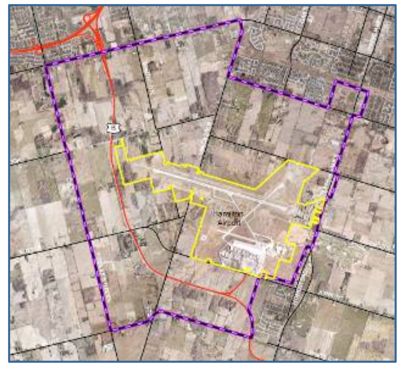
City of Hamilton
Airport Employment Growth District - Phase 2

Financial/Economic Impact Analysis and Marketing Strategy

June 18, 2010



AECOM

Aquafor Beech

Watson & Associates Economists Ltd.

Cumming+Co.

Eco-Industrial Inc.

LPS Avia

Sorenson Gravely Lowes &Co

Executive Summary

Watson & Associates (W&A) in association with WCM Consulting Ltd. and Dillon Consulting Ltd. was retained by the City of Hamilton to prepare a Fiscal Impact Analysis and Marketing Strategy regarding the development of the Hamilton Airport Employment District (AEGD). The analysis provided herein is being developed concurrently with the Secondary Plan and Master Plan Study for the AEGD which is being lead by Dillon Consulting Ltd. Collectively, this report forms a component of the Phase 2 analysis for the Hamilton AEGD.

As part of the Phase 1 Secondary Plan, W&A was retained to establish the market potential of the AEGD as well as to identify and assess the competitiveness of the AEGD lands within a broader regional market area. The Phase 1 study also provides a detailed analysis of the existing conditions of the City's surrounding industrial/business parks. Phase 2 builds on the Phase 1 analysis by examining the AEGD's competitiveness against specific industrial/business in Ontario and the U.S. which are adjacent to or within proximity to a major airport. The Phase 2 report also provides a broad marketing strategy including initiatives to attract signature employment and drive AEGD business development. Lastly, this component of the Phase 2 AEGD study provides a comprehensive examination of the fiscal impacts of development within the AEGD, focusing on operating and capital impacts, as well as economic development benefits.

The following summarizes the key findings of the Phase 2 analysis of the AEGD related to financial/economic impacts and general marketing approach.

- The AEGD presents a strategically important employment area for the City of Hamilton. The AEGD offers the potential for a major new employment node within the context of a multi modal transportation hub which includes the Hamilton International Airport (HIA). With a net developable area of 1,173 net ha (2,899 net acres), the largest contiguous land assembly in the region, the AEGD can accommodate a wide range of employment and employment-related land uses.

- The City of Hamilton is well-positioned geographically to potentially benefit from the anticipated gradual shift of employment growth on employment lands from more mature and developed west GTA municipalities. The AEGD favourably located in terms of access to major highways, and skilled labour, and offers a developable area of 'critical mass' at competitive prices. The proximity of the HIA in relation to the AEGD is a significant asset which further enhances the development potential of the area.

- Other major airports in the region, including Toronto Lester B Pearson International Airport and Buffalo-Niagara International Airport have limited off-site employment land development opportunities, which places the AEGD and HIA in a unique position and highly marketable. Despite this, however, the AEGD does face competition from other industrial/business parks in the GGH.

- The future development of the AEGD represents an opportunity for the City of Hamilton to enhance and diversify its local economic base, reduce commuting dependency, provide for a more balanced tax assessment base, and foster a more complete and sustainable community. A healthy balance between local population and employment is echoed throughout many of the guiding principles of the Provincial Growth Plan[1], which stress the importance of "vibrant" and "complete" communities that support a "strong and competitive economy".

- Given its attributes, the AEGD's employment lands development potential is anticipated to be concentrated in advanced manufacturing, warehousing, transportation and logistics, business services, and accommodation and food services. Between 2011 and 2031, the AEGD is anticipated to have employment growth of 24,360 and by buildout, employment is anticipated to increase to 43,200. In addition, the development of the

[1] Places to Grow. Better Choices. Brighter Future. Growth Plan for the Greater Golden Horseshoe, 2006. Ministry of Infrastructure Renewal.

AEGD is anticipated to have a significant indirect ‘spin-off employment and induced economic impacts.

- The development of the AEGD is anticipated to have a positive fiscal impact on the City of Hamilton. By 2031 Stage 1 of the AEGD is forecast to generate a positive impact on the City’s property tax base of approximately $66 million. Capital costs associated with the AEGD will be largely funded through development charges (DCs) in accordance with the City’s existing DC By-law 09-143 and 09-144. In accordance with the master servicing studies prepared for the AEGD related to roads/transit, water, wastewater and stormwater management, the City’s municipal-wide DC rate would be nominally impacted by the development of Stage 1 of the AEGD.

- Average industrial land values in the market area support a private-sector driven approach to developing the AEGD. It is recommended that a coordinated approach between the City and the development community should be considered to ensure control of development and timing and minimize the financial risks associated with development.

- An approach to a general marketing strategy has been developed herein, which outlines the competitive position of the AEGD, identifies key target sectors and requirements at a regional/local level, summarizes the potential marketing and promotional tools to foster future development activity within desired industry sectors and sets out a general approach to performance measurement and monitoring of development.

Table of Contents

1.0 Introduction

1.1 Terms of Reference

Watson & Associates (W&A) in association with WCM Consulting Ltd. and Dillon Consulting Ltd. was retained by the City of Hamilton to prepare a Fiscal Impact Analysis and Marketing Strategy regarding the development of the Hamilton Airport Employment District (AEGD). The analysis provided herein is being developed concurrently with the Secondary Plan and Master Plan Study for the AEGD which is being lead by Dillon Consulting Ltd. Collectively, this report forms a component of the Phase 2 analysis for the Hamilton AEGD.

As part of the Phase 1 Secondary Plan, W&A was retained to establish the market potential of the AEGD as well as to identify and assess the competitiveness of the AEGD lands within a broader regional market area. The Phase 1 study also provides a detailed analysis of the existing conditions of the City's surrounding industrial/business parks. Phase 2 builds on the Phase 1 analysis by examining the AEGD's competitiveness against specific industrial/business in Ontario and the U.S. which are adjacent to or within proximity to a major airport. The Phase 2 report also provides a broad marketing strategy including initiatives to attract signature employment and drive AEGD business development. Lastly, this component of the Phase 2 AEGD study provides a comprehensive examination of the fiscal impacts of development within the AEGD, focusing on operating and capital impacts, as well as economic development benefits.

1.2 Description of the Study Area

The Airport Employment Growth District (AEGD) comprises 3,113 ha of land surrounding the John C. Munro Hamilton International Airport (HIA). Situated in the west end of the Glanbrook community within the City of Hamilton, the AEGD is bound by Garner Road/Twenty Road West to the north, Carluke Road East/White Church Road to the south, Fiddler's Green Road to the west and Upper James Street to the east.

The AEGD presents a strategically important employment area surrounding the Hamilton International Airport (HIA). Historically, the City of Hamilton has maintained a strong industrial base that has grown and evolved in connection with major transportation networks throughout the area. In the past, this has encompassed the development of employment lands along side port facilities, railroads, and highways. The development of the AEGD within the context of a multi modal transportation hub, combining air and road transport, offers an unparalleled opportunity for the City. The AEGD offers the potential for a major new employment node which would improve live-work ratios in the City, build synergies with the airport, enhance the airport's role as an economic driver, support long-term prosperity, and contribute to quality of life in Hamilton.

The AEGD Secondary Plan provides for a major business park development which complements the HIA, and is compatible with the residential development abutting Garner Road/Twenty Road. The plan also recognizes and allows for certain existing land uses to continue until such time that they are redeveloped and also preserves and enhances the prominent natural areas throughout the study area.

The AEGD offers a range of employment and employment-related land uses in the context of an eco-industrial park. This includes a provision for prestige industrial, light industrial and airport related business development which have an environmentally friendly footprint which is to be managed through a range of urban design and development principles.

The preferred AEGD land use scenario encompasses 1,173 net ha (2,898 net acres) of developable land and identifies four distinct employment categories: Airport-Related Business, Airside Industrial, Light Industrial and the Prestige Business Park, as illustrated in Map 1-1. Prestige business park uses are directed to the area's major roadways where urban design guidelines facilitate the transition to neighbouring residential and agricultural/rural land uses. Light industrial uses are directed to interior lands abutting natural areas and prestige business park uses. Airport-Related business industrial uses, which require direct "airside" access, are located adjacent to the existing and future runway aprons of the HIA. Meanwhile, Airport-Related commercial businesses, which cater to air travellers, are to be located in close proximity to the airport. The Plan also provides for a limited range of employment-related commercial that serves employees of the Secondary Plan area.

There are two stages of development for the AEGD, based on servicing schedules as illustrated In Map 1-2. The Secondary Plan Area, consisting of 662 net ha (1,635 net acres), is shown in blue (servicing phase 1) and green (servicing phase 2). The Additional Study Area (the employment reserve) is shown in orange, and will comprise the remaining 511 net ha (1,263 net acres) of net developable land. Table 1-1a and 1-1b illustrate the anticipated development by employment sector. Prestige Business Park represents the largest component of the net developable employment lands followed by Light Industrial.

Table 1-1a

Hamilton Airport Employment Growth District (AEGD)
Land Uses by Employment Sector, 2009-2031 (Secondary Plan Area)

	Net Developable Area		
Employment Sector	**Acres**	**Ha**	**Percentage of Total Land Area**
AI: Airside Industrial	156	63	9.6%
ARB: Airport-Related Business	119	48	7.3%
IND: Light Industrial	495	200	30.3%
PBP: Prestige Business Park	865	350	52.9%
Total	**1,635**	**662**	**100.0%**

Source: Watson & Associates Economists Ltd., 2010.

Table 1-1b

Hamilton Airport Employment Growth District (AEGD)
Land Uses by Employment Sector, 2009-Buildout
(Secondary Plan and Additional Study Area)

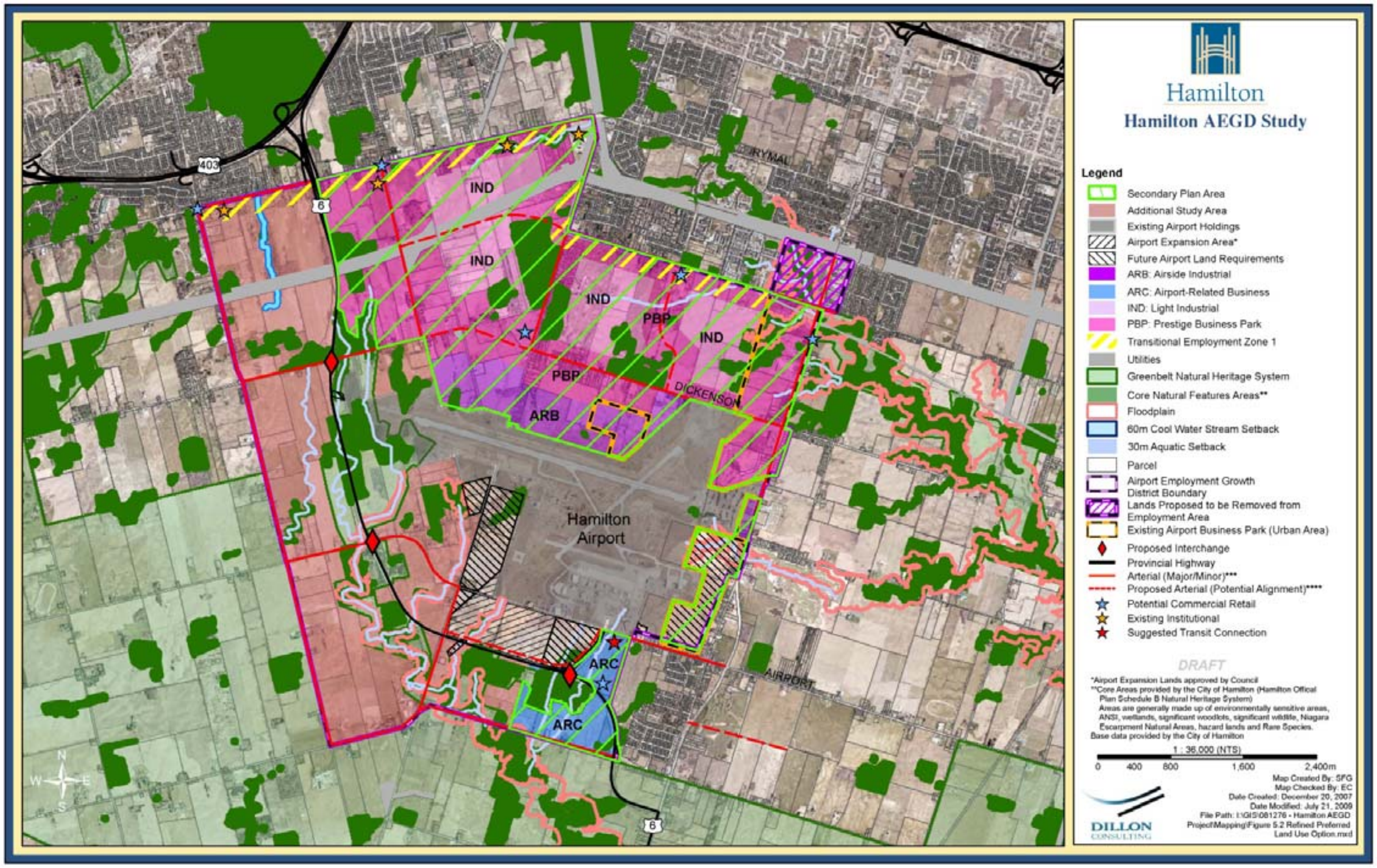
	Net Developable Area		
Employment Sector	**Acres**	**Ha**	**Percentage of Total Land Area**
AI: Airside Industrial	241	98	8.3%
ARB: Airport Related Business	311	126	10.7%
IND: Light Industrial	1,002	405	34.5%
PBP: Prestige Business Park	1,345	545	46.4%
Total	**2,899**	**1,173**	**100.0%**

Source: Watson & Associates Economists Ltd., 2010.

Map 1-1

Airport Employment Growth District

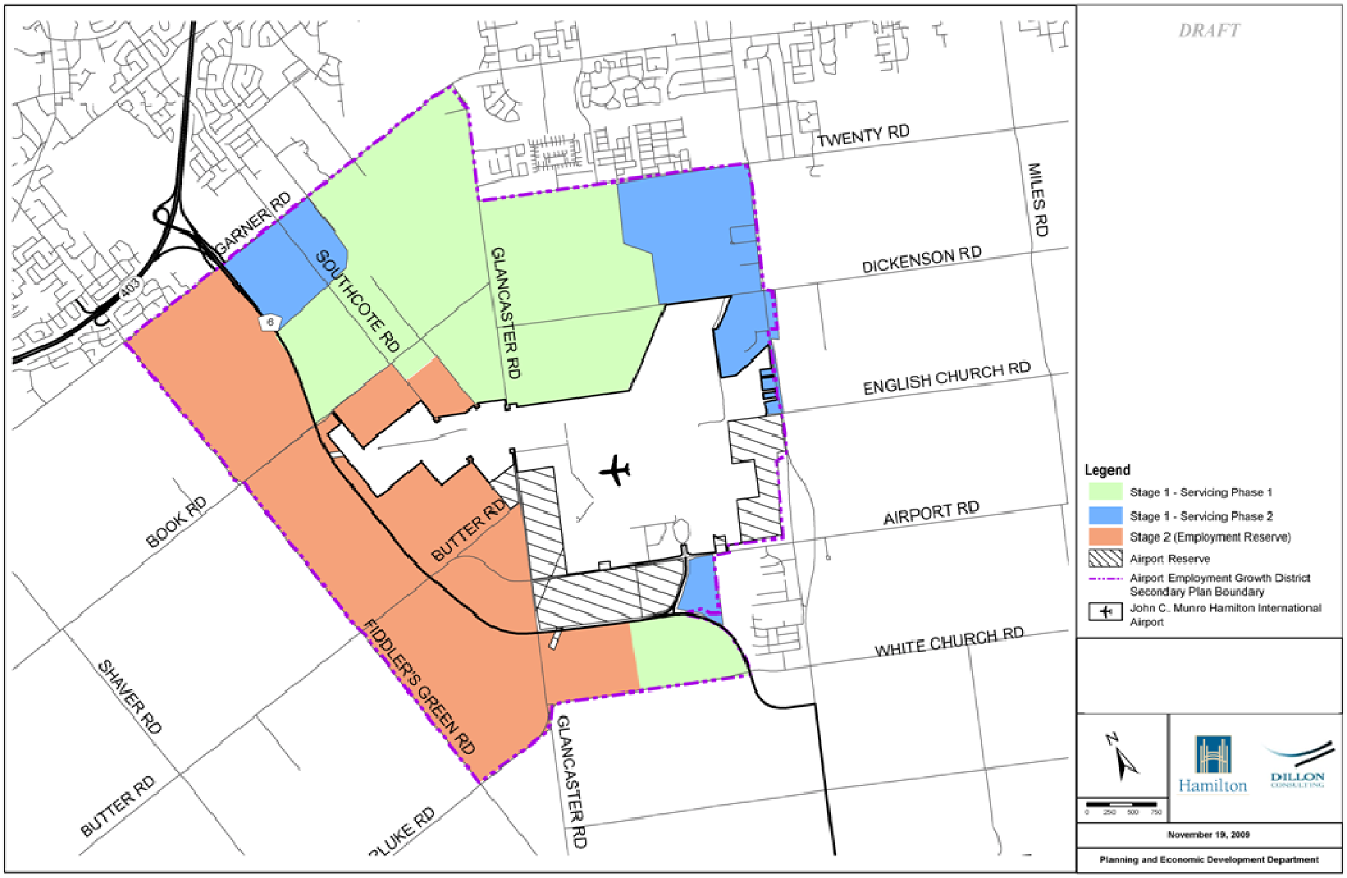
Refined Preferred Land Use Option



Map 1-2

Airport Employment Growth District

Phasing Map



1.3 The Role of Major Airports in Employment Land Development

The proximity of the HIA in relation to the AEGD is a significant asset which enhances the development potential of the area. The concept of an “airport” has evolved from solely a transportation hub to a multi modal employment hub serving as catalysts for a large range of economic activities. Major airports have the potential to generate new business and employment that extends beyond their immediate environs. This includes employment lands located adjacent or in periphery of major airports.

Major airports both nationally and internationally are developing employment lands to capitalize on the strategic advantages of proximity to airport-related services. This trend is partly driven by a changing economy, which is increasingly global, high-tech, knowledge-based and serviced oriented which demands increased connectivity, accessibility, and speed. Industry clusters with these attributes recognize proximity to airports as a core asset as it allows for the efficient and expedient movement of cargo and business travel by air. Employment lands located in periphery of major airports tend to develop synergy with airport activities, capitalizing on the attractiveness of proximity to air transport connectivity which can enhance business efficiency and optimize business operations. The strength and nature of this relationship is largely dependent on the size and type of direct airport activities, in terms of the number of passengers and amount and type of cargo handled.

As highlighted in the Hamilton Airport Gateway Opportunities Study,[1] proximity and access to a major airport is advantageous for an increasing number of employment sectors. Sectors such as research and development and advanced manufacturing rely increasingly on air transport in their supply chains and just-in-time delivery. This includes companies engaged in time sensitive businesses such as computer hardware/software, electronics, telecommunications equipment, apparel, automotive components, industrial equipment and healthcare/biotechnology. Other sectors directly tied to airport activities and operations include air freight distribution/logistics

[1] Hamilton Airport Gateway Opportunities Study, Price Waterhouse Coopers, 2002.

(e.g. regional integrator operations, on-site customs brokers, freight forwarders) and the aerospace industry.

Employment lands in proximity to major airports are also increasingly attractive for corporate office uses. This includes airport related businesses such as airline corporate offices and businesses that are dependent on airport access for corporate travel and/or air shipping as a crucial element of their business. Typically this market is loosely focused on medium to large businesses that desire office space for operations in the region, and find a degree of attraction as a result of the unique environment offered by the AEGD. These businesses do not necessarily value all of the logistical opportunities presented by operating within the AEGD, but do attribute some value to the positive perception of the AEGD (a Prestige Setting) and by association the businesses operating within it. Major airports are also increasingly attractive to national and multi-national companies whose business activities are far reaching and proximity to commercial air service is advantageous for business air travel for both employees and clients.

Lastly, employment sectors such as information and cultural industries, professional and scientific services, food processing, agri-business, arts entertainment and recreation, health care and social assistance also represent key target industry sectors. While these industries do not all necessarily rely on air transportation, there are key sub-sectors within them that have a heavy dependence on air transportation or for which proximity to an airport can be a significant competitive advantage. For example, film and media editing facilities frequently locate around airports to facilitate film production schedules. In the food processing and agri-business sector the transportation of perishable food and other agriculture products relies on airfreight.

2.0 Competitive Analysis

The competitiveness of the AEGD is assessed here from a regional and local perspective as a "stand alone" employment area and also within the context of the HIA, and the potential synergies and competitive advantages that proximity to a major airport presents. This commentary builds on the analysis of the Phase 1 Secondary Plan (Chapters 7 and 9).

2.1 Regional Perspective

As discussed in Chapter 7 of the Phase 1 Secondary Plan, the AEGD is situated in the south-western portion of the Greater Golden Horseshoe (GGH) - one of the fastest growing and economically diverse regions in North America. The AEGD is well-positioned geographically to potentially benefit from the anticipated gradual shift of employment growth on employment lands from more mature and developed west GTA municipalities. As previously discussed, the AEGD has inherent advantages for employment lands development.

The District's relative competitiveness in a regional context was assessed in Chapter 9 of the Phase 1 Secondary Plan. This encompassed a profile of competing business parks in the context of the municipalities in which they are located. This included a summary of the location attributes and economic indicators identified for each of the eight municipalities investigated (including the City of Hamilton). The report identified that the AEGD (and the City of Hamilton) compares favourably to other municipalities in the surrounding market. Key findings include:

- The HIA is a core advantage to the AEGD;
- The AEGD is well positioned geographically in proximity to 400 series highways and the U.S. border;
- The AEGD has good access to an educated and skilled local labour pool and a major post-secondary research institution;
- The City of Hamilton is a well balanced community and ranks highly in terms of live/work ratio; and

- The City of Hamilton's employment lands are competitively priced and the City has the lowest industrial development charges of the surveyed municipalities.

The Phase 1 Secondary Plan identifies that given the strategic size and location of the study area, the AEGD will offer a new industrial business park with a critical mass of prestigious development, which can successfully compete with neighbouring employment lands across the GGH. The AEGD has the potential to be attractive for employment lands development given its regional attributes (i.e. location, size, access, proximity to employment markets, etc.). The AEGD lands are also competitive due to their western GTAH location, access to major highways (Highway 403, Highway 6 and Red Hill Creek Expressway), employment markets, and a large and diverse labour pool. The proximity and association with a major airport – the Hamilton International Airport – is an added strategic advantage of the AEGD.

Though the City of Hamilton is well positioned to capture a significant share of long-term regional economic growth potential, the AEGD faces competition from municipalities in the surrounding market area (i.e. GGH "Outer Ring" and west GTAH). Municipalities in the west GTAH are highly marketable towards office and prestige employment development in corporate business park settings. Many GTAH fringe and GGH "Outer Ring" municipalities such as Milton, Halton Hills Caledon, Guelph, and Waterloo Region also have a strong base in advanced manufacturing, warehousing, transportation and logistics and pose significant competition due to their proximity to the GTAH, availability of large tracts of lands and access to transportation networks. A number of major airports and associated employment lands in the region and beyond also pose potential competition for the AEGD.

These competitors are evaluated in more detail in the following sections.

2.2 Review of Major Airports in the Region

Given its location adjacent to the HIA, the AEGD offers the potential to attract new "air intensive" business sectors to the area and also retain local businesses that can benefit from proximity to the airport. However, the HIA is not the only major airport in the surrounding market area. The

Airport Market Analysis and Land Needs Study[1] identified that the HIA has a number of competitors in the GGH and beyond including Toronto-Lester B. Pearson International Airport (TLBIA), London International Airport (LIA), Region of Waterloo International Airport (RWIA). Buffalo-Niagara International Airport (BNIA) and Niagara Falls International Airport (NFIA), both located in upstate New York, USA, near the Canada-US border, are also discussed. The major airports identified are examined here in the context of their respective economic activities and related employment lands.

HIA and the airports included in this analysis and their general characteristics are summarized in Table 2-1. Key findings are as follows:

- HIA ranks as the region's third largest airport in terms of passenger traffic, after Toronto-Lester B. Pearson International (TLBPIA) and Buffalo-Niagara International Airport (BNIA), with 550,000 passengers annually;
- In terms of passenger traffic, HIA is significantly smaller than TLBPIA and BNIA and only modestly higher than London International Airport (LIA);
- In contrast, the Region of Waterloo International Airport (RWIA) and Niagara Falls International Airport (NFIA) are relatively small in terms of annual passenger traffic;
- HIA is the region's second largest in terms of cargo volume after TLBPIA with 78,250 tonnes of cargo handled annually;
- In terms of cargo, HIA handles roughly one-quarter of the volume of TLBPIA and double that of BNIA;
- RWIA, NFIA, and LIA have limited cargo activities;
- With the exception of RWIA, all airports have existing adjacent off-site industrial/business park (employment) lands;
- The largest employment lands concentration (occupied and vacant) is at TLBPIA with over 5,000 net ha. In contrast, the proposed AEGD at HIA with 1,176 net ha would be roughly one–quarter the size;

[1] Airport Market Analysis and Land Needs, LPS AVIA Consulting, August 2009.

- The AEGD is considerably larger than aggregate employment lands located at other airports in the region including BNIA, the next largest;
- TLBPIA and BNIA have limited expansion potential for off-site employment lands. In contrast, expansion potential is high at HIA, LIA, RWIA and NFIA (subject to need); and
- Employment lands expansion potential at RWIA and LIA are considered long-term.

Table 2-1
Major Airports in the Region

Airport	Location	Annual Passengers (2008)	Annual Cargo 2008 (tonnes)	Total Off-Site Employment Lands - Total Occupied and Vacant (net ha)	Off-Site Employment Lands Expansion Potential[1]
Hamilton International Airport	Hamilton, ON	550,000	78,250	1,176	HIGH
Lester B. Pearson International Airport	Toronto, ON	30,127,000	322,250	5,068	LIMITED
London International Airport	London, ON	462,000	325	53	HIGH
Region of Waterloo International Airport	Waterloo, ON	119,000	N/A	0	HIGH
Buffalo-Niagara International Airport	Buffalo, NY, USA	5,526,000	36,075	365 (2)	LIMITED
Niagara Falls International Airport	Niagara Falls, NY, USA	40,000	180	160 (2)	HIGH

Source: Watson & Associates Economists Ltd.
1. Subject to need.
2 Estimated gross ha adjusted to net ha using 75% gross to net ratio.

A general overview of each airport in the region is provided below.

Toronto – Lester B. Pearson International Airport

Toronto-Lester B. Pearson International Airport (TLBPIA) is Canada's largest airport both in terms of passenger and cargo traffic (30,127,000 million passengers and 322,250 tonnes of cargo annually) and serves as a major international gateway and national hub. The airport is located in northeast Mississauga on a mature site and is constrained in terms of potential expansion opportunities for airport related activities and neighbouring employment lands.

The airport has about 110 net ha available for future development of airport related and complementary uses.[1] Immediately outside of the Airport boundaries, there are a number of

[1] Toronto-Lester B. Pearson International Airport Master Plan 2008

major employment lands surrounding the airport which are within the Airport Operating Area, as defined by the Airport Master Plan. This includes Northeast and Airport Corporate employment districts in the City of Mississauga and Rexdale Employment District in the City of Toronto. The Northeast District (total size 3,476 net ha) is situated north and west of the airport property and includes a mix of corporate office, light industrial uses, and distribution/warehousing, and accessory uses. The Airport Corporate District (total size 292 net ha), located immediately south of the airport, contains a high degree of prestige type development including corporate office with some warehousing. The Rexdale Employment District (total size 1,300 net ha) consists primarily of warehousing and light manufacturing). All three employment lands areas are approaching buildout, with 93% occupied in total.

London International Airport

The London International Airport (LIA) is situated in London, Ontario, approximately 120 km southwest of HIA. The LIA is a regional airport, with annual passenger traffic totalling 462,000 and cargo totalling 325 tonnes. The airport's passenger services include four major airlines with direct connections to major centres in Canada and the U.S. Midwest and also three vacation/charter airlines. The number of passenger routes served has expanded considerably in the past few years. The airport is also served by a number of air cargo handlers.

In December 2008 the Federal government designated the LIA as an approved Federal Transshipment Centre for International cargo. This allows aircraft from Europe or Asia to fly directly to LIA and shipments can be stored or broken down to smaller denominations for distribution to a third country via air, land or rail.

The LIA has a strong flight training centre, with four aviation schools operating from the airport. The Commercial Aviation Management Program at the University of Western Ontario is affiliated with the LIA.

Adjacent to the airport, the Skyway Industrial Park encompasses a total area of 121 gross ha and is being jointly developed by the City of London and Airport. Major uses include manufacturing and warehousing. Phase 1 was completed in 2004 and contains 53 net ha which is close to buildout, Phase 2, covering an area of 51 gross ha, is in pre-design with construction to commence in 2013. The Park offers good access to Highway 401 via Veterans Memorial Parkway.

Region of Waterloo International Airport

The Region of Waterloo International Airport (RWIA) is situated in the Region of Waterloo, about 65 km northwest of HIA. The airport, which is owned and operated by the Regional Municipality of Waterloo has strong base in general and corporate aviation activity. In 2008, the RWIA handled 119,000 passengers and a limited amount of cargo and is served by two airlines with schedule air service and one charter airline. The airport is aggressively working to expand its passenger traffic base.

The airport has a strong base in flight training with development of the Waterloo-Wellington Flight Centre, a state-of-the-art training facility.

The airport has no existing employment lands in its proximity though potential large scale employment lands development in the area is planned. The Regional Growth Management Strategy (RGMS) recommends the development of new employment lands, known as the "East Side Lands" in the vicinity of the Region of Waterloo International Airport to help maintain and enhance the economic prosperity of the Region. The new Region of Waterloo Official Plan has identified the strategic development of these lands. The East Side Lands in vicinity of the airport are subject to significant infrastructure improvements and environmental studies and are anticipated to be developed over the long term (i.e. 20+ years).

The airport is anticipated to complement the development of the East Side employment lands but not expected to be a strategic component. Cargo and freight traffic is not part of the airport's strategic vision and it is anticipated that the employment lands in the vicinity will not be developed with warehousing/distribution or logistics associated with airport activities. Synergies with other sectors, such as research and development and corporate office is possible, however, the potential is unknown.

Buffalo-Niagara International Airport

The Buffalo-Niagara International Airport is situated just outside Buffalo New York in the Town of Cheektowaga. Located about 28 km from the Canada-U.S. border at Fort Erie, the airport is Western New York's primary passenger and cargo airport serving 5,526,000 passengers and handling 36,075 of cargo annually.

The airport is served by 12 commercial airlines with scheduled service to U.S. destinations in the mid-west and eastern seaboard and four air cargo carriers including FedEX and UPS. The airport's air cargo facility is a designated Foreign Trade Zone (FTZ) which allows imported cargo to be handled duty free unless it enters the U.S. market.

The airport is situated in an urban area, limiting expansion potential either for airport related activities or industrial/business park development. The main employment lands adjacent to the airport is a 330,000 sq. ft. facility situated on a 7 net ha site owned by the Niagara Frontier Transportation Authority. The existing space has some available building space suited for office, industrial, research and development, and manufacturing and warehousing.

Outside the airport property, the area has approximately 500 gross ha (occupied and vacant) of industrial/business park lands to the east and north adjacent the airport. This industrial land is in proximity and has direct access to the I-90 (New York Thruway) highway. Industrial and commercial development in the airport vicinity, increased considerably after construction of the new passenger terminal in November 1997.[1] Significant amounts of vacant developable land exist to the east of the airport and are actively being marketed. This includes Airborne Business

---

[1] Buffalo Niagara International Airport, Part 150 Noise Compatibility Study - Volume II, PB Aviation, October 26, 2004.

Park covering 20 gross ha (50 gross acres), being marketed for office and flex use and Aero Business Park which is geared for light manufacturing and warehousing. Aero Business Park and Airport Business Park are both Foreign Trade Zone designated. Foreign Trade Zones (FTZs) provide allow U.S. economic activities engaged in international trade-related activities to avoid duties.

Niagara Falls International Airport

Niagara Falls International Airport is situated in Niagara Falls New York, approximately 20 km from the Canada-U.S. border Queenston crossing. The airport's origins are as a military base (existing) which has evolved to civilian use. The airport handles about 40,000 passengers and 180 tonnes of cargo annually.

Niagara Falls International Airport is being promoted as an emerging cargo hub and foreign trade zone. A new airport terminal opened in September 2009 which will facilitate its long term passenger and cargo growth plans. The airport's proximity to the Canada-U.S. border crossing has attracted investment from Canadian firms who have business interests/activities in the U.S. market.

The industrial/business parks around the airport include Niagara Industrial Airpark, Wheatfield Business Park and Vantage International Pointe (designated as Foreign Trade Zone). The parks have a significant vacant developable land well suited for light industrial, warehousing and distribution and office activities.

The Niagara Falls International Airport has very competitive landing fees, making it an attractive location for air cargo. The Foreign Trade Zone at the Vantage International Pointe, allows for the general warehousing, light manufacturing and product distribution to be exempt from subject duty if products are not imported to U.S.

In October 2009, a private consortium submitted a preliminary plan to build a $12 million, 100,000-square-foot air cargo operation that would target international freight. Such a facility would significantly increase the airport's air cargo handling capacity.

2.3 Review of Major Industrial/Business Parks in the Region

In addition to the employment lands located adjacent to other major airports in the region, the AEGD will compete with other large-scale industrial/business parks in the GGH and in particular, parks in proximity to major airports. The Phase 1 Secondary Plan provided some insight into this, examining competing parks from a municipal level perspective. Phase 2 builds on this previous analysis with emphasis on the business/industrial park level. This includes a review of select industrial/business parks in the surrounding market area.

The comparative analysis includes three industrial/business parks adjacent to major airports in the region (two situated adjacent to Toronto Lester B. Pearson International Airport and one located next to the London International Airport). Four additional industrial/business parks are reviewed which are considered as highly competitive with AEGD based on geographic location, size, and occupant/land use mix.

Tables 2-2 summarize the select industrial/business parks by general parameters (physical and economic characteristics and locational attributes). Key findings are:

- Next to the Northeast Employment District in Mississauga, the AEGD is the largest industrial/business parks in terms of total potential developable size;
- The surveyed industrial/business parks adjacent to TLBPIA and LIA are approaching buildout;
- Parks situated in proximity to AEGD, including Ancaster Business Park and North Glanbrook Business Park, have significant vacant lands available for development;
- Serviced industrial land prices are highest in parks situated adjacent to the TLBIA followed by Meadowvale Business Park;

- In contrast, land prices in Hamilton are considerable lower, about one-third of that of the Northeast Employment District and Airport Corporate Employment District;
- Serviced land prices are lowest at the Skyway Industrial Park in London; and
- Common parcel sizes at the TLBIA employment lands range between 1-5 ha, which have a concentration of corporate office, airport related warehousing/logistics, and advanced manufacturing.

Table 2-2
Select Industrial/Business Parks
Physical and Economic Characteristics

Industrial/Business Park	Location	Developer	Size (net ha)	Vacant (net ha)	% Vacant	Common Parcel Size (ha)	Price per serviced acre	Occupant Mix
Select Industrial/Business Parks Adjacent to Major Airports								
AEGD	Hamilton	TBD	1,176	1,176	100%	TBD	TBD	Corporate office, advanced manufacturing, warehousing
Airport Corporate Employment District	Mississauga	Private sector assembly, servicing, marketing	292	44	15%	1-4 ha	$735,000-$835,000	Corporate Office, warehousing
Northeast Employment District	Mississauga	Private sector assembly, servicing, marketing	3,476	191	5%	1- 5 ha	$735,000-$835,000	Advanced Manufacturing, warehousing, logistics, corporate office
Skyway Industrial Park-Phase 1	London	City of Lodon (City land owned, serviced, sold)	53	3	6%	3-8 ha	$75,000	Manufacturing, warehousing
Select Industrial/Business Parks in Surrounding Market Area								
Ancaster Business Park	Hamilton	City of Hamilton (City land owned, serviced, sold)	230	140	61%	1 - 4 ha	$200,000 - 250,000	Advanced Manufacturing, Warehousing
Meadowvale Business Park	Mississauga	Private sector assembly, servicing, marketing	850	220	26%	2-3 ha	$500,000-$650,000	Corporate Office, Information Technology, Research and Development, Advanced Manufacturing.
Milton/401 Business Park	Milton	Private sector assembly, servicing, marketing	665	215	32%	8-20 ha	$475,000 - 575,000	Warehousing, Transportation, Logistics, Manufacturing
North Glanbrook Business Park	Hamilton	City of Hamilton (City land owned, serviced, sold)	285	235	82%		$200,000 - 250,000	Advanced Manufacturing, Warehousing, Professional Offices

Source: Watson & Associates Economists Ltd. survey

Table 2-3 summarize the select industrial/business parks by locational attributes in terms of access to transportation networks. Key findings are:

- The AEGD is adjacent to a major airport (HIA), similar to Airport Corporate and Northeast Employment Districts (TLBPIA) and Skyway Industrial Park (LIA);
- The other surveyed parks are in reasonable driving distance of major airports (less than 40 km);
- The AEGD, unlike the Airport Corporate and Northeast Employment Districts, Meadowvale Business Park, and Milton/401 Business Park does not have direct exposure to a 400 series highway;
- The north end of the AEGD is in proximity to Highway 403/Highway 6 interchange, which serves as a gateway to the Park;
- The AEGD has direct access/exposure to a limited access highway (Highway 6); and
- The Northeast Employment District (TLBPIA) is in proximity to an intermodal facility which is unavailable at AEGD, Airport Corporate Employment District and Skyway Industrial Park.

Table 2-3
Select Industrial/Business Parks
Locational Attributes

Industrial/Business Park	DIstance to Major Airport	Direct 400 Series Highway Access	Direct Access to Limited Access Highway	Distance to 400 Series	Proximity to Intermodal Facility	Direct Rail Access
Select Industrial/Business Parks Adjacent to Major Airports						
AEGD	ADJACENT (Hamilton Intl' Airport)	NO	YES	2 - 4 km	NO	NO
Airport Corporate Employment District	ADJACENT (Toronto Intl' Airport)	YES	NO	<1 km	NO	NO
Northeast Employment District	ADJACENT (Toronto Intl' Airport)	YES	NO	<1 km	YES	NO
Skyway Industrial Park-Phase 1	ADJACENT (London Airport)	NO	YES	12 km	NO	NO
Select Industrial/Business Parks in Surrounding Market Area						
Ancaster Business Park	12 km (Hamilton Intl' Airport)	NO	NO	2 km	NO	NO
Meadowvale Business Park	20 km (Toronto Intl' Airport)	YES	NO	<1 km	NO	NO
Milton/401 Business Park	38 km (Toronto Intl' Airport)	YES	NO	<1 km	NO	YES
North Glanbrook Business Park	15 km (Hamilton Intl' Airport)	NO	NO	2 km	NO	NO

Source: Watson & Associates Economists Ltd. survey

2.4 Review of Best Practices in Select Industrial/Business Parks in the Region

This section identifies “best practices” and key attributes of successful industrial/business parks based on the survey and profile of select industrial/business parks in the preceding Section. Additional commentary is provided with respect to the conditions which facilitate the successful development of employment areas (i.e. access/location, site size and configuration etc.)

Attributes of successful industrial/business parks depend partly on their core focus, as described below:

Industrial

- 400 series/limited access highway access is critical for the success of more traditional industrial parks that have a significant degree of manufacturing, warehousing, distribution and logistics. These parks do not necessarily have to be adjacent to a 400 series/limited access highway but must be in proximity and easily accessible via major arterials that pass through limited residential or mixed use commercial area(s);
- Size is vital to ensure a wide selection/flexibility of land options and must include a sufficient supply of large parcels. As a minimum, 80 ha (200 acres) is typically a suitable size for an industrial park in order to reach the critical mass needed to provide reasonable presence, choice, and economies of scale. Newer parks focused on warehousing and transportation tend to be larger, in excess of 200 ha (500 acres);
- Location must provide efficient and effective vehicular access and circulation, particularly for heavy truck traffic;
- Extensive buffering is most critical for heavy industry in order to minimize noise, air pollution to neighbouring residential and other non-residential areas. This is most successful when parks are on the urban fringe and removed from urban areas; and
- Given the relatively land extensive uses, land prices must be competitive.

Prestige

- Access and exposure/visibility to 400 series highway/limited access highways is critical for business parks, particularly for the corporate office component;
- Size is less important for prestige business parks; however, these areas must be large enough to foster a sense of place, a self contained entity and to allow for on-site amenities;
- Moderate buffering is sufficient for business parks and research and technology oriented parks; and
- Park character is typically enhanced through high quality building design and streetscapes, as well as attractive landscaping, which can be developed through site controls and design guidelines.

2.5 How Does AEGD Rank – Strengths and Weaknesses

The following provides a summary of AEGD's strengths and potential weakness based on the above analysis.

Strengths

- The AEGD has direct access/visibility to Highway 6, a limited access highway, which connects to Highway 403 located less than 1 km to the north;
- The Park is adjacent to the HIA, one of the region's largest airports in terms of passenger and cargo traffic. The proximity and access to a major airport and related services is a core competitive advantage which few other employment areas in the region offer;
- Access to the airport from Niagara and the U.S. has been greatly enhanced with the recent completion of the Redhill Creek Expressway;
- The Park is situated adjacent to the Airport Business Park. The clustering of employment lands is an effective means of creating a critical mass;
- The Park is of competitive size and is self contained, which is a important feature for a business park;
- A large portion of the Prestige designated lands are concentrated on the west side of the park with direct exposure and access to Highway 6;
- Light Industrial lands are clustered and located on the periphery of the park;
- Employment lands are well configured, contiguous and are well suited for larger size parcels and conducive for a broad range of industrial and commercial uses;
- The park features large Core Natural Features Areas, which enhance the aesthetic appeal of the park;
- The transitional employment zones potentially act as an effective buffer from residential lands on the north side of the park;
- A wide range of permitted uses are proposed across the various designated land uses including Airport-Related Business, Airport-Related Commercial, Prestige Business Park and Light Industrial;

- The Park will be subject to urban design guidelines and extensive landscaping. A higher urban design will be required for the Prestige Business Park; and
- AEGD is a key component of the City's future Bus Rapid Transit (BRT) or Light Rail Transit (LRT) system which will increase its economic potential over the longer term.

Potential Weaknesses

- Height restrictions may potentially limit the built form and building options in the AEGD;
- The AEGD is unprecedented in size in the context of Hamilton and the HIA. Staging and phasing of the employment lands will need to be carefully planned and monitored to coincide with absorption rates and HIA expansion and growth (passenger and cargo); and
- A limited area of Stage 1 of the AEGD has direct access/exposure to Highway 6.

3.0 Anticipated Development and Economic Impacts

The following Chapter provides an analysis of the AEGD regarding the potential drivers of future employment growth, forecast employment growth by sector and land use, employment density and the economic impacts of anticipated development. This Chapter builds on the previous analysis carried out in the Phase 1 Secondary Plan.

3.1 Economic Drivers of Future Employment Growth in the AEGD

While Hamilton's share of employment growth within the GTAH employment market area has historically been limited, there are several factors which suggest that Hamilton's share will increase over the next 25 years. The following drivers of future employment growth and employment land needs have been identified for the City of Hamilton, which supports the trend for a larger employment growth share in the City over the 2009 to 2031 planning period and beyond.

1. Diminishing GTAH Employment Lands Supply

Historical growth on employment lands within the GGH has largely been concentrated in the western half of the GTAH. This is largely due to the extensive transportation infrastructure of the area including a network of 400 series highways, access to commercial air travel, freight and delivery services via Pearson International Airport, intermodal facilities, and proximity to U.S employment markets. As a result, west GTAH municipalities such as Mississauga and Brampton have traditionally been successful in attracting a steady absorption of new industries with a broad range of industrial and commercial sectors.

Within the GTAH, the availability of vacant designated employment lands is tightening up considerably. Additional "greenfield" lands are becoming more limited as a considerable portion of potentially developable greenfield lands have been removed from the supply inventory under the Oak Ridges Moraine Conservation Act, 2001, and Greenbelt Protection Act, 2005.

Within the west GTAH the supply of vacant greenfield employment lands is steadily diminishing in Mississauga, Brampton, Oakville, Burlington, Caledon and Milton. At present, Mississauga's employment land supply is already over 85% built out, and limited new Greenfield areas exist. In Brampton, which has traditionally been an attractive area for warehousing and transportation, designated vacant employment land supply is sufficient to accommodate growth over the next 15 years while future designated employment area opportunities will be subject to the approval of the Brampton Northwest Expansion Area. Meanwhile, Caledon has sufficient designated vacant employment lands to accommodate growth for the next 13 years.[1] In Burlington, the Niagara Escarpment Greenbelt constrains development potential north of Highway 407, limiting the City's greenfield areas that are available for future employment lands development. The City also has a limited number of larger vacant parcels in designated vacant employment lands. Meanwhile, Oakville, has an adequate level of employment land supply available (20+ years). Milton, a municipality which has experienced considerable land expansive development, has sufficient vacant supply to accommodate employment growth for the next 10 years. As employment lands supply steadily declines in these core GTAH communities, municipalities to the west, including the City of Hamilton, are becoming increasingly attractive for employment lands development.

2. Niagara to GTA (NGTA) Transportation Corridor

The Provincial Government is currently studying the potential for a new transportation corridor, known as the Niagara to GTA Corridor (NGTA), which would connect the Niagara Region and the west GTAH. The economic performance of Hamilton and its attractiveness for additional investment could be improved as a result of additional highway capacity and greater reliability for shipping and reduced travel time through the development of the Niagara to GTA Corridor. Based on several recently completed studies, it is believed that the competitive advantages of Hamilton and the AEGD would be improved through the presence of the corridor, which would enhance access to major markets and increase the development potential of the AEGD,

---

[1] Caledon employment lands supply includes Mayfield West.

particularly in sectors which dependent on major highways network such as distribution and logistics.

Phase 1 of the Niagara to GTA Corridor Planning and Environmental Assessment Study is currently underway. A key focus of the EA is to address existing and future anticipated transportation capacity deficiencies (problems and opportunities) within the NGTA corridor and to generate transportation alternatives. The project has the potential to enhance the multi modal attributes of the HIA. An Area Transportation System Alternatives Report is expected to be completed in the spring of 2010.

3. Access to Labour Force Pool/Synergies with Post Secondary Institutions

As highlighted in the Phase 1 Secondary Plan, Hamilton employers are able to draw from a wide local labour force pool. There is also opportunity to build partnerships and synergies with post secondary institutions including McMaster University and Mohawk College. This includes the potential to build on the concept of the West Hamilton Innovation District Special Policy Area and the McMaster Innovation Park, with application to the AEGD focused on innovation for corporate, academic and government research in science and technology.

Similar synergies have been successfully developed in the Cities of Waterloo and Guelph. In Waterloo, the University of Waterloo Research and Technology Park is a key employment area in the City and has developed strong synergies between the academic (University of Waterloo) and private sectors. In Guelph, the University of Guelph Research Park is focused on research and development activities affiliated with the University of Guelph.

4. Competitive Industrial Land Prices

Serviced industrial land values within the larger urban centres of the west and north GTA range from a low of $600,000 per acre in Brampton to nearly $800,000 per acre in Mississauga. Average prices in Milton and Oakville average around $500,000 per acre while in Burlington land prices are $400,000 per acre. Average industrial land values for vacant serviced industrial within the AEGD are anticipated to be in the $250,000-$300,000 range. Competitive industrial land prices, combined with a diminishing supply of available vacant industrial land throughout many of the more heavily urbanized municipalities of the west and north GTA enhances the market potential of the AEGD.

3.2 AEGD Employment Growth Forecast

Given its strategic advantages and location, as discussed in Chapter 1, AEGD's employment lands development potential is anticipated to be concentrated in advanced manufacturing, warehousing, transportation and logistics, business services, and accommodation and food services.

This section provides an analysis of the long-term employment growth potential of the AEGD. Specifically, the following topics have been explored:

- Forecast long-term employment growth by sector, according to the AEGD's unique geography and proximity to the HIA;
- Employment density and the relative targets as set by the City of Hamilton;
- Employment forecast by major land use; and
- Forecast land absorption.

3.2.1 Employment by Sector and Sub-sector

Between 2009 and 2031, the AEGD is anticipated to have employment growth of 24,360. By buildout employment is anticipated to increase to 43,200.

It is anticipated that a large percentage share of the future employment growth in this area will be dominated by land extensive, low-density employment in the warehousing/transportation and wholesale trade sectors (approximately 45% of total employment growth), as shown in Tables 3-1a and 3-1b. It should be noted that a limited portion of potential warehousing/transportation facilities also accommodate office development. Other key employment growth sectors include: business services, manufacturing, retail and accommodation and food services, a portion of which tend to generate higher average employment density, good spin-off job opportunities, and a high percentage of well paying full-time jobs.

Table 3-1a

Hamilton Airport Employment Growth District (AEGD)
Employment Forecast on Employment Lands by Sector, 2009-2031

			Employment Density		Employment Land Needs on Employment Lands	
Employment Sector	**Employment by Sector**	**Percent Employment by Sector**	**Emp./Net Acre**	**Emp./Net Ha**	**Acres**	**Ha**
Utilities & Construction	850	3.5%	14	34	62	25.3
Manufacturing	1,950	8.0%	17	41	116	47.1
Wholesale Trade / Transportation and Warehousing	10,960	45.0%	10	24	1,132	458.2
Business Services[1]	5,120	21.0%	49	122	104	41.9
Retail, Accommodation and Food Services	3,660	15.0%	28	69	131	52.9
Public Administration	600	2.5%	26	65	23	9.3
Other Services	1,220	5.0%	18	45	67	27.2
Total	**24,360**	**100.0%**	**15**	**37**	**1,635**	**662**

Source: Watson & Associates Economists Ltd., 2010.

1. Business Services includes: Information and Cultural Industries, Finance and Insurance, Real Estate and Rental and Leasing, Professional, Scientific and Technical Services, Management of Companies and Enterprises, Administrative and Support, Waste Management and Remediation Services.

Note: Employment density figures are based on employment targets as per the City of Hamilton comprehensive employment study. They do not necessarily reflect the densities that would occur based on anticipated market trends.

Table 3-1b

Hamilton Airport Employment Growth District (AEGD)
Employment Forecast on Employment Lands By Sector, 2009 to Buildout

			Employment Density		Employment Land Needs on Employment Lands	
Employment Sector	**Employment by Sector**	**Percent Employment by Sector**	**Emp./Net Acre**	**Emp./Net Ha**	**Acres**	**Ha**
Utilities & Construction	1,512	3.5%	14	34	111	45.0
Manufacturing	3,456	8.0%	17	41	206	83.5
Wholesale Trade / Transportation and Warehousing	19,440	45.0%	10	24	2,008	812.7
Business Services[1]	9,072	21.0%	49	122	183	74.2
Retail, Accommodation and Food Services	6,480	15.0%	28	69	231	93.6
Public Administration	1,080	2.5%	27	67	40	16.1
Other Services	2,160	5.0%	18	45	119	48.2
Total	**43,200**	**100.0%**	**15**	**37**	**2,899**	**1,173**

Source: Watson & Associates Economists Ltd., 2010.

1. Business Services includes: Information and Cultural Industries, Finance and Insurance, Real Estate and Rental and Leasing, Professional, Scientific and Technical Services, Management of Companies and Enterprises, Administrative and Support, Waste Management and Remediation Services.

Note: Employment density figures are based on employment targets as per the City of Hamilton comprehensive employment study. They do not necessarily reflect the densities that would occur based on anticipated market trends.

3.2.2 Employment Density by Sector and Total Employment Density

For each of the employment sub-sectors identified in Table 3-1a and 3-1b, a net density assumption (i.e. employees/net Ha) has been applied to determine the overall employment land need impacts within the subject area. As mentioned earlier, the land needs of the wholesale trade, warehousing and transportation sectors are the largest, with 458 and 818 hectares forecast for 2031 and buildout respectively.

The calculated overall weighed density for employment on employment lands for the wholesale trade and transportation and warehousing sector is 24 employees/net Ha (10 employees/net acre), which is below the City-wide density target of 37 employees/net ha. To ensure that Hamilton meets its City-wide target of 37 employees/ha, the City will need to ensure that employment density on all other employment lands average approximately 42 employees per Ha.

3.2.3 Employment by Major Land Use

Table 3-2a and 3-2b summarize the amount of employment in the AEGD by the major land use categories identified in section 1.1. Prestige Business Park is the major sector, comprising 56% of the employment of the AEGD by 2031. At buildout its share is set to diminish to just under 50% as more airport related commercial establish themselves within the AEGD.

Table 3-2a

Hamilton Airport Employment Growth District (AEGD)
Employment Forecast by Land Use Areas of the Refined Preferred Option, 2009-2031

			Employment Density		Employment Land Needs on Employment Lands	
Employment Sector	**Employment by Sector**	**Percent Employment by Sector**	**Emp./Net Acre**	**Emp./Net Ha**	**Acres**	**Ha**
AI: Airside Industrial	2,280	9.4%	15	36	156	63
ARB: Airport-Related Business	3,900	16.0%	33	81	119	48
IND: Light Industrial	4,530	18.6%	9	23	495	200
PBP: Prestige Business Park	13,650	56.0%	16	39	865	350
Total	**24,360**	**100.0%**	**15**	**37**	**1,635**	**662**

Source: Watson & Associates Economists Ltd., 2010.

Table 3-2b

Hamilton Airport Employment Growth District (AEGD)
Employment Forecast by Land Use Areas of the Refined Preferred Option, 2009-Buildout

			Employment Density		Employment Land Needs on Employment Lands	
Employment Sector	**Employment by Sector**	**Percent Employment by Sector**	**Emp./Net Acre**	**Emp./Net Ha**	**Acres**	**Ha**
AI: Airside Industrial	3,510	8.1%	14.6	36	241	98
ARB: Airport Related Business	10,206	23.6%	32.8	81	311	126
IND: Light Industrial	8,248	19.1%	8.2	20	1,002	405
PBP: Prestige Business Park	21,236	49.2%	15.8	39	1,345	545
Total	**43,200**	**100.0%**	**15**	**37**	**2,899**	**1,173**

Source: Watson & Associates Economists Ltd., 2010.

3.2.4 Forecast Absorption

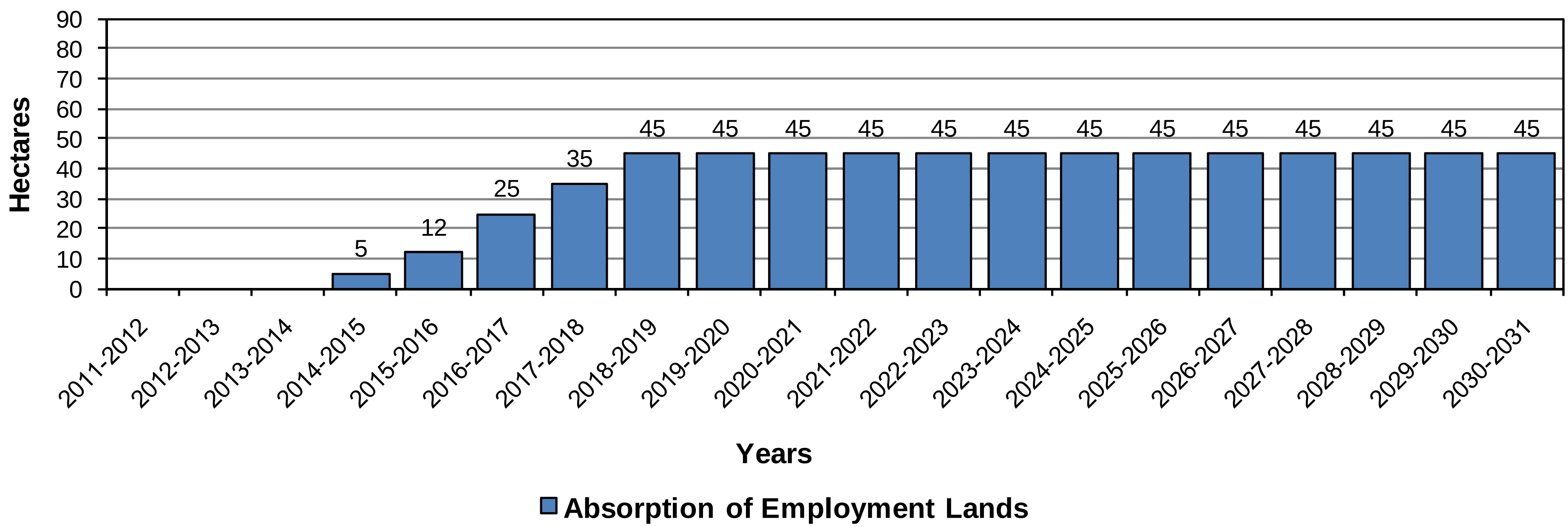
Based on the anticipated time required to complete the Secondary Plan process, obtain all necessary planning approvals, and address servicing and development requirements, it is anticipated that the AEGD lands will not be available for development until at least 2014. Table 3-3 and Figure 3-1 summarize the proposed phasing scheme for the AEGD with respect to employment lands absorption based on forecast City-wide demand for employment lands employment and available employment land supply within the City's remaining Industrial Business Parks. As illustrated in Table 3-3, approximately 56% of the AEGD lands are anticipated to be absorbed by 2031.

Table 3-3

**Hamilton Airport Employment Growth District
Forecast Absorption on Employment Lands, 2011-2031**

Year	Hectares	Acres
2011-2016	17	42
2016-2021	195	482
2021-2026	225	556
2026-2031	225	556
2006-2031	662	1,635

Figure 3-1
Hamilton Employment Growth District
Forecast Absorption of Employment Lands (Net Hectares) 2011-2031



3.3 Economic Impacts of Proposed Development

Employment lands are an integral part of the City's economic development potential. All employment can be categorized as being "basic" or "non-basic" in terms of its relationship to the local economy. "Basic" employment is that which primarily involves service to non-local markets. "Non-basic" employment is largely "population-related" and is geared to the local residential and business market. Basic employment is the "engine" of economic growth - maintaining an adequate "basic" employment base is fundamental to providing potential "spin-off" employment and income opportunities in the "non-basic" sector.

Employment lands are important because they accommodate "basic" employment. From an economic development perspective, maintaining an adequate employment lands base is fundamental to providing competitive local "basic" employment opportunities. The majority of anticipated employment growth in the AEGD is defined as "basic" employment.

The following section explores a number of the key economic and socio-economic impacts associated with the development of the AEGD. Specific areas of consideration include:

- Employment Activity Rate (ratio of employment to population);
- Employment multipliers or "spin-off" employment potential;
- Temporary Employment Growth; and
- Induced Economic Impacts.

<u>Employment Activity Rate</u>

An employment activity rate is defined as the ratio of total locally-based jobs to total locally-based population. As of 2006, the employment activity rate for the City of Hamilton was 39%. Over the 2011 to 2031 forecast period, the Town's employment activity rate is anticipated to increase moderately to 43%.[1]

[1] Excludes Census population undercount.

A healthy balance between local population and employment is echoed throughout many of the guiding principles of the Provincial Growth Plan for the Greater Golden Horseshoe (Places to Grow)[1] that stress the importance of "vibrant" and "complete communities" which support a "strong and competitive economy." With the development of the AEGD, the City will be better positioned over the long term to build a balanced and complete community, increase its non-residential tax assessment base, reduce commuting dependency and traffic congestion, and generally improve environmental, health and socio-economic conditions.

Employment Multipliers or "Spin-Off" Employment Potential

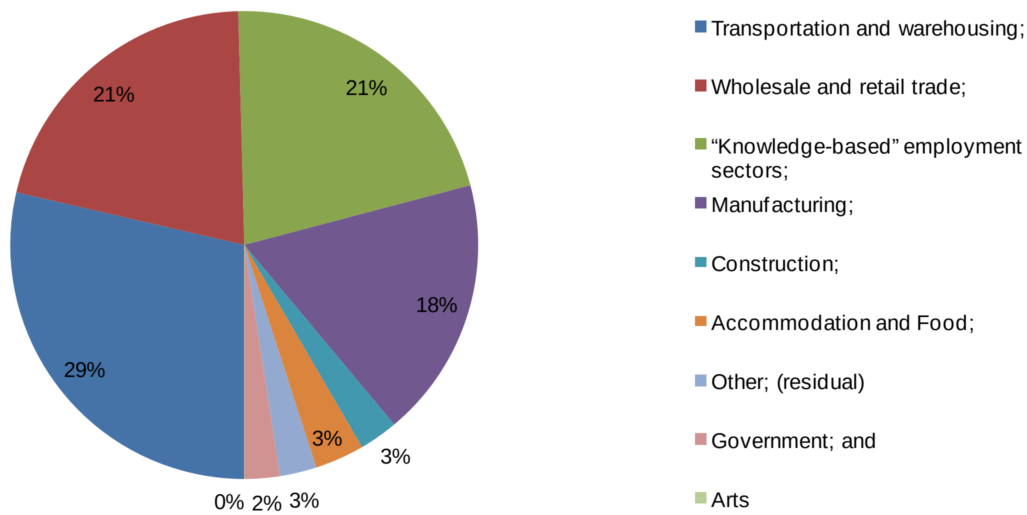
As previously identified, Hamilton is forecast to add 24,360 jobs in the AEGD from 2009 to 2031 and is expected to produce 43,200 total jobs by buildout. Tables 3-4a and 3-4b summarize the potential "spin-off" employment by sector using employment multiplier data. Employment multipliers provide a summary of the indirect economic effect or "shock" from income and/or employment generated by a particular employment sector. This analysis has been based on 2005 Provincial Multipliers available in the Statistics Canada Input/Output model, which provides a comprehensive accounting model of the inter-industrial structure of the Ontario economy.

For the purpose of this analysis, the 20-year and buildout forecast periods have been used to measure the associated economic impact of development. The results of this analysis identify that the 20-year employment forecast for the AEGD could potentially yield an additional 11,800 indirect jobs distributed on a broad regional basis. Also, the 43,200 direct jobs at buildout of the AEGD could potentially yield an additional 20,400 indirect jobs.

[1] Places to Grow. Better Choices. Brighter Future. Growth Plan for the Greater Golden Horseshoe 2006. Ministry of Public Infrastructure Renewal.

In accordance with the rate of anticipated employment growth by employment sector and the specific multipliers calculated by sector, spin-off employment is anticipated to be distributed as follows:

Figure 3-2
Hamilton Airport Employment Growth District (AEGD)
Potential "Spin-off" Employment Opportunities Associated with Preferred Employment Scenario based on 2005 Multiplier



Source: Statistics Canada 2005 Input/Output Model

Table 3-4a

Hamilton Airport Employment Growth District (AEGD)
Potential "Spin-off" Employment Opportunities Associated with Preferred Employment Scenario based on 2005 Multiplier
2008-2031

Employment Sector	Employment by Sector	2005 Multiplier[1]	Additional Employment
Agriculture, forestry, fishing and hunting	-	1.43	-
Mining and oil and gas extraction	-	1.95	-
Utilities	240	1.67	161
Construction	610	1.51	309
Manufacturing	1,950	2.06	2,074
Wholesale trade	4,870	1.45	2,198
Retail trade	1,220	1.17	213
Transportation and warehousing	6,090	1.54	3,289
Information and cultural industries	610	1.69	420
Finance and insurance	240	2.21	290
Real estate and rental and leasing	610	2.21	736
Professional, scientific and technical services	2,440	1.37	898
Management of companies and enterprises	610	0.00	-
Administrative and support, waste management and remediation services	610	1.17	103
Educational services	-	1.09	-
Health care and social assistance	-	1.14	-
Arts, entertainment and recreation	-	1.32	-
Accommodation and food services	2,440	1.16	393
Other services (except public administration)	1,220	1.11	129
Public administration	600	1.46	276
Total	**24,360**		**11,489**

Source: Watson & Associates Economists Ltd., 2010.

1. Statistics Canada Provincial Input-Output Multipliers, 2005.

Table 3-4b

Hamilton Airport Employment Growth District (AEGD)
Potential "Spin-off" Employment Opportunities Associated with Preferred Employment Scenario based on 2005 Multiplier
2008-Buildout

Employment Sector	Employment by Sector	2005 Multiplier[1]	Additional Employment
Agriculture, forestry, fishing and hunting	-	1.43	-
Mining and oil and gas extraction	-	1.95	-
Utilities	432	1.67	290
Construction	1,080	1.51	547
Manufacturing	3,456	2.06	3,675
Wholesale trade	8,640	1.45	3,899
Retail trade	2,160	1.17	377
Transportation and warehousing	10,800	1.54	5,833
Information and cultural industries	1,080	1.69	744
Finance and insurance	432	2.21	521
Real estate and rental and leasing	1,080	2.21	1,303
Professional, scientific and technical services	4,320	1.37	1,590
Management of companies and enterprises	1,080	0.00	-
Administrative and support, waste management and remediation services	1,080	1.17	183
Educational services	-	1.09	-
Health care and social assistance	-	1.14	-
Arts, entertainment and recreation	-	1.32	-
Accommodation and food services	4,320	1.16	696
Other services (except public administration)	2,160	1.11	228
Public administration	1,080	1.46	497
Total	**43,200**		**20,383**

Source: Watson & Associates Economists Ltd., 2010.

1. Statistics Canada Provincial Input-Output Multipliers, 2005.

While the potential indirect economic impact will be concentrated in Transportation and Warehousing employment sectors, a significant percentage of economic spin off is also anticipated in the "knowledge-based" and manufacturing sector. This highlights the importance of attracting and retaining local employment growth in these sectors.

Temporary (Construction) Employment Growth

Anticipated non-residential development will also influence growth within temporary employment sectors such as the construction industry. During the construction phase, expenditures will be made for the construction of buildings and infrastructure. This investment will create employment associated with construction as well as generate spending on materials and services required. Additional benefits (multipliers) will be derived as employees spend income earned in the local economy.

Tables 3-5a and 3-5b provide an estimate of direct and indirect temporary employment generated (in person years) for every $1,000 spent on non-residential construction, as well as the purchase materials, equipment and services by the commercial operations, using employment multiplier data available from the Statistics Canada Input-Output model.[1]

The construction of new non-residential development would generate a total of 79,358 person years (of temporary construction) employment over the 2008 to 2031 forecast period and more than 130,335 person years employment over the 2008 to buildout forecast period. Based on an average of 20 years of work per employee, this would generate the demand for approximately 4,000 and 6,500 construction employees for Hamilton and the surrounding area over the respective 20-year and buildout forecasts.[2] Note: additional employment generated from the construction of infrastructure associated with new development has been excluded from this analysis. Increased non-residential construction is also anticipated to generate economic job opportunities for individuals in Hamilton related to real estate, property maintenance, landscaping, and other construction-related trades.

Induced Economic Impacts of Population and Employment Growth

In addition to the direct and indirect employment impacts identified above, induced economic effects can also be anticipated from increased labour income and wealth generated from local employment opportunities. In turn, this will generate growth in household savings, taxation, consumption of goods and services within the local economy. This increase in demand will

---

[1] For the purposes of this exercise, it was necessary to estimate construction costs in 2005 $ in order to use available Statistics Canada I/O multiplier data to calculate employment generated. The cost of constructing residential and non-residential development has been based on industry averages for 2005 using the Reed Construction Cost Index.
[2] A portion of these jobs would be filled by existing construction employees.

result in further expansion on the local and regional employment market, largely in the retail and business services sector.

Table 3-5a

Hamilton Airport Employment Growth District (AEGD)
Employment Impacts of Growth on Temporary Employment (Construction), 2008-2031

Employment Sector	Employment by Sector	Total Sq. Ft.[1]	Value of Construction 000's 2009$	Value of Construction 000's 2005$	Employment Multipliers			Person Years of Employment Generated		
					Direct	Indirect	Total	Direct	Indirect	Total
Industrial	14,065	17,581,250	$ 7,032,500	$ 6,157,246	0.00786	0.00309	0.01095	48,396	19,026	67,422
Commercial	9,695	5,332,250	$ 1,173,095	$ 991,174	0.00786	0.00309	0.01095	7,791	3,063	10,853
Institutional	600	420,000	$ 109,200	$ 98,840	0.00786	0.00309	0.01095	777	305	1,082
Total	**24,360**	**23,333,500**	**$ 8,314,795**	**$ 7,247,261**				**56,963**	**22,394**	**79,358**

Source: Watson & Associates Economists Ltd., 2010

Additional Employment calculated from Statistics Canada Provincial Input-Output Multipliers, 2005.

1. Square Foot Per Employee Assumptions

Industrial	1250
Commercial/ Population Related	550
Institutional	700

Table 3-5b

Hamilton Airport Employment Growth District (AEGD)
Employment Impacts of Growth on Temporary Employment (Construction), 2008-Buildout

Employment Sector	Employment by Sector	Total Sq. Ft.[1]	Value of Construction 000's 2009$	Value of Construction 000's 2005$	Employment Multipliers			Person Years of Employment Generated		
					Direct	Indirect	Total	Direct	Indirect	Total
Industrial	24,948	31,185,000	$ 11,550,000	$10,112,505	0.00786	0.00309	0.01095	79,484	31,248	110,732
Commercial	17,172	9,444,600	$ 1,923,900	$ 1,625,546	0.00786	0.00309	0.01095	12,777	5,023	17,800
Institutional	1,080	756,000	$ 182,000	$ 164,734	0.00786	0.00309	0.01095	1,295	509	1,804
Total	**43,200**	**41,385,600**	**$ 13,655,900**	**$11,902,785**				**93,556**	**36,780**	**130,335**

Source: Watson & Associates Economists Ltd., 2010.

Additional Employment calculated from Statistics Canada Provincial Input-Output Multipliers, 2005.

1. Square Foot Per Employee Assumptions

Industrial	1250
Commercial/ Population Related	550
Institutional	700

4.0 The City's Role in Developing the AEGD

The City has a strong and successful history of industrial land development. However, there is a potential role for the private sector in the development of the AEGD. The purpose of this Chapter is to explore the role and approach for the City regarding employment land assembly and development of the AEGD.

4.1 Municipal Trends

In recent decades, most industrial/business parks in the "Outer Ring" of the GGH and beyond, including areas west of Hamilton have been municipally developed, whereas in the core GTAH, they have been privately developed. Examples of communities in the "Outer Ring" of the GGH and beyond which have had active municipal land development include Brantford, Cambridge, Guelph, Kitchener, London and Waterloo.

Generally, market values for industrial/business park lands are strongly correlated to GTAH proximity. Lower land prices and slower rates of development outside of the GTAH create difficulties in sustaining private sector development of employment lands requiring municipal development of industrial/business parks.

To allow for a minimum return on investment, market value of serviced land typically has to be in excess of $150,000 per acre. The potential for private sector development above this point increases with the market value of serviced land. Most communities in the "Outer Ring" of the GGH and beyond, including Brantford and London have serviced land market values below $150,000. In contrast, Cambridge, Kitchener, Waterloo and Guelph have land market values that are in the range of $200,000 and $300,000 per serviced acre, which meet the conditions required to sustain a moderate degree of private development sector.

4.2 Development Approach

Given the current market for employment lands in Hamilton, the private sector is sufficiently strong and economically viable to support large-scale employment lands development. It is also recognized that the AEGD developable lands are not currently owned by the City, and would need to be purchased at market rates in order to pursue municipal land development of the area. This presents a challenge to the City. It is recommended that a coordinated approach between the City and the development community be considered for the AEGD lands to:

- Ensure control of development and timing;
- Properly market the AEGD lands;
- Provide market choice of employment lands by land owner/developer, location, site size, price and access/exposure; and
- Minimize financial risk.

5.0 AEGD Fiscal Impacts of Development

The following chapter provides a detailed analysis of the fiscal impacts of the proposed AEGD development on the City's operating and Capital expenditures.

5.1 Operating Expenditure Implications

Table 5-1 summarizes the City's "Revenue Fund" or "Operating Fund" transactions for 2008, as reported in the City's 2008 FIR. This represents a simple "model" of the City's financial position for the operating fund and provides the structure of the financial impact analysis contained herein.

Table 5-2 modifies the operating expenditures shown in Table 5-1 by netting "Net Debt Charges" and "Own Fund Transfers" from the total. The debt charges are for "sunk" investments, unaffected by growth. The own fund transfers can vary significantly from year to year and relate largely to capital expenditures and general reserve contributions, which are addressed separately in this analysis. It is therefore appropriate to remove these two classes of expenditures from the net spending base, before determining the average operating fund spending levels per capita and employee.

Secondly, user fees and service charges were deducted on a service-by-service basis. These revenue items are expected to increase generally in direct proportion to future growth and expenditure increases. These revenues can be most readily provided for in this way, on a net expenditure basis, as each expenditure category is expected to increase at different rates, which would otherwise complicate the forecasting of individual revenues, if they were addressed separately.

Table 5-1
City Of Hamilton - AEGD
Summary Of Expenditures And Revenues, 2008

	2008 FIR $ (000's)
1 Expenditures	
1.01 General Government	106,598.7
1.02 Fire	69,503.5
1.03 Police	130,699.8
1.04 Protective Inspection and Control	18,108.9
1.05 Other Protection	9,582.1
1.06 Roadways & Winter control	101,625.0
1.07 Parking, streetlighting & other	24,247.0
1.08 Transit	86,175.2
1.09 Sanitary Sewer System	71,223.9
1.10 Storm Sewer System	14,684.5
1.11 Waterworks System	65,559.9
1.12 Waste collection	16,105.3
1.13 Waste disposal	15,794.2
1.14 Other Environmental Services	26,219.4
1.15 Cemeteries	3,338.2
1.16 Public Health	38,717.5
1.17 Ambulance	28,161.7
1.18 General Assistance	187,672.6
1.19 Assistance to Aged Persons	40,325.1
1.20 Child Care	51,405.3
1.21 Social Housing	104,235.3
1.22 Parks & Recreation	65,105.4
1.23 Libraries	30,740.6
1.24 Cultural Services	22,360.7
1.25 Planning and Zoning	23,804.0
1.26 Commercial and Industrial	12,214.8
Total	**1,364,208.3**
2 Revenue Fund Revenues	
2.01 Payments in lieu of taxes	11,443.3
2.02 Ontario unconditional grants (e.g. CRF)	51,090.4
2.03 Ontario conditional grants	217,201.6
2.04 Canada conditional grants	26,390.3
2.05 Revenue from other municipalities	2,016.8
2.06 User fees and service charges	252,477.3
2.07 Licenses, & Permits	13,129.4
2.08 Rents, concessions and franchises	41,143.1
2.09 POA and other fines	12,753.7
2.10 Penalties and interest on taxes	9,109.9
2.11 Investment income-From other	6,429.0
2.12 Donations	476.6
2.13 Sales of publications, equipment, etc.	158.8
2.14 Government Business Enterprise	18,555.0
2.15 Gaming & Casinos & Other Misc Cash Recovery	5,752.0
2.16 Contributions from Capital Fund	28,276.5
2.17 Contributions from reserves and reserve funds	30,061.0
2.18 Supplementary Taxes	8,233.7
2.19 Manual Adjustments	317.1
2.20 ROW/Utility Transmission & Corridors	3,200.9
2.21 Tax Adjustments	(6,535.2)
2.22 Surplus	1,838.8
Total Non-Tax Revenues	**733,520.1**
3 Net Expenditures (General Levy)	**630,688.3**
Total	**1,364,208.3**

Sources: 2008 Financial Information Return

Hamilton

Table 5-2
City Of Hamilton - AEGD
Summary Of Net Operating Expenditures For 2008
$(000's)

EXPENDITURE CATEGORY			TOTAL EXPENDITURE	Net Long Term Debt Charges	Own Fund Transfers	User Fees & Service Charges	NET OPERATING EXPENDITURE	Residential Share %	Residential Share $(000's)	Non-residential Share %	Non-residential Share $(000's)
1.01		General Government	106,598.7	416.7	63,407.9	10,296.4	32,477.5	71.7%	23,293.3	28.3%	9,184.2
1.02		Fire	69,503.5	1,111.0	2,068.4	287.0	66,037.1	71.7%	47,362.7	28.3%	18,674.4
1.03		Police	130,699.8	1,311.0	2,499.4	4,990.9	121,898.6	71.7%	87,427.3	28.3%	34,471.3
1.04		Protective Inspection and Control	18,108.9	-	271.2	1,036.7	16,801.0	71.7%	12,049.9	28.3%	4,751.1
1.05		Other Protection	9,582.1	-	1,228.0	-	8,354.1	71.7%	5,991.7	28.3%	2,362.4
1.06		Roadways & Winter control	101,625.0	23,363.3	7,448.5	1,391.3	69,421.9	71.7%	49,790.3	28.3%	19,631.6
1.07		Parking, streetlighting & other	24,247.0	-	1,392.6	6,544.3	16,310.1	71.7%	11,697.8	28.3%	4,612.3
1.08		Transit	86,175.2	-	5,096.6	34,279.7	46,798.9	71.7%	33,564.8	28.3%	13,234.1
1.09	*	Sanitary Sewer System	n/a	n/a	n/a	n/a	n/a		n/a		n/a
1.10		Storm Sewer System	14,684.5	494.5	12,628.8	28.8	1,532.4	71.7%	1,099.0	28.3%	433.3
1.11	*	Waterworks System	n/a	n/a	n/a	n/a	n/a		n/a		n/a
1.12		Waste collection	16,105.3	-	54.2	1.4	16,049.7	71.7%	11,511.1	28.3%	4,538.7
1.13		Waste disposal	15,794.2	1,993.0	3,023.3	3,953.5	6,824.4	71.7%	4,894.6	28.3%	1,929.9
1.14		Other Environmental Services	26,219.4	1,486.7	1,735.4	5,770.3	17,227.0	71.7%	12,355.4	28.3%	4,871.6
1.15		Cemeteries	3,338.2	-	28.9	1,581.7	1,727.6	100.0%	1,727.6	0.0%	0.0
1.16		Public Health	38,717.5	15.6	87.9	994.0	37,620.0	90.0%	33,858.0	10.0%	3,762.0
1.17		Ambulance	28,161.7	-	1,110.0	34.5	27,017.2	71.7%	19,377.1	28.3%	7,640.1
1.18		General Assistance	187,672.6	-	1,668.2	406.9	185,597.5	95.0%	176,317.7	5.0%	9,279.9
1.19		Assistance to Aged Persons	40,325.1	2,520.5	1,241.6	9,306.7	27,256.2	100.0%	27,256.2	0.0%	0.0
1.20		Child Care	51,405.3	-	206.0	1,594.0	49,605.3	100.0%	49,605.3	0.0%	0.0
1.21		Social Housing	104,235.3	6,414.6	13,221.3	844.6	83,754.7	100.0%	83,754.7	0.0%	0.0
1.22		Parks & Recreation	65,105.4	2,431.0	2,257.0	7,973.6	52,443.7	95.0%	49,821.5	5.0%	2,622.2
1.23		Libraries	30,740.6	220.6	572.7	337.9	29,609.3	95.0%	28,128.8	5.0%	1,480.5
1.24		Cultural Services	22,360.7	-	129.6	8,843.8	13,387.3	95.0%	12,717.9	5.0%	669.4
1.25		Planning and Zoning	23,804.0	125.8	1,354.9	4,625.6	17,697.7	71.7%	12,693.0	28.3%	5,004.7
1.26		Commercial and Industrial	12,214.8	541.9	101.8	4,244.6	7,326.4	0.0%	0.0	100.0%	7,326.4
		Total	**1,227,424.5**	**42,446.2**	**122,834.2**	**109,368.3**	**952,775.8**		**796,295.7**		**156,480.0**

* Recovered from rates.

Sources: 2008 Financial Information Return

2009 Pop. (Est. as per DC Background Study)	525,000	71.7%
2009 Emp. (Est. as per DC Background Study)	207,000	28.3%
	732,000	

Capital Spending From Current Budget:				
	Total Expenditures	1,227,424.5		
	-Debt	42,446.2		
	-Own Fund Transfers	122,834.2		
	-User Fees & Service Charges	109,368.3		
	=(42446.168+122834.24)/	952,775.8	=	17.3%
		Round Up	=	20.0%

H:\Hamilton\Hamilton Airport Employment District\[Hamilton Fiscal Impact 2008 (FIR).xls]Expenditures

Table 5-2 also provides for a calculation of the provision made by the City in 2008 for capital spending from the current budget (debt and own fund transfers as a percentage of net operating expenditures). This 17.3% (20% rounded) provision recognizes the accelerated use by growth of existing assets not included in the development charge provision and the long term lifecycle use and replacement of the new assets required by growth. In other words, this means that a portion of the tax base is required to cover capital costs that are not fully covered by development charges.

Table 5-3 allocates the City's existing operating expenditure components between the needs of residential development and non-residential development (i.e. industrial, commercial and institutional), based on differences in the amount of such development and the need for particular types of services in each case.

Table 5-3 further assesses each of the City's key service components in relation to the proposed development, to determine how the operating costs are likely to be impacted, based on the general circumstances of each service. The expenditure allocation is then presented on a per capita/per employee basis.

The "Basis for Potential Impact" column denotes a particular percentage factor in each case. This factor reflects any variation from the current overall average per capita expenditure level, which is likely to be involved in servicing a new development increment within the City. For instance, if the average existing expenditure for a service such as Fire is $100 per household, economies of scale or other efficiencies may indicate that service costs <u>for the growth increment alone</u> are likely to be lower than average, say 90% (or $90 per capita), while being unaltered for the existing population of the City.

These percentage attributions are used to compute an overall average incremental operating cost per capita and per employee. These per capita and employee expenditure averages are utilized, subsequently, to estimate the incremental expenditure requirement generated by growth. This estimate is based on City-wide average costs. A more accurate measure would reflect the area-specific impact of an individual development.

Table 5-3
City Of Hamilton - AEGD
Outline Of Basis For Net Operating Expenditure Impact Assumptions

	Expenditure Item	Net 2008 Expenditure 000's $ Residential	Non-Resid.	Basis for Potential Impact	Expenditure Per Capita	Employee
1.01	General Government	23,293.3	9,184.2	50% cost attribution. Basic organization structure in place. Significant economies expected.	22.18	22.18
1.02	Fire	47,362.7	18,674.4	90% cost attribution. Cost per resident likely to be maintained, other than minor administrative economies. (i.e. share of General Government expenditures and department administration)	81.19	81.19
1.03	Police	87,427.3	34,471.3	" "	149.88	149.88
1.04	Protective Inspection and Control	12,049.9	4,751.1	" "	20.66	20.66
1.05	Other Protection	5,991.7	2,362.4	" "	10.27	10.27
1.06	Roadways & Winter control	49,790.3	19,631.6	50% cost attribution. Basic road network in place.	47.42	47.42
1.07	Parking, streetlighting & other	11,697.8	4,612.3	50% cost attribution. Economies of scale associated with administration.	11.14	11.14
1.08	Transit	33,564.8	13,234.1	90% cost attribution represents the potential for economies of scale.	57.54	57.54
1.09	Sanitary Sewer System	n/a	n/a	n/a	n/a	n/a
1.10	Storm Sewer System	1,099.0	433.3	90% cost attribution represents some potential for economies of scale.	1.88	1.88
1.11	Waterworks System	n/a	n/a	n/a	n/a	n/a
1.12	Waste collection	11,511.1	4,538.7	100% cost attribution. Limited potential for economies of scale.	21.93	21.93
1.13	Waste disposal	4,894.6	1,929.9	" "	9.32	9.32
1.14	Other Environmental Services	12,355.4	4,871.6	90% cost attribution represents some potential for economies of scale.	21.18	21.18
1.15	Cemeteries	1,727.6	-	" "	2.96	-
1.16	Public Health	33,858.0	3,762.0	" "	58.04	16.36
1.17	Ambulance	19,377.1	7,640.1	" "	33.22	33.22
1.18	General Assistance	176,317.7	9,279.9	" "	302.26	40.35
1.19	Assistance to Aged Persons	27,256.2	-	" "	46.72	-
1.20	Child Care	49,605.3	-	" "	85.04	-
1.21	Social Housing	83,754.7	-	75% cost attribution The planning processing operation is already sized to	143.58	-
1.22	Parks & Recreation	49,821.5	2,622.2	90% cost attribution. Costs per resident assumed to be largely in proportion to growth, with minor administrative economies (i.e. share of General Government expenditures and department administration).	85.41	11.40
1.23	Libraries	28,128.8	1,480.5	"	48.22	6.44
1.24	Cultural Services	12,717.9	669.4	90% cost attribution represents some potential for economies of scale.	21.80	2.91
1.25	Planning and Zoning	12,693.0	5,004.7	75% cost attribution The planning processing operation is already sized to	18.13	18.13
1.26	Commercial and Industrial	-	7,326.4	75% cost attribution. Represents the potential for economies of scale.	-	26.55
	Total Expenditures	**796,295.7**	**156,480.0**		**1,299.98**	**609.94**

Sources: 2008 Financial Information Return

2009 Pop. (Est. as per DC Background Study) 525,000
2009 Emp. (Est. as per DC Background Study) 207,000

5.2 Operating Revenue Implications

Table 5-4 sets out the 2008 non-tax revenues for the City (as outlined in Table 5-1), and identifies those non-tax revenues which are expected to be directly affected by growth. Table 5-4 references only user fees/service charges as part of the total. They have already been removed in calculating net expenditures, since they are expected to increase in direct proportion to future spending increases. Grants and subsidies are not assumed to increase with growth. These revenues are then allocated between population and employees to provide a per capita and per employee non-tax revenue estimate.

5.3 Taxation Revenue

The property taxes generated by the various types of development are calculated as the City-purpose tax rates for the applicable property types for the year 2008, applied against average assessment estimates in each case. Assessment assumptions for commercial and industrial development are based on industry standards, as an assessment and floor area sample was not readily available.

The following City-wide tax rates for the year 2008 are applicable:

			2008 Tax Rate %		
	City Wide	Culture & Recreation	Fire	Transit	Total
Industrial	3.524909	+ 0.268776	+ 0.556205	+ 0.307782	= 4.657672%
Commercial	2.111846	+ 0.161029	+ 0.333234	+ 0.184399	= 2.790508%
Institutional[1]	1.045822	+ 0.079744	+ 0.165023	+ 0.091317	=1.381906%

[1] For institutional development, the range of potential revenue can be quite considerable, i.e. private uses are taxable, federal/provincial uses would pay through payment-in-lieu (PIL) but perhaps at a lower assessment value, and municipal buildings would not be taxed. For analysis purposes, the above assumes private institutional at the residential tax rate to represent a lower overall average across the study area. It should be noted that institutional development is anticipated to account for less than 2% of the total new GFA forecast at buildout.

Table 5-4

City of Hamilton

Outline Of Basis For Net Operating Revenue Impact Assumptions

	Revenue Item	Net 2008 Revenue 000's $ Total	Residential 71.7%	Non-Resid. 28.3%	Basis for Potential Impact	Revenue Per Capita $	Employee $
2.01	Payments in lieu of taxes	11,443.3	-	11,443.3	No Impact Anticipated	-	-
2.02	Ontario unconditional grants (e.g. CRF)	51,090.4	36,642.7	14,447.7	No Impact Anticipated	-	-
2.03	Ontario conditional grants	217,201.6	155,779.8	61,421.8	No Impact Anticipated	-	-
2.04	Canada conditional grants	26,390.3	18,927.4	7,462.8	No Impact Anticipated	-	-
2.05	Revenue from other municipalities	-	-	-	n/a	-	-
2.06	User fees and service charges	109,368.3	78,440.4	30,927.9	Netted in Table 2.	-	-
2.07	Licenses, & Permits	13,129.4	9,416.6	3,712.8	Expected to increase in direct proportion to growth.	17.94	17.94
2.08	Rents, concessions and franchises	41,143.1	29,508.4	11,634.7	Expected to increase in direct proportion to growth.	56.21	56.21
2.09	POA and other fines	12,753.7	9,147.1	3,606.6	Expected to increase in direct proportion to growth.	17.42	17.42
2.10	Penalties and interest on taxes	9,109.9	6,533.8	2,576.2	Expected to increase in direct proportion to growth.	12.45	12.45
2.11	Investment income-From own funds	-	-	-	Expected to increase in direct proportion to growth.	-	-
2.11	Investment income-From other	6,429.0	4,610.9	1,818.0	Primarilly Interest earnings. No impact antcipated.	-	-
2.12	Donations	476.6	341.8	134.8	Expected to increase in direct proportion to growth.	0.65	0.65
2.13	Sales of publications, equipment, etc.	158.8	113.9	44.9	Expected to increase in direct proportion to growth.	0.22	0.22
2.14	Government Business Enterprise	18,555.0	13,307.9	5,247.1	Expected to increase in direct proportion to growth.	25.35	25.35

Table 5-4 (Continued)

City of Hamilton

Outline Of Basis For Net Operating Revenue Impact Assumptions

	Revenue Item	Net 2008 Revenue 000's $			Basis for Potential Impact	Revenue Per	
		Total	Residential 71.7%	Non-Resid. 28.3%		Capita $	Employee $
2.15	Gaming & Casinos & Other Misc Cash Recovery	5,752.0	5,752.0	-	The revenues generated from gaming are based on a wider service area and here a nominal 10% has been attributed to Hamilton (for analysis purposes). 100% of these revenues have been assigned to residential. $5,752,000 ÷525,000 X 10%	1.10	-
2.16	Contributions from Capital Fund	28,276.5	20,280.3	7,996.2	No Impact Anticipated	-	-
2.17	Contributions from reserves and reserve funds	30,061.0	21,560.1	8,500.9	No Impact Anticipated	-	-
2.18	Supplementary Taxes	8,233.7	5,905.3	2,328.4	N/a. Full annual tax increase included elsewhere.	-	-
2.19	Manual Adjustments	317.1	227.4	89.7	No Impact Anticipated	-	-
2.20	ROW/Utility Transmission & Corridors	3,200.9	2,295.7	905.2	No Impact Anticipated	-	-
2.21	Tax Adjustments	(6,535.2)	(4,687.1)	(1,848.1)	N/a. Full annual tax increase included elsewhere.	-	-
2.22	Surplus	1,838.8	1,318.8	520.0	No Impact Anticipated	-	-
	Total Revenues	588,394.2	415,423.4	172,970.9		131.32	130.23

Sources: 2008 Financial Information Return

2009 Pop. (Est. as per DC Background Study) 525,000
2009 Emp. (Est. as per DC Background Study) 207,000

5.4 Net Fiscal Impact on the City

Table 5-5 summarizes the estimated net annual fiscal impact of various forms of non-residential development on the City with respect to its own funds. The average annual operating surplus (deficit) has been calculated as the difference between:

- Property taxation, based on the assumptions above in Section 5.3 Chapter Taxation Revenue; plus
- Non-tax revenues, as estimated above in Section 5.2 Operating Revenue Implications;
- Operating expenditures, as addressed in Section 5.2 Operating Expenditure Implications; and
- Capital spending from the current budget (20.0% of net operating expenditures), as addressed in Section 5.2, Operating Expenditure Implications, and calculated in Tables 5-1 and 5-2.

On this basis, it is concluded that industrial and commercial development in the City can be expected to generate an annual operating surplus, even using somewhat conservative assessment assumptions. Institutional development is expected to yield a smaller surplus.

The fiscal impact per employee calculated in Table 5-5 is applied to the associated type of development over two phases of development:

1. Phase 1 2011 to 2021 (6,000 employees); and
2. Phase 2 2021 to 2031 (18,360 employees).

.

The results of this analysis are shown in detail in Table 5-6. It is expected that each of the growth periods evaluated would have a net positive impact on the City's property taxes of approximately $16.2 million (2011-2021), and $49.8 million (2021-2031) (2008 $).

Table 5-5

City of Hamilton
Fiscal Impact Summary for Non-Residential Development

Financial Component		1 Industrial		2 Commercial		3 Institutional
Operating Expenditures						
Sq.Ft. Per Employee[1]		1,250		550		700
Employees per 1,000 sq.ft.		0.80		1.82		1.43
X $ 609.94 /employee	$	487.95	$	1,110.09	$	872.22
Sub-Total	$	487.95	$	1,110.09	$	872.22
Capital Spending from Current Budget						
20% of other operating expenditures	$	97.59	$	222.02	$	174.44
Total Annual Expenditures	$	585.54	$	1,332.11	$	1,046.66
Revenues						
Assessment for 2009 Tax Purposes (per Sq.ft. of GFA)	$	75	$	125	$	124
Per 1,000 sq.ft. of GFA	$	75,000	$	125,000	$	124,000
2008 Tax Rate		4.657672%		2.790508%		1.381906% [2]
Property Tax Revenue Increase	$	3,493.25	$	3,488.14	$	1,713.56
Non-Tax Revenue Employees per 1,000 sq.ft.		0.80		1.82		1.43
employees X $ 130.23 /employee	$	104.18	$	237.00	$	186.23
TOTAL ANNUAL REVENUES	$	3,597.43	$	3,725.14	$	1,899.79
Annual Operating Surplus (Deficit)	$	3,011.89	$	2,393.03	$	853.13

H:\Hamilton\Hamilton Airport Employment District\[Hamilton Fiscal Impact 2008 (FIR).xls]non-res summary

NOTE:

1 Employment density assumptions derived by Watson & Associates Economists Ltd., based on survey data for Greater Toronto Area.

2 Represents

3 Refer to industrial assessment sample (Appendix A).

Table 5-6
City Of Hamilton - AEGD
Summary Of Fiscal Impact Of ICI Development - Stage 1 (2031)

Employment Sector	Fiscal Impact per sq.ft.		Total: Employees on AEGD Employment Land	Total: Net Floor Area Sq. Ft. [1]	Total: Fiscal Impact
Industrial	$	3.01	14,065	17,581,250	$ 52,919,563
Commercial	$	2.39	9,695	5,332,250	$ 12,744,078
Institutional	$	0.85	600	420,000	$ 357,000
Total			24,360	23,333,500	$ 66,020,640

Source: Watson & Associates Economists Ltd.

[1] Square Feet per Employee

Industrial	1,250
Commercial	550
Institutional	700

5.5 Capital Fund Impacts

5.5.1 Introduction

New development generates the need for additional City capital facilities, (potentially) including new and expanded road facilities, treatment plants, pumping stations, sewer and water collectors, trunks and mains, as well as stormwater management facilities, plus a full range of other local and regional services (e.g. libraries, recreation centres, park development, transit, police, fire, etc.). Policies relating to funding sources for local municipal growth-related capital works in Hamilton are generally found within the City's 2009 Development Charge Background Study.[1]

The City's capital budget consists of a blend of growth-related and non-growth-related capital projects. The City's residential share of growth-related costs is largely funded from development charges (DCs). Non-growth-related capital expenditures, which cover repairs, replacements, DC deductions, ineligible services and exempt development items, etc., are financed from existing reserves/reserve funds, operating budget transfers, debt, grant/subsidies (when available) and related sources.

Development charges (DCs) are the primary financing source for eligible growth-related capital works. DCs represent a one-time capital funding source, which fund the majority of the City's growth-related capital costs. These revenues are calculated on an average cost basis which can be used to largely fund the development-related capital servicing requirements of the Hamilton AEGD. However, a number of servicing costs are not absorbed by development charges, as a result of various provisions in the *Development Charges Act*, *1997 (DCA)* including:

[1] City of Hamilton Development Charge Background Study. June 22, 2009. (Revision to May 20, 2009 DC Background Study and Including Final Adopted DC By-law) Watson & Associates Economists Ltd.

- Ineligible services, such as parkland acquisition, general administration, cultural facilities, etc.;
- Ineligible costs, including computer equipment and short-life vehicles;
- The 10% reduction for "soft" services;
- The industrial expansion exemption, the residential intensification exemption and the exemption for school, municipal and other uses and the City's discretionary exemptions;
- Cost deductions relating to excess capacity; and
- Cost deductions related to level of service ceilings.

As a result, the City is required to supplement its capital funding program by contributions from the operating budget. These contributions have been broadly incorporated in the 20% capital spending from the current budget allowance (refer to Table 5-2).

5.5.2 Potential Growth-Related Capital Works and Funding Sources

Capital works related to the Hamilton AEGD will be largely funded through City DCs. The City's 2009 Development Charges Background Study provides details with respect to development infrastructure servicing policy. These guidelines set out, in general, the range of infrastructure that constitutes City of Hamilton development charges projects. A brief description of these costs is summarized below, by service.

Roadways, Localized Intersection Improvements and Transit

Details regarding the roadways program for the AEGD are provided in the May 10, 2010, Hamilton AEGD Transportation Master Plan. In total, a cost of $226.57 million has been estimated for the construction of new roadways, and the incremental costs associated with the improvement or widening of existing roadways. [1] From this total, approx. $99.09 million has been identified as DC eligible. The City's current DC guidelines state that all collector roads internal to development to which the plan relates are a local service (i.e. direct developer responsibility) under s.59 of the DCA. In accordance with the City's current DC policy a total of $88.72 million has been identified as a direct developer responsibility. In addition, a total of $38.76 million in roads costs are identified as benefit to existing development. These costs are largely related to reconstructing the existing portion of the road where a road widening project is underway throughout the Stage 1 AEGD study area. It is important to note that many of the costs associated with existing roads would occur regardless if development occurs within the AEGD over the next 20 years.

In addition to the identified capital costs for roads infrastructure, $5.89 million in transit costs have been identified for stage 1 of the AEGD. Under the DCA, 1997, historic service standard measures provide a ceiling on the level of the development charge which can be imposed for transit services. In accordance with the City of Hamilton 2009 DC Background Study, the City has allocated all of the eligible DC funding for transit services to other City-wide transit projects outside of the AEGD. Accordingly, none of the capital costs associated with transit for the AEGD are assumed to be DC eligible at the present time. However, the City of Hamilton has the authority under the DCA, 1997 to reallocate a portion of the the identified DC eligible funds for transit from existing transit projects throughout the City to the AEGD. Furthermore, DC funding for transit services is limited to a 10 year horizon for future population and employment growth. As such, additional DC revenue will be available to fund AEGD transit capital costs post 2019 at the time the next Development Charge Background Study update is undertaken in 2014.

[1] As identified on page 133 of the May, 2010 Hamilton AEGD Transportation Master Plan A portion of the total costs (approximately $20 million or 9 % of total roads costs) has been identified as "potential" roadway projects which may be omitted depending on site development plans.

Watermains

Details regarding the water servicing program for the AEGD are provided in the May 10, 2010, Hamilton AEGD Draft Water and Wastewater Servicing Master Plan. In total, the Stage 1 AEGD costs estimated for water services are estimated at $28.52 for the construction of new trunk watermains. From this total, 51% ($14.58 million) of the costs have been identified as DC eligible. The current DC guidelines state that watermains internal to a specific development, as well as external watermains (300 mm or smaller in size) to be connected to an existing local/regional main, are considered to be the developer's responsibility through a subdivision or development agreement with the City. [1] In accordance with these DC guidelines a total of $10.36 million has been identified as a direct developer responsibility. There is also a minimal allocation of costs to post period/existing benefit of $3.6 million.

Wastewater

The May 10, 2010, City of Hamilton AEGD Draft Water and Wastewater Servicing Master Plan sets out the required wastewater servicing program for the development of the Stage 1 employment lands. A total cost of $44.08 million has been estimated for the construction of new trunk sanitary sewer mains, of which 69% ($28.30 million) has been identified as DC eligible. The current DC guidelines state that watermains internal to a specific development, as well as external sanitary sewers (450 mm or smaller in size) to be connected to an existing local/regional sewer, are considered to be the developer's responsibility through a subdivision or development agreement with the City. [2] In accordance with these DC guidelines a total of $15.78 million has been identified as a direct developer responsibility.

---

[1] City of Hamilton Development Charges Background Study. Appendix E. May 20, 2009.

[2] City of Hamilton Development Charges Background Study. Appendix E. May 20, 2009.

Storm Sewers and Stormwater Management Facilities

Details regarding the stormwater servicing program for the AEGD are provided in the May 10, 2010, Hamilton AEGD Draft Subwatershed Study and Draft Stormwater Master Plan. A total cost of $45.86 million has been estimated for the storm sewers and stormwater management facilities, of which 100% has been identified as DC eligible.

5.5.3 Expenditure Summary

Table 5-7 summarizes these costs by service in 2009 dollars. Total infrastructure costs associated with roads, transit, water and wastewater services are estimated at $351 million to develop Stage 1 of the AEGD. From this total cost, approximately $194 million (approximately 55%) would be funded through DCs (including post period benefit). A total of approximately $115 million of the Stage 1 AEGD costs would be a direct developer responsibility in accordance with the City's current local service DC policy guidelines. Lastly, a total of $42 million of the total Stage 1 AEGD costs (approximately 12% of total costs) are not DC eligible and would be funded from the tax levy. Additional details related to the potential growth-related capital works associated with the AEGD are provided in Appendix A.

Table 5-7
Hamilton AEGD Capital Fund Impacts
Hamilton AEGD Stage 1 (Millions), 2011-2031 [1]

Service	Total Cost	Direct Developer Responsibility	Non DC Eligible/Existing Benefit	Post Period Benefit	DC Eligible Cost
Roads and Related	$ 226.57	$ 88.72	$ 38.76	$ -	$ 99.09
Storm Water Drainage and Control Services	$ 45.86	$ -	$ -	$ -	$ 45.86
Transit	$ 5.89	$ -	$ -	$ 5.89	$ -
Water Services	$ 28.52	$ 10.36	$ 3.13	$ 0.45	$ 14.58
Wastewater Services	$ 44.08	$ 15.78	$ -	$ -	$ 28.30
Total	**$ 350.92**	**$ 114.86**	**$ 41.89**	**$ 6.35**	**$ 187.82**

Source: Watson & Associates Economists Ltd. 2010
Stage 1 of the AEGD is forecast to accommodate approximately 24,000 employees on 662 net Ha (1636 net acres).

5.5.3 Calculation of the Development Charge

Table 5-8 provides the calculation of the City-wide DC as adjusted for the identified capital costs associated with the development of the AEGD related to roads, water, wastewater and stormwater services.

Table 5-8
City of Hamilton
Impact of Hamilton AEGD on Municipal-wide Development Charge Rates

Service	Current 2009 DC Municipal-Wide DC, By-law 09-143, 09-144 (Fully-Serviced)			As per Hamilton AEGD Master Servicing Plans [1]			Difference		
	Single-Detached Dwelling & Semi-Detached Dwelling (per unit)	NON-RESIDENTIAL (per sq.ft. of Gross Floor Area)	Industrial (per sq.ft of Gross Floor Area)	Single-Detached Dwelling & Semi-Detached Dwelling (per unit)	NON-RESIDENTIAL (per s.f. of Gross Floor Area)	Industrial (per sq.ft of Gross Floor Area)	Single-Detached Dwelling & Semi-Detached Dwelling	NON-RESIDENTIAL (per s.f. of Gross Floor Area)	Industrial (per sq.ft of Gross Floor Area)
Roads and Related	$ 6,065.00	$ 6.49		$ 6,435.50	$ 6.93	$ 6.93	$ 370.50	$ 0.44	$ 6.93
Services	$ 304.00	$ 0.33		$ 303.55	$ 0.33	$ 0.33	$ (0.45)	$ (0.00)	$ 0.33
Wastewater Services	$ 9,180.00	$ 6.65	$ 6.65	$ 9,096.00	$ 6.59	$ 6.59	$ (84.00)	$ (0.06)	$ (0.06)
Water Services	$ 3,795.00	$ 2.75		$ 3,678.00	$ 2.67	$ 2.67	$ (117.00)	$ (0.08)	$ 2.67
Storm Water Drainage and Control Services	$ 3,700.00	$ 2.35		$ 3,900.00	$ 2.48	$ 2.48	$ 200.00	$ 0.13	$ 2.48
Remaining Soft Services	$ 3,645.00	$ 0.80		$ 3,645.00	$ 0.80	$ 0.80	$ -	$ 0.00	$ 0.80
Total Municipal-Wide Development Charge	**$ 26,689.00**	**$ 19.37**	**$ 6.65**	**$ 27,058.05**	**$ 19.80**	**$ 19.80**	**$ 369.05**	**$ 0.43**	**$ 13.15**

Source: Watson & Associates Economists Ltd. 2010

1. City of Hamilton AEGD Transportation Master Plan, May 2010, City of Hamilton AEGD Phase 2 Draft Subwatershed Study and Draft Stormwater Master Plan, City of Hamilton AEGD Phase 2 Draft Water & Wastewater Servicing Master Plan.

In accordance with the above capital costs for hard services, Hamilton's calculated City-wide DC would increase from $26,689 to $27,058 per single/semi-detached unit. This represents a marginal increase of $369 per single/semi-detached unit (or 1.4%). The City's calculated non-residential charge would increase marginally from $19.37/sq.ft to $19.80. This represents an increase of $0.43/sq.ft or 1.02%. Note: as discussed in Section 5.5.5, industrial development currently only contributes towards wastewater services as per Council's direction.

5.5.4 Timing of Payment and DC Credits

Development charges are calculated and payable on the day that the building permit is issued in relation to the development. For "hard" services (i.e. roads and related, water services, wastewater services and stormwater drainage facilities), DCs could be collected earlier at subdivision approval, if provided for in the DC By-law. A municipality and one or more landowners may also enter into a front-ending agreement which provides for the cost of a project which will benefit an area in the municipality to which the DC By-law applies (i.e. AEGD). Such an agreement can provide for the costs to be borne by one or more parties to the agreement who are, in turn, reimbursed in the future by persons who develop land defined in the agreement.

The DCA, 1997 sets out a number of credit requirements, which apply where a municipality agrees to allow a person to perform work in the future that relates to a service in the DC by-law. These credits are used to reduce the amount of development charges to be paid. The value of the credit is limited to the reasonable cost of the work which does not exceed the average level of service. The credit applies only to the service to which the work relates, unless the municipality agrees to expand the credit to other services for which a development charge is payable.

5.5.5 Fiscal Impact of Reduced Industrial DC

As of July 5, 2010 the City of Hamilton's residential and non-residential DC will be implemented at the full rate as calculated in the 2009 City of Hamilton DC Background Study (note that phase-in provisions were made within the By-law). The City of Hamilton will continue to discount the industrial DC rate at $6.65 per sq.ft. Table 5-9 provides a comparison of the calculated industrial DC as per the City of Hamilton Master Servicing Plans for the AEGD against the current discounted industrial DC. The total difference between the calculated industrial DC and the discounted industrial DC is $13.15 per sq.ft.

Table 5-9
City of Hamilton
Comparison of Calculated Industrial Development Charge vs. Discounted Industrial DC Charge [1]

Service	AEGD Calculated Industrial DC (per sq.ft of Gross Floor Area)	Discounted Industrial DC (per sq.ft. of Gross Floor Area)	Difference
Water & Wastewater (Rate Supported)	$ 9.26	6.65	$ 2.61
Remaining Services (Tax Supported)	$ 10.54	-	$ 10.54
Total	$ 19.80	6.65	$ 13.15

Note: Discounted Industrial DC has been apportioned by service in accordance with calculated industrial DC
1. As per City of Hamilton By-Law No. 09-143/09-144

Tables 5-10 and 5-11 summarize the fiscal impacts of the reduced industrial DC between tax supported and rate supported services in accordance with the forecast of industrial gross floor area (GFA) in the AEGD from 2011 to 2031 (i.e. Stage 1). Over this time period, the potential loss of DC revenues which would need to be supported by the tax levy is estimated at $185.32 million. This translates into an annualized costs of $13.85 million adjusted for interest.[1]

An additional $45.89million of potential losses in DC revenue would need to be supported through the City's water and wasterwater rates. This translates into an annual costs of $3.43 million adjusted for interest. Note: that total annual operating expenditures for water and wastewater are approximately $137 million of which approximately 60% relates to capital related expenditures (i.e. debt, transfers from capital and transfers from reserves). Given the incremental revenue to be generated from the AEGD development, incremental water and wastewater costs should not impact the existing rates.

[1] Note that interest costs from debentures can be included in the City's reserve fund statements under the DCA,1997

Table 5-10
City of Hamilton
Fiscal Impact of Reduced Industrial Development Charge (Tax Supported)

Calculated Non-Res DC per Sq.ft. as per AEGD Master Plans (All Services Excluding Water & Wastewater)	$	10.54
Industrial DC Charge in Effect, as at July 1, 2010 (All Services Excluding Water and Wastewater)	$	-
Difference ($/Sq.ft)	$	10.54
Total Industrial GFA Forecast 2011,2031 (Sq.ft)		17,581,250
Potential Loss of Revenue (Tax Supported)	$	185,323,956
Annual Cost Assuming 20 Year Debenture at 4.71% interest rate [1]	$	13,854,850

Source: Infrastructure Ontario 20 year amortized interest rate.

Table 5-11
City of Hamilton
Fiscal Impact of Reduced Industrial Development Charge (Rate Supported)

Calculated Non-Res DC per Sq.ft. as per AEGD Master Plans (All Services Excluding Water & Wastewater)	$	9.26
Industrial DC Charge in Effect, as at July 1, 2010 (All Services Excluding Water and Wastewater)	$	6.65
Difference ($/Sq.ft)	$	2.61
Total AEGD Industrial GFA Forecast 2011,2031 (Sq.ft)		17,581,250
Potential Loss of Revenue (Rate Supported)	$	45,887,063
Annual Cost Assuming 20 Year Debenture at 4.71% interest rate [1]	$	3,430,525

Table 5-12 summarizes the impact of the current industrial DC discount on the forecast net tax supported operating surplus associated with development in the AEGD by 2031. At the end of Stage 1, development within the AEGD would still provide a positive fiscal impact to the City of $52 million annually assuming the discounted industrial DC rate remains in effect.

Table 5-12
City of Hamilton - AEGD
Impact of Reduced Industrial Development Charges on Net Operating Surplus

	Net Fiscal Impact	Notes
Total Net Operating Surplus (Year 2031)	$ 66,020,640	As per Table 5-6
Annual Industrial DC Shortfall (Tax Supported)	$ 13,854,850	As per Table 5-11
Adjusted Net Operating Surplus (Year 2031)	$ 52,165,790	

5.6 Conclusions

The development of the AEGD is anticipated to have a positive fiscal impact on the City of Hamilton. By 2031 Stage 1 of the AEGD is forecast to generate a positive impact on the City's property tax base of approximately $66 million. Capital costs associated with the AEGD will be largely funded through development charges (DCs) in accordance with the City's existing DC By-law 09-143 and 09-144. In accordance with the master servicing studies prepared for the AEGD related to roads/transit, water, wastewater and stormwater management, the City's municipal-wide DC rate would be nominally impacted by the development of Stage 1 of the AEGD.

6.0 Marketing Strategy

Chapters 1 though 5, provided herein, include a comprehensive assessment the competitive position of the AEGD, forecast employment growth by sector, and assess long term the fiscal/ economic impacts of developing this area. This chapter provides an approach to a general marketing strategy for the City of Hamilton Economic Development Dept. as it relates to targeting, promoting and attracting industrial and commercial development to the AEGD.

6.1 What is the Long-term Vision for the AEGD?

The AEGD presents a strategically important employment area for the City of Hamilton. With a net developable area of 1,173 net ha (2,899 net acres), the largest contiguous land assembly in the region, the AEGD can accommodate a wide range of employment and employment-related land uses.

Building on the work previously carried out through the Secondary Plan process, the overall vision for the AEGD is a vibrant major employment node within the context of a multi-modal transportation hub which includes the Hamilton International Airport (HIA). This employment area will target a range of corporate office, airport-related, airport-dependent, prestigious and general industrial uses as well as other businesses services providing both conventional and knowledge-based services.

As previously discussed, the AEGD lands are competitive due to their western GTAH location, highway access (Hwy. 403, Hwy. 6 and Red Hill Creek Expressway) and access to surrounding employment markets and labour. It is critical that these attributes are highlighted, coupled with the competitiveness of the GTAH as a whole, when identifying the factors which set the AEGD apart from its competition.

The proximity and association with a major airport – the Hamilton International Airport – is an added strategic advantage of the AEGD for businesses who require/desire direct apron access for their operations (e.g. freight/shipping operators), businesses who are associated with airport services, businesses who benefit from being in the immediate vicinity of an international airport, and support businesses who promote the efficiency of the area (vehicle service stations, cafes, restaurants, accommodations, etc.).

To ensure the success of the AEGD, marketing efforts must be geared towards both the broader strengths of the AEGD as well as specific target sector investment attraction efforts. While it is beyond the scope of this assignment to develop and implement sector specific marketing strategies for the AEGD, it is critical to understand the following general issues if the AEGD is to be successful:

- What target employment sectors should specific marketing strategies be geared towards?
- What are the regional and local attributes which these target sectors typically require to be competitive and successful?
- What marketing and communication tools can be used to inform prospective industries about the opportunities of the AEGD?
- What is the recommended approach to measure and monitor the success of marketing and economic development efforts geared towards the AEGD?

These issues are explored in detail in the following section.

6.2 Market Definition and Segmentation

Given the local and regional infrastructure assets located within and surrounding the AEGD, this area is well positioned to accommodate employment growth across a broad range of industrial and commercial industry sectors, including:

- Advanced Manufacturing;
- Research and Development;
- Corporate Office;
    - Airport Related Businesses (e.g. cargo/freight operator offices, passenger airline corporate offices;
    - Airport Dependent (e.g. high travel frequency, time-sensitive shipments); and

  - o Airport Prestige Business.
- Warehousing, Transportation and Logistics;
- Business Services; and
- Accommodation and Food Services.

The growth of these broad employment sectors (and the specific industry clusters within them) will ultimately depend on the evolving nature of macro-economic trends (i.e. timing of global economic recovery, trends in domestic manufacturing, etc.) the impacts of government stimulus and initiatives (i.e. green energy solutions) as well as the competitive forces which influence the ongoing success of industry growth within a particular region. The following section explores the latter issue related to industry needs and competitive forces within the context of the targeted industry sectors for the AEGD.

6.3 Target Sector Needs and Requirements Analysis

The following section provides an overview of the general requirements for each of the major target sectors identified for the AEGD in terms of location, infrastructure, market conditions, facility needs, and land use. The target markets have varying regional and park-level requirements and the AEGD offers most of the attributes desired, as illustrated in Table 6-1. These are discussed in detail herein by target market sector.

Attributes that are desirable for a large number of targets sectors may be marketed to most of the target sectors. Over emphasizing attributes that are of less value to a given sector can dilute the intended message of the advantages of locating in the AEGD. Attributes which are valued across a wide number of sectors can be included in more general promotional materials, while attributes which are valued in only select target sectors are recommended to be kept within respective target sector marketing efforts.

Through understanding the key attributes of the respective target sectors, more efficient sector-specific marketing strategies can be developed which will aid in the creation of a positive market perception of the AEGD. Also, it will provide crucial information needed when making general development decisions that could positively or negatively affect that value of the development to the target sectors identified.

Table 6-1

Target Sectors – Regional and Park-Level Requirements

Advanced Manufacturing	Research & Development	Transportation/ Warehousing/ Wholesale Trade	Corporate Office/Business Services	Accommodation and Food Services
✓ Access, exposure and proximity to 400 series/limited access highways ✓ Availability of skilled and unskilled labour force pool, union vs. non-union environment ✓ Training and education ✓ Proximity to suppliers and/or customer-base ✓ Proximity to U.S border ✓ Proximity to surrounding employment markets and related industry clusters ✓ Competitive wage rates	✓ Access/proximity to related industry cluster(s) and institutions/government agencies ✓ Access to skilled labour pool. ✓ Prestige “campus-like” setting ✓ Urban design guidelines, land use controls, height restrictions, landscaping	✓ Access to major 400 series highways, with limited traffic congestion and highway tolls ✓ Competitive land prices ✓ Market choice by site size, configuration, zoning, location, etc. ✓ Expansion potential ✓ Truck assess, loading/unloading requirements ▪ Intermodal transportation potential, proximity to major infrastructure ✓ Proximity to customer-base ✓ Proximity to U.S. border	✓ Access and integration with post secondary institutions and research facilities ✓ Zoning requirements ✓ Urban design guidelines, land use controls, height restrictions, landscaping ✓ Flexible leasing structures ✓ Multi-tenant vs. freestanding office space ✓ Market choice (Type A vs. B office space) ✓ Capitalization rates ✓ Incubator facilities ✓ Water quality	✓ Access, exposure and proximity to major 400 series/limited access highways ✓ Exposure and configuration within industrial/business district ✓ Safety issues, potential land use conflicts ✓ Local traffic volumes and flow ✓ Proximity to employment and population base ✓ Signage

Advanced Manufacturing	Research & Development	Transportation/ Warehousing/ Wholesale Trade	Corporate Office/Business Services	Accommodation and Food Services
✓ Competitive land prices ✓ Market choice by site size, configuration, zoning, location, etc. ✓ Competitive tax, water and utility rates ✓ Expansion potential. ✓ Zoning requirements ✓ Power and technological requirements		✓ Power and technological requirements ✓ Outside storage		

✓ Potential attributes of the AEGD.

Advanced Manufacturing

Due to the dynamic nature of advanced manufacturing, this sector has a unique set of requirements in order to run their operations efficiently, all of which the AEGD is able to provide. The most relevant of these needs are as follows:

- Access to 400 series/limited access highways;
- Access to skilled and unskilled labour;
- Proximity to markets and related industry clusters;
- Proximity to US market; and
- Competitive land prices.

The first four of these requirements allow for operations to receive inputs, process them, and ship outputs in a manner that accommodates the time sensitive nature of this type of manufacturing. The final requirement is geared towards industries that typically require larger land allotments for operations, as high land prices in a particular area can act as a “barrier to entry.”

Competing regions looking to expand their economic base by attracting an advanced manufacturing firm must be capable of providing for the time sensitive needs of this employment sector, while simultaneously providing a skilled workforce, competitive land prices, as well as on- and off-site amenities. Attention to value-add services tailored to meet the current and forecast needs of this sector is critical as the AEGD is developed.

Research and Development

Research & Development (R&D) firms typically attach value to the following attributes when considering expansion or relocation into a market:

- Access to skilled labour force;
- Proximity to related industry cluster (companies and public institutions such as universities); and
- Prestige “campus-like” setting.

Due to the high value of knowledge within the sector, access to a skilled labour force is a key need of R&D businesses, as failure to have sufficient intellectual resources limits the ability of the firm to satisfy the needs and wants of their clients. Further, proximity to related industry clusters is important to permit access to clients, suppliers and partners.

Employment markets that offer a high availability of skilled labour and have post secondary educational facilities offer the strongest competition in the R&D sector. While land prices and operating expenditures play a role in site selection and overall competitiveness, proximity to a post-secondary institution is a critical factor. As previously identified in the Phase 1 AEGD Secondary Plan, research intensive universities such as McMaster, with expertise in advanced manufacturing, play a pivotal role in ensuring industries are at the forefront of technological innovation. Given its proximity to McMaster University and access to surrounding employment markets, the AEGD is an ideal location to commercialize, manufacture and distribute goods developed through local manufacturing, engineering and R&D.

Corporate Office

Corporate office clients interested in operating in an area such as the AEGD are generally dependent on the following characteristics for efficient and competitive operation of their businesses:

- Prestige setting;
- Access and exposure to 400 series/limited access highway; and
- Access to on-site amenities and proximity to off-site services.

Further, Airport Related Businesses or Airport Dependent Businesses rely heavily on airport access/connectivity and related airport services for efficient operation of their services.

The corporate office and business services sector broadly consists of knowledge-based industries such as finance, insurance, real estate and leasing, call centres, convention centres and most other office buildings, including head offices. Over the past decade, employment growth within this sector has been strong across the GTAH. Stronger growth in the business services sector generally means a greater proportion of employment on employment lands will be occurring in office, prestige industrial and flex-space buildings. Generally, greenfield settings such as the AEGD are attractive to developers seeking to draw commercial occupants, because of their prestige settings, higher building design and landscaping standards and location to new areas.

Competition forces in the Corporate Office and Business Services area are quite broad and strong. Though value may be placed on the proximity to an international airport by some businesses, competitive land prices are a determining factor. Consequently, failure to offer lands at a competitive rate will reduce the potential number of interested businesses. Further, market choice in terms of sales/leasing options is also a competitive issue.

Business Services

Very similar in their need structure as the Corporate Office sector, Business Services firms typically operate on a more regional basis. As such, the following list of attributes desired in a development is nearly identical to that of the Corporate Office sector:

- Access to on-site amenities and proximity to off-site services;
- Prestige setting;
- Access to skilled labour force; and
- Flexible leasing structures and market choice (multi-tenant vs. freestanding office, Type A vs. Type B).

Due to the regional operational nature of this sector, ease of access for consumers and access to nearby complementary services and amenities is critical when considering a potential development site. In addition, proximity to the HIA would in most cases be considered an element of prestige, and would have some value when considering other financial concerns such as land pricing and flexible leasing arrangements.

Warehousing, Transportation and Logistics

The Warehousing, Transportation, and Logistics sector has the most requirements when considering potential development sites. This is due mainly to the larger land requirements of this sector, as well as the importance of being in close proximity to their service markets. Based on these features of the sector, the following are the key desired attributes of development sites to be considered:

- Access to 400 series/limited access highways;
- Competitive land prices;
- Availability of large tracts of land;
- Flexibility in zoning, parcel configuration;
- Compatible surrounding land uses;
- Intermodal transportation potential; and
- Proximity to markets, US border.

When combined effectively, these attributes contribute to the efficiency and ultimately the profitability of Warehousing, Transportation, and Logistics firms. Land related properties focus on competitive land pricing for large, flexible tracts of land required for the large warehouses, storage yards, and shipping areas. Locational requirements include direct access to their process distribution channels through various modes of transportation.

The structure of the Canadian economy focuses attention on logistics as a source of competitive advantage, because it is increasingly dependent on trade. In addition, the growing interdependence of companies and their suppliers continues to increase the importance of this integrated business process. In turn, this is driving the need for more, bigger and better-located warehouses and logistics facilities.

Given the number of needs of this particular employment sector, there is less competition from the general market as not all industrial/business parks meet the required criteria. However, competition does exist from other airports/distribution centres in the region, as previously highlighted in Chapter 2. Also, given the relatively large financial resources required for participation in this sector, there are fewer participating firms, thus increasing the level of competition in the marketplace as a result.

Assuming that competitors are also capable of offering a development that will meet the needs of the firms in this sector, the land itself becomes an important commodity. As in all commodity markets, variations in price from the lowest offered must be balanced by other tangible and intangible benefits, or be dismissed in favour of a lower priced, similar quality competitor.

Accommodation and Food Services

A complementary sector within any significant business area, the Accommodation and Food Services sector allows for a better working experience within the AEGD, and plays a critical role in the development of both a community culture, as well as the prestige image desired. In order to attract high-quality, prestige firms to the AEGD, the following needs must be satisfied by any potential development:

- Access/exposure and proximity to 400 series/major highways;
- Proximity to employment/population base; and
- Minimal potential conflicts with industrial land uses.

Similar to the Business Services sector, access to clients and population/employment bases are highly important for Accommodation and Food Services firms. However, these firms require a greater degree of access and visibility than the Business Sector.

Due to the regional nature of operations of the Accommodation and Food Services sector, competition comes primarily from those areas in proximity to the AEGD who are an easily accessible alternative for the population and employment base. Assuming that logistical and exposure needs are met, and the area is considered profitable for operations, the firms in this sector will balance land prices against more direct/central access to their customer base.

6.4 Local Site Requirements by Target Sector

At the local level, site specific building and lot requirements can vary considerably by employment sector. The availability or market choice of developable lands which ultimately meet these criteria can have a major impact of the marketability of the AEGD employment lands. Table 6-2 provides a summary of these local requirements by target employment sector.

With an understanding of both the regional and local site requirement of industry sectors, the objective is to create an image of the AEGD as an area that strives to lead the pack in prestigious, green, functional, competitive and pedestrian friendly development. To this end, regional infrastructure opportunities and local market choice will naturally produce a competitive advantage for firms in their specific sectors.

6.5 Promotion and Communication

6.4.1 Promotional Tools

There are a range of promotional tools which can been used by the City to inform prospective industries about the opportunities of the AEGD. It is recommended that promotional tools are designed to reach both broad and narrow business audiences. All marketing tools must have strong visual consistency based on an established brand for the AEGD. Promotional tools include:

- **Business Attraction Package/Brochures**
  - Community profile and lure brochure featuring large panorama photographs, location maps, site availability and pricing, sector information, planning and servicing information and other highlights
- **Sub-Sector Industry Cluster Analysis**
  - Building on the target sector analysis, showcase specific industry clusters and their importance to the City's and AEGD's economic performance
  - Review and analyse industry trends and opportunities as it relates to future investment for the AEGD
  - Indentify AEGD competitive strengths

Table 6-2

Employment Sectors – Site Specific Requirements

Target Sector	Typical Building Size (Sq.ft.)	Building Types and Zoning	Typical Ranges in Lot Sizes (Ha)	Air-Side Access Requirements	Ceiling Height Requirements	e.g. Industry Types	Comments
Advanced Manufacturing	10,000 to 250,000	General and Prestige Ind.	1-4	Low (general manuf.) to high (maintenance)		Advanced Machinery Manufacturing (e.g. aerospace), Fuel Technology	New growth in the manufacturing sector is anticipated to be focused around small to medium-sized manufacturing operations
Transportation/ Warehousing/ Wholesale Trade	10,000 to 1,000,000	Warehouse, General and Prestige Ind. Potential Outside Storage	4-20	Low to High depending on specific operation	Typically 30-50+ feet	Freight Forwarding, Regional integrator operations, such as FedEx, or UPS, Food Processing Distribution Centres	Employment uses within this sector/category are generally land-extensive. Employment densities are often very low. Operations can often include some assembly, light manufacturing and office use.
Research & Development/ Corporate Office/ Business Services	2,000 to 50,000	Prestige Industrial, multi-tenant commercial office	<1 to 2	Typically Low		Airline Corporate Offices, Real Estate Services, Financial Services, Professional and Scientific Services Government offices,	Key component of knowledge-based economy This sector has recently been a high growth area for the City
Accommodation and Food Services	5,000 to 20,000	Freestanding and Ancillary Retail Facilities, Commercial	<1 to 3	Low		Restaurants, Hotels, motels, convention centres, and ancillary retail	Potential to geographically cluster this sector with the Business Services, Public Admin and Other Services sector

- **Entrepreneur Video Stories**
  - On-line video segments which capture stories of accomplished City of Hamilton businesses
  - Focus on local business growth, innovation and business attraction strategies
- **Press Releases, Newsletters, Report to Stakeholders**
  - An annual report to stakeholders provides the City of Hamilton an opportunity to summarize key milestones and future steps regarding the Stage 1 development of the AEGD
  - Semi-annual news letters to stakeholder groups are also recommended to provide an update on local recent events and more broadly discuss City-wide opportunities which are integrated with the success of the AEDG
  - Newsletters would also be used to selectively showcase specific local success stories within target industry sectors
- **Post Card Direct Mail Campaign**
  - Targeted at the top 1,000+ business prospects on a semi-annual basis
  - The focus of the campaigns will be to promote doing business in the City of Hamilton and specifically the AEGD
- **Advertising**
  - Advertising approaches should consider local, regional and international audiences
  - The EDCO (Economic Developers Council of Ontario) directory reaches a very broad audience across Canada and the U.S and includes distribution to consulates worldwide
- **Promotional Giveaways**
  - Promotional items such as pens, clothing items imprinted or embroidered with an AEGD branding and logo to promote recognition and awareness
- **Tradeshow Booths and Panels**
  - Flexible and dynamic for ongoing outreach activities and promotional events

- **Conferences, Presentations, Journal Articles**
  - Presentations at conferences and stakeholder workshops are recommended to increase awareness, promote development opportunities, competitive advantages, economic impacts, share local experiences and receive industry feedback. Presentations can also be showcased in greater detail through publications in applicable journals.

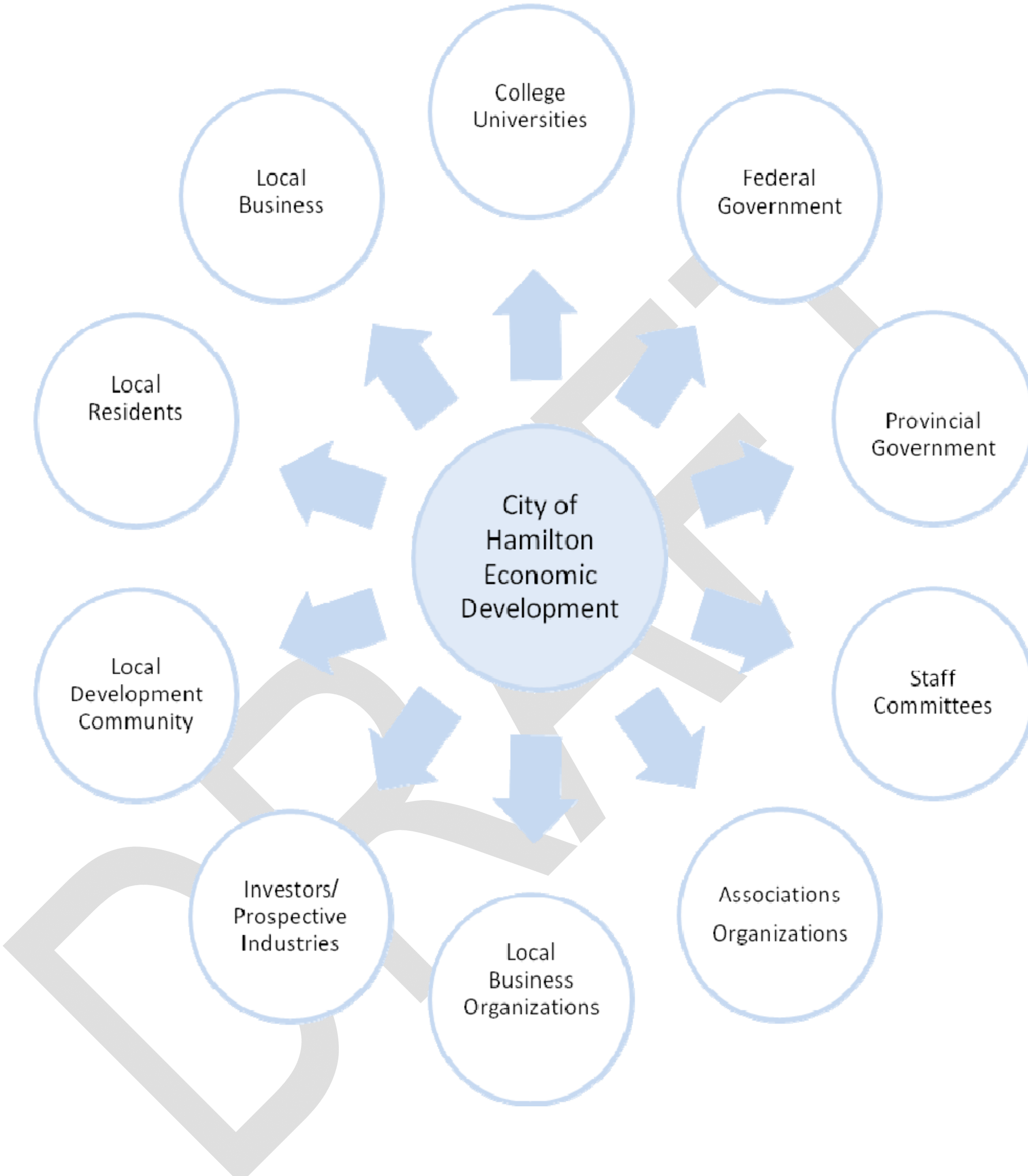
6.4.2 Communication

Communications with existing Hamilton businesses, residents and prospective industries should focus on raising the profile of the AEDG and the economic impact of development on a local, regional and international level.

The use of media (radio, print, television and internet) is a common tool for economic developers to reach out and inform, residents, existing businesses and prospective industries, profile the success of local businesses, showcase the competitive advantage of an area and involve stakeholder groups in ongoing economic development activities.

The communication strategy for the AEGD should aim to engage and inform all relevant stakeholder groups and partners to ensure opportunities are created and progress is being made in developing a common vision for the area. Figure 6-1 illustrates the relevant stakeholders.

Figure 6-1



A strong internet presence has become the most important communication tool for economic development. It is recommended that an internet strategy is developed which focuses on the attraction of businesses, entrepreneurs and residents to the Hamilton Area.

The internet provides an opportunity to develop a series of targeted messages to a wider range of audiences through a one stop source of information. It is recommended that the City of Hamilton develop a comprehensive on-line business resource centre for the AEGD which provides the following base information:

- Relevant information regarding the AEGD which demonstrates the City's commitment to developing a prestigious, eco-industrial business park. Potential relevant information would include; the vision statement for the area as developed through the AEGD secondary plan, a map of the proposed land use plan and phasing schedule, background information related to eco-industrial development and design, the location of developable lands within the AEGD, existing and planned infrastructure services, highway infrastructure, etc.
- Key statistical information which showcases the key competitive advantages of the AEGD for commercial/industrial development, such as average land prices, population and labour force growth within the surrounding area, access to major infrastructure (i.e. 400 series highways, intermodal facilities, the US border, labour force, post secondary institutions and surrounding employment markets).
- A detailed profile of the general and specific industry sectors targeted to the AEGD. This should include a comprehensive list of existing industries located within Hamilton and the surrounding market area;
- Web-based interactive tools (including GIS-based mapping applications) which allows developable land area as well as existing and proposed key infrastructure assets to be reviewed on-line. Web-based interactive tools would also allow prospective industries to become more familiar with the Hamilton Area and existing business environment. It is recommended that video sites are also developed which would showcase existing business owners within targeted industry sectors.
- Social networking tools (e.g. Facebook, MySpace, YouTube, LinkedIn, etc.) which allows peer to peer and personal communications focused on the attraction of businesses, entrepreneurs and residents to the area.

- Email Strategy - email blasts should be used to send regular communications to relevant stakeholder groups.

A highly interactive, visual website highlighting the proposed vision of the AEGD with artistic renditions, diagrams, facts and figures will allow the City to communicate their vision of the AEGD development, while simultaneously providing stakeholders with a means of providing their feedback through the use of submission forms and general comment email accounts.

Also critical to the communication strategy is a clear communication plan aimed at local residents who currently live within or adjacent to the AEGD. It is recommended that the City inform local residents of recent studies, decisions and other milestone events related to the AEGD through a range of media and communication tools.

6.6 Performance Measures and Monitoring

Performance measures for economic development are important in understanding how economic development activities contribute to the ultimate goals and objectives for a particular area, municipality or region. Economic development Performance measures typically focus on specific “hard data” related to positive economic impacts as a measure of success. It is recommended that the that City track, analyze and monitor “hard data” associated with the development of the AEGD on an annual basis related to (but not limited to) the following:

- Tax revenues;
- Direct employment growth by employment sector and location;
- Number of business start-ups by sector and number of employees;
- Actual infrastructure costs vs. estimates;
- Impacts on land values;
- Actual employment absorption rates vs. forecast absorption;
- Employment density and built form (i.e. number of employees per hectare/acre, sq.ft per employee, lot coverage and floor space index); and
- Building size (i.e. gross floor area).

It is also recommended that local businesses are surveyed annually to determine:

- Regional and local attributes which attracted new business to the AEGD;
- Short-term to medium expansion/contraction plans in terms of employment growth and building space needs; and
- Shortcomings and challenges of the AEGD with respect to economic competitiveness and functionality.

In addition to the above “hard data” analysis, “soft” goals and objectives also need to be monitored on a regular basis. While “soft” issues are difficult to measure it is important that they are incorporated into the monitoring program to capture the comprehensive needs that must be met to achieve the broader success of the AEGD by all stakeholder groups. Key issues include:

- The socio-economic impacts of the AEGD such as local household income, commuting patterns and quality of life;
- Community and business vitality;
- Land use synergies and conflicts; and
- Sustainability indicators focused on the AEGD’s ecological footprint and impacts to the triple bottom line.

Ultimately, this information should be used to develop an on-line business directory and profile of the AEGD for marketing and promotional purposes as well as future planning, land needs and master planning analysis.

6.7 Keys to Success

As previously stated, the AEGD presents a strategically important employment area surrounding the Hamilton International Airport (HIA) that provides an unparalleled opportunity for employment lands development in the west GTAH. The AEGD offers a site of “critical mass” and market choice for both prestige and industrial land uses accommodating a wide range of potential industrial and business sectors. The keys to success for the general marketing strategy of the AEGD are as follows:

- A collective vision must be developed and implemented with input from all relevant stakeholder groups regarding the ultimate values, goals and objectives for AEGD.
- A process of communication must be initiated between all relevant stakeholder groups and target market representatives. While relationships are being developed and communication networks established, on-going development and two-way promotion of the area should be initiated as a means to generate awareness of the AEGD and gain feedback from industry.
- With a communication strategy is place, ongoing profiling of targeted sub-sectors should be developed to gain a better understanding of future employment prospect and industry needs.
- Specific attention should be dedicated to seeking out or creating opportunities for informal or formal partnerships with sector leaders in both business, as well as planning/research and development operations, as such partnerships not only develop awareness of the AEGD, but also serve to create additional knowledge for the AEGD marketers in a constantly changing market environment.
- In order to evaluate the strengths and weaknesses of marketing efforts, an on-going process of survey and performance analysis must be pursued. This strategy will be supported primarily through e-communications (e-mail / web surveys, discussion boards, etc.), and is key to keeping up with the constantly changing nature of industry.

7.0 Conclusions

The AEGD presents a strategically important employment area for the City of Hamilton. The AEGD offers the potential for a major new employment node within the context of a multi modal transportation hub which includes the Hamilton International Airport (HIA). With a net developable area of 1,173 net ha (2,899 net acres), the largest contiguous land assembly in the region, the AEGD can accommodate a wide range of employment and employment-related land uses.

The City of Hamilton is well-positioned geographically to potentially benefit from the anticipated gradual shift of employment growth on employment lands from more mature and developed west GTA municipalities. The AEGD favourably located in terms of access to major highways, and skilled labour, and offers a developable area of 'critical mass' at competitive prices. The proximity of the HIA in relation to the AEGD is a significant asset which further enhances the development potential of the area.

Other major airports in the region, including Toronto Lester B Pearson International Airport and Buffalo-Niagara International Airport have limited off-site employment land development opportunities, which places the AEGD and HIA in a unique position and highly marketable. Despite this, however, the AEGD does face competition from other industrial/business parks in the GGH.

The future development of the AEGD represents an opportunity for the City of Hamilton to enhance and diversify its local economic base, reduce commuting dependency, provide for a more balanced tax assessment base, and foster a more complete and sustainable community. A healthy balance between local population and employment is echoed throughout many of the guiding principles of the Provincial Growth Plan[17], which stress the importance of "vibrant" and "complete" communities that support a "strong and competitive economy".

---

[17] Places to Grow. Better Choices. Brighter Future. Growth Plan for the Greater Golden Horseshoe, 2006. Ministry of Infrastructure Renewal.

Given its attributes, the AEGD's employment lands development potential is anticipated to be concentrated in advanced manufacturing, warehousing, transportation and logistics, business services, and accommodation and food services. Between 2011 and 2031, the AEGD is anticipated to have employment growth of 24,360 and by buildout, employment is anticipated to increase to 43,200. In addition, the development of the AEGD is anticipated to have a significant indirect 'spin-off employment and induced economic impacts.

The development of the AEGD is anticipated to have a positive fiscal impact on the City of Hamilton. By 2031 Stage 1 of the AEGD is forecast to generate a positive impact on the City's property tax base of approximately $66 million. Capital costs associated with the AEGD will be largely funded through development charges (DCs) in accordance with the City's existing DC By-law 09-143 and 09-144. In accordance with the master servicing studies prepared for the AEGD related to roads/transit, water, wastewater and stormwater management, the City's municipal-wide DC rate would be nominally impacted by the development of Stage 1 of the AEGD.

Average industrial land values in the market area support a private-sector driven approach to developing the AEGD. It is recommended that a coordinated approach between the City and the development community should be considered to ensure control of development and timing and minimize the financial risks associated with development.

An approach to a general marketing strategy has been developed herein, which outlines the competitive position of the AEGD, identifies key target sectors and requirements at a regional/local level, summarizes the potential marketing and promotional tools to foster future development activity within desired industry sectors and sets out a general approach to performance measurement and monitoring of development.

Appendix A

Survey of Existing Industrial Properties within the City of Hamilton

APPENDIX A
TABLE A
SURVEY OF EXISTING INDUSTRIAL PROPERTIES WITHIN THE CITY OF HAMILTON

Property Address	Square Footage	Acreage	Assessed Value	Annual Property Taxes	Asssment Per Sq.Ft.
950 South Service Road	289,110	13.438	$16,305,000	$543,424	$56.40
400 Glover Road	157,316	24.44	$7,755,000	$361,563	$49.30
830 South Service Road	167,752	23.093	$9,336,000	$470,669	$55.65
665 Arvin avenue	34,800	3.564	$2,319,000	$96,540	$66.64
1425 Osprey Drive	40,200	1.99	$4,425,000	$140,827	$110.07
921 Barton Street	52,355	3.242	$3,070,000	$92,862	$58.64
560 Arvin Avenue	48,080	6.998	$2,918,000	$91,116	$60.69
123 Dartnall Road	23,993	2.423	$255,000	$6,527	$10.63
90 Glover Road	173,462	10.188	$7,368,000	$254,990	$42.48
803 Barton Street	32,064	7.612	$4,143,000	$188,358	$129.21
45 Oriole Avenue	43,220	3.705	$3,901,000	$95,602	$90.26
210 Constellation Drive	110,370	5.439	$7,006,000	$231,132	$63.48
425 Arvin Avenue	307,160	11.165	$11,955,000	$390,607	$38.92
891 Arvin Avenue	46,917	8.168	$2,950,000	$132,083	$62.88
430 McNeilly Road	60,545	3.635	$4,591,000	$137,095	$75.83
925 Arvin Avenue	127,780	9.529	$7,081,000	$242,182	$55.42
1052 South Service Road	169,803	13.844	$12,766,000	$596,131	$75.18
1325 Cormorant	153,330	10.961	$11,897,000	$627,428	$77.59
1310 Cormorant	83,702	11.4	$7,623,000	$357,486	$91.07
944 South Service Road	74,853	3.907	$4,520,000	$202,251	$60.39
180 Constellation	66,208	4.849	$6,270,000	$211,213	$94.70
414 Dewitt	58,674	5.911	$4,732,000	$144,048	$80.65
881 Arvin Avenue	70,192	3.95	$3,957,000	$168,892	$56.37
910 Arvin Avenue	25,500	2.596	$1,997,000	$87,977	$78.31
1216 South Service	70,607	4.061	$4,112,000	$187,271	$58.24
1430 Cormorant	15,122	2.114	$1,142,251	$45,159	$75.54
400 Green Road	749,433	43.68	$25,965,000	$877,772	$34.65
395 Green Road	241,291	9.032	$11,318,000	$480,223	$46.91

Source: City of Hamilton, 2009

Appendix B

Detailed AEGD Capital Costs for Roads, Water, Wastewater and Stormwater Services

Appendix B

Table B-1

AEGD Roads - Capital Projects, 2009-2031 (Stage 1)

Project No.		Road	From	To	Growth Share %	Capital Improvement	Gross Capital Cost Estimate	Post Period Benefit	Other Deductions	Net Capital Cost	Benefit to Existing Development Existing Reserve	Direct Developer Responsibility	Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%
2c	1t	Southcote Road	Garner	Twenty Extension	90%	2 lane reconstruction	2,714,819			2,714,819		-	271,482		2,443,337	1,221,668.71	1,221,668.71
2d	2t	Southcote Road	Twenty Extension	Book	90%	2 lane reconstruction	2,714,819			2,714,819		-	271,482		2,443,337	1,221,668.71	1,221,668.71
3a	3t	Glancaster Road	Garner	Dickenson	85%	Widening 2 to 4 lanes	13,324,127			13,324,127		-	1,998,619		11,325,508	5,662,754.14	5,662,754.14
4	4t	Upper James Street	Alderlea Avenue	Homestead Drive	35%	Widening 4 to 6 lanes	30,227,272			30,227,272		-	19,647,727		10,579,545	5,289,772.58	5,289,772.58
5a	5t	Garth Street Extension	Twenty	Dickenson	100%	New 4 lane construction	10,074,421			10,074,421		-	-		10,074,421	5,037,210.50	5,037,210.50
5b	6t	Garth Street Extension	Dickenson	Collector 2E	100%	New 4 lane construction	3,185,996			3,185,996		-	-		3,185,996	1,592,998.10	1,592,998.10
6b	7t	Book Road	Highway 6	Southcote	85%	Widening 2 to 4 lanes	4,665,731			4,665,731		-	699,860		3,965,871	1,982,935.59	1,982,935.59
9	8t	Garner Road E	Fiddlers Green	Glancaster	50%	Widening 2 to 4 lanes	19,518,946			19,518,946		-	9,759,473		9,759,473	4,879,736.50	4,879,736.50
10	9t	Dickenson Road	Glancaster	Upper James	95%	Widening 2 to 4 lanes	11,925,827			11,925,827		-	596,291		11,329,536	5,664,767.90	5,664,767.90
11a	10t	Dickenson Road Extension	Southcote	Smith	90%	Widening 2 to 4 lanes	2,078,490			2,078,490		-	207,849		1,870,641	935,320.72	935,320.72
11b	11t	Dickenson Road Extension	Smith	Glancaster	85%	New 4 lane construction	4,110,963			4,110,963		-	616,644		3,494,318	1,747,159.21	1,747,159.21
12	12t	Twenty Road	Glancaster	Aldercrest (Upper James)	85%	Widening 2 to 4 lanes	14,165,168			14,165,168		-	2,124,775		12,040,393	6,020,196.45	6,020,196.45
13a	13t	Twenty Road Extension	Southcote	Glancaster	100%	New 2 lane construction	4,778,994			4,778,994		-	-		4,778,994	2,389,497.16	2,389,497.16
16	14t	Airport Road	Terminal Access Rd	East Cargo Road	80%	Widening 2 to 4 lanes	2,098,075			2,098,075		-	419,615		1,678,460	839,230.12	839,230.12
17	15t	Airport Service Road	Glancaster	Airport	83%	New 4 lane construction	12,265,873			12,265,873		-	2,146,528		10,119,345	5,059,672.56	5,059,672.56
18a	16t	Collector 1N	Smith	Collector 2E	0	New 2 lane construction	3,684,120			3,684,120		3,684,120			-	-	-
20	17t	Book Road E	Collector 2W	Glancaster	0	2 lane reconstruction	1,756,735			1,756,735		1,756,735			-	-	-
22a	18t	Collector 6N	Glancaster	Collector 6E	0	New 4 lane construction	8,086,581			8,086,581		8,086,581			-	-	-
22b	19t	Collector 6N	Collector 6E	Collector 7E	0	New 4 lane construction	3,465,677			3,465,677		3,465,677			-	-	-
24a	20t	Collector 10N	Collector 5W	Smith	0	New 2 lane construction	2,953,072			2,953,072		2,953,072			-	-	-
24b	21t	Collector 10N	Smith	Glancaster	0	New 2 lane construction	7,593,613			7,593,613		7,593,613			-	-	-
35a	22t	Smith Road	Garner	Dickenson Extension	0	New 2 lane construction	4,736,341			4,736,341		4,736,341			-	-	-
35c	23t	Smith Road Extension	Hydro Corridor N		0	New 2 lane construction	536,762			536,762		536,762			-	-	-
36a	24t	Glancaster Road	Dickenson Extension	Collector 1N	0	Widening 2 to 4 lanes	1,882,927			1,882,927		1,882,927			-	-	-
37	25t	Collector 1E	Twenty	Dickenson	0	New 2 lane construction	6,912,625			6,912,625		6,912,625			-	-	-
42	26t	Collector 6E	Twenty	Dickenson	0	New 2 lane construction	6,789,275			6,789,275		6,789,275			-	-	-
43a	27t	Collector 7E	Dickenson	Collector 6N	0	New 2 lane construction	2,734,437			2,734,437		2,734,437			-	-	-
43b	28t	Collector 7E	Collector 6N	Upper James	0	New 4 lane construction	2,604,046			2,604,046		2,604,046			-	-	-
44a	29t	Collector 1W	Garner	Collector 10N	0	New 2 lane construction	2,455,143			2,455,143		2,455,143			-	-	-
44b	30t	Collector 1W	Collector 10N	Twenty Extension	0	New 2 lane construction	3,168,425			3,168,425		3,168,425			-	-	-
45a	31t	Collector 2W	Garner	Dickenson Extension	0	New 2 lane construction	5,821,167			5,821,167		5,821,167			-	-	-
45b	32t	Collector 2W	Garner	Dickenson Extension	0	New 2 lane construction	3,085,044			3,085,044		3,085,044			-	-	-
23a		Collector 7N	Collector 5W	Southcote	0	New 2 lane construction	3,868,255			3,868,255		3,868,255			-	-	-
23b		Collector 7N	Southcote	Collector 2W	0	New 2 lane construction	4,331,130			4,331,130		4,331,130			-	-	-
33b		Collector 12S	Collector 4E	Collector 5E	0	New 2 lane construction	1,130,278			1,130,278		1,130,278			-	-	-
36b		Glancaster Road	Collector 1N	Airport	0	2 lane reconstruction	5,734,134			5,734,134		5,734,134			-	-	-
38		Collector 2E	Collector 1N	Airport	0	New 2 lane construction	2,961,376			2,961,376		2,961,376			-	-	-
40		Collector 4E	Collector 12S	White Church	0	New 2 lane construction	1,214,308			1,214,308		1,214,308			-	-	-
41		Collector 5E	Collector 12S	White Church	0	New 2 lane construction	1,211,361			1,211,361		1,211,361			-	-	-
						Total	**226,566,352**	**-**	**-**	**226,566,352**	**-**	**88,716,829**	**38,760,345**	**-**	**99,089,178**	**49,544,589**	**49,544,589**

Appendix B

TABLE B-2
WATER CAPITAL PROGRAM (STAGE 1)
SERVICING OPTION C

Project ID	Stage - Phase	PD	EA SCH.	Size	Length	Unit Cost	Base Cost	Additional Cost	Engineering / Contingency (25%)	Total Cost	Direct Developer Cont.	Development Charges	Post Period Benefit	Oversizing	Benefit to Existing	Comments
				(mm)	(m)	(2009 $/m)	(2009 $)	(2009 $)	(2009 $)	(2009 $)	(2009 $)	(2009 $)	(2009 $)	(2009 $)	(2009 $)	
B-1	1-1	18	A+	300	389	398	$ 155,000	$ -	$ 39,000	$ 194,000	$ -	$ 194,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-2	1-1	18	B	400	417	664	$ 277,000	$ -	$ 69,000	$ 346,000	$ 207,564	$ 138,436	$ -	$ -	$ -	
B-3	1-1	18	A+	400	700	664	$ 465,000	$ -	$ 116,000	$ 581,000	$ -	$ 581,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-4	1-1	18	B	300	705	398	$ 281,000	$ -	$ 70,000	$ 351,000	$ 351,000	$ -	$ -	$ -	$ -	
B-5	1-1	18	B	300	358	398	$ 143,000	$ -	$ 36,000	$ 179,000	$ 179,000	$ -	$ -	$ -	$ -	
B-6	1-1	18	B	300	420	398	$ 167,000	$ -	$ 42,000	$ 209,000	$ 209,000	$ -	$ -	$ -	$ -	
B-7	1-1	6	B	300	621	398	$ 247,000	$ -	$ 62,000	$ 309,000	$ 309,000	$ -	$ -	$ -	$ -	
B-8	1-1	6	B	300	565	398	$ 225,000	$ -	$ 56,000	$ 281,000	$ 281,000	$ -	$ -	$ -	$ -	
B-9	1-1	6	B	300	512	398	$ 204,000	$ -	$ 51,000	$ 255,000	$ 255,000	$ -	$ -	$ -	$ -	
B-10	1-1	6	B	300	659	398	$ 262,000	$ -	$ 66,000	$ 328,000	$ 328,000	$ -	$ -	$ -	$ -	
B-11	1-1	6	B	300	700	398	$ 279,000	$ -	$ 70,000	$ 349,000	$ 349,000	$ -	$ -	$ -	$ -	
B-12	1-1	6	B	300	675	398	$ 269,000	$ -	$ 67,000	$ 336,000	$ 336,000	$ -	$ -	$ -	$ -	
B-13	1-1	6	B	300	856	398	$ 341,000	$ -	$ 85,000	$ 426,000	$ -	$ 426,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-14	1-1	6	B	300	594	398	$ 236,000	$ -	$ 59,000	$ 295,000	$ 295,000	$ -	$ -	$ -	$ -	
B-15	1-1	18	A+	400	383	664	$ 254,000	$ -	$ 64,000	$ 318,000	$ -	$ 318,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-20	1-2	18	B*	7 ML				$ -	$ -	$ 6,266,000	$ -	$ 3,133,000	$ -	$ -	$ 3,133,000	El. Tank split 50/50 with ex. Z18
B-21	1-2	6	B*	400	372	664	$ 247,000	$ -	$ 62,000	$ 309,000	$ -	$ 185,179	$ 123,821	$ -	$ -	Zone 6 Trunk - DC with PP Benefit
B-22	1-2	18	A+	300	590	398	$ 235,000	$ -	$ 59,000	$ 294,000	$ -	$ 294,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-23	1-2	18	A+	300	603	398	$ 240,000	$ -	$ 60,000	$ 300,000	$ -	$ 300,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-24	1-2	18	B	300	354	398	$ 141,000	$ -	$ 35,000	$ 176,000	$ 176,000	$ -	$ -	$ -	$ -	
B-25	1-2	18	B	300	579	398	$ 231,000	$ -	$ 58,000	$ 289,000	$ 289,000	$ -	$ -	$ -	$ -	
B-26	1-2	18	B	400	421	664	$ 280,000	$ -	$ 70,000	$ 350,000	$ 209,744	$ 140,256	$ -	$ -	$ -	
B-27	1-2	18	B	300	418	398	$ 166,000	$ -	$ 42,000	$ 208,000	$ 208,000	$ -	$ -	$ -	$ -	
B-28	1-2	18	B	300	436	398	$ 174,000	$ -	$ 44,000	$ 218,000	$ 218,000	$ -	$ -	$ -	$ -	
B-29	1-2	6	B*	400	2559	664	$ 1,698,000	$ -	$ 425,000	$ 2,123,000	$ -	$ 2,123,000	$ -	$ -	$ -	Zone 6 Trunk - 100% DC
B-30	1-2	18	B	400	568	664	$ 377,000	$ -	$ 94,000	$ 471,000	$ 282,677	$ 188,323	$ -	$ -	$ -	
B-31	1-2	18	B	400	863	664	$ 573,000	$ -	$ 143,000	$ 716,000	$ 429,594	$ 286,406	$ -	$ -	$ -	
B-32	1-2	18	B	400	552	664	$ 366,000	$ -	$ 92,000	$ 458,000	$ 274,781	$ 183,219	$ -	$ -	$ -	
B-33	1-2	6	A+	300	953	398	$ 380,000	$ -	$ 95,000	$ 475,000	$ -	$ 475,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-34	1-2	18	A+	400	293	664	$ 195,000	$ -	$ 49,000	$ 244,000	$ 146,025	$ 97,975	$ -	$ -	$ -	
B-35	1-2	18	B	300	416	398	$ 166,000	$ -	$ 42,000	$ 208,000	$ 208,000	$ -	$ -	$ -	$ -	
B-36	1-2	18	B	300	586	398	$ 233,000	$ -	$ 58,000	$ 291,000	$ 291,000	$ -	$ -	$ -	$ -	
B-37	1-2	18	B	300	295	398	$ 117,000	$ -	$ 29,000	$ 146,000	$ 146,000	$ -	$ -	$ -	$ -	
B-38	1-2	18	B	300	412	398	$ 164,000	$ -	$ 41,000	$ 205,000	$ 205,000	$ -	$ -	$ -	$ -	
B-39	1-2	6	A+	300	259	398	$ 103,000	$ -	$ 26,000	$ 129,000	$ -	$ 129,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-40	1-2	18	B	300	268	398	$ 107,000	$ -	$ 27,000	$ 134,000	$ 134,000	$ -	$ -	$ -	$ -	
B-41	1-2	18	A+	300	627	398	$ 250,000	$ -	$ 63,000	$ 313,000	$ -	$ 313,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-42	1-2	18	A+	300	350	398	$ 139,000	$ -	$ 35,000	$ 174,000	$ -	$ 174,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-43	1-2	18	A+	300	416	398	$ 166,000	$ -	$ 42,000	$ 208,000	$ 208,000	$ -	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-44	1-2	18	B	300	569	398	$ 227,000	$ -	$ 57,000	$ 284,000	$ 284,000	$ -	$ -	$ -	$ -	
B-45	1-2	18	B	300	416	398	$ 166,000	$ -	$ 42,000	$ 208,000	$ 208,000	$ -	$ -	$ -	$ -	
B-46	1-2	18	B	300	432	398	$ 172,000	$ -	$ 43,000	$ 215,000	$ 215,000	$ -	$ -	$ -	$ -	
B-47	1-2	18	B	300	784	398	$ 312,000	$ -	$ 78,000	$ 390,000	$ 390,000	$ -	$ -	$ -	$ -	
B-48	1-2	18	B	300	645	398	$ 257,000	$ -	$ 64,000	$ 321,000	$ 321,000	$ -	$ -	$ -	$ -	
B-49	1-2	6	A+	300	886	398	$ 353,000	$ -	$ 88,000	$ 441,000	$ -	$ 441,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-50	1-2	6	A+	300	687	398	$ 274,000	$ -	$ 69,000	$ 343,000	$ -	$ 343,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-51	1-2	6	B*	400	595	664	$ 395,000	$ -	$ 99,000	$ 494,000	$ -	$ 296,186	$ 197,814	$ -	$ -	Zone 6 Trunk - DC with PP Benefit
B-52	1-2	6	A+	300	598	398	$ 238,000	$ -	$ 60,000	$ 298,000	$ -	$ 298,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-53	1-2	6	B	300	636	398	$ 253,000	$ -	$ 63,000	$ 316,000	$ 316,000	$ -	$ -	$ -	$ -	
B-54	1-2	6	B	300	624	398	$ 248,000	$ -	$ 62,000	$ 310,000	$ 310,000	$ -	$ -	$ -	$ -	
B-55	1-2	6	B*	400	837	664	$ 556,000	$ -	$ 139,000	$ 695,000	$ -	$ 695,000	$ -	$ -	$ -	Zone 6 Trunk - 100% DC
B-56	1-2	6	B	300	680	398	$ 271,000	$ -	$ 68,000	$ 339,000	$ 339,000	$ -	$ -	$ -	$ -	
B-57	1-2	6	B	300	709	398	$ 282,000	$ -	$ 71,000	$ 353,000	$ 353,000	$ -	$ -	$ -	$ -	
B-58	1-2	6	A+	300	870	398	$ 346,000	$ -	$ 87,000	$ 433,000	$ -	$ 433,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
B-59	1-2	6	B	300	177	398	$ 70,000	$ -	$ 18,000	$ 88,000	$ 88,000	$ -	$ -	$ -	$ -	
B-60	1-2	6	B	300	514	398	$ 205,000	$ -	$ 51,000	$ 256,000	$ 256,000	$ -	$ -	$ -	$ -	
B-61	1-2	6	B*	400	1181	664	$ 784,000	$ -	$ 196,000	$ 980,000	$ -	$ 980,000	$ -	$ -	$ -	Zone 6 Trunk - 100% DC
B-62	1-2	6	B*	400	607	664	$ 403,000	$ -	$ 101,000	$ 504,000	$ -	$ 504,000	$ -	$ -	$ -	Zone 6 Trunk - 100% DC
B-63	1-2	6	A+	300	322	398	$ 128,000	$ -	$ 32,000	$ 160,000	$ -	$ 160,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC

Appendix B

TABLE B-2
WATER CAPITAL PROGRAM (STAGE 1)
SERVICING OPTION C

Project ID	Stage - Phase	PD	EA SCH.	Size	Length	Unit Cost	Base Cost	Additional Cost	Engineering / Contingency (25%)	Total Cost	Direct Developer Cont.	Development Charges	Post Period Benefit	Oversizing	Benefit to Existing	Comments
				(mm)	(m)	(2009 $/m)	(2009 $)	(2009 $)	(2009 $)	(2009 $)	(2009 $)	(2009 $)	(2009 $)	(2009 $)	(2009 $)	
B-64	1-2	6	B	300	180	398	$ 72,000	$ -	$ 18,000	$ 90,000	$ 90,000	$ -	$ -	$ -	$ -	
B-65	1-2	6	B	300	700	398	$ 279,000	$ -	$ 70,000	$ 349,000	$ 349,000	$ -	$ -	$ -	$ -	
B-66	1-2	6	B	300	180	398	$ 72,000	$ -	$ 18,000	$ 90,000	$ 90,000	$ -	$ -	$ -	$ -	
B-67	1-2	6	B	300	450	398	$ 179,000	$ -	$ 45,000	$ 224,000	$ 224,000	$ -	$ -	$ -	$ -	
B-68	1-2	6	B*	400	662	664	$ 439,000	$ -	$ 110,000	$ 549,000	$ -	$ 549,000	$ -	$ -	$ -	Zone 6 Trunk - 100% DC
B-69	1-2	6	B*	400	397	664	$ 263,000	$ -	$ 66,000	$ 329,000	$ -	$ 197,623	$ 131,377	$ -	$ -	Zone 6 Trunk - DC with PP Benefit
					37,083		**$ 17,797,000**	**$ -**	**$ 4,458,000**	**$ 28,521,000**	**$ 10,358,385**	**$ 14,576,603**	**$ 453,012**	**$ -**	**$ 3,133,000**	

Note: EA Schedule B projects will be on future road alignments and will be re-classified as A+ once road right-of-ways are established. Schedule B* projects were previously approved under 2006 City Wide Water and Wastewater Master Plan

Appendix B

TABLE B-3

AEGD WASTEWATER CAPITAL PROGRAM (STAGE 1)
SERVICING OPTION C

Project ID	Stage-Phase	EA SCH.	Size (mm)	Length (m)	Unit Cost (2009 $/m)	Base Cost (2009 $)	Additional Cost (2009 $)	Engineering / Contingency (25%) (2009 $)	Total Cost (2009 $)	Direct Developer Cont. (2009 $)	Development Charges (2009 $)	Post Period Benefit (2009 $)	Oversizing (2009 $)	Benefit to Existing (2009 $)	Comments
C-1	1-1	B	375	1,275	485	$ 618,000	$ -	$ 155,000	$ 773,000	$ 773,000	$ -	$ -	$ -	$ -	
C-1a	1-1	B	375	450	485	$ 218,000	$ -	$ 55,000	$ 273,000	$ 273,000	$ -	$ -	$ -	$ -	
C-1b	1-1	B	375	350	485	$ 170,000	$ -	$ 43,000	$ 213,000	$ 213,000	$ -	$ -	$ -	$ -	
C-1c	1-1	B	375	950	485	$ 460,000	$ -	$ 115,000	$ 575,000	$ 575,000	$ -	$ -	$ -	$ -	
C-2	1-1	A+	375	1,400	485	$ 678,000	$ -	$ 170,000	$ 848,000	$ -	$ 848,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
C-3	1-1	A+	375	875	485	$ 424,000	$ -	$ 106,000	$ 530,000	$ -	$ 530,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
C-3a	1-1	B	375	400	485	$ 194,000	$ -	$ 49,000	$ 243,000	$ 243,000	$ -	$ -	$ -	$ -	
C-3b	1-1	B	375	425	485	$ 206,000	$ -	$ 52,000	$ 258,000	$ 258,000	$ -	$ -	$ -	$ -	
C-4	1-1	A+	375	1,150	1427	$ 1,641,000	$ -	$ 410,000	$ 2,051,000	$ -	$ 2,051,000	$ -	$ -	$ -	Deep Section - Increased unit cost
C-4a	1-1	B	375	750	485	$ 363,000	$ -	$ 91,000	$ 454,000	$ 454,000	$ -	$ -	$ -	$ -	
C-5-i	1-1	A+	450	630	1615	$ 1,017,000	$ -	$ 254,000	$ 1,271,000	$ -	$ 1,271,000	$ -	$ -	$ -	Deep Section - Increased unit cost
C-5-ii	1-1	A+	600	880	584	$ 514,000	$ -	$ 129,000	$ 643,000	$ -	$ 643,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
C-5a	1-1	A+	375	700	485	$ 339,000	$ -	$ 85,000	$ 424,000	$ -	$ 424,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
C-6	1-1	B	375	850	485	$ 412,000	$ -	$ 103,000	$ 515,000	$ -	$ 515,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
SPS2	1-1	A+							$ 700,000	$ -	$ 700,000	$ -	$ -	$ -	Twenty Rd SPS Upgrades
C-11	1-2	B	375	1,200	485	$ 581,000	$ -	$ 145,000	$ 726,000	$ 726,000	$ -	$ -	$ -	$ -	
C-11a	1-2	B	375	675	485	$ 327,000	$ -	$ 82,000	$ 409,000	$ 409,000	$ -	$ -	$ -	$ -	
C-11b	1-2	B	375	350	485	$ 170,000	$ -	$ 43,000	$ 213,000	$ 213,000	$ -	$ -	$ -	$ -	
C-11e	1-2	B	375	670	485	$ 325,000	$ -	$ 81,000	$ 406,000	$ 406,000	$ -	$ -	$ -	$ -	
C-11f	1-2	A+	375	600	485	$ 291,000	$ -	$ 73,000	$ 364,000	$ -	$ 364,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
C-12	1-2	A+	750	3,339	2379	$ 7,943,000	$ -	$ 1,986,000	$ 9,929,000	$ -	$ 9,929,000	$ -	$ -	$ -	Deep Sewer (7-10m) - Increased Unit Cost
C-12b	1-2	B	375	1,500	485	$ 727,000	$ -	$ 182,000	$ 909,000	$ 909,000	$ -	$ -	$ -	$ -	
C-13	1-2	A+	600	1,175	2049	$ 2,408,000		$ 602,000	$ 3,010,000	$ -	$ 3,010,000	$ -	$ -	$ -	Deep Sewer (7-10m) - Increased Unit Cost
C-13a	1-2	B	375	900	485	$ 436,000	$ -	$ 109,000	$ 545,000	$ 545,000	$ -	$ -	$ -	$ -	
C-13b	1-2	A+	375	950	485	$ 460,000	$ -	$ 115,000	$ 575,000	$ -	$ 575,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
C-14	1-2	B	525	2,275	1826	$ 4,154,000	$ -	$ 1,039,000	$ 5,193,000	$ 4,592,656	$ 600,344	$ -	$ -	$ -	Deep Sewer (6-10m) - Increased Unit Cost
C-14a	1-2	B	375	450	485	$ 218,000	$ -	$ 55,000	$ 273,000	$ 273,000	$ -	$ -	$ -	$ -	
C-14b	1-2	A+	375	450	485	$ 218,000	$ -	$ 55,000	$ 273,000	$ -	$ 273,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
C-14c	1-2	A+	375	375	485	$ 182,000	$ -	$ 46,000	$ 228,000	$ -	$ 228,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
C-14d	1-2	A+	375	500	485	$ 242,000	$ -	$ 61,000	$ 303,000	$ -	$ 303,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
C-15	1-2	B	375	1,225	485	$ 594,000	$ -	$ 149,000	$ 743,000	$ 743,000	$ -	$ -	$ -	$ -	
C-15a	1-2	A+	375	350	485	$ 170,000	$ -	$ 43,000	$ 213,000	$ -	$ 213,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
C-15b	1-2	A+	375	575	485	$ 279,000	$ -	$ 70,000	$ 349,000	$ -	$ 349,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
C-15c	1-2	B	375	450	485	$ 218,000	$ -	$ 55,000	$ 273,000	$ 273,000	$ -	$ -	$ -	$ -	
C-15d	1-2	B	375	450	485	$ 218,000	$ -	$ 55,000	$ 273,000	$ 273,000	$ -	$ -	$ -	$ -	
C-15e	1-2	B	375	625	485	$ 303,000	$ -	$ 76,000	$ 379,000	$ 379,000	$ -	$ -	$ -	$ -	
C-16	1-2	A+	375	875	485	$ 424,000	$ -	$ 106,000	$ 530,000	$ -	$ 530,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
C-16a	1-2	B	375	400	485	$ 194,000	$ -	$ 49,000	$ 243,000	$ 243,000	$ -	$ -	$ -	$ -	
C-16b	1-2	B	375	425	485	$ 206,000	$ -	$ 52,000	$ 258,000	$ 258,000	$ -	$ -	$ -	$ -	
C-16c	1-2	B	375	425	485	$ 206,000	$ -	$ 52,000	$ 258,000	$ 258,000	$ -	$ -	$ -	$ -	
C-18a	1-2	B	375	175	485	$ 85,000	$ -	$ 21,000	$ 106,000	$ 106,000	$ -	$ -	$ -	$ -	
C-18b	1-2	B	375	175	485	$ 85,000	$ -	$ 21,000	$ 106,000	$ 106,000	$ -	$ -	$ -	$ -	
C-18c	1-2	B	375	175	485	$ 85,000	$ -	$ 21,000	$ 106,000	$ 106,000	$ -	$ -	$ -	$ -	
C-18d	1-2	B	375	700	485	$ 339,000	$ -	$ 85,000	$ 424,000	$ 424,000	$ -	$ -	$ -	$ -	
C-19a	1-2	B	375	699	485	$ 339,000	$ -	$ 85,000	$ 424,000	$ 424,000	$ -	$ -	$ -	$ -	
C-19b	1-2	B	375	518	485	$ 251,000	$ -	$ 63,000	$ 314,000	$ 314,000	$ -	$ -	$ -	$ -	
C-19c	1-2	B	375	435	485	$ 211,000	$ -	$ 53,000	$ 264,000	$ 264,000	$ -	$ -	$ -	$ -	
C-19d	1-2	B	375	859	485	$ 416,000	$ -	$ 104,000	$ 520,000	$ 520,000	$ -	$ -	$ -	$ -	
C-19e	1-2	B	375	381	485	$ 185,000	$ -	$ 46,000	$ 231,000	$ 231,000	$ -	$ -	$ -	$ -	
C-20c	1-2	A+	375	275	485	$ 133,000	$ -	$ 33,000	$ 166,000	$ -	$ 166,000	$ -	$ -	$ -	Existing Rd Allowance - 100% DC
SPS1	1-2	B*	40 L/s			$ 1,478,000	$ -	$ 370,000	$ 1,848,000	$ -	$ 1,848,000	$ -	$ -	$ -	
FM	1-2	B*	300	4,700	398	$ 2,340,000	$ -	$ 585,000	$ 2,925,000	$ -	$ 2,925,000	$ -	$ -	$ -	
TOTALS				**41,386**		**$ 34,695,000**	**$ -**	**$ 8,685,000**	**$ 44,080,000**	**$ 15,784,656**	**$ 28,295,344**	**$ -**	**$ -**	**$ -**	

Note: EA Schedule B projects will be on future road alignments and will be re-classified as A+ once road right-of-ways are established. Schedule B* projects were previously approved under 2006 City Wide Water and Wastewater Master Plan

Appendix B
Table B-4
Stromwater - Category C
AEGD STORMWATER MANAGEMENT CAPITAL PROGRAM: QUANTITY CONTROL (STAGE 2)
Category B

Phase	Label	DA	Quanity Target	Volume	Depth	Estimated Footprint	Land Cost (@$815,430/ha	Est Capital Cost (@$11,400/ha)	Additional Cost (Stream restoration/oulet improvements)		Engineering / Design, Legal & survey (15%)	Total Comstruction Cost	Total Cost incl. land Cost	Direct Developer Cont.	Development Charges
		(ha)	(m^3/ha)	(m^3)	(m)	(ha)	($)	($)	Length (m)	(2009 $)	(2009 $)	(2009 $)	(2009 $)	(2009 $)	(2009 $)
1	3	26	390	10140	1.5	0.68	$ 551,231	$ 296,400	250	$ 187,500	$ 44,460	$ 528,360	$ 1,079,591	-	$ 1,079,591
1	18	59	390	23010	1.5	1.53	$ 1,250,870	$ 672,600	250	$ 187,500	$ 100,890	$ 960,990	$ 2,211,860	-	$ 2,211,860
1	19	35	390	13650	1.5	0.91	$ 742,041	$ 399,000	250	$ 187,500	$ 59,850	$ 646,350	$ 1,388,391	-	$ 1,388,391
1	20	41	390	15990	1.5	1.07	$ 869,248	$ 467,400	250	$ 187,500	$ 70,110	$ 725,010	$ 1,594,258	-	$ 1,594,258
1	21	35	390	13650	1.5	0.91	$ 742,041	$ 399,000	250	$ 187,500	$ 59,850	$ 646,350	$ 1,388,391	-	$ 1,388,391
1	22	45	390	17550	1.5	1.17	$ 954,053	$ 513,000	250	$ 187,500	$ 76,950	$ 777,450	$ 1,731,503	-	$ 1,731,503
1	23	40	390	15600	1.5	1.04	$ 848,047	$ 456,000	250	$ 187,500	$ 68,400	$ 711,900	$ 1,559,947	-	$ 1,559,947
1	24	70	390	27300	1.5	1.82	$ 1,484,083	$ 798,000	250	$ 187,500	$ 119,700	$ 1,105,200	$ 2,589,283	-	$ 2,589,283
1	26	75	390	29250	1.5	1.95	$ 1,590,089	$ 855,000	250	$ 187,500	$ 128,250	$ 1,170,750	$ 2,760,839	-	$ 2,760,839
	9	426				11.08	**$ 9,031,703**	**$ 4,856,400**	250	**$ 1,687,500**	**$ 728,460**	**$ 7,272,360**	**$ 16,304,063**		**$ 16,304,063**
2	4	75	390	29250	1.5	1.95	$ 1,590,089	$ 855,000	250	$ 187,500	$ 128,250	$ 1,170,750	$ 2,760,839	-	$ 2,760,839
2	5	75	390	29250	1.5	1.95	$ 1,590,089	$ 855,000	250	$ 187,500	$ 128,250	$ 1,170,750	$ 2,760,839	-	$ 2,760,839
2	6	50	390	19500	1.5	1.30	$ 1,060,059	$ 570,000	250	$ 187,500	$ 85,500	$ 843,000	$ 1,903,059	-	$ 1,903,059
2	7	50	390	19500	1.5	1.30	$ 1,060,059	$ 570,000	250	$ 187,500	$ 85,500	$ 843,000	$ 1,903,059	-	$ 1,903,059
2	8	75	390	29250	1.5	1.95	$ 1,590,089	$ 855,000	250	$ 187,500	$ 128,250	$ 1,170,750	$ 2,760,839	-	$ 2,760,839
2	9	75	390	29250	1.5	1.95	$ 1,590,089	$ 855,000	250	$ 187,500	$ 128,250	$ 1,170,750	$ 2,760,839	-	$ 2,760,839
2	11	50	390	19500	1.5	1.30	$ 1,060,059	$ 570,000	250	$ 187,500	$ 85,500	$ 843,000	$ 1,903,059	-	$ 1,903,059
2	12	50	390	19500	1.5	1.30	$ 1,060,059	$ 570,000	250	$ 187,500	$ 85,500	$ 843,000	$ 1,903,059	-	$ 1,903,059
2	13	50	390	19500	1.5	1.30	$ 1,060,059	$ 570,000	250	$ 187,500	$ 85,500	$ 843,000	$ 1,903,059	-	$ 1,903,059
2	14	50	390	19500	1.5	1.30	$ 1,060,059	$ 570,000	250	$ 187,500	$ 85,500	$ 843,000	$ 1,903,059	-	$ 1,903,059
2	15	50	390	19500	1.5	1.30	$ 1,060,059	$ 570,000	250	$ 187,500	$ 85,500	$ 843,000	$ 1,903,059	-	$ 1,903,059
2	16	50	390	19500	1.5	1.30	$ 1,060,059	$ 570,000	250	$ 187,500	$ 85,500	$ 843,000	$ 1,903,059	-	$ 1,903,059
2	17	35	390	13650	1.5	0.91	$ 742,041	$ 399,000	250	$ 187,500	$ 59,850	$ 646,350	$ 1,388,391	-	$ 1,388,391
2	27	50	390	19500	1.5	1.30	$ 1,060,059	$ 570,000	250	$ 187,500	$ 85,500	$ 843,000	$ 1,903,059	-	$ 1,903,059
	14	785				20.41	**$ 16,642,926**	**$ 8,949,000**	250	**$ 2,625,000**	**$ 1,342,350**	**$ 12,916,350**	**$ 29,559,276**		$ 29,559,276
							$ 25,674,629	**$ 13,805,400**		**$ 4,312,500**	**$ 2,070,810**	**$ 20,188,710**	**$ 45,863,339**		**$ 45,863,339**