clearview. Note that figures are rounded.

In total, the CRA, the Genesis Flight Centre and the CABP site today generate approximately \$83,000 in annual tax payments to the three entities just named. The CRA generates roughly 63% of the total, followed by Genesis at 21%, and the CABP site at 15%.

2.3.2 Contributions to GDP and Labour Income

In addition to municipal taxes, the annual contributions of the CRA and its business cluster to the local and broader economies can be quantified by applying ratios and multipliers to estimates of the labour income they sustain. These factors are derived from Input/Output Analysis prepared by Statistics Canada that describes the economic relationships between all sectors of the Ontario economy. It traces supply and demand relationships between industries and enables calculation of industry-specific contributions to Gross Domestic Product (GDP, a common measure of value added to the economy), labour income and other variables. It supports calculation of direct and indirect effects by tracing the impact of a direct expenditure (in this instance estimated salaries) through the demands placed on other industries (indirect or “ripple” effects) to derive estimates of total impact of the initial expenditure.

Figure 2.6 below summarizes the annual economic benefits of the Airport and its related businesses. Applying a salary assumption derived from average salaries for people employed in the Transportation and Warehousing, Professional, Scientific and Technical Services and Manufacturing sectors in Ontario¹ to the current jobs count gives order of magnitude estimates for a total annual contribution to GDP of \$4.0 million, total labour income of \$2.8 million and total employment of 50 jobs.

These sectors were selected as the most reasonable proxy for the jobs expected to result from business expansion at the Genesis and CABP sites. They are used here to provide a consistent basis for comparison to the expected effects of employment growth, as discussed in Section 7.0.

¹ These sectors were selected as the most reasonable proxy for the jobs expected to result from business expansion at the Genesis and CABP sites. They are used here to provide a consistent basis for comparison to the expected effects of employment growth, as discussed in Section 7.0.

Figure 2.6: Current CRA Contributions to GDP, Labour Income and Employment

Operating - Annual	
Variable	Collingwood Regional Airport
Direct Impacts	
Jobs	30
Average Income per worker	\$58,800
Labour Income	\$1,764,000
GDP	\$2,275,000
Indirect & Induced Impacts	
Jobs	20
Average Income per worker	\$49,500
Labour Income	\$990,000
GDP	\$1,760,000
Total Impacts	
Jobs	50
Average Income per worker	\$55,000
Labour Income	\$2,754,000
GDP	\$4,035,000

Source: metro economics, Statistics Canada I/O Model. Malone Given Parsons Ltd.
Note that figures are rounded.

2.4 The CRA's Role in Economic Development

The CRA is consistently identified as an important asset in Collingwood's business attraction efforts.² The expected role of the airport in the area's economic future is captured in its positioning in *The Collingwood Economic Development Action Plan (CEDAP)*. This document was finalized in May 2015 and defines a series of actions to be implemented to realize six strategic themes, all intended to achieve the overarching objective for the Action Plan:

To build on Collingwood's proven reputation as the sought after lifestyle community to ensure Collingwood continues to be an increasingly attractive place for investment by existing and new businesses.

² Personal Communication with Martin Rydlo, Director, Marketing and Business Development, Town of Collingwood. November 23, 2015.

The CEDAP's Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis identifies the airport as a community asset and infrastructure "strength" and "opportunity". The CRA is further positioned as an "Action Item" in the "Great Place for Business" theme, which is articulated as:

The Town of Collingwood should place a high priority on the infrastructure projects that will positively impact the community's economic development. These are often large projects that can require public and private partners.

The "Action" defined for the airport is to:

Support assessment and investigation of economic development opportunities at the airport by working with municipal funding partners and private investment partners to develop a strategy and business case for the future [development] of the airport.

Private investment partners are proceeding with their own independent initiatives to realize their business expansion aspirations, as addressed in the next section.

2.5 Business Expansion Initiatives

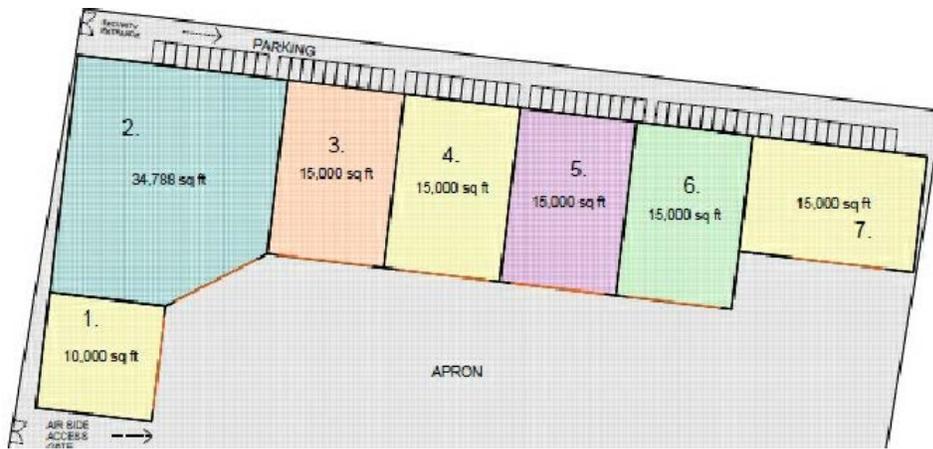
It is evident that the CRA continues to invest in enhanced operational capabilities, and is successful in attracting new private investment in hangar space and in airport related businesses. It is operating as a growth engine, fulfilling its expected role as an asset in the area's economic development mix. Two relatively new entrants to the Airport cluster are pursuing larger scale development projects, as described below.

2.5.1 Genesis Flight Centre

Collingwood Aviation Partners Ltd. acquired the site supporting the Genesis Flight Centre (**Genesis**) in mid-2014. Genesis is one of the partner companies and had been running its operations to that point in leased space. The company provides training, charters, maintenance and aircraft management services. The CRA location is one of three run by the company. It is described as a premium full-service facility catering to all levels of flight training and aircraft management, including simulator-supported flight training. Genesis describes itself as benefitting from CRA facilities including maintenance operations, short-term and long-term aircraft storage, and the public terminal. The company is pursuing creation of a college level flight training program, as a first phase in a development concept that would invest in the order of \$15 million to build a total

of 11,150 sq. m. (120,000 sq. ft.) of footprint space for hangar, office, training and other operations functions, supporting an estimated 100 jobs ³(see Figure 2.7).

Figure 2.7: Genesis Flight Centre Expansion Plan



Source: Collingwood Aviation Partners Ltd.

2.5.2 CABP Development Proposal

190699 Ontario Limited and CACC Holdings Inc. also announced in 2014 their proposal for development of a business park on the east side of the airport which would contain aviation related businesses and services and related accessory uses.

Uses identified as being sought for attraction to the CABP include the following:

- Aeronautical aerospace research and development facilities
- Manufacturing, fabrication, assembly, repair, overhaul, testing and maintenance of aircraft or aeronautical/aerospace related products
- Fixed base operations (“FBO”) including refueling, flight planning, air ambulance and pilot services
- Technical and professional aeronautical/ aerospace industrial and administrative support services

³ All estimates by Collingwood Aviation Partners Ltd.

- Air cargo warehousing, value-added assembly and distribution
- Charter/private aircraft and facilities and other flight services
- Corporate Aviation Operations
- Private/Prestige Aircraft Hangars
- Rotary Wing Operations, Flight Training
- Air cargo/courier facilities; and,
- Aerial Survey and Sightseeing operations.

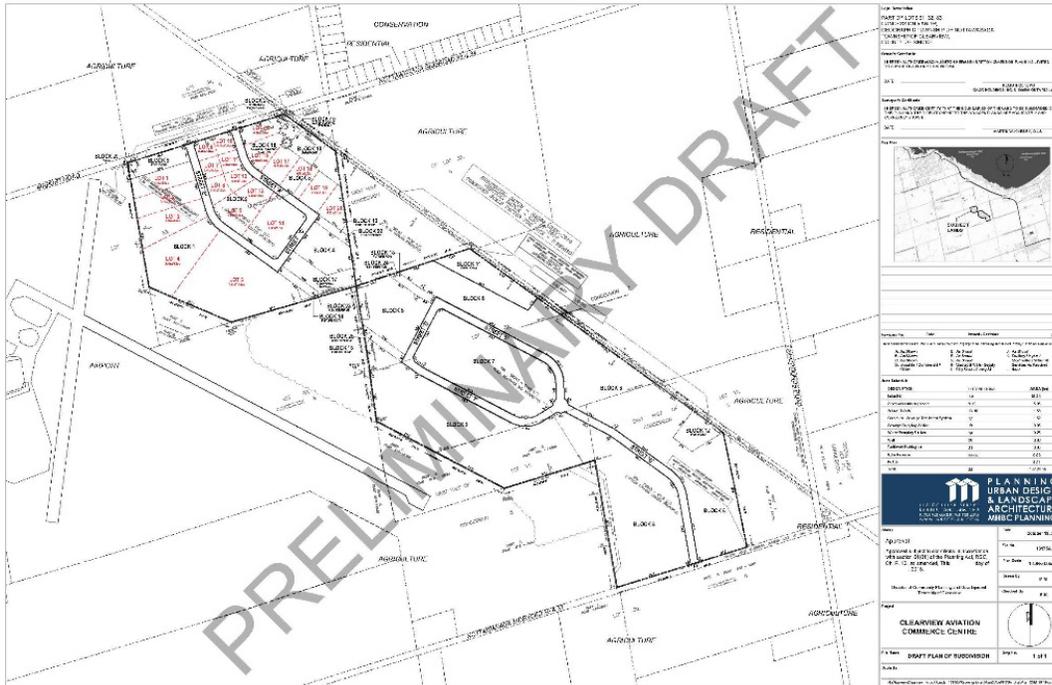
The business park is proposed to be developed in phases, ultimately yielding 87 net hectares (215 acres) of developable land with full municipal services. A Preliminary Draft Plan of Subdivision (Draft Plan) has been prepared for the first phase lands fronting onto Nottawasaga Sideroad 33 & 34/Airport Road. The Draft Plan application was submitted to the Township of Clearview in December 2015 and has been deemed complete. The Draft Plan proposes a flexible block plan, which would allow for individual lots to be further subdivided or tailored to specific users at a future date (see Figure 2.8). It details the location of Stormwater Management facilities, a water pumping station, a sewage pumping station, a temporary Communal Sewage Treatment system and the internal road and trail network.

The Draft Plan proposes two access points from Nottawasaga Sideroad 33 & 34/Airport Road and one from Nottawasaga Sideroad 30 & 31. Due to the irregular nature of the parcel, no connection is shown between the northern portion of the property and the remainder of the CABP lands. Access between the two areas will require an easement over the Airport Lands. The provision of taxiway connections between the CABP and the airport lands has been contemplated, but these are not illustrated on the Draft Plan.

Phase 1 would create 20 industrial lots on the northern parcel, ranging from 0.4 to 7.0 hectares (1.0 to 17.3 acres) in size. It is expected to yield 134,700 sq. m. (1.45 million sq. ft.) of footprint space accommodating 400 skilled workers. Full build out of the CABP targets construction of almost 360,500 sq. m of built space ultimately providing jobs for 1,000 workers. Capital investment in site development and building construction is an estimated \$338⁴ million over a construction period that might extend over twenty or more years.

⁴ All estimates by Clearview Aviation Business Park.

Figure 2.8: Phase 1 Draft Plan of Subdivision for the CABP Lands



Source: Clearview Aviation Business Park

2.6 Summary

The Collingwood Regional Airport is an important transportation asset for the Township of Clearview, the Town of Collingwood and the South Georgian Bay region. It provides convenient, consistent and reliable access and support for business, recreational and tourism travel to the area and has averaged over 11,440 landings and takeoffs annually over the 2006-2014 period. It supports a business cluster that ranks among Collingwood’s Top 20 employers.

The CRA and related businesses directly employ approximately 30 people, and support another 20 indirect jobs. Together, these generate annual totals of \$2.8 million in labour income and \$4.0 million in GDP. The current Genesis and CABP properties together with the CRA lands generated approximately \$83,000 in municipal taxes in 2014.

The Airport is a successful growth engine, fulfilling the function expected of it in the Collingwood Economic Development Action Plan. It is generating returns to its own investments in infrastructure by attracting new private sector investment in land and facilities that target construction of over 370,000 sq. m (4 million sq. ft.) supporting an estimated 1,100 direct jobs at build-out.

3.0

THE PROVINCIAL AND MUNICIPAL LAND USE PLANNING CONTEXT FOR BUSINESS EXPANSION AT THE CRA

The Provincial Policy Statement, the Growth Plan for the Greater Golden Horseshoe and land use planning policies at the County and local municipal levels target protection of the airport function and its economic role, and support expansion of aviation related business and employment. This section describes that planning context and the provincial and local aspirations it serves.

3.1 Provincial Policy Context

The importance of protecting airports and their associated functions is highlighted in two provincial policy documents: the *Provincial Policy Statement, 2014 (PPS)* under the Planning Act, and *Places to Grow: the Growth Plan for the Greater Golden Horseshoe 2006* (the **Growth Plan**) under the Places to Grow Act. These documents also speak to the importance of protecting employment areas, such as those existing and proposed by Genesis and CABP.

3.1.1 Provincial Policy Statement

The PPS is a high level policy document which provides policy direction on matters of provincial interest related to land use planning and development. According to its Part III:

Land use planning decisions made by municipalities, planning boards, the Province, or a commission or agency of the government must be consistent with the Provincial Policy Statement.

The provincial policy framework recognizes the role of airports generally in supporting employment and prosperity. Policy 1.6.9.1 of the PPS requires planning for land uses in the vicinity of airports⁵ to protect the long-term operation and economic role of the facility, and to buffer such facilities from sensitive land uses. Policy 1.6.9.2 further states that:

*Airports shall be protected from incompatible land uses and development by:
...c) discouraging land uses which may cause a potential aviation safety hazard.*

The PPS also emphasizes the need to support long-term economic prosperity by promoting opportunities for economic development and community investment-readiness (Policy 1.7.1.a). The CRA and its associated uses, including the Genesis facility and the proposed CABP clearly stand as examples of economic development and investment-readiness that intended for protection and promotion under the PPS.

Additional provincial policy support for the functions targeted by CRA, Genesis and the CAPB is evident in the employment policies of the PPS. Policy 1.3.1 states that:

*Planning authorities shall promote economic development and competitiveness by:
...b) providing opportunities for a diversified economic base, including maintaining a range and choice of suitable sites for employment uses which support a wide range of economic activities and ancillary uses, and take into account the needs of existing and future businesses*

Under the PPS's Policy 1.3.2.1, employment areas are to be preserved and protected for current and future uses, especially (per Policy 1.3.2.3) in proximity to major goods movements facilities and corridors, such as airports.

⁵ Defined for the purposes of the PPS as airports which have published Noise Exposure Forecast (NEF)/Noise Exposure Projection (NEP) mapping, but here considered to identify a broader recognition of the economic role of airports generally.

3.1.2 The Growth Plan

The Growth Plan provides a framework for implementing the Government of Ontario's vision for building stronger, prosperous communities by better managing growth in the Greater Golden horseshoe, including Simcoe County. In the interest of promoting economic prosperity, it guides decisions on a wide range of issues, including transportation, infrastructure planning and land-use planning (Policy 1.1).

Policy 3.2.4 of the Growth Plan requires the Minister of Transportation and Infrastructure, other appropriate Ministers of the Crown, and municipalities to work with agencies and transportation service providers to, among other things, promote and better integrate multi-modal goods movement and land-use and transportation system planning. More specifically, per Policy 3.2.4.5:

“Municipalities will plan for land uses in settlement area adjacent to or in the vicinity of, transportation facilities such as inter-modal facilities, rail yards, airports, dockyards, and major highway interchanges that are compatible with, and supportive of, the primary goods movement function of these facilities”.

The Growth Plan also emphasizes the importance of employment lands. Policy 2.2.6 mirrors the language of the PPS by requiring municipalities to promote economic development and competitiveness by planning for, protecting and preserving employment areas for current and future uses and maintaining a range and choice of sites for employment uses which support a wide range of economic activities.

3.2 Official Plan Policies and Municipal Support for the CRA and Aviation Business Expansion

The current function and future potential of the CRA is expressly recognized in both the current County and Township Official Plans and by adoption of an Official plan Amendment to enable the CABP.

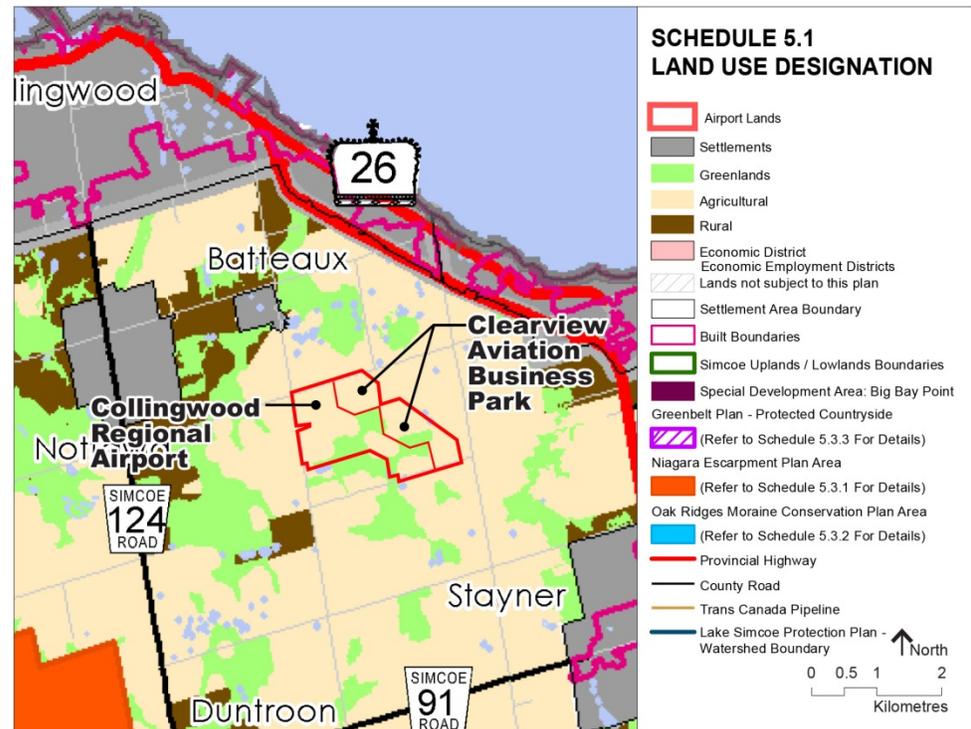
3.2.1 Simcoe Official Plan

In November, 2008, Simcoe County Council adopted a new Simcoe County Official Plan, subsequently forwarded to the Ministry of Municipal Affairs and Housing (**MMAH**) for approval. Due to lack of decision, the Simcoe OP was appealed to the Ontario Municipal Board (**OMB**) in 2009. In 2013, the Simcoe OP was further modified by the County to reflect legislative changes and this 2013 version is currently before the OMB. The OMB has approved, in part,

portions of the 2013 Simcoe OP by way of a series of decisions issued between April 2013 and December 2015. However, approval of the balance, including elements of the full Schedule 5.1 – Land Use Designations, remains outstanding.

The CRA, Genesis and CABP lands are designated “Agricultural” and “Greenlands” on draft Schedule 5.1 of the 2013 Simcoe OP, as shown in Figure 3.1 below.

Figure 3.1: 2013 Simcoe Official Plan – Draft Schedule 5.1 Land Use Designations Excerpt



Source: County of Simcoe (2012)

The purpose of the Agricultural designation is to protect the prime agricultural lands resource. The Greenlands policies within the 2013 Simcoe OP, though under appeal, are intended to protect and restore the natural character, form, function and connectivity of the natural heritage system.

The 2013 Simcoe OP’s Policies 4.8.62 to 4.8.64 (approved by the OMB in February 2015) mirror the PPS’s airport protection policies, and through Policy 4.8.64, recognize the intent of the “Special Development Area – Collingwood Airport” overlay policies and mapping applied in the Township of Clearview Official Plan – “to plan for, and protect lands in the vicinity of the Collingwood Airport area for potential long-term airport-related uses”.

“Airport-related uses” are defined in the 2013 Simcoe OP as:

land uses that are limited to airport-related commercial and industrial (e.g. aircraft sales and service manufacturing, maintenance, shipping and storage), research establishments, commercial flight schools including associated temporary accommodation, business offices and, small scale accessory uses. For clarification, regarding this definition, residential, hotel accommodation, and major retail uses are not permitted uses”.

Policy 4.8.64 specifically permits airport-related uses between the railway right-of-way on the east side of the CABP lands and the airport, and provides that proposed development on other lands within the Special Development Area – Collingwood Airport overlay shall be used in accordance with the agricultural policies of the plan. Airport-related uses may be permitted on these lands, subject to an amendment to the Clearview Official Plan.

3.2.2 Clearview Official Plan

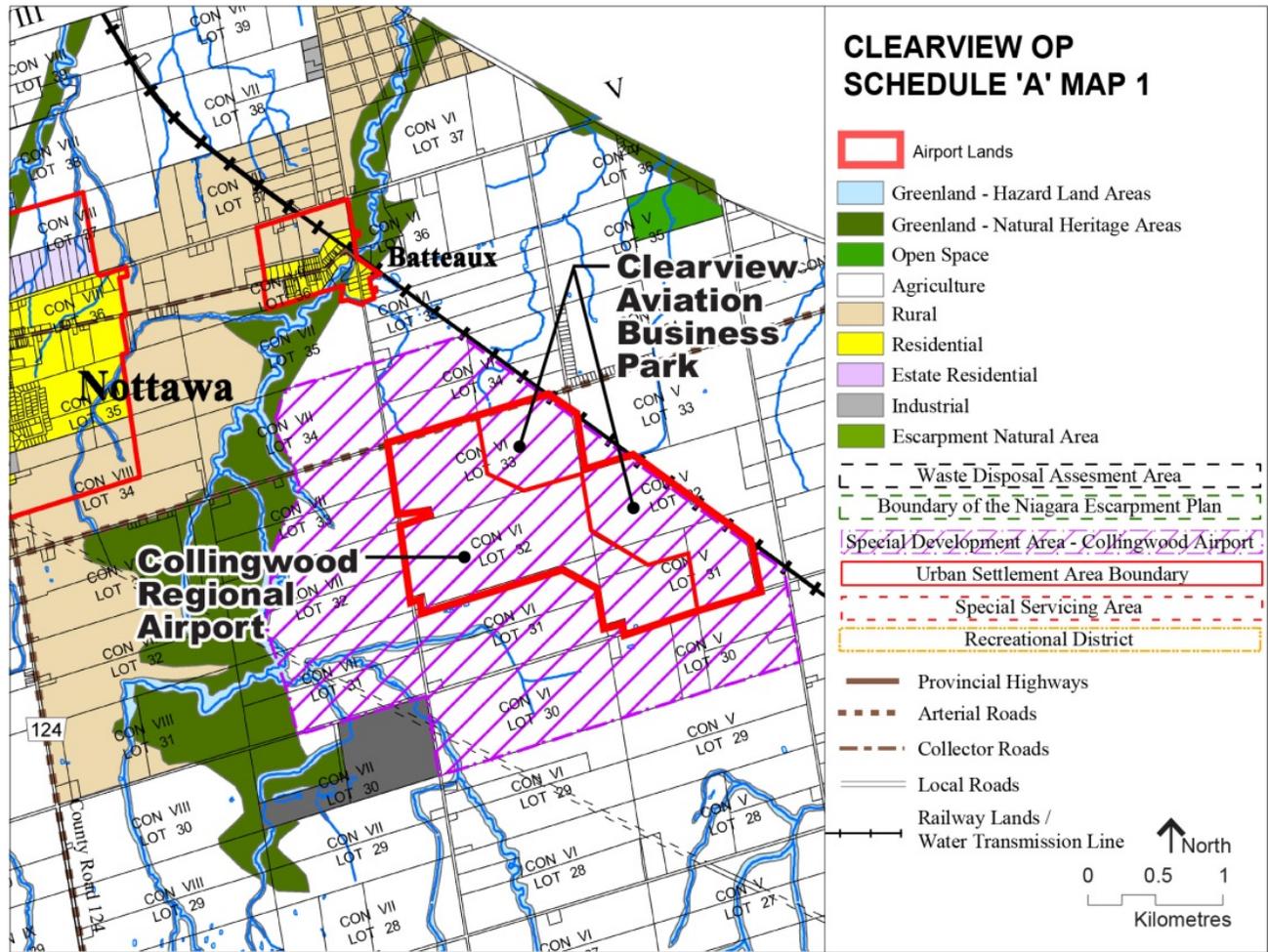
The CRA, Genesis and CABP lands are designated “Agricultural” with a “Special Development Area – Collingwood Airport” overlay on Schedule A Map 1 North West of the Township of Clearview Official Plan, 2002, as shown in Figure 3.2 below. Uses permitted under this designation include “airport and related accessory uses to an airport”.

The OP’s Policy 6.7 characterizes the airport as follows:

The airport, owned and operated by the Town of Collingwood, is a major transportation asset which offers both a useful transportation link for traditional industry, and the prospect of increased tourism opportunities in relation to area resorts, etc. The airport also is a potential economic attractor unto itself, which could provide the catalyst for the establishment of ancillary industrial/commercial development in the surrounding area.

Policy 6.7 further expresses the municipality’s intent to explore the economic potential of the lands surrounding the Airport through the preparation of a comprehensive planning study to provide a framework for more detailed land-use, transportation and servicing policies to be implemented through an Official Plan Amendment. Pending that OPA, land use permissions are as enabled by the underlying land use designations.

Figure 3.2: Clearview Official Plan – Schedule A Map 1 Excerpt



Source: Township of Clearview (2002)

In December 2014, 1906999 Ontario Limited & CACC Holdings Inc. submitted applications to amend the designation of the CABP Lands to “Airport Related Employment Lands Special” to permit the development of the proposed Business Park. The resulting Official Plan Amendment No. 16 was adopted by Clearview Council in July 2015 and forwarded to the County for approval. The OPA is still under review as of December 2015.

The “Airport Related Employment Lands Special” designation proposes to limit the permitted uses on the CABP Lands to industrial and commercial uses that are related to the aviation sector. Such uses may include: aircraft sales and service; manufacturing; maintenance; shipping; storage; research establishment; commercial flight schools (including associate short-term accommodation); business offices and small-scale accessory uses. Existing agricultural uses are also permitted to continue, provide they do not hinder the function or phasing of the airport related employment uses. The OPA for the CABP lands effectively

implements the intention expressed in the Clearview OP's Policy 6.7, at least for its portion of the designated Special Development Area.

Taken as a whole, the local and County level land use planning framework gives a clear expression of municipal support for and public interest in further business expansion and economic development at and around the CRA.

3.3 Municipal Opposition to the wpd Turbine Project

Local municipal reaction to the wpd Turbine Project has been consistently negative. In January 2014 Council of the Town of Collingwood unanimously carried a motion which stated that the Wpd Fairview Wind Project does not comply with the Transport Canada's standards and recommended practices, and will seriously and negatively affect the CRA. The motion further noted that the applicant (wpd) had: failed to provide an adequate assessment of the negative environmental impacts that might arise from the proposed Project; failed to appropriately consult the Town and/or the Airport Services Board; and had ignored the Town's expert's consultant's report.

A similar motion was carried by Clearview Council in January 27, 2014, with an additional mention of a June 2013 resolution in which Clearview Council had stated that it was not a willing host to the wpd Fairview Wind Project.

On January 28, 2014 Council of the Town of Wasaga Beach carried a motion which supported the Collingwood resolution and recognized the Regional importance of the Collingwood Regional Airport for tourism, business and health and safety. Wasaga Beach Council resolved to express its fundamental concern with the Wpd Fairview Wind Project and the application process and to forward the resolution to the MOECC as a statement of its concern.

Copies of these resolutions in opposition to the wpd Turbine Project are attached in Appendix 1.

3.4 Summary

Provincial policy, as expressed in the Provincial Policy Statement and the Growth Plan, recognizes and seeks to protect the transportation role and economic function of airports, and employment lands.

Consistent with the higher order guidance, the local and County level land use planning framework gives a clear expression of municipal support for and public interest in further business expansion and economic development at and around the CRA.

4.0

FEDERAL AND PROVINCIAL INTEREST IN THE AVIATION SECTOR

Both the federal and provincial governments have a vested interest in the aviation and aerospace industry. This section of the report summarizes the importance of the sector to the Canadian economy and reviews some of the government initiative and programs which have been put in place to help support and grow it.

4.1 Contribution of the Aviation Sector to Canada's Economy

The aviation and aerospace⁶ industry is an important and growing component of the Canadian economy. According to Industry Canada⁷ in 2014, Canada was home to more than 700 aerospace firms, which employed nearly 180,000 skilled professional and contributed more than \$29 Billion to the GDP. This represents a significant increase from 2006 when the industry included approximately 400 firms employing approximately 80,000 people.

Canada is home to many of the worlds' top aerospace companies, including those specializing in manufacturing and Research and Development (**R&D**). Aerospace represents Canada's second most research intensive industry which has resulted in

⁶ "Aerospace adds the "outer space" component to the industry definition and so adds space science, rockets, satellites and related technologies to it.

⁷ Industry Canada; Aerospace Industry Association of Canada. (2015). The State of the Canadian Aerospace Industry. Government of Canada.

the emergence of several Aerospace industry clusters within the Country, including in the Toronto Region.

According to information released by the Economics Revenue and International Affairs Division – Parliamentary Information and Research Service, 2013, the strength of Canada’s Aerospace industry is attributable to a number of factors, including:

- Continued direct federal government assistance;
- Additional indirect federal government support through tax credits or eligible R&D;
- High Levels of investment relate to revenue (often indicative of an industry which is still working to establish its competitive advantage);
- World-class post-secondary institutions which provide research expertise and facilities and help to develop the highly skilled works critical to such R&D intensive industries; and
- Geographic proximity to established trade partners in the United States and Western Europe, as well as new markets in Asia, which is important for industries such as Aerospace which experience long production cycles.

4.2 Federal Programs & Intentions

The importance of the Aerospace Industry and its contribution to the Canadian economy is recognized by a number of Federal initiatives which offer resources and provide programs which are intended to stimulate innovation and reduce costs at all levels of the supply chain and across the technology spectrum. Many of the programs offered at the Federal level are complemented by provincial support programs which are customized to meet regional needs.

Programs currently offered by the Federal Government include:

- **Strategic Aerospace and Defence Initiative (SADI)** – provides repayable contributions to Canadian aerospace and defence companies.
- **The Technology Demonstration Program (TDP)** - provides non-repayable contributions in support of large-scale technology demonstration projects in the aerospace, defence, space and security sectors.
- **National Research Council (NRC) Industrial Research Assistance Program (IRAP)** – provides innovation assistance to SMEs includes advisory services, funding for innovation, networking and youth employment.
- **Scientific Research and Experimental Development (SR&ED)** - Income tax credits and refunds for expenditures on eligible R & D activity in Canada.

- **Natural Sciences and Engineering Research Council (NSERC)** - Funding for university researchers.

Canada also facilitates collaborative R & D and initiatives supported by provincial governments:

- **Green Aviation Research and Development Network (GARDN)**
 - Business-led network of centres of excellence which collaborate on R & D projects, primarily focussed on the environment.
 - Recent MOU with Air Transport Action Group (ATAG).
- **CRIAQ**
 - A Collaborative R& D group with a strong training component. Although it is based in Quebec, includes researchers from across Canada and includes international programs.
- **Consortium for Aerospace Research and Innovation in Canada (CARIC)**
 - Newly established national research and technology network that unites stakeholders from industry, universities, colleges and research institutions.
- **Composites Innovation Centre (CIC)**
 - A collaborative R & D initiative based in British Columbia.
- **CANNAPE**
 - Fosters engagement between Canadian and EU aeronautics R & D communities.
- **NRC Aerospace**
 - Based in Ontario, Quebec and Manitoba.
 - Focused on collaborative research and technology development opportunities focus on safety, weight, cost and the environment.

Continued Federal support for the Industry was reinforced in November 2013 when regional and local airports were added to the list of projects which are eligible for the federal Gas Tax Fund. Allocation of the funding amongst eligible projects is, however, left to the discretion of the local municipalities.

4.3 Contribution of the Aerospace Industry to Ontario's Economy

The Aerospace Industry is especially strong in Ontario. According to the Ontario Ministry of Economic Development, Employment and Infrastructure⁸, 15 of the world's top 25 aerospace companies are located within the province. There are over 200 aerospace related companies within Ontario, which employ 17,000 skilled works and generate \$5.3 billion in annual sales.

Ontario has emerged as one of the most cost-competitive locations for aerospace manufacturing in the G7. This is due in part to the relatively low labour and manufacturing costs in the province, as compared to many U.S. cities or international sites such as Tokyo, London or Paris. The Aerospace Industry in Ontario has a broad range of capabilities which allows service to be provided with greater efficiency and cost-effectiveness.

Aerospace R&D is particularly strong in Ontario, accounting for 30% of all aerospace R&D in Canada. This strength is reflected in the province's universities and colleges which offer more than 40 aerospace and aviation-related programs.

4.4 Provincial Programs & Intentions

The importance of the Aerospace Industry in Ontario is primarily reflected through the provision of generous tax incentives. The tax program available to Aerospace R&D firms, which is considered to be the most generous in the G7, can reduce the after-tax cost of every \$100 in R&D spending to between \$61 and \$37. Other incentives offered include:

- A 20% refundable Ontario Business Research Institute Tax Credit (to \$4 million annually) is also available for contract R&D work performed at eligible research institutions.
- A 4.5% non-refundable Ontario Research and Development Tax Credit for companies that earn federal Scientific Research and Experimental Development Tax Incentive Credits.
- An additional 10% refundable Ontario Innovation Credit (worth up to \$300,000 annually) available to small and medium sized companies.

⁸ Ontario Ministry of Economic Development, Employment and Infrastructure. (2015, November 12). Aerospace. Retrieved December 3, 2015, from Invest in Ontario: <http://www.investinontario.com/aerospace>

Overall, the marginal effective tax rate (METR) on new capital investments in Ontario, including both provincial and federal incentives, is 16.6%. This is significantly less than the average METR of 34.8% in the U.S. and 20.2% in other Organization for Economic Co-Operation and Development (OECD) countries.

4.5 The Economic Impact of Business Aviation in Canada

The economic leverage generated by the aviation and aerospace sector in Canada is illustrated by a recent Economic Impact Study conducted by InterVISTAS⁹ Consulting Inc. for the Canadian Business Aviation Association. It demonstrated that on average, the operation of a single business aircraft in Canada contributes a total of 12.4 person-years of employment, \$820,000 in wages, \$1.4 million in GDP, and \$2.9 million in economic outputs annually. This underscores the economic importance of the continued operation of the CRA to the regional area.

4.6 Summary

The aerospace industry is an important and growing component of the Canadian economy. Canada and Ontario are home to many of the world's top aerospace companies. The public interest in the industry is manifest in the number of Federal and Provincial initiatives intended to stimulate innovation and growth.

⁹ InterVISTAS Consulting Inc., *Economic Impact of Business Aviation in Canada - 2015 Update*, prepared for Canadian Business Aviation Association (CBAA), November 2015.

4.0 FEDERAL AND PROVINCIAL INTEREST IN THE AVIATION SECTOR

5.0

THE REGIONAL ECONOMIC CONTEXT

The CRA plays an economic role in the area it serves. This section describes the structure of the regional economy to provide a context for growth potential supported by the airport.

5.1 Population and Employment within the Regional Area

Based on the 2011 Census, the CRA serves a population of approximately 57,000 people residing within the Town of Collingwood, the Town of Wasaga Beach, the Township of Clearview, and the Town of The Blue Mountains (the Regional Area, see Figure 5.1). Population within this area grew by approximately 8,600 people, or 18%, in the decade between 2001 and 2011. The bulk of this growth was concentrated within the Towns of Wasaga Beach and Collingwood, while the population of Clearview Township decreased by 62 people over the same period.

Based on projections from the Province's *Growth Plan for the Greater Golden Horseshoe*, and assuming only modest growth in the population of the Town of The Blue Mountains (which is not covered by the *Growth Plan*), population within the regional area is expected to grow by more than 30,000 people to 2031. This will result in approximately 87,000 people living within the regional area.

Considering employment (by place-of-work) within this area, 1,635 jobs were added between 2001 and 2011. Job growth was positive in the Town of Wasaga Beach and in the Town of The Blue Mountains, while the Town of Collingwood and the Township of Clearview lost jobs. It is also noteworthy that job growth was lower than population growth (1,635 jobs compared to 8,595 residents).

Figure 5.1: Population and Employment Growth – 2001 to 2011

	Population				Employed (POW)			
	2001	2011	Change	% Change	2001	2011	Change	% Change
Total Catchment Area	48,370	56,965	8,595	18%	17,415	19,050	1,635	9%
Simcoe County								
Clearview	13,796	13,734	-62	0%	3,150	3,015	-135	-4%
Collingwood	16,039	19,241	3,202	20%	9,595	9,405	-190	-2%
Wasaga Beach	12,419	17,537	5,118	41%	1,980	3,130	1,150	58%
Grey County								
The Blue Mountains	6,116	6,453	337	6%	2,690	3,500	810	30%

Source: Statistics Canada, 2001 and 2011 Census.

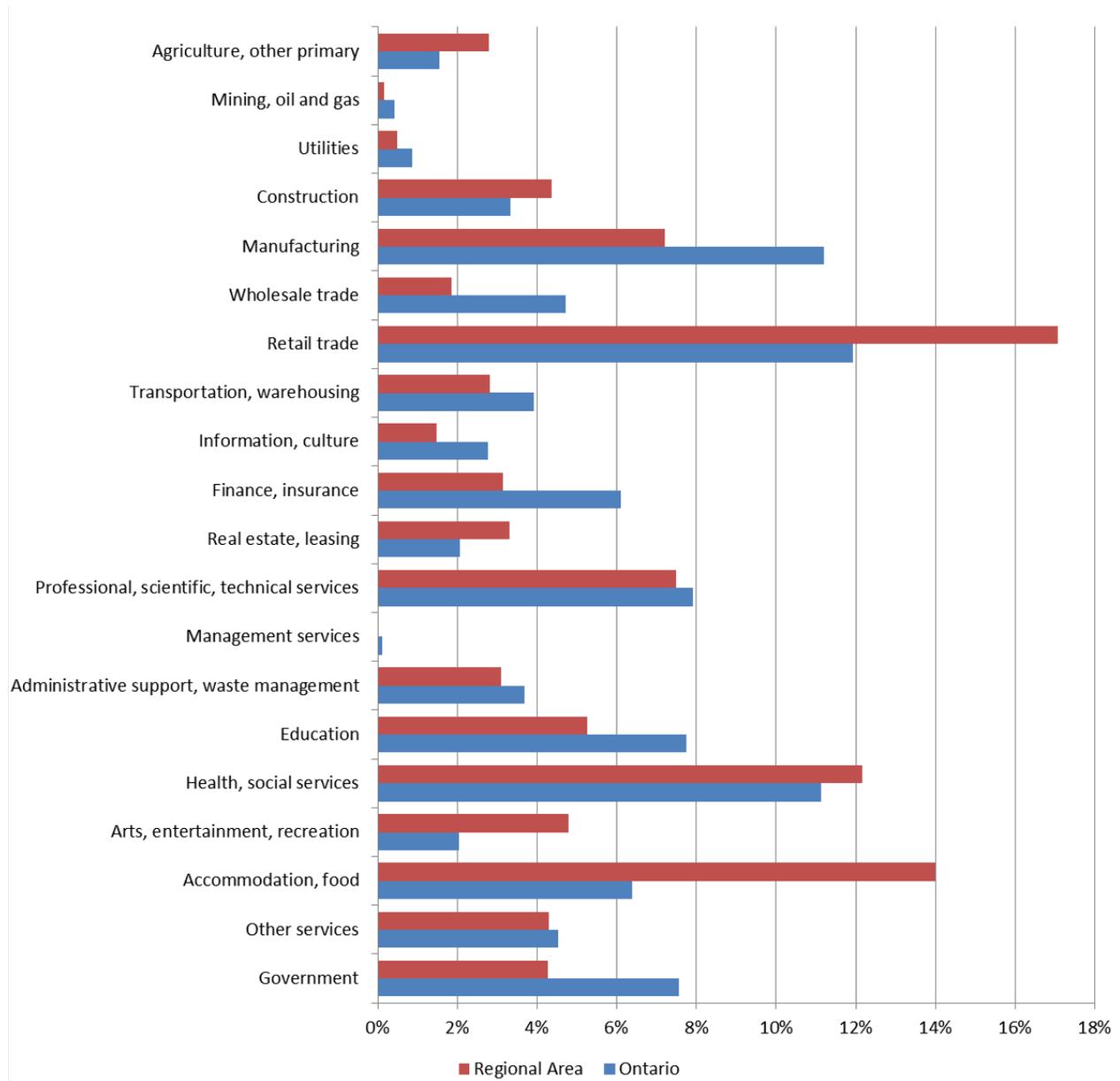
Of the 56,965 residents living within the area in 2011 a total of 25,425 were employed. As this figure exceeds the number of jobs that were available within the regional area in 2011 (i.e. 19,050 jobs), it is clear that at least 6,360 residents were commuting to jobs located outside the regional area in 2011.

5.2 Employment Structure in the Regional Area

Figure 5.2 below shows the structure of employment jobs within the regional area broken out by industry. These jobs are expressed as a percentage of total jobs in order to permit a comparison of jobs breakdown between the regional area and the Province of Ontario. The figure shows that jobs in the area are significantly “over-weighted” in the Retail Trade; Real Estate and Leasing; Arts, Entertainment and Recreation; and Accommodation and Food sectors as compared to the provincial average, reflecting the strong tourism and recreation-based nature of regional employment. It is also noteworthy that Manufacturing accounts for a much smaller percentage of jobs within the regional area (7%) when compared to the Province (11%).

The employment structure would clearly benefit from the attraction of new employers requiring skills in areas other than retail, accommodation and food services. The jobs and skill-sets necessary to support growth in aviation-related business would deliver that benefit.

Figure 5.2: Employment by Place of Work



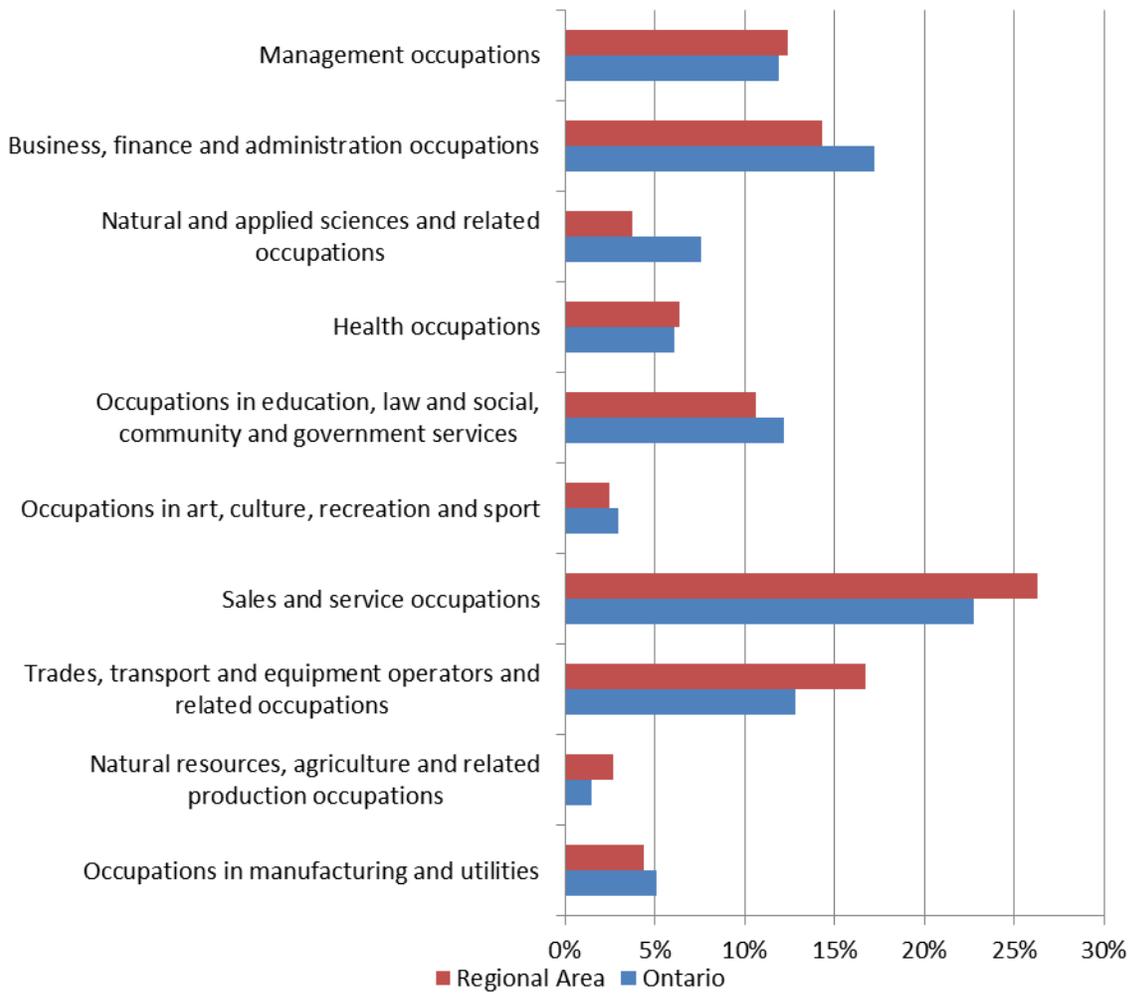
Source: Statistics Canada, 2011 Census.

5.3 Occupations of Residents within the Regional Area

Figure 5.3 below shows the percentage breakdown by occupation for residents within the regional area compared to the Province of Ontario. Employed residents within the regional area are most likely to work within the Sales and Service Occupations (26%), followed by Trades, Transport and Equipment Operators and

related occupations (17%). The proportion of residents within the regional area employed within these occupations is greater than the proportion for the Province of Ontario, underlining reliance on the retail, accommodation and food, as well as the construction sectors.

Figure 5.3: Occupation by Place of Residence



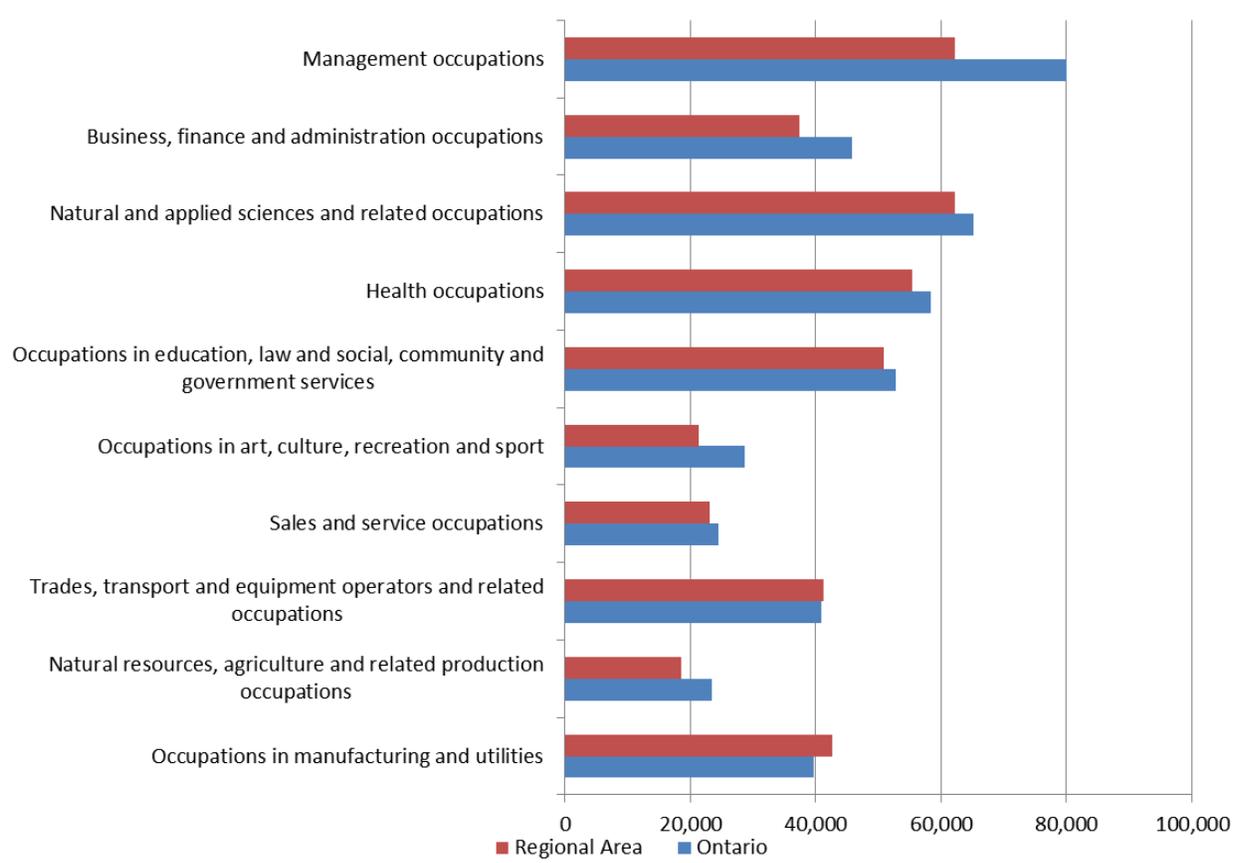
Source: Statistics Canada, 2011 Census.

Comparison of average salaries of residents within the regional area to provincial averages shows that residents earn less than the provincial average in most occupations (Figure 5.4). The greatest gap occurs in the Management and Business, Finance and Administration occupations. Those employed in the Trades, Transport and equipment Operators and Related occupations earn salaries higher than the provincial average, as do those employed in Manufacturing and Utilities occupations.

Overall, the regional area average salary is 88% of the provincial average - \$40,476 vs. the provincial \$45,817. This salary profile would be improved by the

attraction of higher paying jobs such as those in the Trades etc. and Manufacturing occupations, both of which would be required by business expansion at the CRA.

Figure 5.4: Salary Comparison



Source: Statistics Canada, 2011 Census.

5.4 Summary

An analysis of the regional economic context highlights that jobs are growing at a much slower rate than population and that a large proportion of the local population must commute outside the regional area for employment. The employment structure is heavily weighted to jobs in the retail, accommodation and food sectors. Area resident’s salaries are generally lower than the provincial average for their occupations. The area’s employment and average salary profiles would clearly benefit from the attraction of employers bringing jobs and skill-sets necessary to support growth in aviation-related business.

5.0 THE REGIONAL ECONOMIC CONTEXT

6.0

OPERATING IMPACTS OF THE WPD TURBINE PROJECT ON THE CRA AND ITS BUSINESS EXPANSION POTENTIAL

Construction of the wpd Turbine Project in the locations currently proposed will require significant changes to flight operations at Collingwood Regional Airport. This section of the report describes these changes and their expected impacts on the current utility of the Airport and the future prospects for aviation related business at the CRA.

Potential impacts of the wpd Turbine Project on operations at the CRA and a nearby private landing strip (the Stayner Aerodrome) have been assessed over the 2009 to 2015 period by three independent bodies:

- Mr. Charles Cormier, a consulting expert in instrument flight and operating procedures at airports, completing assessments of the impact of the proposed turbines on behalf of the CRA and the Stayner Aerodrome, and contributing to this Economic Impacts report;
- Transport Canada, with operating and regulatory authority over aviation in Canada; and
- NAV Canada, responsible for maintaining the integrity of the air navigation system and related installations.

Each has generated reports and/or correspondence related to the impacts of the Turbine Project. This section summarizes their respective assessments and key

conclusions and qualifications by excerpts from their reports or letters, all of which are appended to this report in their entirety. It starts with the Transport Canada letter of November 17 2014 by Mr. Joseph Szwaleck, as that was the prompt for the MOECC's request for Economic Impact Analysis. The section then moves to excerpts from the January 2014 letter by Mr. Cormier that prompted MOECC's request for a response from Transport Canada regarding the identified turbine impacts on the CRA and Stayner facilities. NAV Canada commentary is then reviewed, followed by an assessment of the implications of the identified turbine impacts on operations at the CRA.

To help distinguish the correspondence excerpts from current report text, they are presented in a "calibri" font, as used in this paragraph.

It should be noted that wpd Canada has commissioned its own analyses of potential operating impacts on the airport. The conclusions of this work, by SMS Aviation Safety Inc., are disputed by Mr. Cormier. The SMS work and Mr. Cormier's rebuttals are part of the larger public record and not evaluated or included as part of this report.

6.1 Transport Canada Assessment of Operating Impacts on the CRA

By letter dated October 10 2014, MOECC put a series of questions to Transport Canada regarding potential impacts on operations at both the CRA and the Stayner Aerodrome, in response to issues raised by M. Cormier. The Transport Canada response was provided in Mr. Szwaleck's letter, as included here in Appendix 2. The letter first defined a series of terms and background factors, then addressed specific questions posed by MOECC. Those portions of the letter that provide key background and definitions or which are otherwise considered most relevant to consideration of impacts to the CRA are excerpted below

6.1.1 Background: Definitions and Criteria

The terms "aerodrome" and "airport" are often used interchangeably in general parlance, and in some Transport Canada publications. However, the *Aeronautics Act* definitions are crucial to understanding the application of regulations and standards.

Aerodrome

An "aerodrome" means any area of land, water (including the frozen surface thereof) or other supporting surface used, designed, prepared, equipped or set apart for use either in whole or in part for the arrival, departure, movement or

servicing of aircraft and includes any buildings, installations and equipment situated thereon or associated therewith.

Aerodromes must comply with the *Canadian Aviation Regulations* (CARs) Part III, Subpart 1.

Airport

An "airport" means an aerodrome in respect of which a Canadian aviation document is in force, and is referred to as "certified". Airport operators must comply with the *Canadian Aviation Regulations* and the associated standards which include obstacle limitation surfaces (OLS) that must not be penetrated. Wind turbines that penetrate the OLS will affect the airport certification, requiring the airport operator to take action to maintain the standards e.g. displace the runway threshold so there is a shorter runway to land on.

Airports must comply with the Canadian Aviation Regulations (CARs) Part III, Subpart 2 and the TP312- Aerodrome Standards and Recommended Practices standards document.

Collingwood and Stayner are "aerodromes" not "airports".

TP1247

TP1247E- "Aviation- Land Use in the Vicinity of Aerodromes" is a guidance document published by Transport Canada. It is designed to assist planners and legislators at all levels of government in becoming familiar with issues related to land use in the vicinity of aerodromes and how land used around an aerodrome will have an impact on its operations.

TP1247 was recently updated to include the following Note:

" Note: It is of the utmost importance to be aware that the proximity of obstacles, for example, wind turbines, telecommunications towers, antennae, smoke stacks, etc., **may potentially have an impact on the current and future usability of an aerodrome. Therefore, it is critical that planning and coordination of the siting of obstacles should be conducted in conjunction with an aerodrome operator at the earliest possible opportunity [emphasis added].**"

Obstacle limitation surfaces are established to ensure the required level of safety. TP1247 identifies three types of surfaces at an aerodrome that should be protected to avoid penetration by objects or structures.

The three types of surfaces are:

1. Outer Surface
2. Take-off/Approach slope surface
3. Transitional Surface

Where the aerodrome is not an airport, **penetration of these surfaces may affect the operations at the aerodrome.** The standards in TP312 - *Aerodrome Standards and Recommended Practices* can be used but are not enforceable; however, **the operational integrity of the aerodrome is enhanced if the**

designation of the use of land adjacent to the facility is done in line with technical portions of the standards [emphasis added].

At an airport, objects penetrating any of these surfaces would violate the certification standards in TP312- *Aerodrome Standards and Recommended Practices* and would require some action to bring the airport back into compliance. Depending on the location of the penetrating obstacle, action could be things like a runway threshold displacement, changes to aeronautical information publications, restrictions to operations, and others.

Airports that have an Airport Zoning Regulation have these surfaces protected by law and these zoning regulations apply to land that is located outside the property boundary of the airport. Since aerodromes are not eligible for Airport Zoning Regulations, Transport Canada publishes TP1247 **to make provincial/municipal land use authorities aware of development that may be incompatible with an aerodrome or airport [emphasis added].**

6.1.2 Transport Canada Assessment of the Effects of the wpd Turbines on the CRA's Operating Characteristics – Responses to MOECC Questions

1. **Question:** Overall, does the Project meet the Transport Canada guidelines for aviation safety (i.e. TP 1247, TP 312, TP 308), including obstacle restrictions and obstacle limitation surfaces with respect to the two proximal aerodromes?

Answer: Transport Canada has not conducted an assessment of the obstacle restrictions or the obstacle limitation surfaces for compliance with TP1247, TP312 or TP308. However, we offer the following general comments:

- a. TP1247 -The Fairview Wind Project proposal was submitted to Transport Canada and was assessed for marking and lighting requirements. With respect to the obstacle limitation surfaces, refer to c) below. With respect to airport radar, navigation aids, communication systems and weather radar, NAV CANADA would have to make this assessment.
- b. TP308 - An evaluation of the impact of obstacles on TP308 and the instrument approaches at Collingwood and Stayner is the responsibility of NAV CANADA or the sponsor of the instrument approach. NAV CANADA is also responsible to amend all aeronautical information publications to advise pilots of the obstacles and make changes to the instrument approach procedures.

For aircraft operating under Instrument Flight Rules (IFR), aviation safety is maintained by raising the limits of the instrument approach procedures to avoid the obstacles. **While aviation safety has been addressed, it may result in a decrease in the usability of the aerodrome, the effectiveness of the instrument approach and the**

operational impact of the aerodrome in poor weather conditions
[emphasis added].

The assessment conducted by Charles Cormier on January 20, 2014 for the Collingwood aerodrome and on January 23, 2014 for the Stayner aerodrome indicates that the proposed windfarm would have an impact on both aerodromes as follows:

Collingwood:

There are presently three instrument approaches published in the *Canada Air Pilot*.

- i. RNAV(GNSS) RWY 13 LNAV: Mr. Cormier's assessment indicates the minimum limits would have to be raised by 20'. **This would likely have an impact on the aerodrome operation.**
 - ii. RNAV(GNSS RWY 31 LNAV: Mr. Cormier's assessment indicates the minimum limits would have to be raised by 120'. **This is a fairly significant penalty, which-would reduce the effectiveness of the instrument approach.**
 - iii. Circling limits for RWY 13 and 31: Mr. Cormier's assessment indicates the circling limits for category C and D aircraft would increase significantly by 360' and 260' respectively. **This is a significant penalty on the existing circling limits. However, the impact may be reduced if it is possible to limit circling to one side of the aerodrome (as is done at other aerodromes and airports).**
 - iv. VORJDME A: Mr. Cormier's assessment indicates the minimum limits would have to be raised 60' for category A & B aircraft, **which would likely have an impact on the aerodrome operation,** and the minimum limits for category C would have to be raised by 240'. **This is a significant penalty which would reduce the effectiveness of the existing instrument approach. However, the impact may be reduced if it is possible to limit circling to one side of the aerodrome [emphasis added].**
- c. TP312- The obstacle limitation surfaces identified in TP312 (and TP1247) are established to protect an aircraft either during an entirely visual approach or during the visual segment of an instrument approach. Although an aerodrome does not have to comply with these surfaces, **the operational integrity is enhanced if the designation of the use of land adjacent to the facility is done in line with technical portions of the standards** [emphasis added].

The assessment conducted by Charles Cormier on January 20, 2014 for the Collingwood aerodrome and on January 23, 2014 for the Stayner aerodrome indicates that the proposed windfarm would have an impact on both aerodromes as follows:

Collingwood:

- i. Mr. Cormier's assessment indicates that the "Outer Surface" (which is normally a 4000m radius around the aerodrome) **would be penetrated by 4 turbines by as much as 416'**.
 - ii. The outer surface for airports is established to protect aircraft manoeuvring near the runway and in the "circuit pattern". There is no requirement for an outer surface at an aerodrome. However, **the proximity and height of the wind turbines could potentially pose a hazard to aircraft operating in the "circuit pattern"**.
 - iii. There are ways to mitigate obstacles that lie within the "circuit pattern". **The aerodrome operator could request a right hand circuit pattern be published for runways 19 and 31 to avoid the obstacles. Such procedures would have to be approved by Transport Canada [emphasis added].**
 2. If the turbines are erected where they are proposed:
 - a. **Question:** Do they have the **potential to infringe/cause an obstruction in the outer surface and transitional surface around the Stayner (Clearview Field) Aerodrome or Collingwood Regional Airport?**
Answer: Refer to response under Question 1. above [emphasis added].
 8. **Question:** If the Project was established as proposed, would it complicate visual flights rules and/ or instrument flight rules for either aerodrome?
Answer: **There will be an operational impact at both aerodromes as outlined in 1. above.** Aeronautical information publications would be amended by NAV CANADA to account for the new obstacles [emphasis added].
 9. **Question:** Is Transport Canada able to identify any limitations to the future expansion of the Collingwood Regional Airport (CRA), as a result of the proposed turbine locations? **If CRA extended its runway to 7,500 feet, would the proposed turbines infringe/cause an obstruction in the outer surface and transitional surface around the aerodrome,** such that it would pose a threat to the airport's operational safety?
Answer: Transport Canada is not aware of the proposed expansion plans by Collingwood aerodrome and therefore cannot identify any limitations to future expansion. However, **if there is an operational impact on the aerodrome today, there will likely be an operational impact on the aerodrome in the future if the aerodrome is further developed.** Safety is addressed through a number of resulting actions, such as marking, lighting, publications, and operating procedures [emphasis added].
 11. **Question:** The MOECC received from the CRA a document with "Effects to Collingwood Regional Airport" from the Fairview Wind Project, prepared by Charles (Chas) Cormier, Aeronautical Information Consultant and dated January 20, 2014 (see attachment). Based on the review of this report and

using Transport Canada's expertise, **is there a potential threat to CRA's operational safety?**

Answer: According to Mr. Cormier's assessment dated January 20, 2014, **there will be an operational impact on the aerodrome. See response under Question 1. above. Safety is addressed through a number of resulting actions, such as marking, lighting, publications, and operating procedures [emphasis added].**

In conclusion, based on the information reviewed, it appears **there would likely be an operational impact on both the Collingwood and Stayner aerodromes.** There are aerodromes in Canada where obstacles are located in proximity to runways, and depending on their location, have continued operation with the establishment of specific procedures, and the marking, lighting and publication of these obstacles. However, it should be noted that **such mitigation can result in a decrease in the usability of the Collingwood and Stayner aerodromes.** The Department also wishes to emphasize that it is critical that planning and coordination of the **siting of obstacles** be conducted in conjunction with an aerodrome operator at the earliest possible opportunity *[emphasis added]*.

6.1.3 Observations Regarding Transport Canada's Review

Transport Canada is clear in observing that:

- Obstacles that would penetrate operating surfaces at airports and aerodromes are incompatible with those facilities;
- Development of the wpd Fairview turbines in the locations proposed would likely have an operational impact on the CRA and could potentially pose a hazard to aircraft;
- The required mitigation would introduce significant operational penalties and can decrease the usability of the CRA; and
- The siting of turbine locations is a decision variable that can be used to resolve potential impacts on airspace operations.

It is noteworthy that Mr. Szwaleck takes no issues with and essentially corroborates the Cormier conclusions.

6.2 Cormier Assessment of Operating Impacts on the CRA

Mr. Cormier, on behalf of the CRA and the private operator of the Stayner Aerodrome, has generated a series of reports and letters describing his assessment

of the operating impacts of the proposed wpd turbines on operations at the respective facilities. He summarized his observations and conclusions regarding impacts on the CRA in a letter dated January 20th 2014 (the **Cormier letter** - see Appendix 3). The text below is excerpted from that letter, with updates where appropriate to bring comments current to January 2016.

6.2.1 Cormier Assessment of the Effects of the wpd Fairview Turbines on the CRA's Operating Characteristics

This is an outline of the detrimental effects to Collingwood Airport, that will be caused by the wpd Canada Fairview Wind Project, as follows:

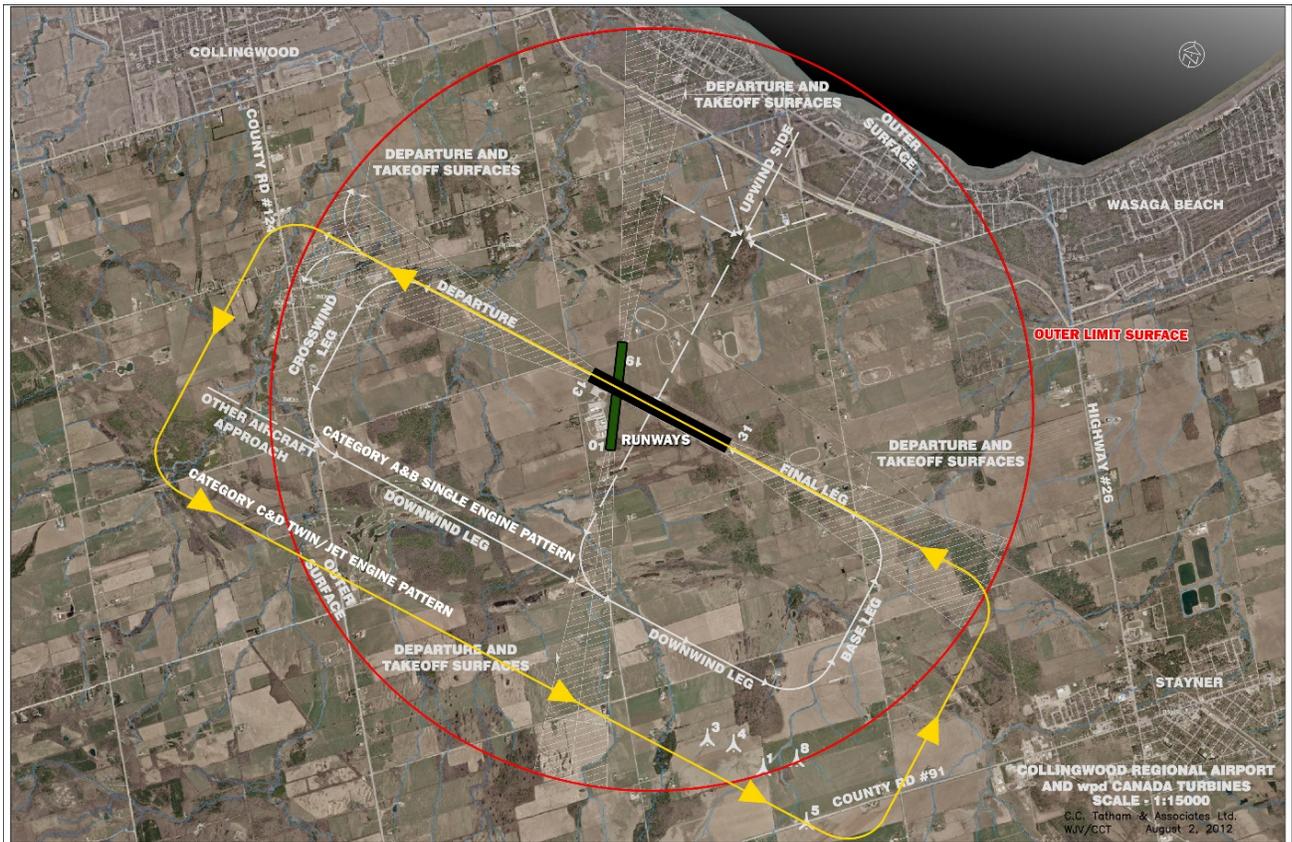
VFR Operations

The majority of flight activities conducted at most regional airports in Canada are conducted under Visual Flight Rules. This consists of aircraft operating in moderate to good weather conditions, clear of cloud with visual reference to ground features, under the core principles of "see and be seen".

The standard means for aircraft to achieve separation under VFR near a runway, is to conform to a standard "circuit pattern", which is a rectangular race-track with a down- wind leg parallel to the runway and offset 1-2 miles. Turns to and from the runway are executed 1-2 miles from the runway ends. Regulations stipulate that all turns in the vicinity of a runway shall be left-hand, and therefore the circuit is normally counter- clockwise. Pilots apply such patterns methodically in order to establish safe separation, and to sequence themselves for landings and take-offs. The typical "circuit patterns" are depicted on Figure 3.1, in white for single-engine light aircraft and in yellow for twin-engine or jet aircraft, which is larger due to higher speeds.

The circuit pattern to runway 31 at Collingwood is south of the runway and will pass over or adjacent to five turbine positions. Since winds in Canada are predominantly from the west or northwest, favouring Runway 31, this circuit pattern will be active most of the time. With a standard height of 1000 feet above the airport, there will be clearances of only about 500 feet above the turbines. **If the airport authority would change the circuit pattern to north of the runway, this would significantly increase aircraft traffic over the populated urban areas, which is not desirable. It would also create a non-standard operation which has its obvious hazards, especially to itinerant visiting aircraft unfamiliar with Collingwood. It is also common knowledge that the Collingwood area is subject to rapidly changing weather conditions, strong lake effect snowfalls, low ceilings and poor visibility. White turbines in close proximity to a runway and its associated VFR circuit patterns is a potentially lethal mix [emphasis added].**

Figure 6.1: Collingwood Airport Outer Surface & Typical Circuit Patterns for Runway 31



Source: C. Cormier

In summary, the potential effects on the Collingwood Airport, that could be caused by the proposed Fairview Wind Project, are as follows:

- The RNAV(GNSS) RWY 13 LNAV approach will contain 7 turbines within the secondary of the missed approach segment, and two will penetrate the obstacle surface by 18' and 3'. **The minimum limits would have to be raised by 20'** [emphasis added].
- The RNAV(GNSS) RWY 31 LNAV approach will contain turbine #8 just inside the secondary area of the final approach segment. **The minimum limits would have to be raised by 120'**, a relatively significant amount that will reduce the effectiveness [emphasis added].
- The VOR/DME A approach will be penetrated approximately 51' by turbine #4, contained in the secondary of the missed approach segment. The Category A & B approach limits would have to be increased 60', the next higher 20-foot increment. **The Category C would increase by 360' and category D by 240'** as per the Circling results [emphasis added].
- Detrimental effects to Circling will apply to all approaches. Category C Circling would be contained by turbines #3 and 4, and Category D by turbines #1, 3, 4, 5, and 8. Categories C and D Circling would have to

increase to 1600' ASL, a significant amount over the current minima of 1240' and 1340' respectively *[emphasis added]*.

- It is obvious that the turbines will constitute a potentially lethal hazard to VFR operations at Collingwood, primarily since several will be in close proximity to and underlie the standard circuit pattern serving Runway 31 *[emphasis added]*.

Aircraft flight operation is an inherently hazardous activity, and the consequences of errors can be extreme. The most dangerous phases of flight are arrivals and departures, because the aircraft is in close proximity to the ground, and it must be flown at slower speeds with changing configurations. The danger is increased when the weather is in instrument conditions. **Therefore it must be concluded that any new condition that adds complexity to arrivals and departures should be avoided. When new obstacles of significant height are erected, that penetrate an Obstacle Limitation Surface that protects a runway, they are a safety hazard. When these obstacles penetrate the final and/or missed approach segments of several published instrument approach procedures, such that the only option is to raise the minima, they are too close** *[emphasis added]*.

The Fairview turbine locations, which are discretionary, will detrimentally affect an important growing airport that promises to be a regional transportation hub and economic engine in future. wpd Canada and its consultant have failed to address most of the aviation safety concerns expressed by the Collingwood airport and local aviators *[emphasis added]*.

My overall conclusion remains; the turbines as proposed should be moved to another location or the project should not be approved as planned *[emphasis added]*.

6.3 NAV Canada Assessments of Operating Impacts on the CRA

NAV Canada's interpretation of the impacts of the proposed turbine locations is described in correspondence between that agency and wpd Canada/Fairview, all in the public record (see Appendix 4). This section presents excerpts from that record and makes observations about its nature.

6.3.1 NAV CANADA Correspondence

Letter of April 16, 2014

NAV CANADA has evaluated the captioned proposal and come to the following conclusions regarding instrument procedures at the Collingwood, ON (CNY3) airport:

- 'RNAV (GNSS) RWY 13' and 'RNAV (GNSS) RWY 31' approaches:

- Turbine R3 is within the circling area for Category 'C' aircraft and turbines R1, R3, R4, R5, and R8 are within the circling area for Category 'D' aircraft.
- **Category C & D circling minimum decent altitude (MDA) to be increased to 1600 feet above sea level (870 feet above ground level); however, the impact could be negated by restricting circling for Category C & D aircraft to north of runway 13/31 [emphasis added].**
- VOR/DME A' instrument approach:
 - Turbine R3 is within the missed approach segment.
 - **Category A & B minimum decent altitude (MDA) to increase by 80 feet (to read: 1320ft above sea level, 590ft above ground level).** *This impact is due to the MDA being lowered significantly since our previous evaluation in 2012; the new MDA would remain 160 feet lower than 2012-levels.*
 - **Category C circling minimum decent altitude (MDA) to be increased to 1600 feet above sea level (870 feet above ground level); however, the impact could be negated by restricting circling for Category C aircraft to north of runway 13/31 [emphasis added].**

NAV CANADA's evaluation and conclusions are based only on the impacts to procedures we maintain; therefore, we do not object to the proposal as submitted provided our construction notification requirements (detailed below) are met *[emphasis added]*.

NAV CANADA's land use evaluation is valid for a period of 12 months. **Our assessment is limited to the impact of the proposed physical structure on the air navigation system and installations;** it neither constitutes nor replaces any approvals or permits required by Transport Canada, Industry Canada, other Federal Government departments, Provincial or Municipal land use authorities or any other agency from which approval is required. Industry Canada addresses any spectrum management issues that may arise from your proposal and consults with NAV CANADA engineering as deemed necessary *[emphasis added]*.

Letter of March 19, 2015

We have evaluated the captioned proposal and NAV CANADA has no objection to the project as submitted. Be advised that the locations and heights of the proposed turbines will require the following publication amendments to the procedures for Collingwood Airport (CNY3):

RNAV 13 and RNAV31: CIRCLING CAT C&D TO READ 1600(870) 2^{3/4} **(+360', +260' RESPECTIVELY)**

VORIDME A: CAT A+B TO READ 1320(590) 1 3/4 (+80'), CAT C TO READ 1600(870) 2^{3/4} **(+360')**

These impacts can be limited by sectoring the circling for CAT C and D to the North of 13-31.

DEP 13 (IN PROCESS): MIGHT NEED TO BE REDESIGNED- PRESENT PUBLISHED DEP OK *[emphasis added]*.

NAV CANADA's evaluation and conclusions are based only on the impacts to procedures we maintain; therefore, we do not object to the proposal as submitted provided our construction notification requirements (detailed below) are met *[emphasis added]*.

6.3.2 Observations Regarding NAV Canada's Review

As qualified in each of their letters, NAV Canada's review of the acceptability of, or need to object to the proposed turbine locations is narrowly framed by their operating mandate – responsibility for the air navigation system, and installations and the operating procedures the agency maintains. It is evident that so long as intrusions into the CRA's operating space can be mitigated by changes in procedure, and those revised procedures are deemed safe, the agency has no concerns. It takes no issue with the Cormier conclusions, confirms that obstacles will penetrate the operating space around the airport, and identifies how these can be avoided by amending procedures. Because it is not within its mandate, NAV Canada offers no opinion on:

- The impacts of higher operating minimums;
- Other social costs or operating pressures from re-routing circling patterns over settlement areas;
- Risk factors that might attach to implementation of non-standard procedures or to inadvertent departures from procedures, and the potential for collisions with obstacles in the air space around an airport; or
- Pilot or market perceptions of accessibility or attractiveness of the CRA as a destination or a place of aviation related business.

NAV Canada does not make any observations about how the requirements for changes to operating procedures might be altered by different locations for the offending turbines. The agency responds only to the questions asked regarding the specific locations defined by wpd.

6.4 Implications of Operational Impacts of the wpd Turbine Project to the CRA

There are significant implications of the operational impacts of the wpd Turbine Project to the CRA. These are summarized as follows:

Operating Minimums

Raising the operating minimums of instrument flight procedures from the optimum to a higher altitude to mitigate new obstacles such as turbines, increases the chance of aircraft being unable to land and having to divert to another airport. The increase in minimums is a penalty and reduces the effectiveness of CRA's investment in GPS approach technology.

CRA has invested in the most advanced GPS approach technology, and enjoys both LNAV (Lateral Navigation) and LPV (Localizer Precision Vertical-guidance) options published for both ends of runway 13/31. These procedures enable landing minimums as low as 286 feet above touchdown, which nearly achieves the lowest approach limits permitted by TP 308 design criteria of 250 feet. The lower that a pilot is permitted to fly during the final segment of an approach to the runway in inclement weather, the greater the chance to see the runway and effect a successful landing.

If approach limits must be raised to provide required clearance above new obstacles such as wind turbines, the pilot may not be able to see the runway because the aircraft may be in cloud, or he may only see it very late in his approach; thereby increasing risk at landing. If the runway is not visible at that altitude, the pilot is obligated to discontinue the approach and fly to an alternate airport that has better weather forecasted.

Investors in aviation seek airports with the lowest limits, to ensure the highest probability of being able to land in all weather conditions. More landings are good for business. Diverting an aircraft to an alternate airport introduces new costs, is not good for business, and adds business risk to an airport with higher operating minimums.

Non-Standard Procedures

Aviation safety embraces the principle of standard operating procedures, which are drilled into pilots from the first day of training. The standard VFR circuit pattern is conducted 1000 feet above the airport and requires left-hand turns, currently implemented at CRA for both ends of runway 13/31. The adoption of a non-standard right-hand pattern for runway 31 to avoid several turbines

introduces new factors. Confusion may occur concerning the positions of other aircraft in the vicinity, including what direction they will turn upon approach or landing, and pilots may not correctly anticipate the turns. During occasions when the winds are light or are changing, the preferred choice of runway for landing or take-off may change to the opposite direction. Requiring that the circuit pattern be on the same side of the runway for landings in either direction could result in aircraft flying head-on, with the obvious potential for disaster.

Impacts on Area Residents

Restricting circuit patterns and circling manoeuvring to the north side of the runway will increase aircraft traffic over the populated areas of Collingwood and Wasaga Beach, and may cause noise complaints from the local residents.

In Canada, the primary wind direction comes from the west, and as a result runway 31 is more frequently used. The standard circuit pattern is south of the runway. Changing the circuit pattern to put flight activities over the populated areas north of the runway does not make for good neighbors and can lead to social pressures to restrict aircraft movements, and reduce airport attractiveness as a business location.

Impacts on Competitiveness for Flight Training

Flight training facilities are in demand at many airports, and operators of these schools have their choice of where to operate. Many factors are assessed when locating a facility, such as airport services, availability of approaches, and characteristics of the airspace in the vicinity. There are currently few physical obstacles in the close vicinity of CRA, which is an attractive characteristic, because initial student pilots may be erratic in their aircraft control, direction of flight and maintenance of altitudes. Introducing wind turbines of nearly 500 feet height within 2 miles of the airport will be a hazard and a distraction to the operation of a flight school. The presence of any such distraction is not attractive to flight school investors, instructors or potential students.

Impacts on Competitiveness for Business Location and Attraction

Collingwood Airport has consistently increased its level of activity over the last decade, and has become a more valuable transportation hub. A flight training enterprise and an aviation business park will potentially fuel more growth and may attract higher-performance aircraft that will transport customers, employees, raw materials and finished products. As on-airport business expands, generally too will the use of larger and faster aircraft, which will require a longer runway, hangar facilities, and fuel and maintenance services. This growth spiral synergy

would likely extend to graduates of the flight school and of Georgian College, many of whom will be from the local region, finding employment as flight instructors, line pilots, or technicians and managers with the enterprises in the business park.

Most regional airports are actively seeking new businesses to establish on their premises, so it is important that the CRA's facilities and operational configuration continue to be effective and the safest possible to be competitive. Permitting wind turbines that require instrument approaches to be modified and more challenging does not make business sense, and will have a negative impact on efforts to attract new aviation investment.

CRA can expand its facilities and lengthen its runway to the east. Doing so may further justify CRA's application for re-certification. In the past CRA was a Transport Canada certified airport, and will likely re-certify in the near term because there is potential for passenger service. There should be no constraints to certification, because the airport authority has always insisted that TP 312 Aerodrome Standards be respected, in particular with regards to the obstacle clearance parameters.

Operating "by-the-book" is the wisest and the optimum way to conduct business in aviation, as these factors are sought after by investors in aviation. However, the intrusion of wind turbines that will present high physical obstacles in the vicinity of an airport will detract from the safe operation of that airport and its ability to attract investment. Expansion of CRA's runway 13/31 to the southeast will put the turbines closer, which would only amplify their detrimental impacts, and increase the legitimate concerns of any potential investor.

All of these operational impacts and their implications could be resolved by moving the offending turbine sites to alternative locations outside of the CRA's current and potential future airspace.

6.5 Investor Assessments of Outcomes from Identified Operating Impacts on the CRA

In the course of preparing this analysis of economic impacts, interviews were held with the following individuals:

- Mr. Pierre Lajoie - Principal in North 44 Airport Services, contracted with management of the airport by the Airport Services Board (in person, November 23rd 2015);

- Mr. Brian Macdonald - Director of Public Works and Engineering at the Town of Collingwood, responsible for oversight over airport operations and reporting to the Town (in person, November 23rd 2015)
- Mr. Paul Bonwick P.C. - Senior Vice President of Operations and Business Development, Clearview Aviation Business Park (several telephone interviews, November 23 to December 11, 2015);
- Mr. David Hughes – Principal in Collingwood Aviation Partners and the Genesis Flight Centre (telephone interview, December 7 2015).

With the exception of Mr. Macdonald, each represents companies with a direct economic stake in the ongoing attractiveness of the airport. As described earlier both Genesis and the CABP are proposing to put significant capital at risk in expanding existing or investing in new airport related facilities adjacent to the airport lands. Each depends on the continued attractiveness of the airport and its ease of access to attract users to their facilities and lands. Each describes the CRA as a very competitive location for the businesses they hope to attract, citing the airport's ease of access, proximity to Pearson International Airport and the GTA, and the high quality of life the area offers to prospective employees.

In contemplating the potential impacts of the wpd Turbine Project on operations at the airport, Mr. Lajoie sees them as a significant detriment to the perceived safety in coming to the CRA, or in basing an aviation-related business there, regardless of any change in operating procedures.

Both Mr. Bonwick and Mr. Hughes see a commitment to proceed with turbine construction in the current locations as fatal to their business aspirations and investment intentions. They cite the risk that prospective buyers or operators have a range of competitive locations they can choose from, the expectation that the CRA would no longer enjoy its current advantages, and the fear that returns to their planned investments would not be realized. Mr. Hughes refers to being told by one new business prospect that, while they found the location otherwise compelling, they had no interest in locating at the CRA while there was a risk that the wpd application might be approved.

Both Genesis and the CBAP have provided letters re-iterating their concerns about the impact of the wpd turbines on their development plans (see Appendix 5). The Genesis letter describes a prospective tenant who stated that it will not come to the CRA if its IFR minimums are reduced. CBAP has further provided a copy of a letter from a prospective tenant/buyer in the business park to MOECC identifying its disinterest in a CRA location if Transport Canada's guidelines are breached by the wpd turbines (also in Appendix 5).

6.6 Summary

The proposed locations of the wpd turbine numbers 1,3,4,5 & 8 will intrude, in several cases significantly, into the operating air space at the CRA. These intrusions can be addressed to NAV Canada's satisfaction by changes to operating procedures. These proposed changes are expected to have consequences that are not reviewed as part of NAV Canada's mandate, and were therefore not examined by that agency.

Transport Canada corroborates the independent analysis of Mr. Cormier – there will be operational impacts on the CRA. Although these impacts can be mitigated, such mitigation can decrease the usability of the CRA.

Mr. Cormier concludes that the proposed turbines/locations will have significant impacts to the airport's operating minimums and accessibility. These in turn are expected to significantly impair the CRA's attractiveness to flight school or aviation business operations. Business people contemplating significant financial investments in expansions of aviation related activity at and adjacent to the CRA see approval of the turbines as introducing unacceptable risk to their investments, such that they would not proceed with them.

The wpd Turbine Project, in its current configuration, risks the loss to the region of significant new investment in growing the regional economy and labour skill set.

These impacts could be resolved by relocating the turbines to positions outside the airport's air space, or by denying the wpd Turbine Project application.

6.0 OPERATING IMPACTS OF THE WPD TURBINE PROJECT ON THE CRA AND ITS BUSINESS EXPANSION POTENTIAL

7.0

ECONOMIC BENEFITS OF BUSINESS EXPANSION AT THE CRA

Business expansion at the Genesis Flight Centre and the CABP would realize economic development aspirations for the CRA and deliver significant employment and other benefits. This section of the report quantifies those benefits by generating estimates of their contribution to the local and broader economies.

7.1 Methodology

The analytical model used in this report takes capital expenditure and employment data generated for the development of the Collingwood Airport Business Park and uses multipliers and ratios to estimate economic impacts. Economic impacts are described in terms of Gross Domestic Product (GDP), labour income, and employment.

This analytical model is premised on the fact that industries in an economy are interrelated. An increase in economic activity in any one sector will produce ‘ripple effects’ in other sectors.

Two distinct phases of economic activity are addressed in this analysis:

1. The Construction Phase; and,
2. The Operating Phase

The local economy is first stimulated during the construction phase. Income initially injected into firms making-up the construction sector is used to enlist labour, supplies, and services from other firms in construction and related sectors,

creating a ‘ripple effect’ across the local and wider economies. This phase ends with build-out of the project.

The operating phase of economic activity follows the completion of construction. Labour employed within the new development can be linked to industry output, and demands for inputs from other industries, thereby creating ‘ripple effects’ just as during the construction phase. However, unlike the time-bounded construction phase, economic activities in the operating phase re-occur on an annual basis.

The estimates of economic impact are provided on an order of magnitude basis. They are based on full build-out of the Genesis and CABP proposals as it is this build-out which is put at risk by the wpd Turbine Project, and there is no reasonable basis for any partial estimates. The timeline over which build-out could occur is uncertain but could extend over twenty or more years. The scale of synergies between business expansion adjacent to the airport and increased operation, fuel sales, runway extensions etc. at the airport itself is similarly uncertain, and is not incorporated into the analysis. Given the scale of the expansion opportunities, there will be overlap between the construction and operating phases until build-out is achieved. All dollar values are expressed in \$2015.

7.1.1 Measures of Economic Impact

The following measures are used in order to estimate the economic impacts for both the construction phase and operating phase:

Gross Domestic Product (GDP) – The total value added to the local economy from expenditures, which is the sum of factors of income (wages/salaries, supplementary labour income, mixed income and other operating surplus (or profits), indirect taxes on production minus subsidies on production and indirect taxes on products minus subsidies on products.

The labour income component of GDP is used to describe two measures of economic impact:

Labour Income – The total earnings of persons employed in the construction phase and operating phase, including all wages/salaries and supplementary labour income (i.e. pension fund and unemployment contributions).

Employment – The person-years of employment generated by expenditures during the construction phase of the program, and permanent full-time equivalent (FTE) jobs generated in the operation phase of new development.

7.1.2 Types of Economic Effects

For both the construction and the operating phases the same economic effects are used to quantify impacts. They are captured by two cycles of effects:

Direct Effects – The economic outputs directly related to construction and the re-occurring activities in new development during the operating phase.

Indirect Effects – The economic effects that result when firms which are initially injected with expenditures purchase additional inputs from other firms. This additional round of spending amplifies economic benefits from the initial expenditure creating a ‘multiplier effect’.

Note that in order to streamline the analysis, the economic effects that arise from the spending of labour income, referred to as induced effects, have not been included. This means the estimates of economic impact are conservative and understate total impact.

7.1.3 Multipliers

The direct and indirect effects that result from expenditures during the construction and operating phases are measured by ratios that describe how expenditures or employment in one sector of the economy triggers economic activity in other sectors. These ratios are referred to as ‘multipliers’. The ‘multiplier effect’ describes how the impact of an initial expenditure or job is amplified as it ripples through the total economy. These multipliers are inferred through Input-Output (“I/O”) analysis of the total economy, as generated by Statistics Canada.

The I/O model provides direct ratios and multipliers for GDP, labour income and employment. Note that the economic effects identified using Input-Output model multipliers apply to the province of Ontario as a whole, and not just the immediate local municipality.

The multipliers used in this analysis are shown in Figure 7.1 below. For the construction phase analysis, The Direct Ratio column figures are applied to total expenditure to derive Direct GDP, Employment and Labour Income. The multipliers in the Indirect Multiplier column are then applied to these products to generate estimates of Indirect impacts. Addition of Direct + Indirect impacts gives the Total figures.

Estimates of operating phase impacts are generated by applying dollar values and ratio’s to expected operating job yields. As outlined in Section 2.0 an input salary assumption is derived from an average of salaries for people employed in the

Transportation and Warehousing, Professional, Scientific and Technical Services and Manufacturing sectors in Ontario, as this is considered the most reasonable proxy for the jobs expected to result from business expansion at the Genesis and CABP sites. Estimates of Direct GDP and Indirect Salaries, Jobs, labour Income and GDP are derived through I/O ratios applied to the operating jobs and salaries estimates.

Figure 7.1: Multipliers for Construction and Operating Phase Impacts

Construction Phase	Direct Ratio	Indirect Multiplier	Total Multiplier
Gross Domestic Product (GDP)	0.49	0.31	0.80
Jobs in person-years	5.88	3.47	9.35
Labour Income	0.29	0.19	0.48
Operating Phase			
Average Salary/Job	\$58,800	0.84	n/a
Jobs	1	0.67	1.67
Labour Income (jobs x average salary)	A Product of # jobs x average salary	B Product of # jobs x average salary	A + B
Gross Domestic Product (GDP) (as applied to initial labour income)	1.29	1.00	2.29

Source: metro economics, Statistics Canada I/O Model for Ontario.

7.2 Capital Construction Phase Impacts

Economic impacts of the construction phase are estimated by taking the business expansion proponents' estimates of required capital expenditure and applying the ratios and multipliers described above.

The total estimated capital construction cost of \$353 million is used to estimate direct and indirect economic effects from construction. As shown in Figure 7.2 this expenditure will result in \$172.9 million of direct GDP. Of this amount,

\$102.4 million represents the labour income portion generated by 2,080 person-years of employment.

Spinoff activities in other sectors will create additional economic benefit, or indirect GDP, of \$109.4 million, of which \$67.1 million is the labour income component from 1,220 person years of employment.

Total construction phase impacts, before municipal charges and fees will amount to \$282.4 million in GDP, 3,300 person years of employment, and \$169.4 million in labour income. Because the multipliers are calculated on a provincial level, these benefits are for the province of Ontario as a whole, though much of the direct economic benefit will be realized locally.

Figure 7.2: Economic Impacts of the Construction Phase – Business Expansion at the CRA

Construction				
Variable	Collingwood Regional Airport	Genesis Flight Centre	Clearview Aviation Business Park	Total
Capital Investment				
Built Space		11,150	360,480	371,630
Estimated Capital Construction Costs		\$15,000,000	\$338,000,000	\$353,000,000
Direct Impacts				
Labour Component (\$)		\$4,350,000	\$98,020,000	\$102,370,000
Labour Component (FTE Person - Years)		90	1,990	2,080
GDP		\$7,350,000	\$165,620,000	\$172,970,000
Indirect Impacts				
Labour Component (\$)		\$2,850,000	\$64,220,000	\$67,070,000
Labour Component (FTE Person - Years)		50	1,170	1,220
GDP		\$4,650,000	\$104,780,000	\$109,430,000
Total Impacts				
Labour Component (\$)		\$7,200,000	\$162,240,000	\$169,440,000
Labour Component (FTE Person - Years)		140	3,160	3,300
GDP		\$12,000,000	\$270,400,000	\$282,400,000
Municipal Fees & Development Charges				
Planning Application Fees		\$55,000	\$114,000	\$169,000
Building Permits		\$104,000	\$4,657,000	\$4,761,000
Development Charges - Clearview		\$152,000	\$6,827,000	\$6,979,000
Development Charges - Simcoe County		\$252,000	\$11,276,000	\$11,528,000
Development Charges - School Board		\$41,000	\$1,824,000	\$1,865,000
Total Fees & DC's		\$604,000	\$24,698,000	\$25,302,000

Source: metro economics, Statistics Canada I/O Model, Collingwood Aviation Partners, Clearview Aviation Business Park, Township of Clearview, Malone Given Parsons Ltd.
 Note that figures are rounded.

Additional revenue expected to be generated by the proposed business expansions include:

- Development Charges, used to underwrite municipal costs of providing infrastructure and services to new development;
- One-time building permit fees, estimated by applying the municipality's fee schedule to the proposed; and,
- Planning Application Fees, expected to be generated from applications for draft plans of subdivisions and site plan approvals.

As Figure 7.2 shows, revenue expected from these sources will total approximately \$25.3 million.

7.3 Operating Phase Impacts

Unlike economic effects generated during the construction phase, economic effects from the operating phase provide long-term benefit as they reoccur on an ongoing annual basis. They arise from the economic activity inherent in business expansion and through tax payments to the host municipalities.

7.3.1 Annual Contributions to Employment, Labour Income and GDP

Direct, indirect and total economic impacts arising from operation of the Genesis Flight Centre and CABP expansions at build-out are estimated in Figure 7.3 below.

Business expansion as proposed at the CRA will support approximately 1,130 permanent jobs, generating \$66.4 million in direct labour income, an additional 760 jobs and \$37.6 million in indirect labour income and total GDP of \$152.6 million, or \$148.6 million over and above current contributions from the CRA. Operation of the airport at its current scale with the Genesis and CABP expansions will result in a total of 1,890 direct and indirect jobs, \$104.1 million in labour income and \$152.6 million in GDP.

An integral aspect of the benefits business expansion at the Genesis and CABP sites will bring is the attraction of skilled aviation-related employment at an estimated salary in the order of \$58,800/year - a pay scale some 45% higher than the salary average for the region. These jobs would elevate the regional skill set and pay scale, adding to the fulfillment of common economic development objectives.

Figure 7.3: Annual Economic Impacts of the Operating Phase – Business Expansion at the CRA

Operating - Annual				
Variable	Collingwood Regional Airport	Genesis Flight Centre	Clearview Aviation Business Park	Total
Direct Impacts				
Jobs	30	100	1000	1,130
Average Income per worker	\$58,800	\$58,800	\$58,800	
Labour Income	\$1,764,000	\$5,880,000	\$58,800,000	\$66,444,000
GDP	\$2,275,000	\$7,585,000	\$75,847,000	\$85,707,000
Indirect & Induced Impacts				
Jobs	20	70	670	760
Average Income per worker	\$49,500	\$49,500	\$49,500	
Labour Income	\$990,000	\$3,465,000	\$33,165,000	\$37,620,000
GDP	\$1,760,000	\$6,161,000	\$58,973,000	\$66,894,000
Total Impacts				
Jobs	50	170	1670	1,890
Average Income per worker	\$55,000	\$55,000	\$55,000	
Labour Income	\$2,754,000	\$9,345,000	\$91,965,000	\$104,064,000
GDP	\$4,035,000	\$13,746,000	\$134,820,000	\$152,601,000

Source: metro economics, Statistics Canada I/O Model, Collingwood Aviation Partners, Clearview Aviation Business Park, Township of Clearview, Malone Given Parsons Ltd.
 Note that figures are rounded.

7.3.2 Annual Contributions to Municipal Tax Revenues

As shown in Figure 7.4 below, business expansion at the CRA will bring a significant increase to the local and County level tax base. At build-out the assessment base would grow by over \$400 million, and generate over \$10.5 million in tax revenue per year to the local, County and school board coffers.

Figure 7.4: Annual Tax Revenues from Business Expansion at the CRA

Municipal Taxes (assumes a 70/30 Comm'/Ind'l split)				
Variable	Tax Rate	Genesis Flight Centre	Clearview Aviation Business Park	Total
Assessment Value - Commercial		\$8,689,000	\$280,913,000	\$289,602,000
Clearview Twp - Tax Rate & Taxes Payable	0.00786852	\$68,000	\$2,210,000	\$2,278,000
Simcoe Cty - Tax Rate & Taxes Payable	0.00375577	\$33,000	\$1,055,000	\$1,088,000
Schools - Tax Rate & Taxes payable	0.01190000	\$103,000	\$3,343,000	\$3,446,000
Assessment Value - Industrial		\$3,724,000	\$120,391,000	\$124,115,000
Clearview Twp - Tax Rate & Taxes Payable	0.00966833	\$36,000	\$1,164,000	\$1,200,000
Simcoe Cty - Tax Rate & Taxes Payable	0.00461485	\$17,000	\$556,000	\$573,000
Schools - Tax Rate & Taxes payable	0.01530000	\$57,000	\$1,842,000	\$1,899,000
Total Assessment Value		\$12,413,000	\$401,304,000	\$413,717,000
Clearview Twp - Total Taxes Payable		\$104,000	\$3,374,000	\$3,478,000
Simcoe Cty - Total Taxes Payable		\$50,000	\$1,611,000	\$1,661,000
Schools - Total Taxes Payable		\$160,000	\$5,185,000	\$5,345,000
Total Taxes payable		\$314,000	\$10,170,000	\$10,484,000

Source: Township of Clearview, Malone Given Parsons Ltd. Note that figures are rounded.

7.4 Summary

Order of magnitude estimates of the value of build out of proposed business expansion at the CRA identify substantial economic benefits to the local area and the broader regional economy.

The Construction phase, which might extend over twenty or more years, would yield:

- \$353 million in direct expenditures
- 3,300 person years of total employment
- \$169.4 million in total labour income
- \$282.4 million in total GDP, and
- \$25.3 million in municipal fee and Development Charge revenues to local and County level municipalities and school boards.

The Operating Phase would generate, on an ongoing annual basis once build-out is realized:

- 1,890 direct and indirect jobs
- \$104.1 million in total labour income
- \$152.6 million in total GDP, and
- \$10.5 million in tax revenues to local and County level municipalities and school boards.

An integral aspect of these benefits is the attraction of skilled aviation-related employment at an estimated salary some 45% higher than the salary average for the region, elevating the regional skill set and pay scale, and adding to the fulfillment of common economic development objectives.

8.0

REVIEW OF THE MAURY HILL AND ASSOCIATES INC. ECONOMIC IMPACTS REPORT

MOECC requested wpd Fairview to submit an Economic Impacts report in light of the airport operations issues raised by Transport Canada. This section evaluates that report as measured against reasonable expectations for such an analysis.

8.1 Context and Criteria

As presented in the preceding section 6.0, Transport Canada in a letter dated November 17 2014 (see Appendix 2) raised concerns it characterized as significant, regarding impacts of the wpd Fairview proposal on the aircraft operating environment at the CRA. Upon its review of this advice, MOECC by letter dated October 6 2015 (see Appendix 6) requested that “wpd complete an analysis of the economic impact of the Project”. Relevant excerpts from the MOECC letter are provided for convenience below:

The MOECC is concerned about the Project's potential economic impacts on the Collingwood Regional Airport resulting from the operational impacts that Transport Canada has indicated will occur at the Airport. In its comments to the MOECC, Transport Canada has indicated that In order to maintain aviation safety at Collingwood Regional Airport, if the Project were to be implemented, it will be necessary to raise the limits of the instrument approach procedures, which may result in impacts on aerodrome operations at the airport. One of the minimum limits would have to be raised by 120 feet, described as a significant penalty, and would reduce the effectiveness of the instrument approach.

In view of Transport Canada's assessment of the operational impacts at Collingwood Regional Airport, the Director requires wpd to complete an analysis of the economic impact of the Project on the aerodrome operations at the airport, including how the changes in operations may impact planned airport expansion outlined in the Collingwood Economic Development Action Plan (May 2015). The Director expects that this economic impact analysis will involve input from and engagement with Collingwood Regional Airport. [emphasis added].

The business expansion initiatives of the nature targeted by the Collingwood Economic Development Action Plan (CEDAP) were described earlier in this report's Section 2.5. As presented in Section 2.4 the CEDAP articulated the following as its "Action Item" related to the CRA:

Support assessment and investigation of economic development opportunities at the airport by working with municipal funding partners and private investment partners to develop a strategy and business case for future [development] of the airport.

Recall also that all the Action Plan's strategic themes and actions are in furtherance of the defined objective for the plan:

*To build on Collingwood's proven reputation as the sought after lifestyle community to ensure Collingwood continues to be an **increasingly attractive place for investment by existing and new businesses** [emphasis added].*

The bolded phrase captures the central premise of economic development strategies everywhere – economic development is ultimately driven by investment decisions made by others. Its corollary is that "attractiveness", and the investment decisions it supports or sends elsewhere, is in the eye of the beholder – the decision-makers putting capital at risk when they invest. That investment can be attracted by ensuring that the necessary local/regional resources are in place to support it (e.g., infrastructure, well-located land or space, skilled labour, a supportive political and administrative environment, etc.), and by the suite of complementary actions typical of most economic development plans – marketing and promotion, business support, skills development, etc.

Economic development is also fundamentally competitive - different localities are all jostling to sustain and promote their advantages over others', to keep existing business in place (and growing), and to attract investment from outside their borders.

These realities are commonly understood by professionals engaged in economic development and the analysis of the economic impacts of investment decisions. They also define two reasonable expectations for an economic impact analysis grounded in economic development aspirations related to the CRA:

1. That it be undertaken by a professional with credible expertise in economic impact analysis and economic development; and
2. That it gain and consider advice from decision-makers contemplating putting capital at risk by investing in airport-related business opportunities.

8.2 The Maury Hill & Associates Inc. Report

The consulting firm Maury Hill and Associates, Inc. (**MHAI**) was retained by wpd Canada to prepare the economic impacts analysis requested by MOECC. The firm's principal, Mr. Maury Hill, completed his report – *“The Economic Impacts of the Fairview Wind Project on Collingwood Regional Airport”* as dated November 9, 2015 (the **Hill Report**, see Appendix 7).

Review of Mr. Hill's professional profile on the LinkedIn networking website (see Appendix 8) shows the firm's full name to be “Maury Hill and Associates Inc. Adaptive Safety Concepts”, with Mr. Hill identified as “Owner”. “Specialties” are listed as Human Factors; Safety, and its management; Safety Management Systems; Occurrence investigations; Training; Risk Management; and Quality Management Systems. The profile's “Skills” listing describes 24 skills consistent with the listed specialties. The profile's description of the firm's areas of practice is similarly consistent with both sets of specialties and skills. Mr. Hill's education is described as attainment of a MSc. in Ergonomics. There is no reference to any training, experience or expertise in economic impact analysis or economic development.

wpd Canada, in its packaging of the Hill Report and other materials submitted to MOECC on November 9 2015¹⁰, describes Mr. Hill's career as focused in “the fields of strategic planning, evaluation of organizational design, development of management systems, safety management and safety investigations”. It makes no reference to expertise in economic impact analysis or economic development, and states “Because **the perceived economic impacts to CRA would be the result of measures enacted to ensure continued aviation safety**, his training and work

¹⁰ *Fairview Wind Project, Analysis of Economic Impacts on Collingwood Regional Airport*, November 9, 2015. Response to the MOECC's letter of October 6 2015.

experience uniquely position him to perform an informed evaluation”¹¹ [*emphasis added*]. This expression appears to constrain Mr. Hill’s work to an assessment of changes in operating procedures vs. real or perceived impacts of the presence of the wind turbines in their proposed locations as raised in the Transport Canada letter.

This narrow focus on “safety” is reflected in Mr. Hill’s report. In its Methodology section, the report describes its approach as having three phases:

1. A first “leverage [ing] the results of the safety and operational analyses previously conducted” and “seek [ing] to express the identified safety issues in economic impact terms”;
2. A second examining “the Collingwood Economic Development Action Plan and aerodrome expansion plans (**if any**)” to “assess potential economic impacts of a pre-existing wind farm in the area on those plans” [*emphasis added*]; and
3. A third that would seek input from the CRA “through the engagement of local representatives in order to better inform the economic impact analysis”.

The methodology is described as being based on the “foundational assumption” that absent “adverse effects” of a significant impact on safe aerodrome operations caused by the wind project, “there could be no negative economic impact related to the installation of the related windmills.”

The report goes on to essentially dismiss the issues raised by Transport Canada, and conclude that:

- *no such significant [adverse effects] impacts were found based on the analysis of source documents; and*
- *Any economic impact is “below the threshold of meaningful quantitative analysis”.*

The Hill Report makes no attempt to assess any implications that might attach to the revised circling pattern proposed as a solution to identified impacts on operating minimums.

Mr. Hill notes that efforts [by wpd] to gain input from the CRA were unsuccessful, but makes no reference to any alternative effort he himself undertook at any other common form of research, i.e.:

- No effort to survey materials freely available on the internet, as posted by local and regional media or by the proponents of investment adjacent to the airport (Genesis and the CABP);

¹¹ Ibid, page 6.

- No effort to contact Collingwood's Director of Marketing and Business Development, responsible for implementation of the CEDAP;
- No effort to contact the principals at Genesis or the CABP to gain and consider their opinions on the potential impacts of the wind project on the attractiveness of the CRA to their prospective users.

It appears that the author did not do sufficient research to even understand that there are significant plans for business expansion related to the CRA. His report therefore misses entirely the key element in assessing economic impacts on the CRA and related expansion plans – market and investor perceptions of the attractiveness of the facility as one enabling successful investment of risk capital, and its influence on current or prospective plans to invest.

As a whole, the Hill Report presents as being narrowly scoped and narrowly executed by an author with no evident expertise or experience in economic impact analysis or economic development.

The Report does not fulfill reasonable expectations for an economic impact analysis considering economic development aspirations, and is not an adequate response to MOECC's request for an economic analysis of the issues raised by Transport Canada

8.3 Summary

The Hill Report is narrowly scoped and narrowly executed by an author with no evident expertise or experience in economic impact analysis or economic development. It misses the single most important element in assessing the potential consequences of implementing the wpd Turbine Project - market and investor perceptions of the attractiveness of the facility as one enabling successful investment of risk capital, and its influence on current or prospective plans to invest.

The Report dismisses the airspace operational issues raised by Transport Canada and fails to fulfill reasonable expectations for an economic impact analysis considering economic development aspirations. It is not an adequate response to MOECC's request for an economic analysis of the issues raised by Transport Canada.

9.0

SUMMARY & CONCLUSIONS

This final section of the Economic Impacts Analysis restates the preceding section summaries, and develops the conclusions flowing from the analysis.

9.1 Summary

The Collingwood Regional Airport

The Collingwood Regional Airport is an important transportation asset for the Township of Clearview, the Town of Collingwood and the South Georgian Bay region. It provides convenient access and support for business, recreational and tourism travel to the area and has averaged over 11,440 landings and takeoffs annually over the 2006-2014 period. It supports a business cluster that ranks among Collingwood's Top 20 employers.

The CRA and related businesses directly employ approximately 30 people, and support another 20 indirect jobs. Together, these generate annual totals of \$2.8 million in labour income and \$4.0 million in GDP. The current Genesis and CABP properties together with the CRA lands generated approximately \$83,000 in municipal taxes in 2014.

The airport is a successful growth engine, fulfilling the function expected of it in the Collingwood Economic Development Action Plan. It is generating returns to its own investments in infrastructure by attracting new private sector investment in land and facilities that target construction of over 370,000 sq. m (4 million sq. ft.) supporting an estimated 1,100 direct jobs at build-out.

The Provincial and Municipal Land Use Planning Context

Provincial policy, as expressed in the Provincial Policy Statement and the Growth Plan, clearly recognizes and seeks to protect the transportation role and economic function of airports, and employment lands.

Consistent with the higher order direction, the local and County level land use planning framework gives a clear expression of municipal support for and public interest in further business expansion and economic development at and around the CRA.

Contribution of the Aviation Sector to Canada's Economy

The aviation and aerospace industry is an important and growing component of the Canadian economy. Canada and Ontario are home to many of the world's top aerospace companies and the public interest in expanding the industry is recognized by a number of Federal and Provincial initiatives intended to stimulate innovation and growth.

The Regional Economic Context

An analysis of the regional economic context highlights that jobs are growing at a much slower rate than population and that a large proportion of the local population must commute outside the regional area for employment. The employment structure is heavily weighted to jobs in the retail, accommodation and food sectors. Area resident's salaries are generally lower than the provincial average for their occupations. The area's employment and average salary profiles would clearly benefit from the attraction of employers bringing jobs and skill-sets necessary to support growth in aviation-related business.

Operating Impacts of the wpd Turbine Project on the Cra and its Business Expansion Potential

The proposed locations of the wpd turbine numbers 1,3,4,5 & 8 will intrude, in several cases significantly, into the operating air space at the CRA. These intrusions can be addressed to NAV Canada's satisfaction by changes to operating procedures that are otherwise expected to have consequences that were not examined by that agency.

Transport Canada corroborates the independent analysis of Mr. Cormier, who concludes that the proposed turbines/locations will have significant impacts to the airport's operating minimums and accessibility. These in turn are expected to significantly impair the CRA's attractiveness to flight school or aviation business operations. These impacts could be resolved by relocating the turbines to

positions outside the airport's air space, or by denying the wpd Turbine Project application.

Business people contemplating significant financial investments in expansions of aviation related activity at and adjacent to the CRA see approval of the turbines as introducing unacceptable risk to their investments, such that they would not proceed with them.

The wpd Turbine Project, in its current configuration, risks the loss to the region of significant new investment in growing the regional economy and labour skill set.

Economic Benefits of Business Expansion at the CRA

Order of magnitude estimates of the value of build out of proposed business expansion at the CRA identify substantial economic benefits to the local area and the broader regional economy.

The Construction phase, which might extend over twenty or more years, would yield:

- \$353 million in direct expenditures
- 3,300 person years of total employment
- \$169.4 million in total labour income
- \$282.4 million in total GDP, and
- \$25.3 million in municipal fee and Development Charge revenues to local and County level municipalities and school boards.

The Operating Phase would generate, on an ongoing annual basis once build-out is realized:

- 1,890 direct and indirect jobs
- \$104.1 million in total labour income
- \$152.6 million in total GDP, and
- \$10.5 million in tax revenues to local and County level municipalities and school boards.

An integral aspect of these benefits is the attraction of skilled aviation-related employment at an estimated salary some 45% higher than the salary average for the region, elevating the regional skill set and pay scale, and adding to the fulfillment of common economic development objectives.

Review of the Maury Hill and Associates Inc. Economic Impacts Report

The Hill Report presents as being very narrowly scoped and very narrowly executed by an author with no evident expertise or experience in economic impact analysis or economic development. It misses the single most important element in assessing the potential consequences of implementing the wpd Turbine Project.

The Report dismisses the airspace operational issues raised by Transport Canada and fails to fulfill reasonable expectations for an economic impact analysis considering economic development aspirations. It is not an adequate response to MOECC's request for an economic analysis of the issues raised by Transport Canada.

9.2 Conclusions

Approval of the wpd Turbine Project, in its current configuration is identified as being fatal to the future development potential of the Collingwood Regional Airport.

The proposed locations of five turbines will insert significant obstacles into the airport's operating space and require significant changes to flight operations. These changes have been identified as fatal to the expansion potential of the two businesses proposing new facilities adjacent to the airport.

The broader public interest in economic expansion at the CRA is manifest in:

- The Collingwood Economic Development Action Plan, and its airport-related Action Item
- Local municipal and County level aspirations for economic development as enabled by their respective Official Plans
- Provincial policy expressed in the PPS and the Growth Plan
- Federal and Provincial government efforts to grow the aviation and aerospace industries through significant tax credit and innovation support programs, and
- The magnitude of the economic benefits generated by build-out of the business expansion concepts at the airport.

On balance, wpd should be required to move the turbines proposed to intrude into the CRA's operating airspace, or its Renewable Energy Approval Application should be denied.

To do otherwise would put a narrow and relatively small private interest ahead of the greater public interest in unimpeded operations at the airport, and the future investment, job growth and related economic benefits the airport could sustain in furtherance of local, regional, provincial and federal economic development objectives.

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APPENDIX 1

Municipal Council Resolutions
Opposing the wpd Turbine Project
and its Impacts on the CRA



TOWN OF COLLINGWOOD

COUNCIL MINUTES

January 13, 2014

"Inspire confidence, wonder and a sense of possibility – deliver today's services and realize tomorrow's promise."

A meeting of Council was held Monday January 13, 2014 in the Council Chambers, Town Hall, Collingwood commencing at 5:00pm.

MAYOR COOPER CALLED COUNCIL TO ORDER

Members of Council Present: Mayor Cooper
Deputy Mayor Lloyd
Councillor Edwards
Councillor Lloyd
Councillor Chadwick
Councillor Hull
Councillor West
Councillor Cunningham
Councillor Gardhouse

Staff Present: John Brown, CAO
Sara Almas, Clerk
Marjory Leonard, Treasurer
Nancy Farrer, Director of Planning Services
Marta Proctor, Director of Parks, Recreation and Culture
Brian MacDonald, Manager of Engineering Services
Marcus Firman, Chief Operating Officer (Water/Wastewater)
Larry Irwin, Director of IT Services
Jennett Mays, Communications Officer

ADOPTION OF AGENDA

No. 017 Moved by Deputy Mayor Lloyd
Seconded by Councillor Edwards

THAT the content of the Council Agenda for January 13th, 2014 be adopted as presented.

CARRIED

DECLARATIONS OF PECUNIARY INTEREST AND/OR RECEIPT OF GIFT (over \$200) - Nil

ADOPTION OF MINUTES

No. 018 Moved by Councillor Edwards
Seconded by Deputy Mayor Lloyd

THAT the minutes of the regular meeting of Council held Monday, January 6th, 2014, be approved as presented.

CARRIED

BUSINESS ARISING FROM THE PREVIOUS MINUTES – Nil

COMMUNITY ANNOUNCEMENTS

- Council reported on various community events they had attended and announced upcoming events.

DEPUTATION

- **Downtown Collingwood "BIA Laneway Network" Project**
Doug Snider, BIA Board member, provided a brief overview of the work that the BIA has undertaken to initiate the "Laneway Network project", and introduced Mr. David Wood, Envision Tatham. Mr. Wood identified the following objectives: 1. The Pedestrian 'First' Principle to provide a quality pedestrian experience, environmental comfort, safety, accessibility and social well-being; and 2. Multi-modal access. David Wood provided a detailed review of the public and private laneways within the Downtown and the benefits should these identified laneways be enhanced. The municipally owned laneway between The Northwood Club and Blue Mountain Music will be explored, with the first concept for this lane to be available in a month. This will be used as a model for other future laneway enhancements.

The BIA Representatives and staff addressed questions from Council. The BIA will work with staff to bring forward a report in the near future for Council consideration.

CONSENT AGENDA - Nil

REPORTS/MINUTES OF COMMITTEES/BOARDS

No. 019 *Moved by Councillor West*
Seconded by Councillor Hull

THAT the Parks, Recreation and Culture Advisory Committee minutes of December 18, 2013 be hereby received and the recommendations therein be approved:

Recommendation: THAT \$50,000 dollars be pre approved for the 2014 CRC Grant Program fund to be allocated as per the approved program and criteria administered by PRC Advisory Committee.

CARRIED

STAFF REPORTS

CAO2014-01 *Strategic Goals and Priority Establishment for 2014*

No. 020 *Moved by Councillor Edwards*
Seconded by Deputy Mayor Lloyd

THAT Staff Report CAO2014-01 which outlines the outcomes and CAO recommendations arising from the December 4th, 2013 Strategic Priority Retreat be received;

AND FURTHER THAT Council approve its priorities and the CAO's estimated completion dates and resource requirements as noted;

AND FURTHER THAT Council direct staff to undertake the actions necessary to implement the top four priority recommendations as noted;

AND FURTHER THAT Council authorize the termination of the existing contract with KPMG but authorize the CAO to retain their services;

AND FURTHER THAT the CAO, together with Staff, be directed to review the remaining priority items for future Council consideration, either within the current or future budget deliberations;

AND FURTHER THAT the CAO be directed to report back to Council with recommendations to maintain the established strategic priority focus as reflected within the report.

CARRIED

No. 021 *Moved by Councillor Edwards*
Seconded by Deputy Mayor Lloyd

THAT Council herein consents to reconsider Resolution No. 451 made on October 24, 2011 directing staff to include the "Council Pending List" in the agenda for the first Council meeting of each month, beginning November 7, 2011.

CARRIED

No. 022 *Moved by Councillor Edwards*
Seconded by Deputy Mayor Lloyd

THAT Council remove the pending list from the Council agenda and delegate the management of Council requests to the CAO.

CARRIED

P2014-03 *Ownership of Environmentally Protected Lands*

No. 023 *Moved by Councillor Chadwick*
Seconded by Councillor Edwards

THAT Staff Report P2014-03, recommending Council approve the following, be hereby approved:

1. **THAT** the Town adopt a policy of requesting the dedication of environmentally sensitive lands to either the municipality or a public authority (NVCA or land trust), during the processing of significant applications for development – defined as Official Plan Amendments, significant Zoning By-law Amendments, plans of subdivision and/or condominium.

2. **THAT** Town of Collingwood Parks staff be responsible for the day-to-day monitoring and management of any environmentally sensitive lands that are received in the short term and the NVCA staff would be responsible for normal general benefitting land management services as directed through the approved annual NVCA budget and Business Plan. Additional NVCA services would be delivered through joint NVCA-Town of Collingwood agreements.
3. **THAT** Town staff and NVCA staff work together, with collaboration from key stakeholders, to jointly develop a management plan for publically owned environmentally protected lands over time.

CARRIED

PW2014-01 Fairview Wind Project and Collingwood Regional Airport

**No. 024 Moved by Deputy Mayor Lloyd
Seconded by Councillor Edwards**

THAT Staff Report PW2014-01, entitled "Fairview Wind Project and Collingwood Regional Airport", be received.

CARRIED

**No. 025 Moved by Deputy Mayor Lloyd
Seconded by Councillor Edwards**

WHEREAS the Ontario Ministry of the Environment has posted wpd Canada's proposal for the Fairview Wind Farm to the Environmental Registry, thereby initiating the formal review process for the application;

AND WHEREAS the application review process provides opportunity for public comment on the proposal;

AND WHEREAS the application, if approved as proposed, does not comply with Transport Canada's standards and recommended practices, and will seriously and negatively affect the Collingwood Regional Airport;

AND WHEREAS the applicant produced an inadequate assessment of the negative environmental impacts that may result from engaging in the Fairview Wind Farm in general, and did not address such in the REA application;

AND WHEREAS there was no appropriate consultation by wpd Canada with the Town of Collingwood and/or the Airport Services Board as required in the Regulations;

AND WHEREAS wpd Canada ignored (and was silent in its application) our expert consultant's report Review of Fairview Wind Project Near Collingwood Airport (June 10, 2011);

AND WHEREAS moving turbines described as Turbines 1, 3, 4, and 8 farther away from the airport would significantly reduce the negative impacts to the airport,

BE IT HEREBY RESOLVED THAT Council expresses its fundamental concerns regarding wpd Canada Fairview Wind Farm application and application process as provided above;

AND THAT a copy of this resolution be forwarded immediately to the Ministry of the Environment as a statement of our fundamental concerns regarding wpd Canada Fairview Wind Farm application and application process;

AND FURTHER THAT a copy of this resolution be forwarded immediately to our MPP, MP, and other partnering municipalities of the Collingwood Regional Airports, Town of Wasaga Beach and Township of Clearview, to also notify the Ministry of Environment of the concern with the proposal and application process.

CARRIED (recorded vote – unanimous)

<u>COUNCIL</u>	<u>Yea</u>	<u>Nay</u>
Cooper	✓	
R. Lloyd	✓	
Edwards	✓	
K. Lloyd	✓	
Chadwick	✓	
Hull	✓	
West	✓	
Cunningham	✓	
Gardhouse	✓	
TOTAL	9	0

MOTIONS - Nil
BY-LAWS - Nil
NOTICE OF MOTION - Nil
OLD or DEFERRED BUSINESS - Nil

OTHER BUSINESS

- Councillors Edwards and Lloyd provided an NVCA Board Meeting update, including the election of Chair and Vice-Chair and approval of the 2014 budget.

CONFIRMATORY BY-LAW

No. 026 *Moved by Councillor Gardhouse*
 Seconded by Councillor West

THAT By-law No. 2014-007, being a by-law to confirm the proceedings of the regular meeting of Council held January 13th, 2014, be enacted and passed this 13th day of January, 2014.

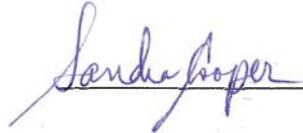
CARRIED

ADJOURNMENT

Moved by Councillor Gardhouse

THAT the meeting of Council be hereby adjourned at 6:35pm.

CARRIED



MAYOR



CLERK



MINUTES

CLEARVIEW TOWNSHIP COUNCIL

The Council of the Corporation of the Township of Clearview met in regular session on January 27, 2014 at 3:30 p.m. at the Clearview Administration Centre Council Chambers.

Those in attendance were:

Mayor: Ken Ferguson
 Deputy-Mayor: Alicia Savage
 Councillors: Doug Measures Brent Preston, Thom Paterson,
 Robert Walker, Deborah Bronée, Shawn Davidson

Absent: Orville Brown

Staff: Pamela Fettes, Director of Legislative Services/Clerk
 Sue McKenzie, CAO (absent)
 Edward Henley, Director of Finance
 Michael Wynia, Director of Planning & Development
 Pavlina Thompson, Human Resources Manager
 Steve Sage, General Manager, Transportation & Recreation
 Mike Rawn, General Manager, Environmental Services
 Colin Shewell, Acting Fire Chief
 Sasha Helmkay, Administrative Assistant

Mayor Ferguson advised that all information including opinions, presentation, reports and documentation, etc. that are provided at a public or open meeting are considered a public record.

1. APPROVAL OF AGENDA

Resolution:

Moved by Councillor Measures, Seconded by Councillor Preston, RESOLVED that the January 27, 2014 Agenda be approved as amended to include:

- Item 9g Letter re: Dog Park in Clearview Township
 - Item 13A (1d) EBR Notice – wind farm Development
 - Item 13E (1b) Georgian College Funding for Community Seminar for Food Entrepreneurs
- Motion Carried.

2. DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

There was none.

3. MINISTERIAL ASSOCIATION

There was none.

4. IN CAMERA

Item 4 In Camera took place at 3:30 p.m.

Resolution:

Moved by Councillor Preston, Seconded by Councillor Measures, RESOLVED that the next portion of the Council Meeting be closed to the public in accordance with S.239 (2) of the Municipal Act

- b) personal matters about an identifiable individual, including municipal or local board employees (*HR Matter*).
- c) a proposed or pending acquisition or disposition of land by the municipality or local board (*Potential purchase of property*). Motion Carried.

Mayor Ferguson indicated Council only discussed matters it went into Closed Session to discuss.

7. APPROVAL OF MINUTES OF COUNCIL MEETINGSResolution:

Moved by Councillor Preston, Seconded by Councillor Davidson, RESOLVED that the minutes of Special Meetings – November 1, November 11, November 12, November 25, December 2, 2013, January 13, 2014 Council Minutes and Budget Workshop #1, 2 & 3 be approved as amended to remove Councillor Measures name as present at Budget Workshop #3. Motion Carried.

8. BUSINESS ARISING FROM MINUTES

There were none.

9. COMMUNICATIONS FROM MAYOR

- a) **Bowl for Kids' Sake Kick-Off Media Event, February 25**
- b) **OPP (Conducted Energy Weapon)**
- c) **Ministry of Energy (Long-Term Energy Plan)**
- d) **Town of Collingwood (wpd Fairview re: Collingwood Regional Airport)**
- e) **National Defence (Exercise Practice – Creemore)**
- f) **Food for Thought 2: A call to ACTION**
- g) **Letter re: Dog Park in Clearview Township**

Resolution: (verbal)

Moved by Councillor Bronée, Seconded by Councillor Preston, RESOLVED that information items 9 a, b, c & f be received. Motion Carried.

- d) **Town of Collingwood (wpd Fairview re: Collingwood Regional Airport)**

Resolution:

Moved by Councillor Measures, Seconded by Councillor Paterson,

WHEREAS, The Ontario Ministry of the Environment has posted wpd Canada's proposal for the Fairview Wind Farm to the Environmental Registry, thereby initiating the formal review process for the application; and;

WHEREAS, the application review process provides opportunity for public comment on the proposal; and

WHEREAS, the application, if approved as proposed, does not comply with Transport Canada's standards and recommended practices, and will seriously and negatively affect the Collingwood Regional Airport; and

WHEREAS, the applicant produced an inadequate assessment of the negative environmental impacts that may result from engaging in the Fairview Wind Farm in general, and did not address such in the REA application; and

WHEREAS, there was no appropriate consultation by wpd Canada with the Town of Collingwood and/or the Airport Services Board as required in the Regulations; and

WHEREAS, wpd Canada ignored (and was silent in its application) our expert consultant's report Review of Fairview Wind Project near Collingwood Airport (June 10, 2011); and

WHEREAS, moving turbines described as Turbines 1, 3, 4 and 8 farther away from the airport would significantly reduce the negative impacts to the airport; and

WHEREAS, Council passed a resolution at its June 10th, 2013 meeting stating it is not a willing host to the wpd Canada development, and;

NOW THEREFORE, BE IT RESOLVED, That the Township of Clearview forward a copy of this resolution immediately to the Ministry of Environment as a statement of fundamental concerns regarding wpd Canada Fairview Wind Farm application and application process. Motion Carried.

e) **National Defence (Royal Canadian Electrical and Mechanical Engineers School - Exercise Practice, Creemore)**

Resolution:

Moved by Councillor Measures, Seconded by Councillor Bronée, RESOLVED that Clearview Township Council approve the request by National Defence to conduct an exercise practice in the Village of Creemore on Thursday, February 20, 2014 between the hours of 7:30 a.m. to 6:00 p.m. Motion Carried.

g) **Letter re: Dog Park in Clearview Township (on desk)**

Resolution: (verbal)

Moved by Councillor Walker, Seconded by Councillor Measures, RESOLVED that Clearview Township Council forward the letter from Jane Nevils regarding a Dog Park in Clearview Township to the Recreation and Culture Advisory Committee for review. Motion Carried.

10. COUNTY REPORTS & INFORMATION

Deputy-Mayor Savage

- Will be attending the County's Committee of the Whole meeting tomorrow and stated that this format for meetings has improved productivity for staff and council

- The \$50,000 that Clearview's Economic Development Committee applied for is on the January 28th County Council Agenda.

11. COMMUNITY ANNOUNCEMENTS/COUNCIL REPORTS

Mayor Ferguson

- Snowarama was a great success and a big thank you to Shane Sargent for helping organize. Many people showed their support by participating and giving a donation which helped Clearview raise the most money which is estimated to be \$17,000 for Easter Seals

Councillor Bronée

- Sunnidale Winterama is this weekend with many events including a spaghetti supper, radar runs, kid's games, a poker run, pancake breakfast and a parade. All are welcome to come.

Councillor Davidson

- The Stayner Lions Club will be holding its annual ham and homemade baked bean supper on Saturday, February 8th
- The Stayner Kinsmen Club will be holding a comedy night and dance at the Stayner Community Centre on Saturday, February 8th

12. PUBLIC PARTICIPATION PERIOD

Mayor Ferguson announced the public participation period.

Jim Campbell

- Represents the interests of landowners on the 10th Concession and their concerns regarding future changes to the adjacent roads
- Asked if traffic impact has been considered for the portion of the 10th concession south of County Road 91
- Distributed information to Council and Staff regarding a deputation he will bring to the February 10th Council Meeting

13. DEPARTMENT REPORTS/BY-LAWS/INFORMATION & TENDERS

A PLANNING DEPT.

1) REPORTS

- a) **Site Plan Approval Telecommunications Tower, New Lowell Legion, Part of Lot 10, Concession 4, formerly in the Township of Sunnidale, now in the Township of Clearview (5357 County Road 9, New Lowell**

Resolution:

Moved by Councillor Bronée, Seconded by Councillor Paterson, RESOLVED that Clearview Township Council accepts Planning Report Item 13A (1a) of January 27, 2014 and approves the Site Plan for the Telecommunications Tower on Part of Lot 10, Concession 4, formerly in the Township of Sunnidale now in the Township of Clearview (5357 County Road 9, New Lowell, New Lowell Legion) and that Council approves the monopole and the site plan submitted by Bell Mobility, signed September 12, 2013, revised May 27, 2013 and finally revised December 27, 2013 and allow staff to provide a letter of compliance that the municipal consultation process has been satisfied. Motion Carried.

b) Zoning By-Law Amendment – Farmers Market (4559 County Road 124)**Resolution:**

Moved by Councillor Measures, Seconded by Councillor Bronée, RESOLVED that Council of the Corporation of the Township of Clearview accepts Planning Report Item 13A (1b) dated January 27, 2014 and approves the zoning by-law amendment for Farmers Market (ZB-2013-013), Pt. of Lot 39, Concession 8, former Township of Nottawasaga, now in the Township of Clearview (4559 County Road 124). Motion Carried.

c) Zoning By-Law Amendment, Part of Lot 6 and Lots 7 & 8, Plan 68, formerly Stayner, now in the Township of Clearview being located at 269 Superior Street**Resolution:**

Moved by Councillor Davidson, Seconded by Councillor Bronée, RESOLVED that the Corporation of the Township of Clearview accepts Planning Report Item 13A (1c) dated January 27, 2014 and approves the zoning by-law amendment for Residential Zoning file number AB-2013-009, Part of Lot 6 and Lots 7 & 8, Plan 68, former Town of Stayner, now in the Township of Clearview (269 Superior Street, Stayner). Motion Carried.

d) EBR Notice – wpd wind farm Development (on desk)**Resolution:**

Moved by Councillor Measures, Seconded by Councillor Paterson, RESOLVED that Council of the Corporation of the Township of Clearview receive the on desk item regarding the EBR comments for the wpd wind farm development for information. Motion Carried.

2) BY-LAWS**a) By-Law 14-11 (Farmers Market, Part of Lot 39, Concession 8, formerly in the Township of Nottawasaga, now in the Township of Clearview (4559 County Road 124)****Resolution:**

Moved by Councillor Measures, Seconded by Councillor Paterson, RESOLVED that By-Law 14-11, being a by-law to amend zoning By-Law 06-54 (Township of Clearview Comprehensive Zoning By-Law) for Part of Lot 39, Concession 8 (4559 County Road 124) be presented and read a first, second and third time and finally passed this 27th day of January, 2014. Motion Carried.

- b) **By-Law 14-12 (Residential Zoning, Part of Lot 6 and Lots 7 & 8, Plan 68, formerly in the Town of Stayner, now in the Township of Clearview (269 Superior St.)**

Resolution:

Moved by Deputy-Mayor Savage, Seconded by Councillor Davidson, RESOLVED that By-Law 14-12, being a by-law to amend zoning By-Law 06-54 (Township of Clearview Comprehensive Zoning By-Law) for Part of Lot 6, and Lots 7 & 8, Plan 68, (269 Superior St.,) be presented and read a first, second and third time and finally passed this 27th day of January, 2014. Motion Carried.

3) INFORMATION

No items

4) TENDERS

No Items

B) BY-LAW ENFORCEMENT

No items

C) PUBLIC WORKS DEPARTMENT

No Items

Item 5 Deputations and Presentations took place at 6:00 p.m.

5. **CBC Mini Blade presentation (Georgia Ann Reidl & Austin Martel)**

Not in attendance.

b) **Tracey Atkinson (153 Switzer St. Severance)**

Tracey Atkinson was in attendance to provide Council information regarding an application for a severance at 153 Switzer Street that was submitted to the Township's Planning Department and the concerns with the pre consultation check list she was provided including the required noise and vibration study.

Council and staff discussed a number of issues with respect to Tracey Atkinson's issues regarding the severance application for 153 Switzer Street. Mayor Ferguson thanked Tracey for her presentation.

Took a break at 6:35 p.m.

The Public Meeting was held at 7:00 p.m.

6. PUBLIC MEETINGS

2014 Clearview Budget

Mayor Ferguson provided a summary of the 2014 budget process and advised that the Public Meeting is being held to receive input and comments from the public. The meeting was then turned over to the Director of Finance Edward Henley to provide further details and an overview of the 2014 budget, highlighting Clearview's various projects and overall tax impact of the proposed budget.

Mayor Ferguson opened the floor to the public and asked those wishing to speak to come forward to the podium.

There was none.

Mayor Ferguson adjourned the public meeting and returned to Finance Department reports on the agenda.

D) FINANCE DEPARTMENT

1) REPORTS

a) 2013 Budget Amendments - General

Resolution:

Moved by Councillor Bronée, Seconded by Councillor Paterson, BE IT RESOLVED that Council of the Township of Clearview hereby approves the amendment of the 2013 budget as follows:

- a) That the unspent \$5,000 in taxation funding for the Front Counter Security project be transferred to the Budgeted Items Reserve and be utilized for the Front Counter security project in the 2014 budget;
- b) That \$1,850 in taxation funding for software be transferred to the Budgeted Items Reserve and be utilized for software to be purchased in 2014;
- c) That the remaining funds in the Information Services Miscellaneous Equipment account be transferred to the Budgeted Items Reserve and be utilized in the 2014 budget. Motion Carried.

b) Section 357 Property Tax Refund

Resolution:

Moved by Councillor Bronée, Seconded by Councillor Preston, BE IT RESOLVED that Council of the Township of Clearview hereby authorizes the Treasurer, through Sections 357/358 of the Municipal Act, to process the cancellation, reduction or refunds of property taxes for certain properties in the amount of \$3,437.56 as outlined in Appendix A. Motion Carried.

2) BY-LAWS

No Items

3) INFORMATION

a) October 2013 Financial Report

Resolution:

Moved by Councillor Davidson, Seconded by Councillor Preston, RESOLVED that Clearview Township Council receive the October 2013 Financial Report for information. Motion Carried.

4) **TENDERS**
No Items

E) **CLERK/CAO DEPARTMENT**

1) **REPORTS**

a) **CAO/Clearview Economic Development Committee (2014 Premier's Award for Agri-Food Innovation Excellence Program**

Resolution:

Moved by Councillor Davidson, Seconded by Councillor Preston, RESOLVED that Council of the Township of Clearview receive the 2014 Premier's Award for Agri-Food Innovation Excellence Program for information and direct any nominations to the Mayor. Motion Carried.

b) **CAO/Clearview Economic Development Committee (Georgian College Funding for Community Seminar for Food Entrepreneurs) (on desk)**

Resolution:

Moved by Councillor Preston, Seconded by Councillor Measures, BE IT RESOLVED That Clearview Township Council approve the request by the Clearview Economic Development Committee to fund the remaining balance of \$750.00 to support Georgian College hosting a Community Seminar for Food Entrepreneurs on February 24, 2014. Motion Carried

c) **Records management Clerk/Administrative Assistant**

Resolution:

Moved by Councillor Paterson, Seconded by Deputy-Mayor Savage, BE IT RESOLVED, That Council of the Township of Clearview hereby:

c) Approve the Records Management Clerk/Administrative Assistant position effective December 1, 2014 as outlined in the Program Expansion Request dated January 27th, 2014 and;

d) Direct the Treasurer to add this program expansion into the 2014 budget. Motion Carried.

2) **BY-LAWS**

a) **By-Law 14-13 (Fire Marquee)**

Resolution:

Moved by Councillor Measures, Seconded by Councillor Davidson, RESOLVED that By-Law 14-13, being a by-law to enter into an Agreement with Fire Marquee Inc. be presented and read a first, second and third time and finally passed this 27th day of January, 2014. Motion Carried.

b) **By-Law 14-14 (Fire Service Fees)**

Resolution:

Moved by Councillor Measures, Seconded by Councillor Preston, RESOLVED that By-Law 14-14, being a by-law to amend Schedule "A" of By-Law 06-23, being a bylaw to provide for Fire and Emergency Services Fees and Charges, be presented and read a first, second and third time and finally passed this 27th day of January, 2014. Motion Carried

3) INFORMATION

No Items

4) TENDERS

No Items.

F) FIRE & EMERGENCY SERVICES

No Items

G) OTHER DEPARTMENTS

1) REPORTS

No Items

2) BY-LAWS

No Items

3) INFORMATION

a) **Clearview Public Library Statistics – December 2013**

Resolution:

Moved by Councillor Walker, Seconded by Deputy-Mayor Savage, RESOVED that Clearview Township Council receive the Clearview Public Library Statistics – December 2013 for information. Motion Carried.

4) TENDERS

No Items.

14. NOTICE OF MOTION / NEW BUSINESS

No Items

15. BY-LAW TO CONFIRM PROCEEDINGS

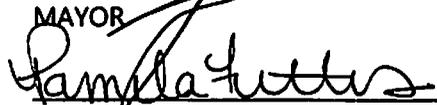
Resolution:

Moved by Councillor Walker, Seconded by Councillor Bronée, RESOLVED that By-Law Number 14-15 being a by-law to confirm proceedings of the Council of the Corporation of the Township of Clearview at its meeting held on the 27th day of January, 2014 be presented and read a first, second and third time and finally passed this 27th day of January, 2014. Motion Carried.

16. ADJOURNMENT

Resolution:

Moved by Councillor Davidson, Seconded by Councillor Walker, RESOLVED that the Meeting be adjourned at 7:21 p.m. Motion Carried.


MAYOR

CLERK

Minutes of the Council Meeting are not a Final Document of the Corporation until adopted by Council.

Minutes approved by Council on February 10, 2014.

THE CORPORATION OF THE TOWN OF WASAGA BEACH

**MINUTES OF THE REGULAR MEETING OF
TOWN COUNCIL**

**Held Tuesday, January 28, 2014 at 7:00 p.m.
In the Council Chambers**

PRESENT:

C. Patterson	Mayor
D. Foster	Deputy Mayor
R. Anderson	Councillor
M. Bercovitch	Councillor
N. Bifulchi	Councillor
G. Watson	Councillor
S. Wells	Councillor

G. Vadeboncoeur	Chief Administrative Officer
T. Nicholson	Clerk
P. Archdekin	Deputy Clerk

1. CALL TO ORDER

Mayor Patterson called the meeting to order at 7:00 p.m.

2. DISCLOSURE OF PECUNIARY INTEREST

Councillor Bifulchi declared a Pecuniary Interest with respect to Development Committee Report 5ai, 5b2 and 5d1 due to a similar family business.

3. ADOPTION OF MINUTES

MOVED BY G. WATSON

SECONDED BY N. BIFOLCHI

RESOLUTION NO. 2014-02-01

RESOLVED THAT the Minutes of the Regular Meeting of Council held Tuesday, January 14, 2014 at 7:00 p.m. in the Council Chambers are hereby adopted as circulated.

CARRIED

4. DEPUTATIONS, PETITIONS AND PUBLIC MEETINGS - None

5. CORRESPONDENCE – Received for Information

a) Correspondence from Food for Thought 2: A Call to Action

MOVED BY D. FOSTER

SECONDED BY S. WELLS

RESOLUTION NO. 2014-02-02

RESOLVED THAT Council does hereby receive for information the correspondence from Food for Thought 2: A Call to Action.

CARRIED

CORRESPONDENCE – Requiring Action

a) Correspondence from the Simcoe County District School Board

MOVED BY D. FOSTER
SECONDED BY N. BIFOLCHI

RESOLUTION NO. 2014-02-03

RESOLVED THAT Council does hereby receive the letter from the Simcoe County District School Board pertaining to the Board’s 2013 Capital Plan; and,

FURTHER THAT the Board Trustee representing Wasaga Beach and area along with the appropriate staff be invited to a future Committee of the Whole meeting to discuss the Board’s response to the Town’s request for a new Secondary School in Wasaga Beach.

CARRIED

CORRESPONDENCE – To be Referred - None

6. UNFINISHED BUSINESS – None

7. COMMITTEE & OTHER BOARDS REPORTS

a) General Government Committee – January 16, 2014

Councillor Anderson spoke to the highlights of the meeting and it was then;

MOVED BY S. WELLS
SECONDED BY G. WATSON

RESOLUTION NO. 2014-02-04

RESOLVED THAT Council does hereby adopt the General Government Committee Report dated January 16, 2014, as circulated, and approves all actions contained therein.

CARRIED

b) Community Services Committee – January 21, 2014

Councillor Watson spoke to the highlights of the meeting and it was then;

MOVED BY N. BIFOLCHI
SECONDED BY S. WELLS

RESOLUTION NO. 2014-02-05

RESOLVED THAT Council does hereby adopt the Community Services Committee Report dated January 21, 2014 as circulated, and approves all actions contained therein.

CARRIED

c) Development Committee – January 22, 2014

Councillor Bifulchi spoke to the highlights of the meeting. She noted her previously declared Pecuniary Interest and that she would vote on all matters with the exception of those noted. Councillor Wells noted that he declared a Pecuniary Interest at the Development Committee meeting and will vote on all items with the exception of that one and it was then;

MOVED BY D. FOSTER
SECONDED BY S. WELLS

RESOLUTION NO. 2014-02-06

RESOLVED THAT Council does hereby adopt the Development Committee Report dated January 22, 2014, as circulated and approves all actions contained therein.

CARRIED

d) Report from R. Kelso – Fairview Wind Project & Collingwood Regional Airport

Councillor Watson spoke to the wind turbines, noting this is a serious issue for the Airport. Four wind turbines are within the aerodrome of the airport. This creates significant problems for air traffic and the economic viability of the Airport. February 1st is the deadline to submit comments. The Airport Board hired a person to comment on the technical area and he has provided comments. Councillor Watson also suggested that the Casino could increase airplane traffic and the turbines are a detriment to that.

Mayor Patterson noted that he has talked to Board Members and the Chair and supported this motion as well. It was then;

MOVED BY G. WATSON
SECONDED BY N. BIFOLCHI

RESOLUTION NO. 2014-02-07

WHEREAS the Council of the Town of Collingwood has passed a resolution to express fundamental concerns regarding the wpd Canada Fairview Wind Farm application and application process which proposes wind turbines in proximity to the Collingwood Airport; and,

WHEREAS the Council of the Town of Wasaga Beach recognizes the Regional importance of the Collingwood Regional Airport for tourism, business and health and safety; and,

WHEREAS the wpd Canada Inc. Wind Farm proposal has been posted to the Ontario Ministry of the Environment's Environmental Registry for comment; and,

WHEREAS the Town of Collingwood has retained an aviation safety expert who concludes the application, if approved as proposed, does not comply with the Transport Canada's standards and recommended practices and will seriously and negatively affect the Collingwood Regional Airport; and,

WHEREAS the Council of the Town of Wasaga Beach does hereby support the Town of Collingwood's resolution dated January 13, 2014;

THEREFORE BE IT RESOLVED THAT the Council of the Town of Wasaga Beach expresses its fundamental concern with wpd Canada Inc.'s application and application process, and that a copy of this resolution be forwarded to the Ministry of the Environment as a statement of concerns regarding the wpd Canada Inc. Fairview Wind Farm proposal.

CARRIED

8. **NOTICES OF MOTION** – None

9. **MOTIONS – WHERE NOTICE HAS BEEN PREVIOUSLY GIVEN** - None

10. **BY-LAWS AND CONFIRMATORY BY-LAW**

- a) **A By-Law to Authorize Execution of an Agreement Between the Town of Wasaga Beach and Her Majesty the Queen in Right of Ontario as Represented by the Minister of Rural Affairs for Funding Under the Small Rural and Northern Municipal Infrastructure Fund (Schoonertown Bridge)**

MOVED BY G. WATSON
SECONDED BY S. WELLS

RESOLUTION NO. 2014-02-08

RESOLVED THAT a By-Law to Authorize Execution of an Agreement Between the Town of Wasaga Beach and Her Majesty the Queen in Right of Ontario as Represented by the Minister of Rural Affairs for Funding Under the Small Rural and Northern Municipal Infrastructure Fund, be received and be deemed to have been read a first, second and third time, passed and numbered No. 2014-07.

CARRIED

- b) **A By-Law to Amend By-Law No. 2013-107, being a By-Law to Establish Fees and Charges to be Collected by The Corporation of the Town of Wasaga Beach (Parks & Facilities)**

MOVED BY S. WELLS
SECONDED BY D. FOSTER

RESOLUTION NO. 2014-02-09

RESOLVED THAT a By-Law to Amend by-Law No. 2013-107, being a By-Law to Establish Fees and Charges to be Collected by The Corporation of the Town of Wasaga Beach, be received and be deemed to have been read a first, second and third time, passed and numbered No. 2014-08.

CARRIED

- c) A By-Law to Exempt Block 4, Registered Plan 51M-1021 in the Town of Wasaga Beach, County of Simcoe from Part Lot Control (J. Donato Construction – 44th St. N.)**

MOVED BY N. BIFOLCHI
SECONDED BY S. WELLS

RESOLUTION NO. 2014-02-10

RESOLVED THAT a By-Law to Exempt Block 4, Registered Plan 51M-1021 in the Town of Wasaga Beach, County of Simcoe from Part Lot Control, be received and be deemed to have been read a first, second and third time, passed and numbered No. 2014-09.

CARRIED

- d) A By-Law to Deem Part of Registered Plan 1061 Town of Wasaga Beach, Not To Be A Registered Plan of Subdivision (Queensdale Ave)**

MOVED BY D. FOSTER
SECONDED BY S. WELLS

RESOLUTION NO. 2014-02-11

RESOLVED THAT a By-Law to Deem Part of Registered Plan 1061, Town of Wasaga Beach Not To Be A Registered Plan of Subdivision, be received and be deemed to have been read a first, second and third time, passed and numbered No. 2014-10.

CARRIED

- e) A By-Law to Amend Town of Wasaga Beach Comprehensive Zoning By-Law No. 2003-60, As Amended (Sandy Coast Cresc.)**

MOVED BY G. WATSON
SECONDED BY S. WELLS

RESOLUTION NO. 2014-02-12

RESOLVED THAT a By-Law to Amend Town of Wasaga Beach Comprehensive Zoning By-Law No. 2003-60, As Amended, be received and be deemed to have been read a first, second and third time, passed and numbered No. 2014-11.

CARRIED

- f) A By-Law to Authorize Execution of an Easement Agreement Between Shauna Lee Brown and the Town of Wasaga Beach (29 Trillium Court)**

MOVED BY N. BIFOLCHI
SECONDED BY S. WELLS

RESOLUTION NO. 2014-02-13

RESOLVED THAT a By-Law to Authorize Execution of an Easement Agreement between Shauna Lee Brown and the Town of Wasaga Beach, be received and be deemed to have been read a first, second and third time, passed and numbered No. 2014-12.

CARRIED

g) Confirmatory By-Law

MOVED BY S. WELLS
 SECONDED BY D. FOSTER

RESOLUTION NO. 2014-02-14

RESOLVED THAT a By-Law to Confirm the Proceedings of the Corporation of the Town of Wasaga Beach at its Regular Meeting held Tuesday, January 28th, 2014, be received and be deemed to have been read a first, second and third time, passed and numbered No. 2014-13.

CARRIED

11. MAYOR AND COUNCILLORS REPORTS

Councillor Bercovitch attended an Accessibility Advisory Committee Meeting; Town Curling Bonspiel and extended kudos to Derek Bowers and the team who put it together and the Rotary Club Lunch with guest speaker Jim Wilson, MPP.

Councillor Anderson attended General & Marine Hospital meetings.

Councillor Wells extended congratulations to the winners of the Order of Wasaga Beach as they are all well deserving of the reward; Crime Stoppers Flag Raising recognizing Crime Stoppers Month and a new Committee in the South Georgian Bay area as well as the Short Film Festival Gala.

Mayor Patterson attended the Simcoe Muskoka Health Board meeting; Chamber of Commerce Board meeting; Western Wardens Annual meeting in London; –New Year's Levee and Order of Wasaga Beach; along with the CAO met with Sergio Molello, a property owner of a potential casino site and had a second meeting with Doug Cook who also owns a potential site for the casino. Mayor Patterson met with the President of Georgian College and Lakehead University.

Mayor Patterson expressed his condolences to the family of Raymond Hacquard owner of Pizza Hut in Collingwood and Stayner. He was a Wasaga Beach resident.

The Mayor met with the Minister of Tourism, Minister Chan and President of the –Pan Am Games. In our area there will be Mountain Bike races at Hardwood Hills and Rifle Shooting at the Toronto Gun Club. The Mayor attended the Grand Opening of Goodall Rubber in its new location; Warden's Ski Day; Wasaga Funspiel; Water Depot event to support minor hockey; Film Festival Red Carpet Gala; Hydro Board Meetings; Rotary Lunch; County Council, Committee of the Whole of County Council and Governance meeting.

Deputy Mayor Foster attended the Curling Funspiel; Short Film Festival; County Council, Library Board meeting; guest speaker on 97.7 The Beach and Beach Party Boys show. Councillor Bifulchi presented the Order of Wasaga Beach to Bonnie Brown; Crime Stoppers Flag Raising; Community Health Centre meeting; United Way Spirit Awards; NVCA Efficiency Audit meeting and Rotary Lunch with Jim Wilson, MPP.

Councillor Watson attended the Rotary Club lunch with Jim Wilson, MPP as quest speaker; presented Order of Wasaga Beach to Dick Burton; Crime Stoppers Flag Raising; Curling Funspiel; Short Film Festival Red Carpet Gala and a meeting with Dr. Kellie Leitch on Federal Government issues.

12. CALLING OF COMMITTEE MEETINGS

Public Works Committee	February 6 th at 8:30 a.m.
Development Committee	February 19 th at 1:30 p.m.
Community Services Committee	February 18 th at 8:30 a.m.
General Government Committee	February 20 th at 2:30 p.m.
Committee of the Whole	February 4 th at 7:00 p.m.

13. QUESTION PERIOD

“A fifteen (15) minute session wherein persons in attendance at the Regular Meeting of Council have an opportunity to raise questions pertaining to items that were dealt with by Council on the evening’s Agenda.”

Ms. Judith Masdorp advised that she comes to honor Council as people appointed by God to serve. Peace unto this house. She advised that she lives adjacent to Stonebridge at 13 Poplar Glen Rd. She noted that she has circulated an open letter and would only read the questions.

Mayor Patterson thanked Ms. Masdorp acknowledging receipt of the copy of her letter.

Ms. Masdorp then read her questions:

“What representations to Council, Committee of the Whole, Development Committee, Building Department or By-Law Department have the builders and owners of the Stonebridge Development made with regard to keeping property standards after the Stonebridge development has been completed?

Once Stonebridge has been completed what guarantees are there that the trail leading out to Poplar Glen Road and the back of the plaza behind the Dollar Tree will be maintained in a manner that is safe for the general public to use. And who now is responsible for maintaining them as I have seen no clean up this or last fall?

Since the trail has not been maintained properly, nor the area around the pond which is rife with poison ivy in the last couple of years, who is responsible for enforcing that part of the development maintenance?

There has been a rise in violence, vandalism and loitering (people sleeping in cars overnight in front of restaurants) at Stonebridge. Will Stonebridge be doing anything, as this last phase of development brings them closer to the adjoining community, to maintain security on the trail system used by the general public that have brought to our doorstep?

What impact does the completion of Stonebridge have on the development of the Beach 1 area?”

Mayor Patterson provided a brief response to each questions, advising that he will pass on the questions to staff for more clear responses, noting he appreciates the concerns.

Mr. Ron Ego inquired of the three conflicts within the Development Committee Report. Councillor Bifulchi advised that her family owns a piece of property for outdoor storage and

the items are for storage bins, which are in the same field, so she declared a Pecuniary Interest and had no input into those items.

14. ADJOURNMENT

Mayor Patterson adjourned the meeting at 7:45 p.m.

The Minutes of this Meeting were approved by Council on the 11th day of February, 2014.

Cal Patterson, Mayor

Twyla Nicholson, Clerk

APPENDIX 2

Transport Canada Letter to MOECC,
November 17, 2014



4900 Yonge Street, 4th Floor
Toronto, Ontario
M2N 6A5

UNCLASSIFIED

Your file Votre référence

Our file Notre référence

RDIMS #10115796

November 17, 2014

Hayley Berlin
Manager - Service Integration
Environmental Approvals Access and Service Integration Branch
Ministry of the Environment and Climate Change
2 St. Clair Avenue West
Floor 12A
Toronto ON M4V 1L5

Subject: Fairview Wind Farm - Aerodromes

Dear Ms. Berlin:

The following comments are provided in response to your request dated October 10, 2014.

The terms “aerodrome” and “airport” are often used interchangeably in general parlance, and in some Transport Canada publications. However, the *Aeronautics Act* definitions are crucial to understanding the application of regulations and standards.

Aerodrome

An “aerodrome” means any area of land, water (including the frozen surface thereof) or other supporting surface used, designed, prepared, equipped or set apart for use either in whole or in part for the arrival, departure, movement or servicing of aircraft and includes any buildings, installations and equipment situated thereon or associated therewith.

Aerodromes must comply with the *Canadian Aviation Regulations* (CARS) Part III, Subpart 1.

Airport

An “airport” means an aerodrome in respect of which a Canadian aviation document is in force, and is referred to as “certified”. Airport operators must comply with the *Canadian Aviation Regulations* and the associated standards which include obstacle limitation surfaces (OLS) that must not be penetrated. Wind turbines that penetrate the OLS will affect the airport certification, requiring the airport operator to take action to maintain the standards e.g. displace the runway threshold so there is a shorter runway to land on.

Airports must comply with the *Canadian Aviation Regulations (CARS) Part III, Subpart 2* and the *TP312 - Aerodrome Standards and Recommended Practices* standards document.

Collingwood and Stayner are “aerodromes” not “airports”.

Canada Flight Supplement

The *Canada Flight Supplement* is an aeronautical information publication published by NAV CANADA which contains an Aerodrome Directory including data and sketches of Canadian aerodromes and airports.

Aerodrome operators may request their aerodrome information be registered in the *Canada Flight Supplement* in accordance with the *Canadian Aviation Regulations (CARS) Part III – Subpart 1*.

CAR 301.03(2) states: “*The Minister may refuse to register an aerodrome where the operator of the aerodrome does not meet the requirements of sections 301.05 to 301.09 or where using the aerodrome is likely to be hazardous to aviation safety and, in such a case, shall not publish information with respect to that aerodrome.*”

TP1247

TP1247E - “Aviation - Land Use in the Vicinity of Aerodromes” is a guidance document published by Transport Canada. It is designed to assist planners and legislators at all levels of government in becoming familiar with issues related to land use in the vicinity of aerodromes and how land used around an aerodrome will have an impact on its operations.

TP1247 was recently updated to include the following Note:

“ Note: It is of the utmost importance to be aware that the proximity of obstacles, for example, wind turbines, telecommunications towers, antennae, smoke stacks, etc., may potentially have an impact on the current and future usability of an aerodrome. Therefore, it is critical that planning and coordination of the siting of obstacles should be conducted in conjunction with an aerodrome operator at the earliest possible opportunity.”

Obstacle limitation surfaces are established to ensure the required level of safety. TP1247 identifies three types of surfaces at an aerodrome that should be protected to avoid penetration by objects or structures.

The three types of surfaces are:

- 1) Outer Surface
- 2) Take-off/Approach slope surface
- 3) Transitional Surface

Where the aerodrome is not an airport, penetration of these surfaces may affect the operations at the aerodrome. The standards in TP312 - *Aerodrome Standards and Recommended Practices* can be used but are not enforceable; however, the operational integrity of the aerodrome is enhanced if the designation of the use of land adjacent to the facility is done in line with technical portions of the standards.

At an airport, objects penetrating any of these surfaces would violate the certification standards in TP312 - *Aerodrome Standards and Recommended Practices* and would require some action to bring the airport back into compliance. Depending on the location of the penetrating obstacle, action could be things like a runway threshold displacement, changes to aeronautical information publications, restrictions to operations, and others.

Airports that have an Airport Zoning Regulation have these surfaces protected by law and these zoning regulations apply to land that is located outside the property boundary of the airport. Since aerodromes are not eligible for Airport Zoning Regulations, Transport Canada publishes TP1247 to make provincial/municipal land use authorities aware of development that may be incompatible with an aerodrome or airport.

TP1247 also refers to the requirement for marking and lighting of obstacles in accordance with Transport Canada's Standard 621 – Obstruction Marking and Lighting. The purpose of Standard 621 is to provide an effective means of indicating the presence of objects likely to present a hazard to aviation safety.

TP1247 can be found at the following link:

<http://www.tc.gc.ca/eng/civilaviation/publications/tp1247-menu-1418.htm>.

Transport Canada Land Use Role

As stated in TP1247E - Aviation - Land Use in the Vicinity of Aerodromes: “From a regulatory perspective, the authority for the designation of and control of the use of lands located outside of aerodrome property rests with provincial/municipal levels of government. The only exception to this fact, in the aviation case, occurs where an airport zoning regulation, made pursuant to the Aeronautics Act, is in force.”

The Minister of Transport may exercise authority only over lands that are included in an Airport Zoning Regulation made pursuant to the Act. An Airport Zoning Regulation contains restrictive clauses that describe the activities and uses that are restricted or prohibited and contains a legal description of the lands to which it applies.

Restrictions and or prohibitions contained in an Airport Zoning Regulation may range from limiting the height of structures to prohibiting specified land uses or to prohibiting facilities that may interfere with signals or communications to/from aircraft.

Airport Zoning Regulations can only be enacted for airports.

Therefore, since Collingwood and Stayner are not airports, there are no Airport Zoning Regulations.

TP312

Transport Canada Publication - TP312 E - *Aerodrome Standards and Recommended Practices* contains the standards applicable to land airports which are certified pursuant to the *Canadian Aviation Regulations* - Part III, Subpart 2.

TP312 serves as the authoritative document for airport specifications, including physical characteristics, obstacle limitation surfaces, lighting, markers, marking and signs.

Obstacle limitation surfaces in this document define the airspace to be maintained free from obstacles in order to minimize the dangers presented by obstacles to an aircraft, either during an entirely visual approach or during the visual segment of an instrument approach; and prevent the airport from becoming unusable by the growth of obstacles around the airport.

Since Collingwood and Stayner are not airports, they are not required by regulation to comply with the standards in TP312.

TP308

Section 803.02 of the *Canadian Aviation Regulations* (CARs) regulates the development of civil instrument procedures in Canada through the standards manual entitled *Criteria for the Development of Instrument Procedures*, known as TP 308. Paragraph 120(a) of this document requires that specific aerodrome standards be met before an Instrument Approach Procedure (IAP) is authorized.

The rationale for linking the standards in TP312 and TP 308 is to ensure that a specific obstacle-free environment is provided in the vicinity of the aerodrome to support the visual segment of an IAP.

In accordance with Transport Canada Advisory Circular (AC) No. 301-001, an aerodrome attestation form is required to support a public IAP at an aerodrome. The criteria used are based on TP312, except there are no outer surface criteria. A copy of the aerodrome attestation form can be found at:

<http://www.tc.gc.ca/media/documents/ca-opssvs/301-001.pdf>

NAV CANADA is the responsible agency for reviewing, publishing and amending Instrument Approach Procedures.

Canada Air Pilot

The *Canada Air Pilot* (CAP) is an aeronautical information publication published by NAV CANADA containing instrument approach procedures for aerodromes and airports across Canada.

The following is in response to your specific questions:

1. Question: Overall, does the Project meet the Transport Canada guidelines for aviation safety (i.e. TP 1247, TP 312, TP 308), including obstacle restrictions and obstacle limitation surfaces with respect to the two proximal aerodromes?

Answer: Transport Canada has not conducted an assessment of the obstacle restrictions or the obstacle limitation surfaces for compliance with TP1247, TP312 or TP308. However, we offer the following general comments:

- a) TP1247 –The Fairview Wind Project proposal was submitted to Transport Canada and was assessed for marking and lighting requirements. With respect to the obstacle limitation surfaces, refer to c) below. With respect to airport radar, navigation aids, communication systems and weather radar, NAV CANADA would have to make this assessment.
- b) TP308 - An evaluation of the impact of obstacles on TP308 and the instrument approaches at Collingwood and Stayner is the responsibility of NAV CANADA or the sponsor of the instrument approach. NAV CANADA is also responsible to amend all aeronautical information publications to advise pilots of the obstacles and make changes to the instrument approach procedures.

For aircraft operating under Instrument Flight Rules (IFR), aviation safety is maintained by raising the limits of the instrument approach procedures to avoid the obstacles. While aviation safety has been addressed, it may result in a decrease in the usability of the aerodrome, the effectiveness of the instrument approach and the operational impact of the aerodrome in poor weather conditions.

The assessment conducted by Charles Cormier on January 20, 2014 for the Collingwood aerodrome and on January 23, 2014 for the Stayner aerodrome indicates that the proposed wind turbines would have an impact on both aerodromes as follows:

Collingwood:

There are presently three instrument approaches published in the *Canada Air Pilot*.

- i) RNAV(GNSS) RWY 13 LNAV: Mr. Cormier's assessment indicates the minimum limits would have to be raised by 20'. This would likely have an impact on the aerodrome operation.
- ii) RNAV(GNSS) RWY 31 LNAV: Mr. Cormier's assessment indicates the minimum limits would have to be raised by 120'. This is a fairly significant penalty, which would reduce the effectiveness of the instrument approach.

- iii) Circling limits for RWY 13 and 31: Mr. Cormier's assessment indicates the circling limits for category C and D aircraft would increase significantly by 360' and 260' respectively. This is a significant penalty on the existing circling limits. However, the impact may be reduced if it is possible to limit circling to one side of the aerodrome (as is done at other aerodromes and airports).
- iv) VOR/DME A: Mr. Cormier's assessment indicates the minimum limits would have to be raised 60' for category A & B aircraft, which would likely have an impact on the aerodrome operation, and the minimum limits for category C would have to be raised by 240'. This is a significant penalty, which would reduce the effectiveness of the existing instrument approach. However, the impact may be reduced if it is possible to limit circling to one side of the aerodrome.

Stayner:

There are currently two instrument approaches which are approved for "restricted" use and a special Transport Canada approval is required to use these approaches. It appears wpd Canada may not have considered the impact on these two instrument approaches.

- i) RNAV(GNSS) RWY 16: Mr. Cormier's assessment indicates the straight-in minimum limits would have to be raised by 180' and that the circling limits would have to be raised by as much as 240'. These are significant penalties, which would reduce the effectiveness of the existing instrument approach. However, the impact may be reduced if it is possible to limit circling to one side of the aerodrome.
 - ii) VOR/DME A: Mr. Cormier's assessment indicates the minimum limits would have to be raised by 240' and 220' for category A & B aircraft respectively. This is a significant penalty, which would reduce the effectiveness of the existing instrument approach. However, the impact may be reduced if it is possible to limit circling to one side of the aerodrome.
- c) TP312 – The obstacle limitation surfaces identified in TP312 (and TP1247) are established to protect an aircraft either during an entirely visual approach or during the visual segment of an instrument approach. Although an aerodrome does not have to comply with these surfaces, the operational integrity is enhanced if the designation of the use of land adjacent to the facility is done in line with technical portions of the standards.

The assessment conducted by Charles Cormier on January 20, 2014 for the Collingwood aerodrome and on January 23, 2014 for the Stayner aerodrome indicates that the proposed wind turbines would have an impact on both aerodromes as follows:

Collingwood:

- i) Mr. Cormier's assessment indicates that the "Outer Surface" (which is normally a 4000m radius around the aerodrome) would be penetrated by 4 turbines by as much as 416'.
- ii) The outer surface for airports is established to protect aircraft manoeuvring near the runway and in the "circuit pattern". There is no requirement for an outer surface at an aerodrome. However, the proximity and height of the wind turbines could potentially pose a hazard to aircraft operating in the "circuit pattern".
- iii) There are ways to mitigate obstacles that lie within the "circuit pattern". The aerodrome operator could request a right hand circuit pattern be published for runways 19 and 31 to avoid the obstacles. Such procedures would have to be approved by Transport Canada.

Stayner:

- i) RWY 34 - Mr. Cormier's assessment indicates Turbine #7 is approximately 7000' south of the runway and would violate the take-off/approach surface by 214'. If Stayner were an airport, appropriate mitigations would be required in order for the airport to remain certified, such as displacing the runway or establishing an offset approach. The impact at an airport would be a displacement of approximately 4280'. Since the runway is only 1920' long, this obstacle would effectively close the runway.
As an aerodrome, Stayner does not have to comply with the take-off/approach surface. However, in its proposed location and without special procedures in place to avoid the obstacle, the turbine is a significant obstacle and could potentially pose a hazard to aircraft on final approach to this runway.
- ii) RWY 16 - Mr. Cormier's assessment indicates Turbine #3 would penetrate the transitional surface by 138'. If Stayner were an airport, appropriate mitigations would be required in order for the airport to remain certified, such as displacing the runway or establishing an offset approach for aircraft landing on runway 16, and implementing special departure procedures for aircraft taking off on runway 34. Transport Canada is not able to determine the exact impact on the runway displacement; however the obstacle could potentially close the runway, similar to runway 34.
As an aerodrome, Stayner does not have to comply with the transitional surface. However, in its proposed location and without special procedures in place to avoid the obstacle, the turbine is a significant obstacle and could potentially pose a hazard to aircraft on final approach to runway 16 or when overshooting runway 34.
- iii) Mr. Cormier also noted that all turbines would penetrate the outer surface. The same general comments apply as outlined in ii) and iii) under Collingwood above.

2. If the turbines are erected where they are proposed:

- a. Question: Do they have the potential to infringe/cause an obstruction in the outer surface and transitional surface around the Stayner (Clearview Field) Aerodrome or Collingwood Regional Airport?

Answer: Refer to response under Question 1. above.

- b. Question: Could they cause turbulence (e.g. potential cross-wind and roll-hazards) for any type of aircraft that will impair their safe operation when approaching the aerodromes?

Answer: As you may be aware, there are numerous articles and studies available regarding the effects of turbulence caused by wind turbines. In February 2011, Transport Canada participated in the “Aviation Safety-risk Assessment of The Effect of Wind Turbines on General Aviation Aircraft”, which was included within one of your attachments. The Summary 3.4 concluded: “The safety-risks associated with GA aircraft operating in very close proximity to wind turbines – in particular, light and ultra-light aircraft – during take-off and landings from aerodromes, are assessed to be from low to moderate significance. The remainder of the safety-risks to GA aircraft are assessed to be very low.” Several strategies to mitigate the hazards and risks were discussed in this document.

- c. Question: Will they impact a pilot’s descent to low altitudes with reduced forward visibility in white sky line conditions?

Answer: Pilots must fly under Visual Flight Rules (VFR) or Instrument Flight Rules (IFR) according to the *Canadian Aviation Regulations*. When operating under VFR, significant obstacles would be seen and avoided as they are marked and lighted, and published in the aeronautical information publications. Pilots operating under IFR would be protected from obstacles by following published instrument procedures.

- d. Question: Could they have an impact on the safe operation of low level Griffith helicopters flying into the aerodromes?

Answer: The impact on the safe operation of the low level Griffith helicopters would have to be answered by DND.

- e. Question: Do they have the potential to create a safety hazard for aircraft using the surrounding airspace during nighttime?

Answer: Any obstacle has the potential to create a safety hazard for aircraft if the pilot does not see the obstacle and the aircraft is flying in close proximity

to that obstacle. Significant obstacles are lighted for night time, and are published in the aeronautical information publications.

3. Question: If yes to any of the above, would Transport Canada or NAV CANADA support the implementation of mitigation measures by the proponent to ensure aviation safety? Are the mitigation measures proposed by the proponent adequate to address potential impacts?

Answer: Transport Canada is not aware of any specific mitigation measures proposed by the proponent. Transport Canada has assessed the obstacles for marking and lighting. The aerodrome operator has an ongoing responsibility to advise NAV CANADA of any change or modification to the information submitted in the Aerodrome Attestation Form. NAV CANADA is responsible for reviewing, publishing and amending instrument approaches and for updating the aeronautical information publications to address the new obstacles. Proposed procedural changes such as a revised circuit pattern would have to be submitted by the aerodrome operator and then reviewed and approved by Transport Canada.

4. Question: Is the meteorological test tower, with a height of 60 meters AGL, stationed approximately 2.5 metres southeast of the Stayner (Clearview Field) Aerodrome creating an aviation safety concern?

Answer: Transport Canada is not aware of a 60m meteorological test tower located 2.5m SE of the aerodrome. This obstacle is not published in the *Canada Flight Supplement*. If such an obstacle existed, it would constitute a hazard to aircraft taking off and landing from the aerodrome.

5. Question: The Operator of Stayner (Clearview Field) Aerodrome provided information and procedures for pilots operating from the aerodrome, as published by the Federal Government, in its Canada Flight Supplement, Restricted Canada Air Pilot (see original comment from Operator) – would these procedures need to be revised as a result of the proposed turbines?

Answer: The aeronautical information publications would have to be amended by NAV CANADA to reflect the new obstacles. The impact on the aerodrome and the procedures was discussed in 1. above. In addition, the request for a right hand circuit pattern would have to be approved by Transport Canada.

6. Question: Is Transport Canada able to identify any limitations to the future expansion of the Stayner (Clearview Field) aerodrome, as a result of the proposed turbine locations? If the Stayner (Clearview Field) Aerodrome further developed its existing operation (i.e. extended its runway and added aircraft hangars) would the turbines infringe/cause an obstruction in the outer surface and transitional surface around the airfield, such that it would pose a threat to the aerodrome's operational safety?

Answer: Transport Canada is not aware of the proposed expansion plans by Stayner aerodrome and therefore cannot identify any limitations to future expansion. However, if there is an operational impact on the aerodrome today, there will likely be an operational impact on the aerodrome in the future if the aerodrome is further developed. A qualified aviation consultant would have to make that assessment once they have been made aware of the aerodrome operator's intentions. Safety is addressed through a number of resulting actions, such as marking, lighting, publications, and operating procedures.

7. Question: If the Project was established as proposed, would it trigger the need for displacement of the runway at the Stayner aerodrome?

Answer: Since Stayner is not an airport, there is no legal requirement for a runway displacement. However, according to the analysis conducted by Charles Cormier on January 23, 2014, theoretically, a penetration of the takeoff and approach surface and transition surface at an airport would require a runway displacement or other mitigative measures. In its proposed location and without special procedures in place to avoid the obstacle, the turbine could potentially pose a hazard to aircraft on final approach to runway 16 or when overshooting runway 34.

8. Question: If the Project was established as proposed, would it complicate visual flights rules and/ or instrument flight rules for either aerodrome?

Answer: There will be an operational impact at both aerodromes as outlined in 1. above. Aeronautical information publications would be amended by NAV CANADA to account for the new obstacles.

9. Question: Is Transport Canada able to identify any limitations to the future expansion of the Collingwood Regional Airport (CRA), as a result of the proposed turbine locations? If CRA extended its runway to 7,500 feet, would the proposed turbines infringe/cause an obstruction in the outer surface and transitional surface around the aerodrome, such that it would pose a threat to the airport's operational safety?

Answer: Transport Canada is not aware of the proposed expansion plans by Collingwood aerodrome and therefore cannot identify any limitations to future expansion. However, if there is an operational impact on the aerodrome today, there will likely be an operational impact on the aerodrome in the future if the aerodrome is further developed. Safety is addressed through a number of resulting actions, such as marking, lighting, publications, and operating procedures.

10. Question: If the Project was established, would it trigger the need for displacement of the runways at CRA?

Answer: Since Collingwood is not an airport, there is no legal requirement to displace a runway. According to the analysis conducted by Charles Cormier on Jan 20, 2014, there was no indication that a displacement would be required.

11. Question: The MOECC received from the CRA a document with “Effects to Collingwood Regional Airport” from the Fairview Wind Project, prepared by Charles (Chas) Cormier, Aeronautical Information Consultant and dated January 20, 2014 (see attachment). Based on the review of this report and using Transport Canada’s expertise, is there a potential threat to CRA’s operational safety?

Answer: According to Mr. Cormier’s assessment dated January 20, 2014, there will be an operational impact on the aerodrome. See response under Question 1. above. Safety is addressed through a number of resulting actions, such as marking, lighting, publications, and operating procedures.

In conclusion, based on the information reviewed, it appears there would likely be an operational impact on both the Collingwood and Stayner aerodromes. There are aerodromes in Canada where obstacles are located in proximity to runways, and depending on their location, have continued operation with the establishment of specific procedures, and the marking, lighting and publication of these obstacles. However, it should be noted that such mitigation can result in a decrease in the usability of the Collingwood and Stayner aerodromes. The Department also wishes to emphasize that it is critical that planning and coordination of the siting of obstacles be conducted in conjunction with an aerodrome operator at the earliest possible opportunity.

Yours truly,

Joseph M. Szwalek
Regional Director Civil Aviation
Ontario Region

Cc: Agatha Garcia-Wright, Director, EAB, MOECC
Sarah Paul, Director, EAASIB, MOECC

The logo for the Government of Canada, featuring the word "Canada" in a serif font with a small Canadian flag icon to the right of the letter 'a'.

APPENDIX 3

C. Cormier Letter to the Collingwood
Airport Services Board re wpd Turbine
Project Impacts on the CRA,
January 20, 2014

Charles (Chas) Cormier
Aeronautical Information Consultant
45 Chemin des Fleurs-Sauvages
Mont-Tremblant, QC J8E 2B3

January 20, 2014

Charles Tatham, P.Eng.
Chairman, Collingwood Airport Services Board
Collingwood Regional Airport
P.O. Box 157
Collingwood, ON L9Y 3Z5

EFFECTS TO COLLINGWOOD REGIONAL AIRPORT – FAIRVIEW WIND PROJECT

This is a summary of all probable effects to the Collingwood Regional Airport that I perceive will be caused by the Fairview Wind Project proposed by wpd Canada.

As a consultant in aeronautical information services, in recent years I have provided services to numerous airports and to wind turbine developers, with concerns for wind turbines proposed in the vicinity of aviation facilities. Most notably in Ontario, I have assisted the airports at Collingwood, Chatham-Kent, Kincardine, and Billy Bishop Toronto City. The results were that some or most turbines were determined to have no detrimental effects to the airports, but in some instances where there could be effects, turbine locations were moved or cancelled, or instrument approach procedures were modified to preserve or enhance accessibility to the airport. The purpose of my work was always to preserve safe and full access to the airport, while permitting wind turbines to be erected as close as prudent.

I am quite familiar with the Collingwood Regional Airport, providing it consultancy services since 2008. While I was Chief Technical Director at IDSNA in Montreal, I negotiated the sale of design services for advanced RNAV(GNSS) approaches at Collingwood, and supervised the actual construction of these new procedures. I analyzed the first wpd turbine layout in February 2010, and the second layout in June 2011. In November 2011, I analyzed the effects to the advanced RNAV(GNSS) approaches that were in process. During 2012-13, I coordinated the sale, installation, and approval process for the Automated Weather Observation System (AWOS) located on the airfield, which provides current weather information and most importantly a precise altimeter setting measurement for pilots to use for conducting approaches.

This report will consist of:

- a brief review of relevant Transport Canada criteria,
- an outline of the Collingwood Airport characteristics,
- a description of the effects that the wpd turbines will have on instrument procedures and VFR operations,
- a critique of a report by aviation consultants to wpd presented in August 2012, and
- a final summary and recommendations.

CRITERIA

A measure of the effectiveness of the access to an airport can be made by assessing its conformity to two important sets of criteria published by Transport Canada:

- Obstacle Limitation Surfaces (OLS) that protect the runway, which are specified in Transport Canada manual TP312, 'Aerodrome Standards & Recommended Practices'.
- Instrument approach procedures that serve the airport, that meet the criteria published in Transport Canada manual TP308 "Criteria for the Development of Instrument Procedures".

Obstacle Limitation Surfaces. OLS are imaginary surfaces in the vicinity of a runway which cannot be penetrated by obstacles for safety sake, as defined by international standards. The OLS's at the Collingwood aerodrome were assessed against the criteria in TP312, Table 4-1, for a Non-Precision Runway, Code 3. They are specified as follows:

- The **Take-off/Approach Surface** extends a minimum of 3000m commencing from 60m from each runway end, has a rising slope of 2.5%, and splays at 15%. It protects aircraft on final descent for landing and on initial climb out during departure.
- The **Transitional Surfaces** rise at a 1:7 slope, laterally from the sides of the runway, from 75m abeam the centreline. They protect for aircraft final manoeuvring near the runway, and for excursions from the surface.
- The **Outer Surface** is a flat surface at 45m above the aerodrome elevation and extends to a 4000 metre or 2.16 NM radius from the centre point of the runway. It protects primarily for aircraft to circle to another runway than that to which an approach is conducted straight-in. The height of this surface at Collingwood is at 880 feet above sea level.

None of these surfaces can be penetrated by obstacles, or the airport certification or equivalent can be cancelled, and published instrument procedure could be rescinded.

Instrument Procedures. In Canada, the design of instrument flight procedures is regulated by Transport Canada primarily through a published manual, TP308, entitled "Criteria for the Development of Instrument Procedures". This comprehensive document details all aspects of the design of various procedures to be used by aircraft operating under instrument flight rules (IFR), which is particularly useful during inclement weather conditions. While the purpose of instrument flight is to efficiently navigate between take-off and landing, one of the primary purposes of criteria in TP308 is to ensure that aircraft are provided safe clearance from obstacles. There is considerable emphasis on the Instrument Approach Procedure (IAP), which guides an IFR aircraft from enroute flight to safe descent and alignment with a runway or airport. Protection of aircraft during departure from a runway is also prescribed.

There are several options of IAP's, dependant on the type of navigational aids serving a runway and available in the cockpit. In Canada, there are over 3000 IAP's published by NAV CANADA in a document called the Canada Air Pilot. These were designed by specialists qualified in TP308, and are the responsibility of NAV CANADA to be maintained to current standards, including adjustments to the effects of new obstacles that may be erected.

The use of Global Navigation Satellite System (**GNSS**) technology, commonly called GPS, is growing throughout the aviation world and most other industries. It is accurate, reliable, commonly available, and very cost effective because the satellite signals are free. Aircraft avionics systems are becoming very sophisticated and capable, for a modest price, and the airport operator does not have to invest in and maintain expensive ground based hardware. IAP's that use GPS as the navigational aid are called RNAV(GNSS) approaches, standing for Area Navigation with Global Navigation Satellite System. There are hundreds of these types published in Canada, thousands in the USA, and soon many all over the world. The most common type of GNSS approach is called LNAV, which is a non-precision option providing lateral navigation guidance to aircraft equipped with the common GPS avionics. The LPV precision option provides a precise vertically-guided descent to landing similar to the glideslope of the traditional ILS system, and requires advanced avionics in the aircraft.

Conventional land-based radio navigational aids such as **VOR** (VHF Omnidirectional Range) and **NDB** (Non-Directional Beacons) in operation in Canada, provide airway guidance and approach alternatives at many airports. While NAV CANADA has been slowly decommissioning those aids deemed redundant, it is anticipated many will remain in service for another 10-15 years. VOR gives precise bearing information to its location, and usually incorporates **DME** (Distance Measuring Equipment), which sends radio signals to indicate accurate mileage information. An NDB transmits relative bearing information to the cockpit, in other words a compass needle will point at the airport when in range. An NDB can be enhanced by a DME. This combination is favoured by private operators because the lower costs of equipment, maintenance, and operations are relatively cheaper than more sophisticated navigational aids, such as ILS.

IAP's are divided into segments in a standard method, and each segment must respect a particular **Required Obstacle Clearance (ROC)**. That means that there is an altitude specified for each leg or segment, that ensures that a safe height is maintained above the highest obstacle beneath the area of that segment. The **Final segment** is most critical, and supports final descent to the runway with the aircraft in full landing configuration. Typically, the ROC on Final is 250 feet above the highest obstacle for GNSS and VOR/DME approaches, which is regarded as minimal clearance. The last segment is called the **Missed Approach**, which permits an aircraft to navigate and climb safely should the runway not be seen by or available to the pilot. The typical missed approach has a sloping obstacle assessment which rises at 40:1, or 152 feet per NM.

All IAP's have a height specified, called the **Minimum Descent Altitude (MDA)** or Decision Altitude (DA), often called "Minimums". This is the lowest altitude that an aircraft can descend to during final approach, from which a pilot must sight the runway in order to execute a normal landing. The lower the MDA, the greater chance the pilot has to detect the runway environment. The MDA is normally calculated by applying the ROC above the highest obstacle beneath the final segment, or the last portion of the final segment if it is further subdivided by navigational fixes called Step-downs.

Nearly all IAP's also have published limits for "**Circling**" which is an option for the pilot to manoeuvre his aircraft with visual reference to the runway, to land at the end opposite or another runway, other than to the runway which he is approaching. Usually, he may manoeuvre left or right of the runway at his discretion, unless a restriction is published preventing "Circling" on either side. Often, this restriction is applied to avoid a significant obstacle, while keeping the limits reasonably low. The areas assessed for circling are measured as a radius from the runway ends. These radii increase in

distance as the minimum manoeuvring speed of the aircraft increases, because more space is needed to turn at higher speeds. Aircraft approach speed ranges are specified as Categories, with the slowest at Category A being up to 90 knots, and the highest at Category D being 141-165 knots. The radii specified for each of categories "A" to "D" are 1.3, 1.5, 1.7, and 2.3 NM respectively.

A commonly-used measurement of the effectiveness and accessibility of an airport is the number of approaches it has published, and the quality of these approaches is judged by the "minimums" specified, and the lower the better.

COLLINGWOOD AIRPORT BACKGROUND

Collingwood Airport consists of a 5,000-foot long runway 13/31 orientated north-west by south-east, and a 2450 foot turf strip 01/19 orientated north-south. It is expected that runway 13/31 will be expanded to the east an additional 1000 feet, in the foreseeable future. The runway is lighted with medium-intensity edge lighting and Runway End Identification Lights (REIL), controlled by an ARCAL (aircraft remote control aerodrome lighting) system. In 2013, an Automated Weather Observation System (AWOS) on the airfield was approved by Transport Canada. The Aerodrome Elevation is 730 feet above sea level (ASL). For navigational aids, there are none on or near the airport, except for an enroute VOR/DME some 17 NM north-east.

While the airport is currently non-certified, it was certified in the past. It will likely be re-certified in future when the airport can benefit from that. Regarding its OLS, the airport operator has provided NAV CANADA with an Attestation that the primary runway is clear of obstacles equivalent to Non-Precision Instrument requirements, which allows publication of instrument approaches to as low as 250 minima, if conditions permit.

There are two IAP's published at Collingwood:

- RNAV(GNSS) RWY 13 non-precision LNAV approach to Runway 13, with quite low minimums of 336 feet above touchdown, useable by Category A-D aircraft. Circling is also specified to very low limits of 530 feet above aerodrome for CAT A-C and 610 feet for CAT D.
- VOR/DME A approach using the "Midland" VOR is circling-only because the alignment does not meet straight-in criteria. Useable by Category A-C aircraft, it has low circling limits of 510 feet above aerodrome elevation.

On April 3, 2014, two new IAP's will be published in the Canada Air Pilot:

- Revised RNAV(GNSS) RWY 13, with the addition of precision LPV option and an amended non-precision LNAV option, to Runway 13. The LPV option achieves very low limits of 286 feet above touchdown, and the LNAV will continue with quite low minimums of 336 feet, useable by Category A-D aircraft.
- New RNAV(GNSS) RWY 31, with both the precision LPV option and a non-precision LNAV option, to Runway 31. The minima for the LPV option will be very low at 300 feet above touchdown, and the LNAV will have moderately low with 450 feet, usable by Category A-D aircraft.

EFFECTS TO BE CAUSED BY FAIRVIEW TURBINES

This is an outline of the detrimental effects to Collingwood Airport, that will be caused by the wind Canada Fairview Wind Project, as follows:

The **Outer Surface** of 4000m radius would be penetrated by Turbines #1, 3, 4, and 8 by as much as 416 feet. This surface is used to protect aircraft manoeuvring near the runway, and circling after IFR approaches, which would have to be raised in altitude as a consequence. These penetrations may adversely affect certification of the airport in future. The Outer Surface area is also where VFR flight is conducted close to ground, during departure and landing operations. This surface is illustrated with the red circle on the map on the next page, and the turbines are shown just south of the airport.

The **RNAV(GNSS) RWY 13** approach options were reviewed against the wind farm, and all segments of the LPV will be clear of the turbines. However, 7 of 8 turbines will be within the secondary area of the missed approach segment of the LNAV option. Turbines #3 and #8 will penetrate the current design by a calculated 18 feet and 3 feet respectively. The current rules for missed approach alignment for LNAV/LPV combined approaches do not permit an alignment off the runway centreline extended, so the only mitigation will be to raise the LNAV approach limits by a 20-foot increment. While this may be seen as a small penalty, it does reduce the effectiveness of the approach.

The **RNAV(GNSS) RWY 31** approach options were reviewed against the wind farm, and all segments of the LPV will be clear of the turbines. However, turbine #8 is just captured within the secondary area of the LNAV final approach segment. This turbine is too close to the runway such that a Step-down cannot be inserted on the approach to mitigate the obstacle. While the required obstacle clearance (ROC) on the edge of the area is only 10 feet, when added to the turbine height of 1283 feet ASL, this will increase the approach limits to a moderately high 1300 feet ASL or 570 feet above touchdown. This will be a considerable penalty of 120 feet and reduces the effectiveness of the approach.

The **Circling option** for both RNAV(GNSS) approaches will be quite low at 530 and 610 feet above aerodrome elevation, for CAT A-C and CAT D respectively. The proposed turbines will not affect the Category A and B, however 5 turbines will affect Categories C and D Circling. The Circling C & D minima would have to increase to 1600 feet ASL, a significant penalty of 360 feet and 260 feet increase over the latest procedure designs.

The **VOR/DME A approach** was reviewed, and turbines #3 and #4 will be contained within the secondary portion of the missed approach immediately after it is initiated. Turbine #4 will penetrate the Obstacle Clearance Surface by about 51 feet, and require an increase to the approach limits by the next higher 20-foot increment, thus 60 feet added to the limits of Category A & B. However, since this is a Circling approach, Category C will also have to be increased by 240 feet to 1600 feet as per the analysis of Circling reported for the RNAV approaches. Thus, the turbines will cause Category A & B limits to increase 60 feet, and Category C to increase significantly by 240 feet.

COLLINGWOOD AIRPORT OUTER SURFACE & TYPICAL CIRCUIT PATTERNS FOR RWY 31



COMMENTS OF VFR OPERATIONS

The majority of flight activities conducted at most regional airports in Canada are conducted under Visual Flight Rules. This consists of aircraft operating in moderate to good weather conditions, clear of cloud with visual reference to ground features, under the core principles of "see and be seen".

The standard means for aircraft to achieve separation under VFR near a runway, is to conform to a standard "circuit pattern", which is a rectangular race-track with a downwind leg parallel to the runway and offset 1-2 miles. Turns to and from the runway are executed 1-2 miles from the runway ends. Regulations stipulate that all turns in the vicinity of a runway shall be left-hand, and therefore the circuit is normally counter-clockwise. Pilots apply such patterns methodically in order to establish safe separation, and to sequence themselves for landings and take-offs. The typical "circuit patterns" are depicted on to the map above, in white for single-engine light aircraft and in yellow for twin-engine or jet aircraft, which is larger due to higher speeds.

The circuit pattern to runway 31 at Collingwood is south of the runway and will pass over or adjacent to five turbine positions. Since winds in Canada are predominantly from the west or northwest, favouring Runway 31, this circuit pattern will be active most of the time. With a standard height of 1000 feet above the airport, there will be clearances of only about 500 feet above the turbines. If the airport authority would change the circuit pattern to north of the runway, this would significantly increase aircraft traffic over the populated urban areas, which is not desirable. It would also create a non-standard operation which has its obvious hazards, especially to itinerant visiting aircraft unfamiliar with Collingwood. It is also common knowledge that the Collingwood area is subject to rapidly changing weather conditions, strong lake effect snowfalls, low ceilings and poor visibility. White turbines in close proximity to a runway and its associated VFR circuit patterns is a potentially lethal mix.

REPORT BY WPD AVIATION CONSULTANTS

On August 2, 2012, SMS Aviation Safety, consultants retained by wpd Canada, delivered a report during a public open house held at Stayner. This report delivered by SMS is the only documentary information provided to date by wpd Canada that attempts to address aviation aspects of the Fairview Windfarm, as related to the Collingwood Airport. While the wpd management has repeatedly stated that their aviation safety consultants have determined that there would be no safety hazards caused by their project, the stated objective of the SMS Report “was to estimate the degree to which the Fairview wind project might restrict IFR-governed aircraft from landing at Collingwood Regional Airport”.

I provided a written rebuttal to all SMS points two weeks after the press conference, to the airport authority who subsequently provided it to wpd. No response has been received.

The SMS report is substantially inadequate for the following reasons:

1. **Authors Unqualified.** While the authors of the SMS Report are aviation professionals with considerable regulatory experience, none is qualified or experienced in the design of instrument flight procedures, which is strictly governed by rules published in Transport Canada manual TP308 “Criteria for the Development of Instrument Procedures”. Thus, their analysis did not touch the technical details of any of the approach procedures serving Collingwood.
2. **IFR-only Considered.** The report only attempts to address flight operations in Instrument Flight Rules (IFR) weather conditions. It does not, nor does any other analysis provided by wpd or SMS, address concerns about the safety of Visual Flight Rule (VFR) operations in the vicinity of Collingwood Airport.
3. **VFR Excluded.** The report emphasized that the study excluded VFR-operated aircraft. It provided an estimate of 4001 landings per year at Collingwood, and only between 90 and 216 flight would be by IFR aircraft. Again, the remaining 3,800 or 95% of landings which are VFR were not addressed at all.
4. **Aircraft Movements Estimated Low.** The report assumed there were 7,502 itinerant movements in 2010 and 8,501 movements in 2011 at Collingwood, figures apparently obtained from Statistics Canada. Actually, the airport authority reports there were some 12,000 movements in 2011, increasing steadily at 5% per year.

5. **Weather Assumptions Invalid.** The report attempts to discuss weather conditions at Collingwood, using historical data from the military helicopter aerodrome at CFB Borden, which is 15 Nautical Miles distant. The report acknowledges that Collingwood is “subject to strong lake effect snowfalls, low ceilings and poor visibility”. Such weather conditions surely do not occur in like fashion at the Borden heliport, which is an inland facility. Valid conclusions regarding weather conditions cannot be drawn from this information.
6. **Circling Option Not Respected.** The author expressed an opinion that since there will be GNSS approaches published to both runway ends, “there will normally be no need for a pilot to conduct a circling approach from and LPV or LNAV approach”. Consequently, he dismissed an analysis of circling from his report. It is NAV CANADA policy to design and publish a circling option on all instrument approach procedures, and there are number of reasons or situations when a pilot may choose to conduct the approach straight ahead, but circle to land on the opposing runway. However, the Fairview Wind Project will detrimentally affect circling, increasing the minima for Category C aircraft by 360 feet and for Category D by 260 feet.
7. **VOR/DME Approach Dismissed.** The report attempts to dismiss the published VOR/DME approach as being unusable in future, because most significant aircraft are GNSS equipped. He states that the approach is used “to conduct a cloud breaking manoeuvre over the airport and then circle visually to land”. It fails to recognize that this approach continues to be a very useful conventional option for aircraft not equipped with GNSS equipment, or as a back-up when an aircraft GNSS system may fail. As well, this approach commences at the Midland VOR facility which supports six airways, and as such provides a transition from the airways for aircraft flying conventional routings. The problem that is ignored is that the approach limits for this useful approach will increase by 60 feet for Category A & B aircraft, and a significant 240 feet for Category C, after the Fairview turbines are erected.
8. **Outer Surface Dismissed.** The report does not address the Obstacle Limitation Surfaces for Collingwood, however the “Outer Surface” was discussed by SMS verbally during the open house press conference when questioned by reporters. It was stated that this aspect only applies to certified airports, but failed to acknowledge that Transport Canada strongly encourages all aerodromes in Canada to respect the standards of TP312 wherever possible. Because an airport is not certified does not mean it can or should be "less safe". Future plans for the airport could include scheduled commercial service, and it will need to recertify.
9. **Comparison to Billy Bishop Airport Not Relevant.** During the open house, SMS made a comparison between Collingwood Airport and Billy Bishop Toronto City Airport (BBTCA). The existence of significantly high structures such as the CN Tower in close proximity to BBTCA was used as justification to allow turbines close to Collingwood. BBTCA is a commercial airport that primarily serves commuter flights on IFR flight plans with a small proportion of general aviation movements. Because it cannot meet TP312 standards, BBTCA has a special certification status that took years to evolve. It has a control tower that has special procedures in place to warn about tall ships passing the runway ends. The tall buildings near the airport are partially mitigated by a restriction against circling to the north, but as well the local airspace is ATC controlled and covered by numerous radars. The primary

Runway 08/26 is served by ILS approach systems which have non-standard offset alignments and glide-slope angles well above standard at 3.5 degrees and 4.8 degrees, the latter restricted to only specially authorized aircraft and with numerous conditions to be met. Having described all these unique aspects that exist at Billy Bishop airport, it is surely unreasonable to make a comparison to Collingwood which is a regional, uncontrolled aerodrome that currently meets all TP312 standards. This comparison is irrational and not relevant to the issues.

SUMMARY AND RECOMMENDATIONS

In summary, the potential effects on the Collingwood Airport, that could be caused by the proposed Fairview Wind Project, are as follows:

- The RNAV(GNSS) RWY 13 LNAV approach will contain 7 turbines within the secondary of the missed approach segment, and two will penetrate the obstacle surface by 18' and 3'. The minimum limits would have to be raised by 20'.
- The RNAV(GNSS) RWY 31 LNAV approach will contain turbine #8 just inside the secondary area of the final approach segment. The minimum limits would have to be raised by 120', a relatively significant amount that will reduce the effectiveness.
- The VOR/DME A approach will be penetrated approximately 51' by turbine #4, contained in the secondary of the missed approach segment. The Category A & B approach limits would have to be increased 60', the next higher 20-foot increment. The Category C would increase by 240' as per the Circling results.
- Detrimental effects to Circling will apply to all approaches. Category C Circling would be contained by turbines #3 and 4, and Category D by turbines #1, 3, 4, 5, and 8. Categories C and D Circling would have to increase to 1600' ASL, a significant amount over the planned minima of 1260' and 1340' respectively.
- It is obvious that the turbines will constitute a potentially lethal hazard to VFR operations at Collingwood, primarily since several will be in close proximity to and underlie the standard circuit pattern serving Runway 31.

Aircraft flight operation is an inherently hazardous activity, and the consequences of errors can be extreme. The most dangerous phases of flight are arrivals and departures, because the aircraft is in close proximity to the ground, and it must be flown at slower speeds with changing configurations. The danger is increased when the weather is in instrument conditions. Therefore it must be concluded that any new condition that adds complexity to arrivals and departures should be avoided. When new obstacles of significant height are erected, that penetrate an Obstacle Limitation Surface that protects a runway, they are a safety hazard. When these obstacles penetrate the final and/or missed approach segments of several published instrument approach procedures, such that the only option is to raise the minima, they are too close.

The Fairview turbine locations, which are discretionary, will detrimentally affect an important growing airport that promises to be a regional transportation hub and economic engine in future. wpd Canada and its consultant have failed to address most of the aviation safety concerns expressed by the Collingwood airport and local aviators.

My overall conclusion remains, that the turbines as proposed should be moved to another location or the project should not be approved as planned. Further clarification of these findings can be provided by contacting me anytime.

Yours truly,

A handwritten signature in black ink, appearing to read 'Chas Cormier', with a long, sweeping underline that extends to the left.

Charles (Chas) Cormier

chascorm@rogers.com

Office: 819-717-9555

Cell: 514-979-0961

Charles Cormier, has over 37 years aviation experience as a pilot in the Canadian Air Force, with Transport Canada, NAV CANADA, and private industry, with over 7000 hours flight time. He retired from the military in 1991 after active duty as a Sea King pilot in the Gulf War, attaining Lieutenant-Colonel rank. As an aeronautical information specialist formerly with NAV CANADA, MDA Aviation, and IDSNA, he has designed or conducted full quality review of over 1000 instrument flight procedures published in Canada, Myanmar, Ecuador and elsewhere. He has performed numerous flight checks, and can advise on aerodrome standards and automated weather observation systems (AWOS) requirements. Until recently, he was Chief Technical Director with IDS North America based in Montreal, supervising the redesign 900+ instrument procedures per year with advanced computer design tools, under contract with NAV CANADA. As a volunteer, he serves as President of the Foundation of the Royal Military College of Saint-Jean.

APPENDIX 4

NAV Canada Correspondence re:
Impacts of the wpd Turbine Project on
Operating Procedures at the CRA



December 18, 2009

Your file
1457 Fairgrounds Rd S., Stayner, ON
Our file
09-2270

Ms. Khlaire Parre
WPD Canada Corporation
405 Britannia Rd. E.
Mississauga, ON
L4Z 3E6

RE: Wind Farm: 8 turbines (N44° 23' 38.74" W80° 07' 32.19") - Stayner, ON

Dear Ms. Parre,

We have evaluated the captioned proposal and NAV CANADA has no objection to the project as submitted. Let me emphasize however that our assessment is limited to the impact of the proposed physical structure on the air navigation system and installations. Industry Canada addresses any spectrum management issues that may arise from your proposal and consults with NAV CANADA engineering as deemed necessary.

In the interest of aviation safety, it is incumbent on NAV CANADA to maintain up-to-date aeronautical publications and issue NOTAM as required. To assist us in that end, we ask that you notify us at least 10 business days prior to the start of construction. This notification requirement can be satisfactorily met by returning a completed, signed copy of the attached form and spreadsheet to us by e-mail at landuse@navcanada.ca or fax at 613-248-4094. In the event that you should decide not to proceed with this project or if the structure is dismantled, please advise us accordingly so that we may formally close the file.

In the event that you should decide not to proceed with this project or if the structure is dismantled, please advise us accordingly so that we may formally close the file. If you have any questions, contact the Land Use Department by telephone at 1-866-577-0247 or e-mail at landuse@navcanada.ca.

NAV CANADA's land use evaluation is valid for a period of 12 months. It neither constitutes nor replaces any approvals or permits required by Transport Canada, Industry Canada, other Federal Government departments, Provincial or Municipal land use authorities or any other agency from which approval is required.

Yours truly,

A handwritten signature in black ink that reads "Chris Csatos".

Christopher Csatos
for
Tom Hollinger
Manager, Data Collection
Aeronautical Information Services

cc ONTR-Ontario Region, Transport Canada
CNY3-COLLINGWOOD



September 23, 2011

Your file
Fairview Wind Project
1457 Fairground Rd, S. L0M 1S0, Stayner

Our file
11-2058

Ms. Khlaire Parre
WPD Canada Corporation
2233 Argentia Road, Suite 102
Mississauga, ON
L5N 2X7

RE: Wind Farm: 8-turbine wind farm - Stayner, ON
(N44° 24' 08.900" W80° 7' 57.925" / 479.0260' AGL / 1397.3779' AMSL)

Ms. Parre,

We have evaluated the captioned proposal and NAV CANADA has the following observations:

- While the Stayner (Clearview Field) aerodrome (CLV2) is not served by instrument procedures, there are a number of proposed turbines in close proximity. You may want to consult with the operators of this aerodrome regarding potential impacts.
- Turbines R1, R3, R4, R5, and R8 are located within the lateral confines of airspace known as 'circling areas' protected for aircraft conducting a circling approach to the Collingwood, ON (CNY3) airport. The height of the proposed turbines at those specific locations results in a penetration of the circling areas for the "RNAV (GNSS) RWY 13" and "VOR/DME A" instrument approach procedures.
- These penetrations would require mitigation through an increase to the circling MDA (minimum decent altitude) for both instrument approach procedures. The increase is 120' for the VOR/DME A and 220' for the RNAV (GNSS) runway 13 circling minima. This increase would require redesign of both instrument procedures at your cost.
- As well, any increase to the circling MDA may adversely affect the accessibility of the aerodrome during periods of inclement weather, especially for aircraft dependant on circling minima such as those without RNAV (GNSS) capability.
- Finally, the design of a straight-in RNAV (GNSS) runway 31 procedure would reduce the requirement for circling.

In the event that you should decide not to proceed with this project, or you wish to proceed with design/re-design of the instrument procedures, please advise us accordingly. If you have any questions, contact the Land Use Department by telephone at 1-866-577-0247 or e-mail at landuse@navcanada.ca.

NAV CANADA's land use evaluation is valid for a period of 12 months. Our assessment is limited to the impact of the proposed physical structure on the air navigation system and installations; it neither constitutes nor replaces any approvals or permits required by Transport Canada, Industry Canada, other Federal Government departments, Provincial or Municipal land use authorities or any other agencies (airport authorities and owners) from which approval is required. Industry Canada addresses any spectrum management issues that may arise from your proposal and consults with NAV CANADA Engineering as deemed necessary.



Yours truly,

A handwritten signature in black ink that reads "Chris Csatlos".

Christopher Csatlos
for
David Legault
Manager, Data Collection
Aeronautical Information Services

cc Aerodromes and Air Navigation – Ontario Region, Transport Canada
David Legault, Manager – AIS Assembly, Data Collection and NOTAM Office, NAV CANADA
Jeff MacDonald, Director – Operations Planning and Programs, NAV CANADA
Michelle Bishop, Manager – Government and Public Affairs, NAV CANADA
Pierre Lajoie, Collingwood Airport – CNY3
Kevin Elwood, Stayner (Clearview Field) – CLV2



March 19, 2013

Fairview Wind Project (1457 Fairgrounds Rd. S.) Stayner
Your file
Our file
12-3994

Mr. Jonathan Clifford
WPD Canada Corporation
2233 Argentia Road, Suite 102
Mississauga, ON
L5N 2X7

**RE: Wind Farm: 8-turbine wind farm - Stayner, ON
(Evaluated as per attached spreadsheet)**

Mr. Clifford,

NAV CANADA has evaluated the captioned proposal and come to the following conclusions:

- Turbine R3 is within the circling area for Category 'C' aircraft conducting the 'RNAV (GNSS) RWY 13' or 'VOR/DME A' instrument approaches to Collingwood, ON (CNY3) airport;
- Turbines R1, R3, R4, R5, and R8 are within the circling area for Category 'D' aircraft conducting the 'RNAV (GNSS) RWY 13' or 'VOR/DME A' instrument approaches to Collingwood, ON (CNY3) airport; and
- Implementation of a 'Circling Restriction' prohibiting aircraft from conducting a circling approach south of runway 13/31 would allow the currently-published circling minimum decent altitudes (MDA) to remain unaffected.

As part of the Land Use Proposal assessment process, NAV CANADA distributes proposed obstacle data to external instrument procedure design organizations so that they may determine if the proposed obstacles affect their interests and instrument procedures. During the course of this review, NAV CANADA received comments from two external organizations regarding impacts to their instrument procedures pending publication:

- For Collingwood, ON (CNY3) airport: the proposed wind farm will impact the circling areas for Category 'C' and 'D' aircraft conducting the 'RNAV (GNSS) RWY 13' and 'RNAV (GNSS) RWY 13' approaches, precluding circling between the threshold of runway 31 clock-wise to the threshold of runway 01.
- For Stayner (Cleaview Field), ON (CLV2) airport: The proposed wind farm will cause the following adverse effects:
 - The 'RNAV (GNSS) RWY 16' approach would suffer a rise in straight-in minima of 200 feet;
 - The Circling minima for this approach and the VOR/DME A minima would require an increase of 240 and 220 feet for Category A and B respectively; and
 - Departures from both Runways 16 and 34 can be conducted in ½ mile visibility, conditional with a modest climb gradient or no left turn until 1500 feet ASL, respectively. After the turbines are erected, the only IFR departure option would require a visual climb until 1700 feet ASL or 823 feet above aerodrome, before proceeding on course.



NAV CANADA's evaluation and conclusions are based only on the impacts to procedures we maintain; therefore, we do not object to the proposal as submitted provided our construction notification requirements (detailed below) are met.

With respect to impacts to instrument procedures maintained by external organizations, we encourage you to consult directly with all affected aerodromes and external instrument procedure design organizations to avoid adversely affecting airport operations.

This proposal is not expected to cause electronic interference to NAV CANADA ground-based navigation aids, including RADAR; however, interference to certain navigation aids from wind turbines is cumulative and depends on the location, configuration, number, and size of turbines. All turbines must be considered together for analysis and while initial turbines may be approved, continued development may not always be possible.

In the interest of aviation safety, it is incumbent on NAV CANADA to maintain up-to-date aeronautical publications and issue NOTAM as required. In order to ensure the required amendments are published prior to the erection of any wind turbines, we require notifications 150 calendar days and 10 business days prior to the start of construction. These notification requirements can be satisfactorily met by returning completed, signed copies of the attached forms by e-mail at landuse@navcanada.ca or fax at 613-248-4094.

If you have any questions, contact the Land Use Department by telephone at 1-866-577-0247 or e-mail at landuse@navcanada.ca.

NAV CANADA's land use evaluation is valid for a period of 12 months. Our assessment is limited to the impact of the proposed physical structure on the air navigation system and installations; it neither constitutes nor replaces any approvals or permits required by Transport Canada, Industry Canada, other Federal Government departments, Provincial or Municipal land use authorities or any other agency from which approval is required. Industry Canada addresses any spectrum management issues that may arise from your proposal and consults with NAV CANADA engineering as deemed necessary.

Yours truly,

A handwritten signature in black ink that reads "Chris Csatlos".

Christopher Csatlos
for
David Legault
Manager, Data Collection
Aeronautical Information Services

cc ONTR – Ontario Region, Transport Canada
Marcel Pinon, Manager – Level of Service and Aeronautical Studies, NAV CANADA
Michelle Bishop, Director – Government and Public Affairs, NAV CANADA
Pierre Lajoie, Manager – Collingwood, ON (CNY3)
Kevin Elwood, Owner – Stayner (Clearview Field), ON (CLV2)
Narren Santos, Senior Program Support Coordinator – Ontario Ministry of the Environment



April 16, 2014

Your file
Fairview Wind Project (1457 Fairgrounds Rd. S.) Stayner
Our file
14-0151

Ms. Khlaire Parre
WPD Fairview Wind Inc.
2233 Argentia Road
Mississauga, ON
L5N 2X7

RE: Wind Farm: 8 Wind Turbines - Stayner, ON
(N44° 24' 08.90" W80° 7' 58.19" / 476.3780' AGL / 1394.7299' AMSL)

Ms. Parre,

NAV CANADA has evaluated the captioned proposal and come to the following conclusions regarding instrument procedures at the Collingwood, ON (CNY3) airport:

- 'RNAV (GNSS) RWY 13' and 'RNAV (GNSS) RWY 31' approaches:
 - Turbine R3 is within the circling area for Category 'C' aircraft and turbines R1, R3, R4, R5, and R8 are within the circling area for Category 'D' aircraft.
 - Category C & D circling minimum decent altitude (MDA) to be increased to 1600 feet above sea level (870 feet above ground level); however, the impact could be negated by restricting circling for Category C & D aircraft to north of runway 13/31.
- VOR/DME A' instrument approach:
 - Turbine R3 is within the missed approach segment.
 - Category A & B minimum decent altitude (MDA) to increase by 80 feet (to read: 1320ft above sea level, 590ft above ground level). *This impact is due to the MDA being lowered significantly since our previous evaluation in 2012; the new MDA would remain 160 feet lower than 2012-levels.*
 - Category C circling minimum decent altitude (MDA) to be increased to 1600 feet above sea level (870 feet above ground level); however, the impact could be negated by restricting circling for Category C aircraft to north of runway 13/31.

As part of the Land Use Proposal assessment process, NAV CANADA distributes proposed obstacle data to external instrument procedure design organizations so that they may determine if the proposed obstacles affect their interests and instrument procedures. During the course of this review, NAV CANADA received comments regarding impacts to instrument procedures at Stayner (Clearview Field), ON (CLV2) airport; these comments are summarized below and a copy of their report is attached as Appendix A to this document.

- Four turbines will be contained in the final segment of the RNAV (GNSS) RWY 16 approach and would cause the limits to be raised to 693 feet above touchdown, a penalty of 180 feet.
- The VOR/DME A approach has 7 of 8 turbines captured in the final segment, and the last would be immediately in the missed approach, causing the approach limits to rise to 843 feet above aerodrome elevation. This will be a significant increase of 240 and 220 feet to CAT A & B minima.
- The Circling option to any approach would be affected by the turbines, raising the CAT A & B minima by 240 and 220 feet.
- Two turbines would penetrate the critical zone 1 of the departure procedures and would require a visual climb to 1700 feet ASL before proceeding on course as the only option. This would necessitate moderately good weather conditions, and departures in marginal weather otherwise allowed, would not be permitted.

NAV CANADA's evaluation and conclusions are based only on the impacts to procedures we maintain; therefore, we do not object to the proposal as submitted provided our construction notification requirements (detailed below) are met.



With respect to impacts to instrument procedures maintained by external organizations, we encourage you to consult directly with external instrument procedure design organizations and both affected aerodromes to avoid adversely affecting airport operations.

The nature and magnitude of electronic interference to NAV CANADA ground-based navigation aids, including RADAR, due to wind turbines depends on the location, configuration, number, and size of turbines; all turbines must be considered together for analysis. The interference of wind turbines to certain navigation aids is cumulative and while initial turbines may be approved, continued development may not always be possible.

In the interest of aviation safety, it is incumbent on NAV CANADA to maintain up-to-date aeronautical publications and issue NOTAM as required. In order to ensure the required amendments are published prior to the erection of any wind turbines, we require notifications 150 calendar days and 10 business days prior to the start of construction. These notification requirements can be satisfactorily met by returning completed, signed copies of the attached forms by e-mail at landuse@navcanada.ca or fax at 613-248-4094.

NAV CANADA's land use evaluation is valid for a period of 12 months. Our assessment is limited to the impact of the proposed physical structure on the air navigation system and installations; it neither constitutes nor replaces any approvals or permits required by Transport Canada, Industry Canada, other Federal Government departments, Provincial or Municipal land use authorities or any other agency from which approval is required. Industry Canada addresses any spectrum management issues that may arise from your proposal and consults with NAV CANADA engineering as deemed necessary.

Yours truly,

A handwritten signature in black ink, appearing to read "DL", written over a light blue horizontal line.

Digitally signed by Lucking, Michael
DN: c=CA, o=GC, ou=TC-TC,
cn=Lucking, Michael
Date: 2013.11.22 12:30:00 -05'00'

David Legault
Manager, Data Collection
Aeronautical Information Services

cc ONTR - Ontario Region, Transport Canada (ATS-13-14-00020734)
CLV2 - STAYNER (CLEARVIEW FIELD)
CNY3 - COLLINGWOOD



March 19, 2015

Fairview Wind Project (1457 Fairgrounds Rd. S.)
Your file Stayner
Our file 15-0581

Mr. Jonathan Clifford
WPD Fairview Wind Inc.
2233 Argenta Road Suite 102
Mississauga, ON
L5N 2X7

**RE: Wind Farm: 8 Wind Turbines - Stayner, ON
(See attached spreadsheet)**

Mr. Clifford,

We have evaluated the captioned proposal and NAV CANADA has no objection to the project as submitted. Be advised that the locations and heights of the proposed turbines will require the following publication amendments to the procedures for Collingwood Airport (CNY3):

RNAV 13 and RNAV31: CIRCLING CAT C&D TO READ 1600(870) 2 ¾ (+360', +260' RESPECTIVELY)
VOR/DME A: CAT A+B TO READ 1320(590) 1 ¾ (+80'), CAT C TO READ 1600(870) 2 ¾ (+360')
These impacts can be limited by sectoring the circling for CAT C and D to the North of 13-31.
DEP 13 (IN PROCESS): MIGHT NEED TO BE REDESIGNED- PRESENT PUBLISHED DEP OK.

NAV CANADA's evaluation and conclusions are based only on the impacts to procedures we maintain; therefore, we do not object to the proposal as submitted provided our construction notification requirements (detailed below) are met.

With respect to impacts to instrument procedures maintained by external organizations, we encourage you to consult directly with all affected aerodromes and external instrument procedure design organizations. As procedures to Stayner (Clearview Field) Airport (CLV2) are also impacted by the project we recommend you contact the design firm for those procedures to discuss mitigations. The appropriate contact is Chas Cormier who can be reached at 819-717-9555 or chascorm@rogers.com.

Any changes to the locations and heights of the turbines will require a new land use submission and review.

The nature and magnitude of electronic interference to NAV CANADA ground-based navigation aids, including RADAR, due to wind turbines depends on the location, configuration, number, and size of turbines; all turbines must be considered together for analysis. The interference of wind turbines to certain navigation aids is cumulative and while initial turbines may be approved, continued development may not always be possible.

In the interest of aviation safety, it is incumbent on NAV CANADA to maintain up-to-date aeronautical publications and issue NOTAM as required. To assist us in that end, we ask that you notify us at least 10 business days prior to the erection of the turbines. This notification requirement can be satisfactorily met by returning a completed, signed copy of the attached form by e-mail at landuse@navcanada.ca or fax at 613-248-4094. In the event that you should decide not to proceed with this project or if the structure is dismantled, please advise us accordingly so that we may formally close the file.

If you have any questions, contact the Land Use Department by telephone at 1-866-577-0247 or e-mail at landuse@navcanada.ca.



NAV CANADA's land use evaluation is valid for a period of 12 months. Our assessment is limited to the impact of the proposed physical structure on the air navigation system and installations; it neither constitutes nor replaces any approvals or permits required by Transport Canada, Industry Canada, other Federal Government departments, Provincial or Municipal land use authorities or any other agency from which approval is required. Industry Canada addresses any spectrum management issues that may arise from your proposal and consults with NAV CANADA engineering as deemed necessary.

Yours truly,

A handwritten signature in black ink, appearing to be "DL" or similar initials, written in a cursive style.

David Legault
Manager, Data Collection
Aeronautical Information Services

cc ONTR - Ontario Region, Transport Canada
CLV2 - STAYNER (CLEARVIEW FIELD)
CNY3 - COLLINGWOOD
Chas Cormier – Aeronautical Information Consultant (CLV2)

APPENDIX 5

Correspondence from Collingwood
Aviation Partners et al re: Impacts of
the wpd Turbine Project on the CRA
as a Viable Business Location



COLLINGWOOD
AVIATION PARTNERS
BOX 312 COLLINGWOOD ON L9Y3Z7

December 28, 2015

Dear Mr. Genest

The opportunity for the Georgian Bay Region to benefit from industry development at the Collingwood Regional Airport will be compromised with aircraft safety penalties imposed by the addition of wind turbines near the airport. Attracting quality, long-term aviation industry investment is dependent on maintaining the airport's current flight operation capabilities.

The airport currently supports IFR (instrument flight rules) approach and departure minimums suitable to attract major operators. Any complication or reduction of current IFR approaches will impact market interest in the Collingwood Regional Airport. Maintaining current IFR capabilities at the airport is critical to Collingwood Aviation Partners' (CAP) site development plan. To negatively alter flight operation minimums to accommodate wind turbines would diminish the competitive position of the airport and depreciate the investment made by private operators such as Genesis Flight Centre and CAP.

CAP and Genesis are ready to break ground on an initial redevelopment plan for the CAP site, building 44,000 square feet of modern and efficient hanger space, plus an additional 44,000 square feet of office and college facilities. Our major tenant for the first new building, bringing four jet turbo prop aircraft to Collingwood as a permanent base, has told us that they would not come to Collingwood if the IFR minimums are reduced.

This first phase of development planned for the site represents only about half of what we anticipate building on the six acre property owned by CAP over the next few years. With wind turbines within the aircraft approach zone, and the resulting negative impact to the airport's operational capability, our development would not continue as currently planned and the entire site would need to be re-evaluated for other uses.

The flight school operated by Genesis will be negatively impacted with a reduction of advanced training capabilities as it enters a phase of growth focused on airline industry training. Safety is the first consideration in the flight training environment, and aviation as a whole. Turbine towers impose a direct negative impact on the safety of advanced flight training conducted in weather minimums, and negative economic impact on the school's recruitment capabilities.

The turbine project would potentially eliminate fifteen million dollars of economic growth and an estimated one hundred quality aviation sector careers on our site alone.

Regards,

David Hughes
[Collingwood Aviation Partners Ltd.](#)
Mobile: 705-715-8363
collingwoodaviation@gmail.com



John P. Genest, MCIP, RPP, PLE
MALONE GIVEN PARSONS LTD.
140 Renfrew Drive, Suite 201,
Markham, ON,
L3R 6B3 Canada

December 21, 2015

Re: Economic Impact Assessment – Collingwood Regional Airport

Dear Mr. Genest:

Please accept my thanks for the time and consideration you have provided related to the Economic Impact Assessment you are currently preparing.

In keeping with the data that I have provided over the past three weeks, I would like to reconfirm that our Strategic Advisory Board's approved forecasts demonstrate a build out of over three hundred million dollars through all three Phases of our Airport.

While the Aviation/Aerospace industry will demonstrate growth in excess of 10% over the next decade, it is important to recognize that there are many Airports throughout the USA, Quebec and New Brunswick currently vying to host the companies that will make up this growth.

Our investor group has full confidence in our ability to compete and attract industries to Ontario, considering the current environment we enjoy in Clearview Township which is located directly beside the Collingwood Regional Airport.

The major attribute beyond lifestyle in our marketing strategy is an Airport that currently complies with internationally recognized Transport Canada flight safety guidelines and regulations.

I believe it is important to formally and clearly state that any breach of these guidelines, such as 450' tall industrial wind turbines in close proximity to the Collingwood Regional Airport would cause an **end to our development**. Quite simply, we could not compete from a marketing perspective against other regions throughout North America that offer these internationally accepted safety standards.

I trust this fully communicates our position.

Sincerely,

Hon. Paul Bonwick P.C.
Senior Vice President, Operations and Business Development

www.ClearviewAviation.com



Trans Capital Air

STOLPORT
CORPORATION

30 December 2015

Environment Approvals Branch
Ministry of the Environment and Climate Change
2 St. Clair Ave W, Floor 12A
Toronto, ON M4V1L5

Attn: Mohsen Keyvani, Team 5

Dear Sir/Madame:

I am writing to you in regards to the Clearview Aviation Business Park as well as the Collingwood Regional Airport.

Please know that STOLPORT CORPORATION and TRANS CAPITAL AIR continue to explore opportunities in strengthening our overall business model through strategic investment opportunities within the aviation industry in Canada.

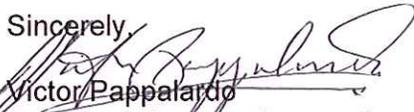
In keeping with this strategic vision, I have been engaged in discussion with representatives from the Clearview Aviation Business Park. These discussions have been focused on how we might structure a presence for STOLPORT CORPORATION and TRANS CAPITAL AIR within this Aviation Business Park as part of our long term strategic vision.

It is important for the Ministry of Environment to clearly understand that STOLPORT CORPORATION and TRANS CAPITAL AIR would not be in a position to further explore these opportunities in the face of potential obstructions that would clearly breach Transport Canada guidelines.

As you will know, the Collingwood Regional Airport, like 90% of airports in Canada, does not provide controlled airspace. In respect to flight safety, our staff, passengers and neighbours we would eliminate this location as a viable part of our long term strategic growth strategy.

In closing, I would respectfully request that the Ministry of the Environment and Climate Change recommend against the current wind turbine application.

Sincerely,



Victor Pappalardo
President, Stolport Corporation
Founder and Strategic Counsel, Trans Capital Air

cc Antoine Pappalardo
President and Director, Trans Capital Air

STOLPORT CORPORATION

Billy Bishop Toronto City Airport - Hangar 1, Toronto, Ontario, Canada

PH: 416-203-1144 FX: 416-361-1327

www.bbtcparking.com



APPENDIX 6

MOECC Letter to wpd Fairview re:
Requirement for an Economic
Impacts Analysis, October 6, 2015

Ministry of the Environment
and Climate Change

Ministère de l'Environnement et de
l'Action en matière de changement
climatique



Environmental Approvals
Branch

Direction des autorisations
environnementales

135 St. Clair Avenue West
1st Floor
Toronto ON M4V 1P5
Tel.: 416 314-8001
Fax: 416 314-8452

135, avenue St. Clair Ouest
Rez-de-chaussée
Toronto ON M4V 1P5
Tél.: 416 314-8001
Télééc.: 416 314-8452

October 6, 2015

Khlaire Parré
Director, Renewable Energy Approvals
wpd Fairview Wind Incorporated
2233 Argentinia Road, Suite 102
Mississauga ON L5N 2X7
e-mail: khlaire@wpd-canada.ca

This is Exhibit T referred to in the
affidavit of Mousen Keyvani
sworn before me, this 24th
day of November 20 15
[Signature]
A COMMISSIONER, ETC

Dear Ms. Parré:

Subject: Fairview Wind Project
Economic Impacts on Collingwood Regional Airport

Staff at the Ministry of the Environment and Climate Change (MOECC) continue to undertake the technical review of wpd Fairview Wind Incorporated's (wpd's) Fairview Wind Project (Project) application for a Renewable Energy Approval (REA). The MOECC is concerned about the Project's potential economic impacts on the Collingwood Regional Airport resulting from the operational impacts that Transport Canada has indicated will occur at the Airport.

In its comments to the MOECC, Transport Canada has indicated that in order to maintain aviation safety at Collingwood Regional Airport, if the Project were to be implemented, it will be necessary to raise the limits of the instrument approach procedures, which may result in impacts on aerodrome operations at the airport. One of the minimum limits would have to be raised by 120 feet, described as a significant penalty, and would reduce the effectiveness of the instrument approach. The same submission from Transport Canada suggests that the impacts from changes to limits at the Stayner aerodrome could be reduced by altering circling patterns of the plane.

In view of Transport Canada's assessment of the operational impacts at Collingwood Regional Airport, the Director requires wpd to complete an analysis of the economic impact of the Project on the aerodrome operations at the airport, including how the changes in operations may impact planned airport expansion outlined in the Collingwood Economic Development Action Plan (May 2015). The Director expects that this economic impact analysis will involve input from and engagement with Collingwood Regional Airport.

This additional information is required to better inform the MOECC's review and the Director's decision in respect of wpd's application for a REA. Please provide the economic impact analysis to the MOECC by **November 9, 2015**.

Should you have any questions regarding the above mentioned requirement or should you require additional time, please contact Sarah Raetsen, Senior Project Evaluator, at 416-326-6089.

Yours sincerely,



Mohsen Keyvani
Supervisor, Team 5
Environmental Approvals Branch

cc. Kathleen Hedley, Director, Environmental Approvals Branch

APPENDIX 7

Economic Impacts Report, Prepared
by Maury Hill and Associates Inc.,
November 9, 2015

wpd Canada

**The Economic Impacts of the Fairview Wind
Project on Collingwood Regional Airport**

Prepared by

**Maury Hill and Associates, Inc
2060 Richardson Side Rd.,
Carp, Ontario
Maury.w.hill@gmail.com**

November 9, 2015

INTRODUCTION

wpd Canada is in the process of developing a number of wind farm projects throughout Canada, including a wind energy generation facility known internally as the Fairview Wind Project near the Collingwood Regional Airport.

Staff at the Ministry of the Environment and Climate Change (MOECC) continue to undertake the technical review of the Fairview Wind Project application for a Renewable Energy Approval (REA). As part of this review, the MOECC has recently expressed concern about the project's potential economic impacts on the Airport resulting from the operational impacts that Transport Canada has indicated will occur at the Airport.

The MOECC has subsequently directed wpd Canada to complete an analysis of the economic impact of the project on the aerodrome operations at the airport, including how the changes in operations may impact planned airport expansion outlined in the Collingwood Economic Development Action Plan (May 2015). MOECC had expected that the economic impact analysis would involve input from, and engagement with, Collingwood Regional Airport.

To this end, wpd Canada commissioned an examination of the economic impact analysis to meet the needs of the MOECC directive.

SCOPE and SCALE

The analysis of economic impact considered the following two areas:

- the economic impact of the project on current aerodrome operations at the Collingwood Regional Airport, and
- the economic impact of changes in operations as they impact any planned or anticipated aerodrome expansion outlined in the Collingwood Economic Development Action Plan

METHODOLOGY

In general, economic impact analyses provide a quantitative method to estimate the economic benefits or detriments that a particular project or industry brings to the economies of surrounding communities where the specific project is located. Typically, economic impact studies use financial and economic data to generate estimates of output, GDP, employment and tax revenues associated with changes in the level of economic activity resulting from the project or industry being analyzed. In general, economic impacts can be estimated at the direct, indirect and induced levels.

Where financial or economic data are not available, or where the magnitude of the impacts are relatively low, then a qualitative approach to the economic impact analysis is appropriate.

The approach for this analysis proposed three phases:

1. At its core, the analysis would leverage the results of the safety and operational analyses previously conducted on behalf of wpd Canada, by Transport Canada, by NAV CANADA, and by Charles Cormier on behalf of the Collingwood Regional Airport. In essence, the analysis would seek to express the identified safety issues in economic impact terms.
2. The Collingwood Economic Development Action Plan and aerodrome expansion plans (if any) would be examined to assess potential economic impacts of a pre-existing wind farm in the area on those plans.
3. Input from the Collingwood Regional Airport would be sought through the engagement of local representatives in order to better inform the economic impact analysis. The engagement would take the form of in-situ discussions or telephone interviews.

In essence, the analysis was based on the principle that any negative economic impact would be the adverse effect of a significant impact of the Fairview Wind Project on operations at the Collingwood Regional Airport, which in turn would be the adverse effect of a significant impact on safe aerodrome operations caused by the project. The foundational assumption was that without such adverse effects, there could be no negative economic impact related to the installation of the related windmills.

RESULTS OF PREVIOUS STUDIES

Prior to employing any of the available analyses, i.e. those conducted by Terry Kelly of SMS Aviation Inc. on behalf of wpd Canada (*Fairview Wind Farm Preliminary Analysis*, March 2011; *Fairview Wind Farm Technical Analysis of Ground-Based Navigation Aids*, April 2011; *Potential Effects of the Fairview Wind Project on IFR Aircraft Accessing Collingwood Regional Airport*, July 2012), by Transport Canada, by NAV CANADA and by Charles Cormier on behalf of Collingwood Regional Airport, each was critically examined with respect to the methodology employed, and the appropriateness of the conclusions expressed. Having reviewed all documents, it is my professional judgment that the SMS Aviation Safety reports and NAV CANADA analysis were not found wanting in this regard – the methodological approach and conclusions are concurred with for the purpose of this report. However, the methods used in the Cormier report and the conclusions drawn contained some factual errors: for example, the number of wind turbines that would be within the 4 kilometer Outer Surface Limit (OLS) is 2 rather than 4, and in applying the OLS to the Collingwood aerodrome (as a non-certified aerodrome, the 4 kilometer radius/limit does not apply). Transport Canada's

subsequent reference to the Cormier report did not address this. Further, it is noted that NAV CANADA, as the national authority for air traffic services as well as the agency responsible for the instrument approaches, did not echo the minimum limit conclusions of the Cormier report with respect to changes to instrument approach procedures for RWY 13 and 31. Rather, NAV CANADA only requires changes on these approaches for Category C and D flights, which, as they note, can be mitigated by circling to the north.

Impact on Safety

While Transport Canada has acknowledged that the installation of the wind turbines associated with the Fairview Wind Project would create changes to the aviation environment around the Collingwood Regional Airport, Transport Canada also has indicated that any risks to safety will be addressed through a number of resulting actions, such as marking, lighting, publications, and operating procedures.

NAV CANADA evaluated the Fairview Wind Project proposal and had no objection to the project as submitted. NAV CANADA did advise that the locations and heights of the proposed turbines will require publication amendments to the procedures for Collingwood Regional Airport related to circling.

Impact on Aerodrome Operations

According to the *Canadian Aviation Regulations*, pilots are required to operate their aircraft using one of two sets of flight rules – visual flight rules (VFR) or instruments flight rules (IFR). “VFR” pilots must ensure they maintain visual references to the surface of the earth at all times while flying. They are responsible for seeing and avoiding obstacles, and for that reason, are restricted from flying in poor weather.

Turbines and other man-made obstacles are documented, and marked and lit conspicuously so that VFR pilots can see and avoid them in both daytime and nighttime conditions. While the wind turbines would represent yet another obstacle in the aviation environment to be avoided, avoiding them would not be unduly challenging in VFR conditions, and well within the skill level of any licensed pilot flying into Collingwood Regional Airport. The proposed changes to IFR procedures (as cited in the Cormier report) will have no negative impact on VFR operations, because VFR pilots will not fly in weather that requires IFR procedures. Therefore, this analysis concludes that the installation of the wind turbines will have no impact on VFR operations at the aerodrome.

On the other hand, “IFR” pilots rely on information from navigational equipment and flight instruments in their aircraft. As a result, they can operate in weather conditions that would prohibit VFR pilots from flying.

Studies completed in 2011 and 2012 by SMS Aviation Safety concluded that, of the estimated 90 to 216 aircraft expected to conduct an IFR approach annually (based on activity levels at that time), it was likely that none – and not likely more than three – would need to divert to an alternate airport, or be delayed in landing as a result of conducting a missed approach or entering the holding pattern before successfully landing at Collingwood due to low ceilings or reduced visibility.

It should be noted that there are a variety of reasons why an aircraft might be required to divert, apart from low ceilings or reduced visibility. There may be other weather concerns such as accumulated snow, heavy crosswinds or icy runways, as well as medical emergencies, mechanical issues, natural disasters, customs issues, terror threats, etc.

The main reasons the number of aircraft needing to divert for reasons related to the new minimas is so low relative to the total activity level (approximately 8000 movements per year) are as follows:

- Most aircraft flying to Collingwood are operated VFR, and will not be affected by changes to IFR procedures;
- The pilots of almost all IFR-operated aircraft arriving at Collingwood will be clear of cloud before arriving at the approach minima, and have visual reference to the runway, and land; and
- The minima for the runway and approach that will most often be used during inclement weather (013) will not be raised (or raised very slightly) because of the turbines. Consequently, if the turbines are constructed and pilots are unable to see the runway, they will conduct a missed approach from exactly the same altitude they would if the turbines are not constructed.

A recent review (October 2015) of the SMS Aviation Safety studies was conducted to determine whether the conclusions arrived at were still valid. The review determined that, if anything, the earlier studies had overestimated the actual number of IFR approaches conducted in instrument meteorological conditions (IMC). Nevertheless, for the purpose of this analysis, the earlier conclusions of 0 to 3 aircraft being impacted will be used.

For clarity, it is noted that the only flights that would be affected are those where the pilot(s) arrive at the new (raised) approach minima and do not have visual reference to the runway environment, when they otherwise would have if they had been able to descend to the previous (pre-turbine) approach minima.

Should the predicted weather be such that the altitude at which the runway is predicted to be visible is lower than the “new” minima, the pilots of the impacted aircraft would have two main options:

ANALYSIS OF ECONOMIC IMPACTS

- divert to an alternate airport with the attendant delays in completing the trip to Collingwood – if that was the objective, or
- fly the approach, anticipating that the actual condition would be better than that predicted. Should a missed approach be required, there would be a delay in landing as a result of entering the holding pattern before successfully landing at Collingwood, or deciding to divert to an alternate airport.

Given the number of flights that might be affected by the installation of the wind turbines relative to the total number of aircraft movements, and the nature of the consequences, the impact on aerodrome operations must be considered to be negligible to minimal and therefore the result is too minimal to quantify an economic impact.

Having considered impacts on safety, and operational impacts on both VFR and IFR flights, there is nothing to indicate that there will be a detriment to the overall viability of the Collingwood Regional Airport.

ANTICIPATED FUTURE AERODROME ACTIVITIES

In a publicly available document entitled “Town of Collingwood Economic Development Action Plan Final Report”, dated May 2015, the Town of Collingwood has made two references to the Collingwood aerodrome:

Section 2.5

Support assessment and investigation of economic development opportunities at the airport by working with municipal funding partners and private investment partners to develop a strategy and business case for future of the airport.

Section 8.4

Continue assessing economic development opportunities at the airport by working with municipal funding partners and private investment partners to develop a strategy and business case for future development of the airport.

It is not known if any substantive progress has been made on these sections of the Development Action Plan.

Attempts to obtain information on the future airport expansion plans from the management of Collingwood Regional Airport have been unsuccessful to date. Information in the public domain seems to indicate that there is an interest in expanding facilities, such as a proposed business park, in the area surrounding the aerodrome.

While there is no information available indicating so, it could be anticipated that future plans might include getting the aerodrome certified as an airport. Should this be the case, Transport Canada has made it clear in both word and action that the wind

turbines in question will not be a significant impediment. That is, Transport Canada has made it clear that “any safety issue will be addressed through a number of resulting actions, such as marking, lighting, publications, and operating procedures”. Further, Transport Canada has recently authorized operations at the Chatham Kent Airport with 8 wind turbines within a 4 KM radius of the airport (vs. 2 for Fairview) and with at least one in closer proximity (at 2.86km) than is being proposed for the Fairview Wind Project, (the closest at 3.66km).

ECONOMIC IMPACTS

As noted above, this analysis was based on the principle that any negative economic impact would be the result of negative impacts on safety related to the Fairview Wind Project, and the resultant adverse effects on operations at the Collingwood Regional Airport. In short, no such significant impacts were found based on the analysis of source documents.

In terms of methodological approach, a qualitative approach to the economic impact analysis was deemed to be appropriate, primarily because the magnitude of the impacts was estimated to be very low, and therefore below the threshold of meaningful quantitative analysis.

It should be noted that attempts to seek input from the Collingwood Regional Airport through the engagement of local representatives has proved unsuccessful to date.

Current Aerodrome Operations

Notwithstanding that VFR flights represent the majority of the activity at the Collingwood Regional Airport, it is the considered opinion of this author that there would be no VFR-related economic impacts related to the installation of the Fairview Wind Project, as there would be little or no VFR-related operational impact. That is, VFR flights would continue to fly when the weather allowed for the appropriate see and avoid mode of flying.

Given that the VFR flights are not likely to be impacted and the number of IFR aircraft that would be impacted by the installation of the wind turbines is in the order of 0 – 3 flights per annum, it is the considered judgment of this author that the result is too minimal to quantify an economic impact.

Anticipated Future Aerodrome Activities

While the nature of future aerodrome activities cannot be stated with authority, in this author's professional opinion there is nothing to indicate that changes to the surrounding infrastructure and facilities, i.e. a business park, or attempts to change the regulatory status of the airfield would be negatively impacted by the Fairview Wind Project. The impact on aviation activity is too small to have any significant impact on any anticipated expansion of facilities, and the wind turbines are unlikely to impact future plans to certify the airfield.

SUBMITTED BY

Maury Hill

Maury Hill and Associates, Inc.

APPENDIX 8

LinkedIn Website Profile of Maury Hill
and Associates Inc. Adaptive Safety
Concepts

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Maury Hill

358 connections

Owner, Maury Hill and Associates, Inc. - Adaptive Safety Concepts
Carp, Ontario, Canada | Management Consulting

- Current** Member of CSA Technical Committee Z1005 - Incident Investigation and Prevention, Maury Hill and Associates, Inc. - Adaptive Safety Concepts
- Previous** RANA International, Transportation Safety Board of Canada, Transportation Safety Board
- Education** Loughborough University
- Recommendations** 1 person has recommended **Maury**

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Summary

Specialties: Human Factors; Safety, and its management; Safety Management Systems; Occurrence investigations; Training; Risk Management, Quality Management Systems

Experience

Team Lead - Investigations

Member of CSA Technical Committee Z1005 - Incident Investigation and Prevention
October 2014 – Present (1 year 4 months)

The Technical Committee is responsible for developing and maintaining standards related to the investigation and prevention of workplace occupational health and safety incidents. As a Member I am representing the interests of the Association of Canadian Ergonomists.

Owner

Maury Hill and Associates, Inc. - Adaptive Safety Concepts
June 2000 – Present (15 years 8 months) | Ottawa, Canada Area

Authoritative consulting services to senior management in the areas of safety management and safety investigations, with a particular focus on human factors.

Strategic and organizational support to management teams, including: strategic planning, organizational studies, evaluation of organizational design, and development of management systems.

Training (e.g. workshops, including train-the-trainer sessions) on safety management, accident investigation, fatigue management and organizational and management factors.

Program development, including development of safety management tools, in which trends, hazards and systemic deficiencies in the system can be identified, analyzed, validated and mitigated.

SME (Safety Management Systems) Senior Associate

RANA International

2006 – 2014 (8 years)

Manager, Macro Analysis

Transportation Safety Board of Canada

2000 – 2007 (7 years)



- Managed TSB program to identify emerging safety trends and safety deficiencies at macro level.
- Directed the enhancement of multi-modal databases to record national safety/occurrence data and provide for its retrieval and analyses.
- Enhanced the responsiveness of the organization to internal and external requests for safety-related information.
- Co-authored TSB's first Strategic Plan, defining Outcomes, Strategic Objectives and Key Activities.

Manager, Human Performance

Transportation Safety Board

1992 – 2000 (8 years)

As the TSB's technical authority for the assessment of human behaviour and ergonomic considerations contributing to transportation occurrences:

- Used a systems approach to program development and implementation to successfully introduce a new approach to investigations, focusing on a systematic approach to the investigating for human factors in accident causation. The approach has received wide acceptance by international safety organizations (e.g. I.M.O.) and industry.
- Developed system-wide training programs, with associated policy and procedures framework for specific topics such as investigating for fatigue, error causations and other causal factors.
- Participated in numerous major marine, rail, and aviation investigations, including as lead Human Factors investigator for rail accidents at Edson, Biggar and Stewiacke, the Swissair 111 accident, and several occurrences at and/or involving airports.
- Developed and employed leading-edge techniques for the human factors analysis of crew voice recordings.
- Represented TSB on international committees and working groups. Successful in having the IMO and ILO accept the TSB methodology for investigating human factors and organizing data.

Senior Human Factors Specialist

Canadian Forces

1977 – 1993 (16 years)

- Responsible for provision of ergonomic support to equipment acquisition and human factors support to aircraft accident investigations.
- Conceptualized, conducted and managed a variety of research and development projects, including contracted projects valued to \$400,000. Project teams typically comprised multi-disciplinary blend of researchers and end-users.
- Succeeded in convincing Army leadership to appreciate value of early application of ergonomic support in equipment acquisition programs.

Skills

Human Factors Safety Management Safety Management Systems

Strategic Planning Risk Management Accident Investigation Change Management

Quality Management Systems Ergonomics Aviation Leadership Training

Policy Program Management Project Management [See 9+](#)

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Education

Loughborough University

MSc, Ergonomics

1989 – 1990

Recommendations

A preview of what LinkedIn members have to say about Maury:

“ *Maury led the investigation team for a fatality investigation and provided clear and supportive leadership that kept the team focussed and moving ahead.*

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